

THE PREHISTORIC REMAINS OF THE ACROPOLIS AT HALIEIS A FINAL REPORT

In Memoriam

Jane Hackbarth Leslie

1. The publication of the prehistoric material from the Halieis acropolis is offered here in anticipation of the final report on the post-prehistoric material, which is in preparation. I would like to thank Thomas W. Jacobsen and Michael H. Jameson for entrusting the publication of the Halieis acropolis prehistoric material to me. Jacobsen kindly turned over to me all documentation and notes relating to the prehistoric materials. I have made extensive use of Jacobsen's draft manuscript, dated to 1974, and where appropriate, I include portions here. I examined the material in the Nauplion Archaeological Museum first in a preliminary fashion in 1982 and subsequently more fully in 1997. Contextual information was provided by James A. Denger. The final drawings of the ceramics and some of the lithics were inked by Catherine S. Alexander. I would also like to thank Christina M. Denger, James A. Denger, P. Nick Kardulias, Catherine Perlès, Curtis N. Runnels, and K. D. Vitelli for their observations, help, and advice. I am also grateful to the anonymous *Hesperia* reviewers for their comments.

2. Jameson 1969, 1972; Boyd and Rudolph 1978.

3. Jameson 1969, pp. 318–322; 1972, pp. 233–234.

ABSTRACT

Excavations in the 1960s and 1970s on the acropolis of Halieis in the southern Argolid revealed material of Final Neolithic through Early Helladic I in deposits dating to the Archaic through Classical periods. Post-prehistoric building activities have disturbed any originally in situ prehistoric deposits. The Halieis ceramics are later than those from the nearby Franchthi Cave, but compare well with the ceramics collected from the surrounding region by the Southern Argolid Survey. A single radiocarbon date derived from shell yields a marine-corrected date range in the 4th millennium B.C.

Prehistoric materials were found over a wide area of the acropolis at the ancient city of Halieis on the south shore of Porto Cheli Bay in the southern Argolid during the course of excavations begun in 1962 (Figs. 1–4).¹ Excavations at Halieis were conducted by the University of Pennsylvania and Indiana University in 1962 and 1965–1976, with some small-scale investigations subsequent to 1976.² A fortified wall enclosing a planned town with harbor works, an extramural sanctuary of Apollo including two temples, an altar, and a race course, and an extramural necropolis, all of the Archaic to Hellenistic period, were explored; there is also evidence for Geometric and Late Roman occupation of the Lower Town and harbor area.

The acropolis (Fig. 4), the highest point of the fortification on the south edge, was explored primarily in 1962, 1965–1966, and again in 1971, under the direction of Michael H. Jameson and Charles K. Williams.³ A stone circuit wall of the late 6th or early 5th century B.C., preceded by mudbrick fortifications of the Archaic period, marks the south edge of the acropolis, while inside (to the north) are buildings associated with the manning of the walls. A small open-air cult area with an altar and two other stone monuments lie to the northeast, while to the west a roadway leads up from the lower levels to another structure of the 5th century B.C.

The acropolis currently rises to a height of 51 masl. The hill is part of a small ridge that separates the bay from the Argolic Gulf to the south (Fig. 2). The physical setting in the prehistoric period would have been

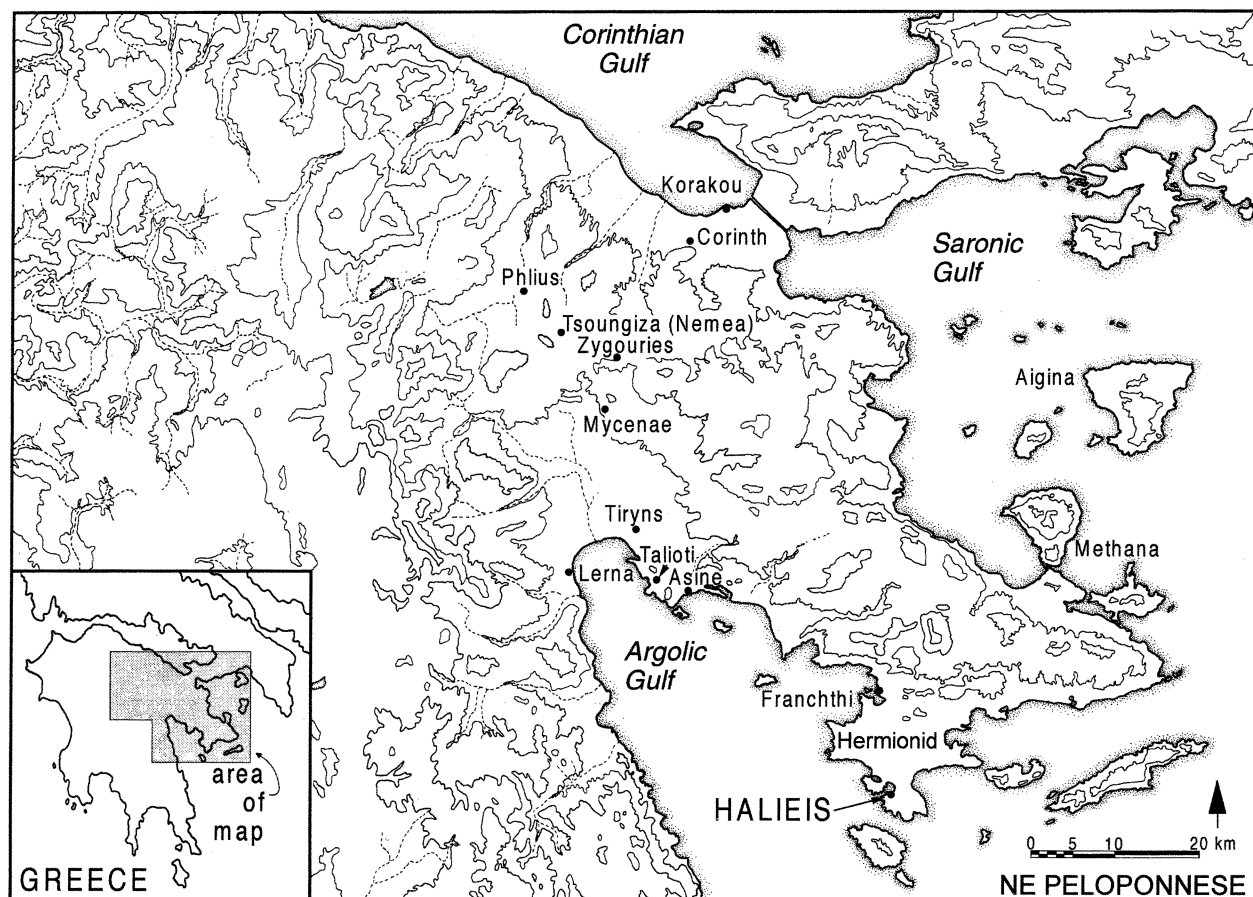


Figure 1. Halieis in the northeastern Peloponnese

different; changes in sea level have affected the morphology of Porto Cheli Bay. Little detailed information is available for reconstructing the bay in the prehistoric period, but a generalized picture can be obtained from the extensive work on shorelines elsewhere in the southern Argolid.⁴ At ca. 5000 B.P. the shoreline would have stood 6–8 m below the level today, greatly reducing the size of Porto Cheli Bay and extending the Argolic Gulf coast slightly (to include, probably, the small offshore island of Khinitsa). The bay would still have been present, most likely as a narrow inlet (Fig. 5).⁵ The amount of low-lying land to the north of the acropolis would have been much greater than at present. The acropolis site would thus have had numerous advantages, such as good views, a fertile low-lying plain to the north, and easy access to the sea.

None of the prehistoric ceramic or lithic items discovered on the acropolis can be placed in a secure prehistoric context; nevertheless, there is good reason to believe that the appearance of prehistoric materials in the otherwise historic deposits on the acropolis is not fortuitous. Rather, the building and leveling activities of the Archaic and Classical periods apparently disturbed remains of the prehistoric era, and sherds, obsidian, and chert items were mixed in with the later deposits. There are apparent

4. Jameson, Runnels, and van Andel 1994, pp. 200–210; van Andel 1987.

5. See Jameson, Runnels, and van Andel 1994, pp. 233–234, figs. 4.10–4.13 for LN–EH II shoreline reconstruction and site distribution.



Figure 2. Aerial view of Porto Cheli Bay (left), Halieis (center), and Saronic Gulf (background), looking east-southeast

concentrations of prehistoric materials, including some in shallow cuttings in the bedrock, strengthening the suggestion that the prehistoric materials came from the acropolis itself and were not brought in from elsewhere. The prehistoric material was identified during the sorting of the pottery, primarily on visual criteria. Because of the limited stratigraphic data for this material, it can best be approached in stylistic and typological terms, much as if it derived from a surface survey.

The majority of the prehistoric ceramics from the Halieis acropolis can be dated to the Final Neolithic and Early Helladic I periods; there are in addition a limited number of items that can be dated to the Early Helladic II and Late Helladic periods.⁶ The lithics are more difficult to date, as there is a long tradition of the use of obsidian and chert, even into modern times.⁷ Most of the obsidian from Halieis, however, does have strong stylistic affinities with FN-EH lithic assemblages elsewhere in the Aegean.

In this article, a brief consideration of the excavation and contexts of the prehistoric material precedes the discussion of the ceramics, lithics, and other finds. The single radiocarbon determination is discussed in the section on chronology. An assessment of the significance of the Halieis prehistoric material and the relationship of this material to that from the rest of the southern Argolid in particular and the Aegean more generally concludes this contribution.

EXCAVATION AND CONTEXTS

Much of the prehistoric material has been found in the center of the hill near the northern limits of the excavated area, where the conglomerate bedrock was generally higher than elsewhere and where the stratigraphy was less clear, perhaps because of the comparative shallowness of the over-

6. Apart from the occasional piece of obsidian, no indication of prehistoric activity, in the form of either pottery or structural features, was reported from the excavations by Jameson on the Industrial Terrace to the east of the acropolis. Obsidian and prehistoric pottery, however, turned up in the excavations conducted by Wolf W. Rudolph in the Lower Town in 1970, 1972, and 1974. The latter material will not be considered here but will be published in due course along with the other finds from the Lower Town.

7. Kardulias and Runnels (1995) discuss the presence of historic-period lithics at sites in the southern Argolid; see also Runnels 1982 for a general discussion of historic-period flaked stone tools.

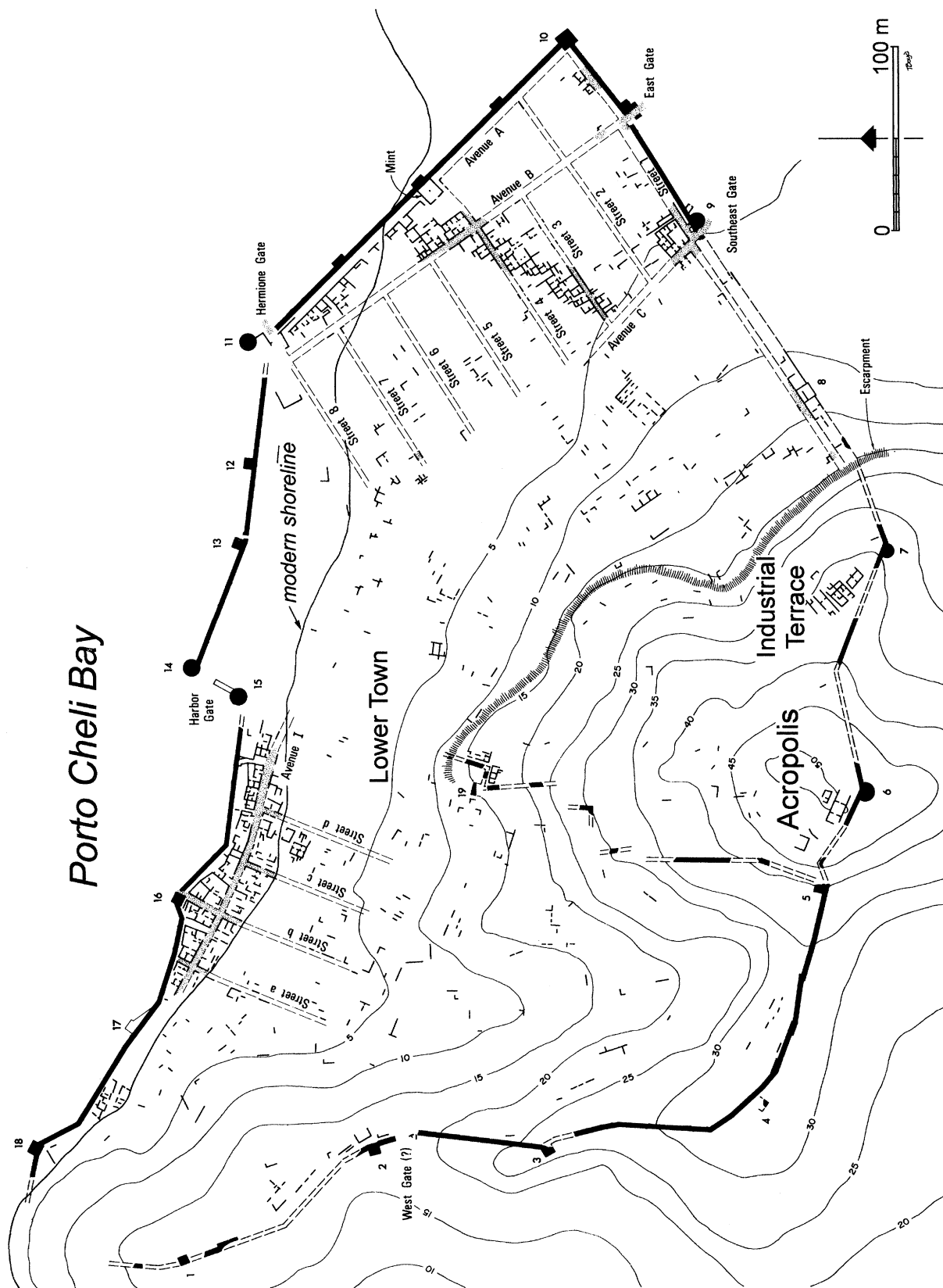


Figure 3. Halicis, site plan

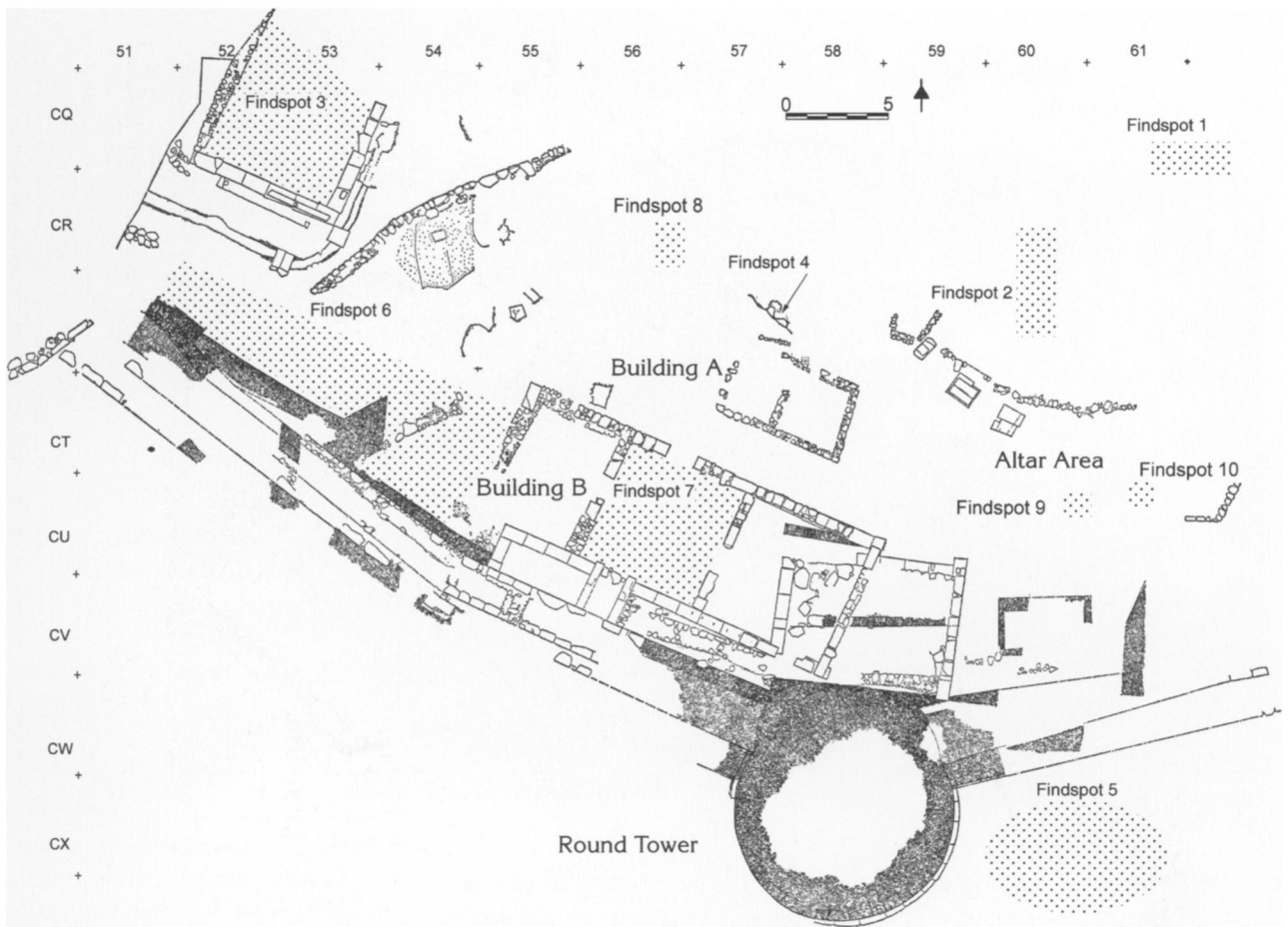


Figure 4. Location of major findspots on the Halieis acropolis

lying deposit (Figs. 5–8).⁸ In this area bedrock usually lay less than a meter below the modern surface, normally at depths ranging between 0.60 and 0.80 m. Very little material was found in or around the structures along the southeastern flank of the hill where the archaeological deposit was deeper. Indeed, a small sounding carried down to bedrock in 1965 in the area just to the east of the Round Tower produced no trace whatsoever of prehistoric activity. Much prehistoric material, especially obsidian, came from the southwestern flank of the hill.

In those areas where prehistoric material was found, it occurred almost invariably in contexts containing post-prehistoric remains as well. Although most commonly found on or just above bedrock, even then it was usually mixed with later material, as was always the case when it turned up in surface deposits. Excavations conducted by Williams in 1971 in the western sector of the hill produced a small amount of material in fill associated with leveling activity of the 6th century B.C. The presence of prehistoric finds in this leveling fill not only illustrates the disturbing effect of later building activity but, as Williams has suggested,⁹ may help to explain the comparative frequency of such finds in hollows or fissures (presumably largely of natural origin) in bedrock in the central part of the hill. In only one instance was there reason to believe that the excavated deposit had not been contaminated by later intrusions or disturbance.¹⁰ In 1965 a small

8. The following three paragraphs are adapted from Jacobsen's (1974) unpublished manuscript.

9. See Jameson 1972, pp. 233–234.

10. Despite this apparent lack of undisturbed deposits, statistical tests on the ceramics, discussed below, indicate that the distribution of some of the ceramic classes is not random; there may be some chronological or functional significance to the distribution of ceramics.



Figure 5. Halieis acropolis. General view looking west, with entrance to Porto Cheli Bay in background and Building B in foreground.

hollow or pit ca. 1.00 m deep (maximum depth below modern surface, 1.35 m) was excavated just to the north of the small structure (Building A) near the center of the hill (findspot 4; see Figs. 4, 8). Although excavation was made difficult by the size of the pit, it exposed a deposit of dark earth containing a number of marine shells and a small amount of prehistoric pottery in rather fragmentary condition. A sample of the shells collected from the pit was later submitted to the Radiocarbon Laboratory at the University of Pennsylvania, and the resulting determination (see below) represents the only indication of absolute chronology from the site.

Excavation produced no evidence of structural features that could be associated with the prehistoric ceramic remains. This absence, along with the considerably disturbed stratigraphy in the deposits lying directly upon bedrock, implies that any remains of a prehistoric settlement that may have existed on the hill were obliterated by the extensive building activity that took place there during the Archaic and Classical periods. In view of this, it is important to state at the outset that almost nothing can be said about the stratigraphic distribution of the remains discussed below.

The prehistoric ceramics come from over fifty-five different lots and findspots throughout most of the excavated areas of the acropolis, especially where relatively deep excavation took place. Altogether approximately 400 sherds were identified as "prehistoric." A few contexts, however, supplied greater quantities; indeed, the ten findspots listed in Table 1 account for four-fifths of the prehistoric ceramic material (see Fig. 4 for locations).

The lithics are fewer in number but also more widely scattered than the ceramics.¹¹ But again, a few contexts (Table 1), all of which are

11. The scattered distribution is due in part to a different manner of recording the findspots of the lithic material. The obsidian was often noted at the time of excavation, whereas the ceramics were selected in the preliminary sorting *after* excavation.



Figure 6. Halieis acropolis. General view looking east, with Building A in center, Building B to right, and altar area in background on the left.



Figure 7. Halieis acropolis. Altar area, looking west.



Figure 8. Halieis acropolis. Building A, looking southwest. Prehistoric pit north of Building A at extreme right. In background, Building B, room 2, cleft in bedrock below floor.

among those producing the majority of the ceramic material, provided nearly three-fifths of the lithic material (from a total of some 114 pieces from the acropolis).

THE POTTERY

Given that the Halieis prehistoric material derives from chronologically later contexts, it is difficult to identify with certainty what the assemblage may have originally looked like. The prehistoric ceramics were selected from lots that contained mostly post-prehistoric material. Thus, there is a distinct possibility that some classes of prehistoric ceramics were not identified and selected for study. But given the experience of the staff during the excavations and the large quantity of plain body sherds selected as “prehistoric,” this possibility of certain classes of material being overlooked or underrepresented is probably quite small.¹² Added to the difficulties of characterizing the ceramic assemblage is the presence of a few certainly identifiable EH II and LH sherds. The ceramics are first discussed by class and shape, followed by a consideration of their chronological and cultural position.

The majority of the prehistoric ceramics fall into one of several readily recognizable classes.¹³ These ceramic classes are based on a combination of three factors: macroscopic observations of the fabrics, painted decora-

12. The 1967 season saw the beginning of excavations, under the direction of Jacobsen, at Franchthi Cave; the upper levels produced plentiful ceramics similar to those from Halieis. In 1972 the first season of the Southern Argolid Survey took place, utilizing some of the same staff; Bronze Age materials were found at a number of sites. Among the Halieis acropolis material housed in the Nauplion Museum in 1997, I identified no more than a half dozen sherds originally classified as “prehistoric” as post-prehistoric. These include three Geometric body sherds and a small portion of a moldmade lamp.

13. See *Lerna III*, pp. 11–14, for a fuller discussion of the history and problems of the classification of prehistoric pottery. I have followed Rutter’s system of “classes” here.

TABLE 1. MAJOR FINDSPOTS OF PREHISTORIC CERAMICS AND LITHICS

<i>Findspot</i>	<i>Location</i>	<i>Ceramics</i>	<i>Lithics</i>
1	Acropolis trench 2, northeast of altar area	73	1
2	Acropolis trench 3, north of altar area	67	2
3	Acropolis W, Mess Building destruction debris	42	8
4	Acropolis CS 56/57, pit in bedrock north of Building A	27	0
5	Acropolis E, east of Round Tower	6	5
6	Acropolis W, destruction debris south of drain and road and north of fortification walls, at west end of excavated area	58	49
7	Acropolis E, Building B, room 2, cleft in bedrock	4*	4
8	Acropolis B East, depression west of rubble terrace wall	16	1
9	Acropolis E, CU 60/61, basket 4, cleft in bedrock, southeast of altar and northeast of square tower	19	0
10	Acropolis E, southeast of altar area, "bothros" with Classical pottery	10	0

*Historical.

14. Pullen 1995, pp. 13–14.

15. Kardulias and Runnels 1995.

Andesites are also found on volcanic islands such as Melos, Santorini, and Nisyros in the Aegean. They have been reported from elsewhere, such as Tyros, "south of Lerna" at Leonidion (Shriner and Dorais 1999, p. 45, citing Lekkas and Papanikolaou 1977) and in the southern Argolid itself near Franchthi Cave, but so far there is no evidence for andesites from these latter two sites having been exploited in prehistoric times.

16. The volcanic-tempered classes can also be called "Saronic" because their distribution seems to be primarily in regions bordering the Saronic Gulf (personal observation); see Mee and Taylor 1997 for the only significant publication of material from such a region outside the southern Argolid. Vitelli (*Franchthi* 8, *Franchthi* 10) uses the term "Andesite" ware for Neolithic fabrics from Franchthi Cave with these minerals.

tion and surface treatment, and color. The primary distinction is between those classes that have tempering particles resembling volcanic minerals and those that do not. The importance of this distinction was first recognized in the Southern Argolid Survey where, among the EH I ceramics, two of three major fabric groups had minerals identified macroscopically as of volcanic origin;¹⁴ these volcanic-mineral tempered fabrics correlated with certain shapes and decorative treatments. The volcanic minerals in the ceramics are similar to those found in andesite, a major material for grinding stones in the southern Argolid. Kardulias and Runnels conclude that the majority of Neolithic and Early Helladic grinding stones in the southern Argolid are of andesites from Aigina.¹⁵ Though no petrographic studies have been made of either the Halieis or southern Argolid prehistoric ceramics, I use the term "volcanic-tempered" to distinguish this readily identifiable fabric.¹⁶

Volcanic-tempered pottery with inclusions from volcanic stones such as andesite, identifiable by the presence of black and/or gold micalike inclusions, forms one major group of ceramics. This fabric can be found in three classes based on surface treatment and color: Volcanic Red-Slipped and Burnished, Volcanic Black-Burnished, and Volcanic Plain, with the Plain and Red-Slipped classes very similar to each other.

Nonvolcanic-tempered pottery forms the other major group. Several classes in the nonvolcanic group have very little overlap in surface treatments with the volcanic-tempered classes. The fabrics display a wide range of colors, types and quantities of tempering particles, and surface treatments. Each of the nonvolcanic-tempered classes is treated separately.

Brown-Slipped and Dark-Faced Burnished classes: a ware that is treated very much like the volcanic ware, but lacks the typical volcanic minerals. Many of the Brown-Slipped pieces come from a single vessel (32), while a number of the Dark-Faced Burnished pieces appear to be "frying pans." There is a very limited number of red-slipped pieces that do not have the volcanic mineral tempering of the Volcanic Red-Slipped class and they are included with the Brown-Slipped class.

Medium Coarse: a broad class that includes the major portion of the Haliëis prehistoric ceramics. Most often it has a gray core with yellow-brown or orange-brown or brown surfaces; it tends to be finer than coarse, though there is a very wide range in fineness of the fabric.

Cooking Pot: a ware similar to the later EBA cooking pot class of ceramics. This ware is relatively hard-fired, medium coarse in composition, often with a reddish tinge, and sometimes with a compacted or crazed, wet-smoothed surface. In many ways this class is similar to the Medium Coarse class, but with a distinctive reddish tinge and wet-smoothed surface.

Buff: a low-fired, relatively soft and crumbling ware with buff to orange surfaces and gray-brown cores; in terms of shapes it is similar to the Medium Coarse class.

Compacted Red: a ware similar to the Medium Coarse class in terms of fabric, but with a distinctive red color and compacted, cracked surface. Some pieces are slipped and some are burnished.

Pithos: a coarse fabric that includes many small irregular limestone inclusions, very similar to the later EBA pithos fabric.

There are a limited number of sherds that might fall into other categories, such as a few flat (closed?) bases in a hard, light-colored fabric that appears quite similar to the fabric used in later EBA jars, amphoras, and hydrias. Whether these sherds are indeed of the EH II period is difficult to tell, for while no other vessel part has been identified in this fabric, the bases are of the typical FN-EH I flat form. I have included them in the Medium Coarse class.

TABLE 2. FREQUENCY OF CERAMIC CLASSES REPRESENTED IN THE "PREHISTORIC" COLLECTION

<i>Class</i>	<i>Uncatalogued</i>	<i>Catalogued</i>	<i>Total</i>	<i>%</i>
Volcanic Red-Slipped and Burnished	4	12	16	4.0
Volcanic Black-Burnished	0	7	7	1.8
Volcanic Plain	2	12	14	3.5
Brown-Slipped	23	11	34	8.5
Dark-Faced Burnished	0	4	4	1.0
Medium Coarse	186	29	215	53.6
Cooking Pot	40	18	58	14.5
Buff	20	11	31	7.7
Compacted Red	3	3	6	1.5
Pithos	0	4	4	1.0
<i>Subtotal</i>	278	111	389	97.1
<i>Unclassified</i>	0	1	1	0.2
<i>Post-FN/EH I</i>	6	5	11	2.7
TOTAL	284	117	401	100%

TABLE 3. DISTRIBUTION OF CERAMIC CLASSES BY LOCATION

Class	<i>Findspot</i>										Total
	1	2	3	4	5	6	8	9	10	Other	
Volcanic	12	1	3	0	1	13	0	1	1	5	37
Brown-Slipped	10	3	0	7	0	4	1	1	0	8	34
Dark-Faced Burnished	0	0	1	0	1	1	0	0	0	1	4
Medium Coarse	33	35	24	14	2	32	13	14	4	44	215
Cooking Pot	15	12	6	3	1	5	1	3	2	10	58
Buff	2	14	6	1	1	0	0	0	2	5	31
Compacted Red	0	1	2	1	0	0	0	0	0	2	6
Pithos	0	0	0	0	0	1	0	0	0	3	4
TOTAL*	72	66	42	26	6	56	15	19	9	78	389

*The totals for each findspot do not always agree with the totals in Table 1, as that table includes material of periods later than EH I. Findspot 7 is excluded here because the sherds found there were not identified as prehistoric.

The frequencies of classes among the catalogued and uncatalogued pieces are given in Table 2. Among the catalogued items presented here, the Medium Coarse class is underrepresented, while the three Volcanic classes and the Brown-Slipped and Dark-Faced Burnished classes are overrepresented. The uncatalogued items, however, are worn or very fragmentary, consist of plain body sherds, or otherwise duplicate items in the catalogue.

17. Because of the small counts (< 5) in a number of cells in the distribution table (Table 3), a Chi-square test is inappropriate, as it provides only an estimate of the true probability of the independence of the variables and is easily skewed by small counts. The Fisher's Exact-T test calculates an exact probability value for independence of the variables, based on the differences between the data observed and the data expected (the Chi-square test is also based on the differences between the data observed and the data expected). For purposes of the analysis, the three Volcanic classes were lumped together. The nine principal contexts with prehistoric pottery were used for the location variable. Some of the samples are small, such as those for the Dark-Faced Burnished, Buff, Compacted Red, and Pithos classes, and this may have skewed the resulting calculations. I would like to thank Glen Laird of the Statistical Consulting Center at Florida State University for conducting the analyses.

18. The Dark-Faced Burnished class was eliminated because of the small sample size.

DISTRIBUTION OF CLASSES

Although the prehistoric ceramics were found in contexts with later pottery, and thus mixed, the distribution of the various classes is not random. Examination of the individual contexts and the distribution of the various classes shows a few anomalies (Table 3). The Medium Coarse class seems to be proportionately distributed among the different contexts. The Volcanic classes are overrepresented in findspots 1 and 6, but underrepresented in findspots 2 and 4. The Brown-Slipped class is overrepresented in findspots 1 and 4, but underrepresented in findspot 2 and absent from findspot 3. The Cooking Pot class is overrepresented in findspot 1 and underrepresented in findspot 6, while the Buff class is overrepresented in findspot 2.

A Fisher's Exact-T test was applied to the distribution of the ceramic classes in the nine areas that produced the majority of prehistoric ceramics in order to test whether these observations are supported statistically.¹⁷ In the first analysis, the Fisher's Exact-T test was conducted on the distribution of all the Volcanic (grouped), Brown-Slipped, and Dark-Faced Burnished classes. The results were significant, with a p-value of 0.0012, indicating a nonrandom distribution of those classes. In the second analysis, the Fisher's Exact-T test was conducted only on the Volcanic (grouped) and Brown-Slipped classes¹⁸ in order to ascertain whether there was any difference in their distribution. These results were also significant, with a p-value of 0.0024. This indicates that the distribution of these two classes accounts for most of the nonrandomness of the overall distribution and

that the distribution of the Dark-Faced Burnished class was of little significance. A third Fisher's Exact-T test was conducted on the Volcanic (grouped) classes and the Brown-Slipped class for findspots 1, 2, 5, 6, 8, and 9; a p-value of 0.6887 was obtained, indicating little significance to the distribution of these two classes among the six locations in question. These tests suggest the possibility that there may be some functional or chronological distinction among the contexts on the acropolis.¹⁹

There seems to be clear evidence that the two groups of ceramic classes (Volcanic and Nonvolcanic) are mutually exclusive in findspot 3 (the area of the Mess Building) and findspot 4 (the pit to the north of Building A) and not proportionally distributed in findspots 1 and 2, areas near the altar. But it must be remembered that the number of sherds in all contexts is small, and the expected number of sherds of any one class is often not very large. We also lack the data to determine the original frequency of the prehistoric ceramics in relationship to the *total* number of ceramics from any one context. From findspot 4, only 26 prehistoric sherds were identified, and only 2.41 sherds of the Volcanic classes would be expected given that the Volcanic classes constitute 9.25% of the total ceramics (only 2.21 sherds of the Brown-Slipped class, at 8.5% of the total, would be expected). While we can interpret the results of the statistical tests to mean that the Volcanic classes and the Brown-Slipped class are distributed in findspots 3 and 4 in some statistically significant, nonrandom manner, the *archaeological* significance of these results is more difficult to determine.

Most significant to my mind is the overall random distribution of most of the ceramic material throughout the various contexts on the acropolis. A Chi-square test of the independence of the distribution of the Medium Coarse class among the findspots compared to the distribution of all the other classes combined yielded a low probability of $p = 0.1037$ ($\chi^2 = 11.9061$, 7 degrees of freedom).²⁰ This would indicate that the Medium Coarse class, as well as the remaining classes grouped together, is relatively uniformly distributed among the findspots.

The two most likely interpretations of the overall distribution of the ceramic classes (excluding the anomalous contexts of findspots 1–4) are that the various classes are contemporaneous with one another or that the material has been so thoroughly mixed that no possible functional or chronological distinctions can be drawn on the basis of location. Our current poor understanding of the FN and EH I periods and the transition between them, including their respective ceramic assemblages, offers little illumination.

VOLCANIC-TEMPERED CLASSES

The volcanic-tempered classes have a distinctive fabric characterized by inclusions of black and/or gold "mica," in reality platy minerals typical of the volcanic stone known as andesite. As noted above, Aigina is a main source of andesite, one of the most important materials for grinding stones in the Aegean.²¹ Volcanic-mineral tempered pottery was found by the Southern Argolid Survey at a number of sites in the Hermionid region of

19. There remains the possibility that the nonrandom distribution is due to some post-deposition process, whether by activities dating to the Archaic and Classical periods or those taking place in the millennia between the original deposition in the FN/EH I period and the Archaic period.

20. Findspot 5 was eliminated because its sample was very small; this elimination lessened the chance of skewing the results.

21. Runnels 1981.

the Argolid, where Halieis is located.²² The survey pottery with volcanic-mineral tempering particles has been typologically identified as EH I, although the ceramics of other prehistoric periods can also have the volcanic minerals present.²³

At Halieis the volcanic-mineral tempered fabric appears in three distinct varieties of surface treatments: red-slipped and burnished, black-(slipped? and) burnished, and plain. Given the fragmentary nature of the Halieis material and the few recognizable shapes, it is difficult to be certain, but there is apparently some degree of overlap in shapes among the red-slipped and unslipped varieties. The black-burnished variety, however, seems different in its treatment and shapes, and most vessels of this class have thin walls and well-finished surfaces.

The volcanic fabric appears in similar quantities in both evenly fired and unevenly fired biscuits, but neither one is particularly "hard" or "high"-fired. In both instances the color of the core appears to be in the black to gray (5YR 2.5–5/1) or reddish brown (5YR 3/3, 4/2–4, 5/4) range. Surface colors of the unevenly fired examples tend to be lighter in color than the cores, often red to reddish brown (2.5YR 5–6/6, 5YR 3/3–4, 4/4–6, 5/6, 6/4, 7.5YR 6/4). None of the pieces could be said to be fine nor particularly coarse, though the pieces often have a gritty feel from the presence of many tiny quartz (?) inclusions.²⁴

Surface treatments include the application of a red slip followed by burnishing, burnishing without a slip, and leaving the surfaces plain. Most pieces are well smoothed on both the exterior and the interior surfaces. Given the poor preservation of the red slip in some cases, it may be that more examples of the Plain class should be placed into the Red-Slipped and Burnished category. The slip can approach bright red in color and the burnishing sometimes produces a very lustrous surface (e.g., 10).

VOLCANIC RED-SLIPPED AND BURNISHED CLASS (1–12)

The Volcanic Red-Slipped and Burnished class is more numerous than the Volcanic Black-Burnished class, but there are few recognizable shapes (Fig. 9). The identifiable open shapes in the red-slipped variety are a thick simple hemispherical bowl (1); a shallow straight-sided bowl (2); another straight-sided but deeper bowl (3); and an incurving deep bowl (4; see also 14 in the Volcanic Black-Burnished class for a similar bowl). They are similar to EH I bowls from the Southern Argolid Survey.²⁵ One jar rim, 5, has been recognized: it has a barely flaring rim.²⁶ Two handles probably come from closed vessels: 6 is a U-shaped vertical handle, rather narrow, while 7 is a broad vertical band, decorated only by the red slip and burnish. One base, 8, is slightly hollow; it is a typical shape for EH I closed shapes.²⁷ Other examples of this class are represented by body sherds (9–10, 12).

15, included with the Black-Burnished class below, may actually be a Red-Slipped and Burnished piece that has darkened due to firing. There are a limited number of pieces found at Halieis that are red-slipped and burnished but are not in the volcanic fabric (e.g., 37 and 41); these are discussed below in the section on the Brown-Slipped class.

22. Pullen 1995, pp. 10–12.

23. The andesite-derived minerals that appear as black and gold "mica" occur in the pottery of several periods from Franchthi Cave (Franchthi ceramic phases 1–2 and 4, i.e., Early, Middle, and later Late Neolithic, but not the Final Neolithic [FCP 5]; *Franchthi* 8, pp. 111–112, 127–130; *Franchthi* 10, pp. 38–40). Likewise, these minerals appear in so-called Aiginetan wares from the northeastern Peloponnese from the MH period; cf. Nordquist 1987, p. 49; 1995, pp. 46, 50–51; Zerner 1978, pp. 156–158. The overall appearance of the fabric in question, however, as well as the shapes and the surface treatments, represented in both the Halieis and EH I material from the Southern Argolid Survey, is quite distinct from that of the Franchthi ceramics.

24. Several sherds were tested for the presence of limestone tempering using a dilute solution of hydrochloric acid, but all results were negative. In the Southern Argolid Survey pottery, the presence of volcanic minerals and lime is usually mutually exclusive. While ninety-two sherds were found to have lime or volcanic mineral temper, only four had both (Pullen 1995, p. 11, table 1.1).

25. Cf. Pullen 1995, nos. 75 and 84–96, respectively.

26. Cf. Pullen 1995, nos. 133–148.

27. Cf. Pullen 1995, nos. 189–191, 201–202.

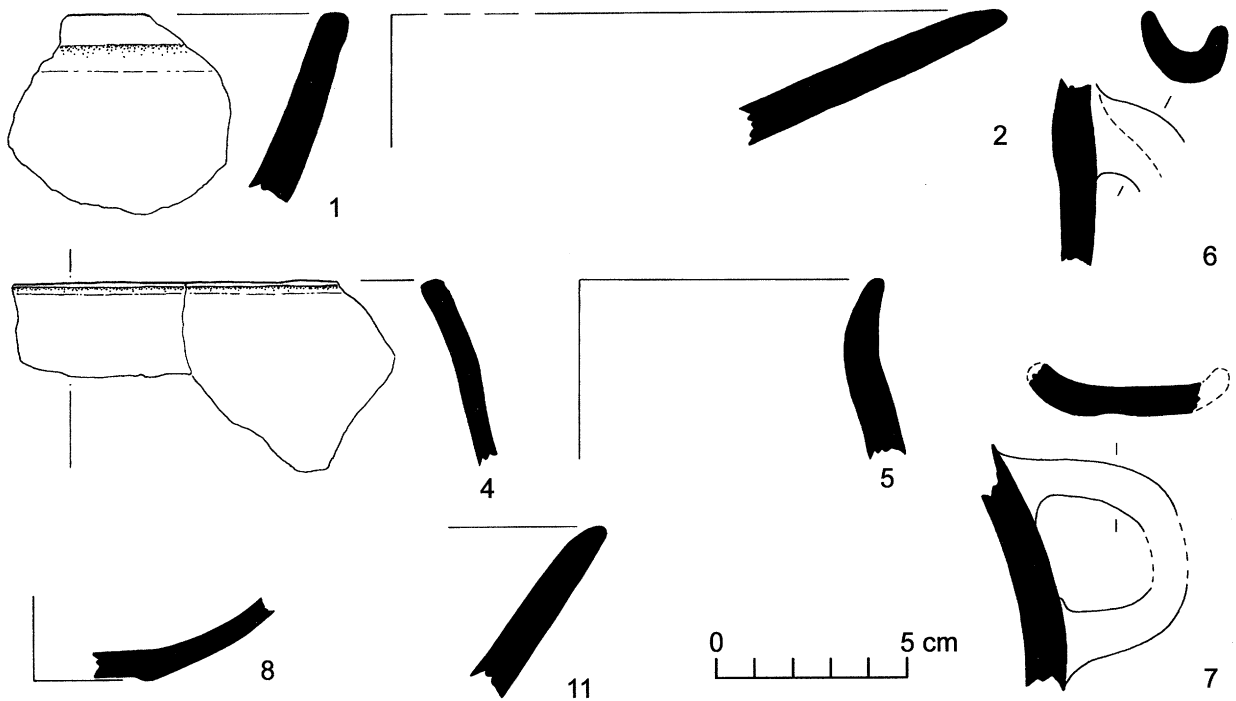


Figure 9. Volcanic Red-Slipped and Burnished class

1 Bowl, rim Fig. 9

P285, findspot 6. Diam. indet., but probably ca. 0.30 m. Medium even gray (5YR 4/1); many quartz inclusions; little volcanic temper. Rim thins to flat horizontal lip. Red slip and burnished interior and lip; exterior rough.

FN-EH I

2 Shallow bowl, rim Fig. 9

P098, findspot 1. Diam. ca. 0.32–0.33 m. Medium coarse uneven brown to gray-brown (5YR 3/4 to 5YR 3/2); very gritty; many quartz inclusions; volcanic black, no gold(?) inclusions. Surfaces worn; originally slipped. Shape similar to 11.

EH I

3 Vessel, body

P294, findspot 3. Medium even gray-brown (5YR 4/6); volcanic black and gold inclusions. Red slip exterior, burnished.

EH I

4 Bowl, rim Fig. 9

P128 + 130, findspot 1. Diam. ca. 0.19 m? Medium even gray (5YR

3/1); gritty; volcanic gold and black inclusions. Slightly incurving rim, flat lip. Red slip traces near rim where smoother; burnished.

FN-EH I

5 Jar(?), rim Fig. 9

P260, findspot 1. Diam. ca. 0.16 m. Medium uneven gray-brown to orange-brown (5YR 5/4 core to 2.5YR 6/6 surface); lots of volcanic black and gold inclusions. Flaring rim. Red slip and burnished exterior and interior.

EH I

6 Vessel, handle Fig. 9

P003, findspot 1. Medium even brown (5YR 3/3 to 4/6 at surface); volcanic black and gold inclusions. Vertical, U-shaped. Red slip and burnished exterior.

EH I

7 Vessel, handle Fig. 9

P103. Medium uneven gray-brown to red-brown (5YR 4/4 to 5YR 6/4 surface); volcanic black and gold inclusions. Wide vertical ribbon, raised margins, slightly U-shaped. Red slip and burnished exterior.

EH I

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <p>8 Vessel, base</p> <p>P001, findspot 1. Diam. 0.06 m. Medium uneven gray to brown (5YR 4/1 to 5YR 6/4); lots of tiny and small quartz inclusions; volcanic black and gold inclusions. Slightly hollow. Red slip and burnished exterior.</p> <p>EH I</p> | <p>Fig. 9</p> | <p>(5–2.5YR 5/4); volcanic black and gold inclusions. Red slip and burnished interior and exterior.</p> <p>EH I</p> |
| <p>9 Vessel, body</p> <p>P005, findspot 1. Medium even gray-brown (5YR 4/4); quartz inclusions; volcanic black and gold inclusions. Red slip and burnished exterior. Same vessel as 8?</p> <p>EH I</p> | <p>11 Bowl or plate, rim</p> <p>P274, findspot 3. Diam. indet. Medium uneven gray to yellow-brown; tiny and small quartz inclusions; volcanic black and gold inclusions. Orientation not certain. Red slip and burnished. Shape similar to 2.</p> <p>EH I</p> | <p>Fig. 9</p> |
| <p>10 Vessel, body</p> <p>P257, findspot 1. Th. (wall) 0.0058 m. Medium even red-brown</p> | <p>12 Vessel, body</p> <p>P308, findspot 3. Medium uneven gray-brown to brown (5YR 4/1 to 5YR 4/4); lots of volcanic black and gold inclusions. Thick walled, perhaps jar neck(?) (probably not, as diameter too large at ca. 0.20 m). Red mottled to black slip exterior and interior, burnished. Secondary burning?</p> <p>EH I</p> | |

VOLCANIC BLACK-BURNISHED CLASS (13–19)

The Volcanic Black-Burnished class is of particular interest for its distinctive appearance (Fig. 10). Some pieces appear to be burnt or dark-fired versions of the Red-Slipped and Burnished examples in that they have a slip and are burnished (e.g., 15, 17, 18, 19). One of the two relatively well preserved pieces, 13, the rim of a thin-walled deep bowl, apparently lacks a slip, but it is well burnished, with the individual vertical strokes sometimes visible. It bears a striking similarity in its surface appearance to black-burnished EB I pottery from elsewhere in the Aegean and western Anatolia, even in the manner in which the gritty fabric appears when the burnished surface layer has worn away.²⁸ In shape, however, 13 does not seem to be out of place among other FN pieces, although the slightly thickened area below the lip is unusual. In addition, there is no handle or lug preserved, although the extant portion represents only 10% of the original circumference of the vessel. Another deep bowl, but with incurving rim, 14, lacks both a slip and burnishing. It resembles 4 of the Volcanic Red-Slipped and Burnished class, from the same trench (but different basket); perhaps it is merely a burnt example of the latter class. 15 is a thick-walled bowl with a carinated rim, an unusual shape, and is slipped and burnished like the red versions. It seems to be quite similar to S-profile or carinated bowls of FN date found, for example, at Argos; to bowls with vertical ridges found at Phlius; and to a bowl with pierced lug at the rim from Kephala, Kea.²⁹ It should be noted, however, that 15 preserves only 15% of the original circumference, so it might have had some type of plastic appliqué that is not preserved. None of the parallels cited are black, but the Phlius example has a red-burnished surface. Body sherd 16 is probably from the same vessel as 15. Other than 13 and 15, only 17 definitely came from an open vessel; 18

28. Pottery from the Trojan I period, particularly from Yortan and the Sardis region, comes to mind.

29. Aspis: Touchais 1980, pp. 13, 14, fig. 4, and 15, fig. 5; Phlius: Biers 1969, p. 452, fig. 3, no. 37; pl. 115, no. 37, with diameter of ca. 0.19 (after Phelps 1975, fig. 52, no. 6); Kephala: *Keos* I, pl. 31V, called by Coleman a “jar.”

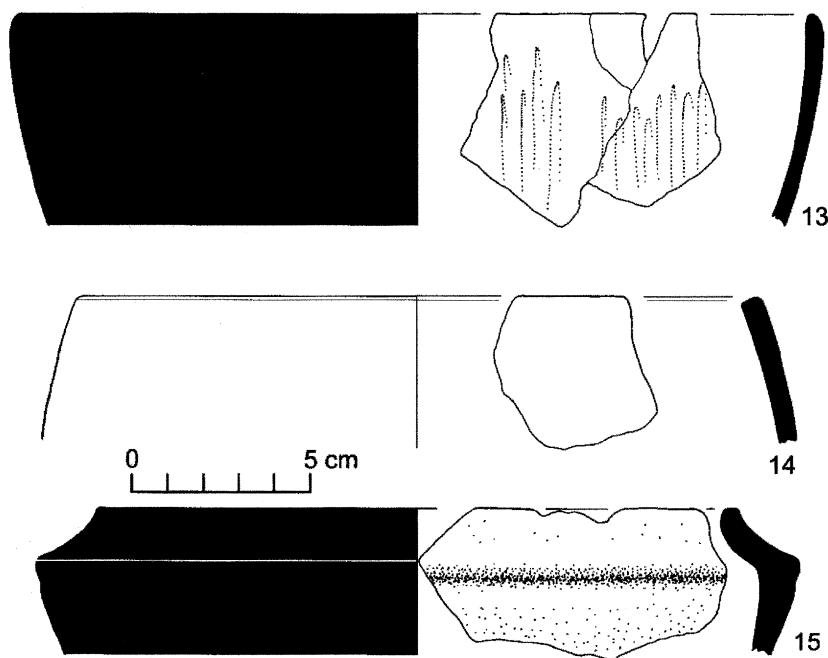


Figure 10. Volcanic Black-Burnished class

and 19 are slipped and burnished on the exterior but not the interior. Complicating the picture is 42. It looks like 18 and 19 but seems to lack volcanic inclusions and is classified with the Brown-Slipped class below.

43, a deep bowl with a thin wall like 13, has a black slip and is burnished; it does not, however, have the volcanic fabric, and so it is included with the Dark-Faced Burnished class.

13 Deep bowl, rim Fig. 10

HP210 + P240. Diam. 0.22 m. Medium even black (5YR 2.5/1); many tiny quartz inclusions; volcanic gold inclusions. Vertical rim. Burnished (possible pattern of vertical strokes).

FN?

14 Bowl, rim Fig. 10

P094, findspot 1. Diam. 0.18 m. Medium even black (5YR 3/1); volcanic black, but no gold, inclusions. Slightly incurving rim, flat lip beveled to interior.

FN

15 Carinated bowl, rim Fig. 10

P429, findspot 6. Diam. 0.18 m. Medium even black (5YR 2.5/1); volcanic gold and black inclusions. Rim curling out slightly, flat horizontal lip. Black (burnt?) slip; burnished; secondary burning. Same vessel as 16.

FN

16 Vessel, body

P430, findspot 6. Medium even black (5YR 2.5/1). Black-burnished, worn(?) especially apparent on exterior. Same vessel as 15.

FN

17 Vessel, body

P417. Medium even gray-brown (5YR 3/3 exterior to 4/4 interior); large volcanic gold and black inclusions. Black exterior, dark red-brown interior slip, burnished heavily.

FN

18 Vessel, body

P267, findspot 6. Medium uneven brown to black (5YR 4/4 interior to 5YR 3/1 exterior); many tiny quartz inclusions; some volcanic black, few gold inclusions; very gritty. Black slip and burnished exterior.

FN?

19 Vessel, body

P270, findspot 6. Medium even brown (5YR 4/4); very few volcanic gold and black inclusions visible.

Black slip exterior (?), burnished. Same as 18 and P269? Secondary burning? FN?

VOLCANIC PLAIN CLASS (20–31)

The unslipped variety of the Volcanic class includes both open and closed shapes, several similar to shapes of the Red-Slipped and Burnished class (Figs. 11–12). 20, a large straight-sided bowl, is like Red-Slipped and Burnished 1. Two smaller bowls have thick walls typical of vessels in the volcanic fabric: 21, with an outturned lip, and 22, shallow and slightly incurving. Three jars with flaring rims were identified: 23, 24, and 25. The large base 26 unfortunately does not preserve the bottom, but it probably was flat or at most very slightly hollow, like the Red-Slipped and Burnished base 8. Three vertical handles are flattened ovals: 27, 28, and 29. The wide, flat handle 30 (Figs. 11–12) has three columns of incised, short, curving lines, forming a herringbone pattern.

One unusual plain vessel, 31, a thick-walled straight-sided bowl, has a volcanic fabric, but both the interior and exterior surfaces are burnished, giving it the appearance of one of the Dark-Faced Burnished pieces.

20 Bowl, rim

Fig. 12

P268, findspot 6. Medium uneven gray to brown (5YR 4/2 to 2.5YR 6/6); volcanic black, no gold inclusions. Rim slightly thickened to exterior. Slightly reddish, self-slip on interior(?); interior wet-smoothed. FN

22 Bowl, rim

Fig. 12

P195. Diam. ca. 0.26 m. Medium even yellow brown (5YR 4/2 to 2.5YR 6/4); 1 or 2 black volcanic, no gold, inclusions. Splayed rim, round lip. Burnished? FN

21 Bowl(?), rim

Fig. 12

P423, findspot 10. Diam. ca. 0.20 m. Medium uneven gray-brown to brown (5YR 4/2 to 5YR 4/6); volcanic gold inclusions. Slightly thickened and rolled to exterior, faceted lip. Interior and rim smoothed, exterior rough. FN-EH I

23 Jar, rim

Fig. 12

P412, findspot 6. Two joining pieces. Medium uneven gray core to brown (5YR 6/1 to 7.5YR 6/4); volcanic gold and black inclusions. Flaring rim, flat lip beveled to exterior. Smoothed. Similar to 24 and 25 (but not same). EH I?



Figure 11. Ceramics with incised decoration

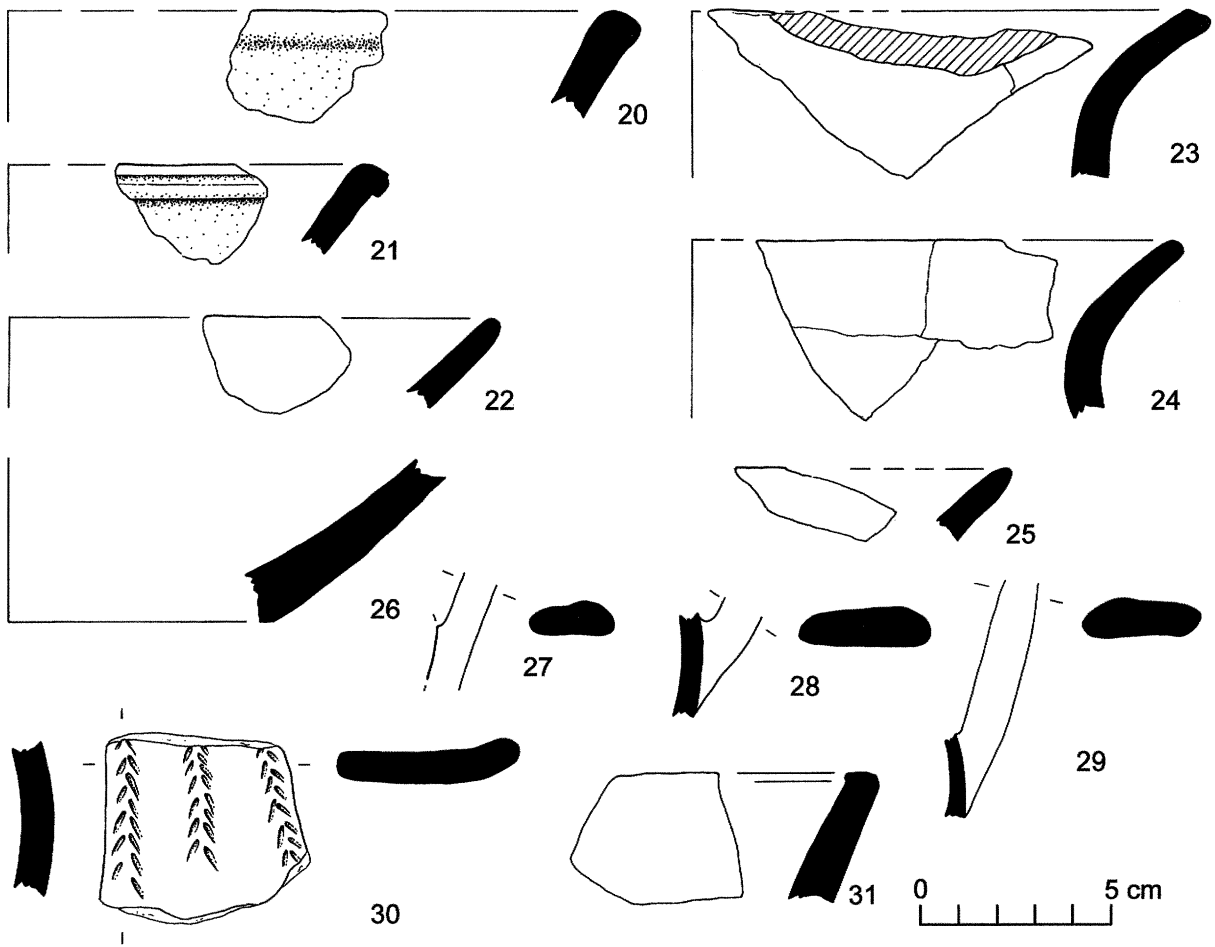


Figure 12. Volcanic Plain class

24 Jar, rim Fig. 12

P413, findspot 6. Three pieces, Diam. 0.25–0.26 m. Medium even gray (5YR 5/1); gritty; volcanic black and gold inclusions. Flaring rim, round lip. Unslipped, wet-smoothed surfaces. Similar to 23 and 25 (but not same).

EH I?

25 Jar, rim Fig. 12

P414, findspot 6. Diam. indet. Medium uneven gray-brown to brown (5YR 5/1 to 5YR 5/3); volcanic temper. Flaring rim, pointed lip; orientation not certain. Self-slip? Similar to 23 and 24 (but not same).

EH I?

26 Vessel, base Fig. 12

P004, findspot 1. Diam. ca. 0.14 m? Medium uneven gray to orange (5YR 5/4 to 2.5YR 5/6); many tiny-

small quartz inclusions; volcanic black, no gold, inclusions. Flat(?) large base. Smoothed surfaces.

FN

27 Vessel, handle Fig. 12

P048, findspot 2. Medium even gray (5YR 3/3); many tiny quartz inclusions; volcanic black and few gold(?) inclusions. Vertical, flat. Unslipped.

FN

28 Vessel, handle Fig. 12

P215, findspot 6. Medium even brown (2.5YR 6/4); many tiny quartz inclusions; volcanic tiny black, no gold, inclusions. Vertical, flat.

EH I

29 Vessel, handle Fig. 12

P220, findspot 6. Medium even gray-brown (5YR 4/6 [wall], 5YR

2.5/1 [handle]); many tiny quartz inclusions; volcanic black, no gold, inclusions. Vertical, flat. Burnished.

EH I

30 Vessel, handle Figs. 11–12

HP519, findspot 6. Medium coarse mottled yellow-brown to red-brown (7.5YR 5/4 to 2.5YR 5/6 mottled); very gritty; volcanic black and gold inclusions. Vertical, flat

wide band. Three columns of herringbone incision.

EH I

31 Bowl or basin, rim Fig. 12

P159, findspot 9. Diam. indet. Medium even gray (5YR 4/1); tiny–small quartz inclusions; very few gold volcanic inclusions. Thickened rim; slight groove on interior; flat lip. Burnished exterior and interior.

ASSOCIATIONS OF THE VOLCANIC CLASSES

The Volcanic Red-Slipped and Burnished and Volcanic Plain classes discussed above can be dated to the EH I period; whether these classes are also to be found in the FN period is unclear. The distinctive fabric, as well as the surface treatment of red slip and burnish, was found at all EH I sites discovered in the Southern Argolid Survey of the Hermionid.³⁰ A major problem faced by the Survey was the considerable overlap of FN and EH I components at many sites: all but two sites with FN material (often in small quantities) also had EH I sherds. Nevertheless, we were able to differentiate between the two periods, in large part because of the distinctive volcanic-tempered fabric, shapes, and surface treatments of the Volcanic classes, which belong to the EH I period, and because several sites had pottery with volcanic-tempered fabric but no FN material. The volcanic-tempered fabric is found along the Saronic Gulf coast (e.g., Methana).³¹ Occasionally this ware appears outside the Hermionid in the northern Argolid, but examples are rare. In the extensive EH I phases at Tsoungiza, as well as in the Nemea Valley Survey area, no more than a dozen examples were found (personal observation); there are a few pieces of the fabric identified at Lerna, but EH I is poorly represented there.³² No mention of the fabric was made by Dousougli in her study of other sites near the Argive Plain.³³

The Volcanic Black-Burnished class is problematic in that it was scarcely represented in the Southern Argolid Survey; only one piece from the FN period could be identified as Black-Burnished, a handle.³⁴ Unfortunately, the quantity of the Volcanic Black-Burnished class at Halieis is so small that it could not be tested statistically against the Volcanic Red-Slipped and Burnished class to determine whether their distributions are indeed different. Its closest parallels are vessels from FN Kephala, FN–EH I Phlius, and the East Aegean FN–EH I. The Volcanic Black-Burnished class, then, perhaps should be dated earlier than the Volcanic Red-Slipped and Burnished and the Volcanic Plain classes, which are dated to the EH I period.

NONVOLCANIC-TEMPERED CLASSES

The remaining classes—Brown-Slipped, Dark-Faced Burnished, Medium Coarse, Cooking Pot, Buff, Compacted Red, and Pithos—are character-

30. Pullen 1995.

31. Mee and Taylor 1997.

32. Wiencke 1989, p. 496, note 1.

33. Dousougli 1987.

34. Pullen 1995, p. 9, no. 42.

ized by fabrics that lack the distinctive volcanic mineral tempering particles typical of the volcanic fabric. Each of these classes is discussed separately.

BROWN-SLIPPED CLASS (32–42)

The fabrics of the Brown-Slipped and the Dark-Faced Burnished classes are very similar. They are usually gray to gray-brown (5YR 3–4/2–4), have tiny quartz inclusions, and are usually not gritty in feel. Both varieties are burnished. When a slip is present in the Brown-Slipped class, it is usually brown in color, though red-brown (as in 36 and 41), red (37), and black slips (42) also occur; some of the Dark-Faced Burnished pieces have what appears to be a black slip, though this may be simply a result of firing. Those pieces without a slip are generally darker on the surface.

Many of the Brown-Slipped pieces appear to belong to the same vessel: 32 (Figs. 13–14). Certainly 33 and 34 have the same rough gray interior surface as the pieces of 32 and come from the same context, the pit in bedrock to the north of Building A. The precise shape of 32 is not clear, but it was a closed vessel. The large pieces of 32 seem to have a diameter of around 0.23 m (if the design was arranged in a horizontal band). If the tiny fragment of an incised band handle, 35, is part of this vessel (it was found to the northeast of the altar area, along with 36 and 37, more than 20 m from Building A), we might think of an askos or small jar with a wide vertical handle decorated with stacked continuous zigzag around the belly and grouped diagonals on the handle. All the identified Brown-

Figure 13. Brown-Slipped class



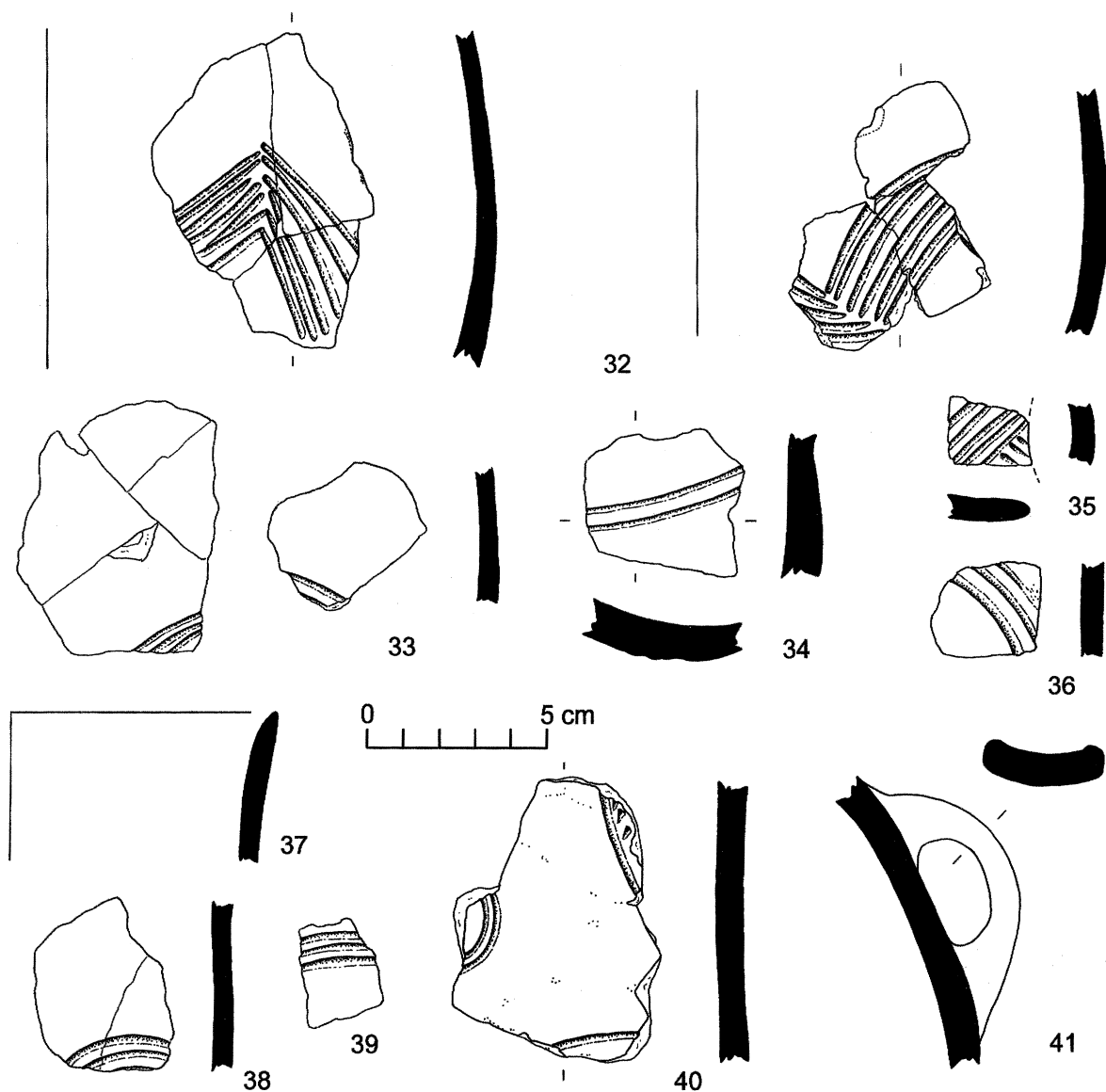


Figure 14. Brown-Slipped class

Slipped pieces have shallow curving grooves, apparently forming six or seven nested chevrons or stacked zigzags. Some pieces that do not appear to go with 32, such as 38 (found to the north of the altar area) and 36, have grooves that curve more and are spaced further apart. 39, while it has a similar fabric and decoration to 32, lacks the brown slip and so perhaps is also from a different vessel (it was found in the western part of the acropolis, far from the other pieces of Brown-Slipped ware).

Askoi and askoid cups have a long history in Aegean ceramics, from the Late Neolithic (the “scoops” of the LN–FN periods) through EH II and later. The proposed Halieis askos or askoid cup from the pit north of Building A is related to askoid cups of FN–EH I date from the Peloponnese, like those from Asea and Tsoungiza.³⁵

An additional Brown-Slipped piece decorated in a different fashion is 40, perhaps a portion of a so-called frying pan. The preserved portion is

35. Asea: Holmberg 1944, p. 83, fig. 84:a–b; Tsoungiza: Pullen, in preparation.

very slightly concave. On the decorated surface are portions of an impressed concentric circle, a slightly curving line bordered by what appears to be a row of kerbschnitt or impressed triangles, and a second curved line, perhaps without any border. Frying pans or other similarly decorated flat objects seem to date no earlier than the EH I period, according to our present knowledge, though our understanding of the FN and EH I periods is still poor.³⁶ The presence of two additional fragments of frying pans in the Dark-Faced Burnished class (see below) strengthens the EH I dating of this part of the ceramic assemblage.

Two red-slipped and burnished pieces, **37**, the flaring rim of a deep bowl, and **41**, a vertical band handle thin but slightly concave in section and with thickened margins, and **42**, a black-slipped and burnished body sherd, do not have volcanic temper in their fabrics, nor are they gritty in feel. They are not similar in fabric to the Brown-Slipped pieces above, but as they have slipped and burnished surfaces, they are included here rather than in any of the unslipped nonvolcanic classes.

- 32** Askos or jar(?), Figs. 13–14
body

HP626, findspot 4. Medium even dark red-brown to dark gray-brown (5YR 3/2–4/2); lots of tiny quartz inclusions; nonvolcanic. Exterior slipped(?) and burnished; interior very rough, pitted, dark gray. Grooved nested chevrons. Additional pieces **33**, perhaps **34**, **35**.

FN–EH I

- 33** Vessel, body Figs. 13–14

P134 + 135, findspot 4. Medium even gray-brown (5YR 4/2). Slip and burnished. Grooves. Same vessel as **32**.

- 34** Vessel, body Fig. 14

P262, findspot 4. Medium uneven gray-brown to red-brown (5YR 3/3–4/4, surface 5YR 6/4); tiny quartz, small irregular limestone inclusions; nonvolcanic. Thickening to left to attachment(?), slightly flaring at one edge. Interior rough and gray. Two grooves. Same vessel as **32**?

FN

- 35** Handle Fig. 14

P002, findspot 1. Medium even yellow-brown (5YR 5/6); tiny quartz inclusions; nonvolcanic. Broad

vertical strap handle. Slip exterior and in grooves; interior slightly rough. Multiple grooves, grouped and opposed on exterior (hatched triangles?).

FN

- 36** Vessel, body Figs. 13–14

P077, findspot 1. Medium uneven gray-brown to brown (5YR 4/3 to 7.5YR 3/5); tiny quartz inclusions; nonvolcanic. Red-brown slip exterior (including in grooves). Three impressed grooves. Probably not same as **32**.

FN–EH I

- 37** Bowl, rim Fig. 14

P009, findspot 1. Diam. 0.15 m. Medium uneven gray-brown to brown (5YR 4/6 exterior to 5YR 3/3 interior); not gritty; nonvolcanic. Slightly flaring rim. Red slip and burnished.

FN?

- 38** Vessel, body Figs. 13–14

P034, findspot 2. Medium uneven gray to orange-brown (5YR 4/4 to 5YR 6/4); tiny quartz inclusions; nonvolcanic. Burnished, interior smoothed like exterior. Two or more grooves.

FN?

36. Coleman (1985, p. 201) would place the mainland examples late in EH I, overlapping with the EC II period.

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>39 Vessel, body Figs. 13–14</p> <p>P238, findspot 6. Medium uneven gray-brown to red-brown (5YR 3/2 to 5YR 3/4); lots of tiny quartz inclusions; nonvolcanic. Grooves. No evidence for brown slip (worn surfaces), but fabric and decoration are similar to those of 32–38.</p> <p>FN?</p> | <p>41 Vessel, handle Fig. 14</p> <p>P213, findspot 6. Medium uneven brown to orange (5YR 5/4 to 2.5YR 5/6); many tiny and small limestone, irregular quartz(?) inclusions; nonvolcanic. Vertical(?), thick margins (U-shaped). Red-brown slip. Not true Brown-Slipped or Red-Slipped and Burnished fabric, but rather similar to those of EH II.</p> <p>FN–EH I</p> |
| <p>40 Frying pan(?), body Fig. 14</p> <p>P023, findspot 2. Medium even black (5YR 3/1, but red surfaces); quartz and limestone(?) inclusions; nonvolcanic. Slightly concave surface. Burnishing a little in evidence, but very smooth on both sides. Stamped circles, impressed grooves, and kerbschnitt.</p> <p>EH I?</p> | <p>42 Vessel, body</p> <p>P269, findspot 6. Medium even black-brown (5YR 3/3 interior to 5YR 2.5/1 exterior); many tiny quartz inclusions; nonvolcanic(?). Black(?) slip and burnished. Black version of Red-Slipped and Burnished, but nonvolcanic fabric; burnt exterior?</p> <p>FN–EH I</p> |

DARK-FACED BURNISHED CLASS (43–47)

As noted above, the fabric of the Dark-Faced Burnished class is very similar to that described for the Brown-Slipped class. Some Dark-Faced Burnished pieces lack a distinct slip, while others have a black or brown-black slip, though this may be merely a result of firing; the surfaces are generally highly burnished. Two small deep bowls, **43** with a straight rim and **44** with a slightly flaring rim, have burnished surfaces (Fig. 15). **43** has a black slip, similar to vessels in the Volcanic Black-Burnished class.

The most unusual piece is **45**, perhaps part of a frying pan. Given the small extant portion, it is difficult to reconstruct the form and decoration. A thick wall, probably vertical, thins and flares toward the broken bottom; a groove emphasizes the flare. At the top, the wall bends to form what was most likely the flat upper surface. The remains of three incisions perpendicular to the edge are preserved. There is no indication of a handle or projecting flange typical of several varieties of frying pan.³⁷ The rather high wall is unusual, but the diameter of 0.18 m is quite in line with the size of frying pans.

46 is definitely part of the rim of a frying pan. A slightly convex disk 0.17 m in diameter has had added to it a low, thick wall, preserved only about 0.015 m in height; no flange is present. Both exterior and interior surfaces are burnished. On the exterior bottom are three grooves not quite perpendicular to the outer edge; they must be part of long grooves radiating from the center or perhaps forming the arms of a star pattern, as found on frying pans at Tsoungiza and Asea in EH I contexts.³⁸ Both **45** and **46** show that the edge of the disk is undecorated except for the three grooves most likely extending out from the center; similarly, these two lack decoration on the side wall. As noted above, frying pans have not been found in contexts earlier than EH I.

37. See Coleman 1985.

38. At Tsoungiza examples of frying pans are found with a large central impressed or incised star, arms radiating out nearly to the edge and with stamped spirals in between (2011–2–2 and 2014–2–1). The star and spiral design, found also at Asea (Holmberg 1944, p. 86, fig. 87:a = Coleman 1985, p. 214, no. 90), is unlike the star design found on Attic examples, where the star has shorter arms and is confined to the inner portion of the field of decoration, e.g., from Agios Kosmas (Mylonas 1959, fig. 146, no. 195 = Coleman 1985, no. 78; Mylonas 1959, fig. 148, no. 210 = Coleman 1985, no. 79, and Mylonas 1959, fig. 149, no. 227 = Coleman 1985, no. 80). Rather, as Coleman notes, the large star is more like the design on Cycladic examples, although these are formed solely by outline and not by multiple strokes as in the Tsoungiza and Asea examples.

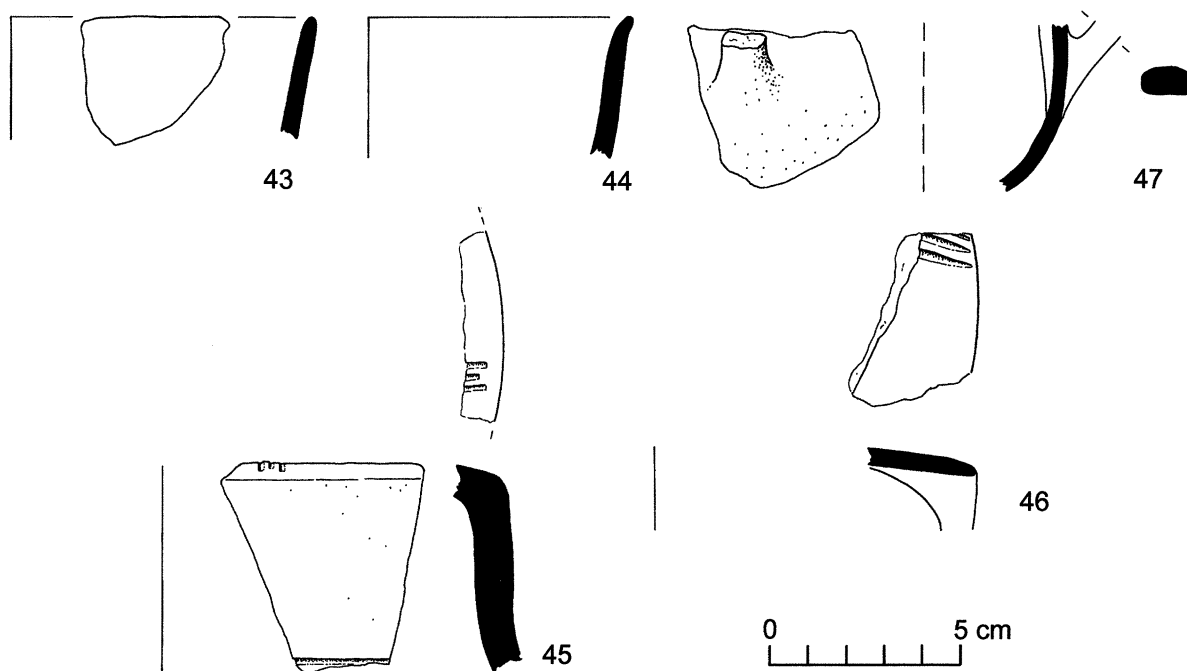


Figure 15. Dark-Faced Burnished class

47, with its slipped and burnished surface, is similar to Brown-Slipped and Dark-Faced Burnished pieces, but the shape, a cup with upswung handle, is problematic. The piece is handmade and burnt. The rectangular-sectioned handle is attached to the vessel wall, probably not too far below the rim, without a tenon piercing the wall.

43 Deep bowl(?), rim Fig. 15

P426, findspot 10. Diam. 0.16 m. Medium even black (5YR 2.5/1); not gritty, nonvolcanic, but many tiny quartz inclusions. Vertical rim, round lip. Black slip and burnished.

44 Bowl, rim Fig. 15

P316, findspot 3. Diam. 0.14 m. Medium uneven gray to red-brown (5YR 3/4 exterior to 5YR 3/2 interior); not gritty; nonvolcanic. Slightly flaring rim. Slip(?), burnished. Fabric similar to 43.
FN?

45 Frying pan or pyxis, body Fig. 15

P264, findspot 6. Diam. (top) 0.18 m. Medium even gray (5YR 3/1); some tiny, small quartz inclusions; nonvolcanic. Slip exterior, burnished. Three grooves perpendicular to edge.
EBA?

46 Frying pan, body Fig. 15

Findspot 5. Diam. 0.17 m. Medium uneven brown core to red-brown (5YR 5/3 to 2.5YR 4/8); tiny quartz(?) inclusions; nonvolcanic. Flat disc to which has been added a round low wall. Burnished exterior and interior. Grooves.
EBA?

47 Cup, handle and body; Fig. 15
class uncertain

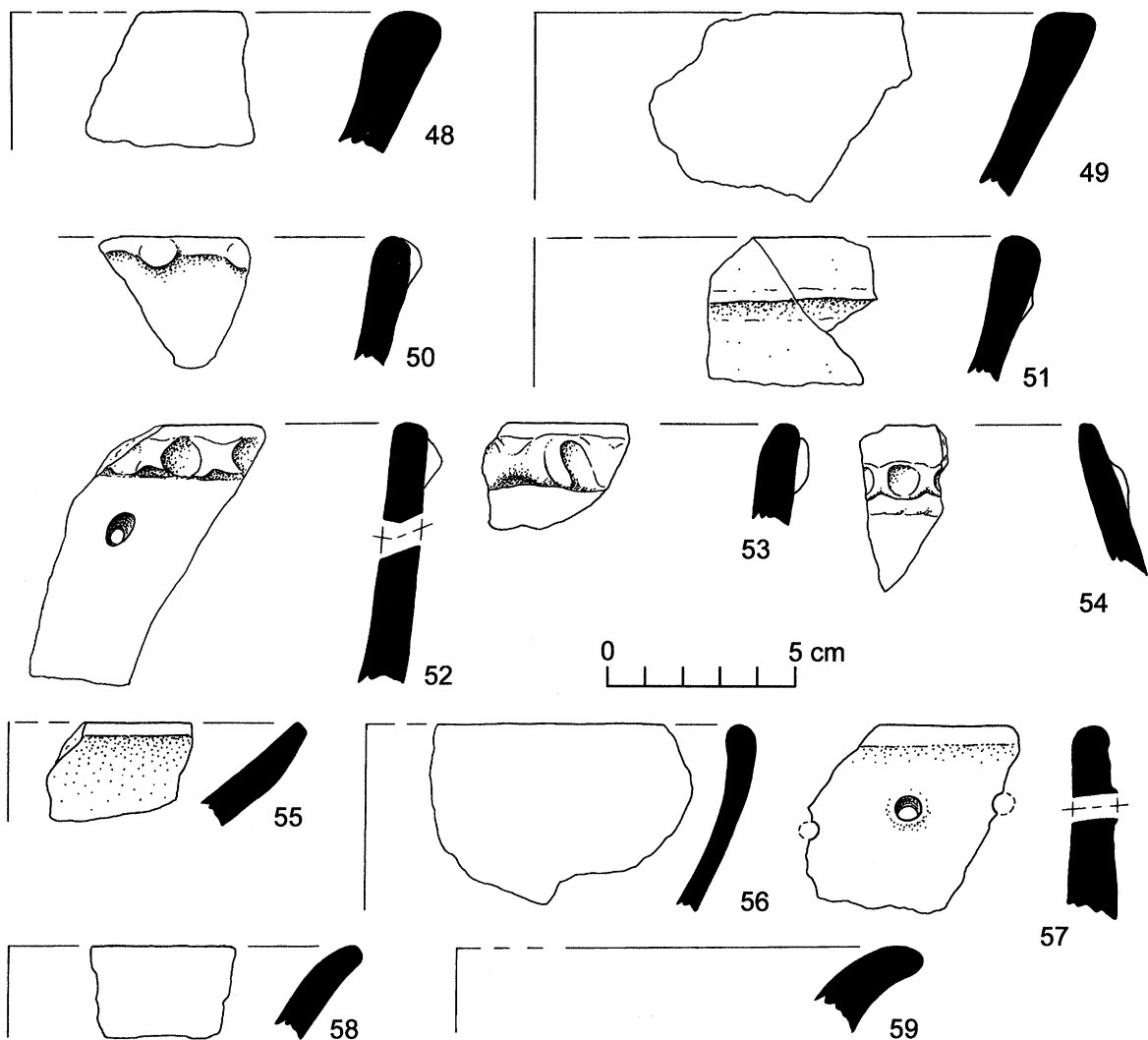
P461, findspot 8. Fine-medium even dark brown (5YR 4/2); handmade. High-swung handle above rim(?) (thinning part is just worn); wall thickens for upper attachment, most likely at rim. Burnt? Slip, burnished. Unusual handle form.
FN? EH?

MEDIUM COARSE CLASS (48-75)

By far the largest quantity of prehistoric pottery from Halieis can be categorized under the rubric Medium Coarse, primarily because it does not fall into any of the other categories. Nevertheless, there is a certain similarity among the vessels included here. By definition the fabrics lack volcanic temper; instead, limestone and quartz seem to be the most common tempering agents visible to the eye. The surface colors cluster fairly tightly around light red, red, and reddish brown (2.5 to 5YR 4-6/4-8), while the cores (when unevenly fired, as is the case for about half the pieces) tend to be reddish brown, dark reddish brown, or gray (e.g., 5YR 3/1-3, 4/3, 5/3-4), and not black or dark gray as one might expect. Surface treatments vary: some kind of slip is apparent on roughly a third of the pieces; burnishing with or without a slip is present on only about a fourth. Wet-smoothing is apparent on several pieces, but without the compacted surface found in the Cooking Pot class or Buff class, described below.

Figure 16. Medium Coarse class:
rims

The most common shape in Medium Coarse is a thick-walled spreading bowl, often fairly deep (48-51), though nearly vertical (52 and 53) or



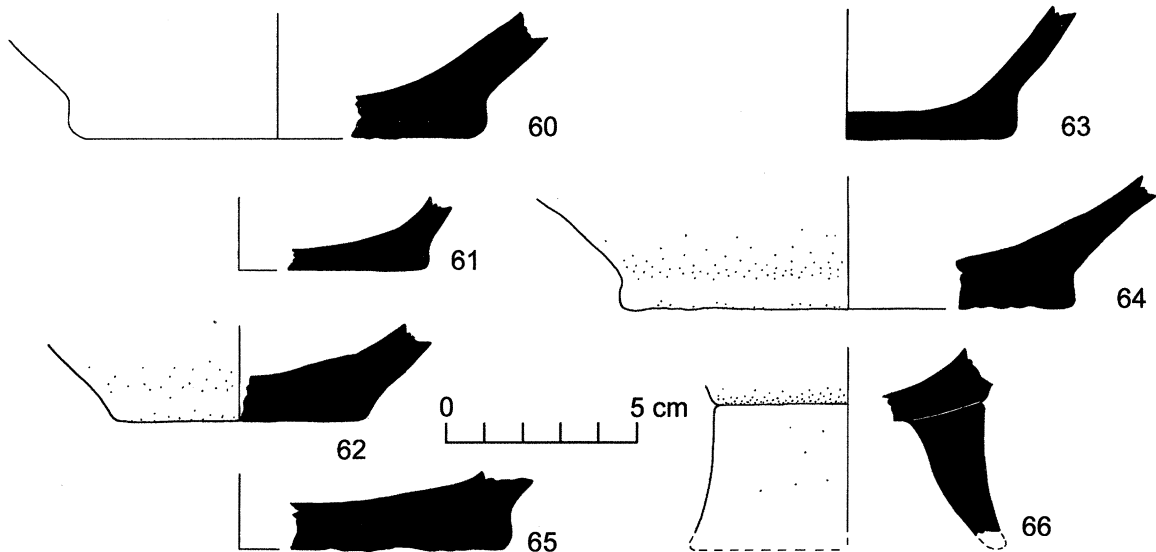


Figure 17. Medium Coarse class:
bases

incurving (54) walls occur (Fig. 16). Thinner-walled bowls, both shallow (55) and incurving (56), also occur; the latter has a “rolled rim” that is thought to begin in the later part of the FN period. 57 is from an open shape known as a “cheesepot,” usually dated to the FN period.³⁹ Cheesepots are also found in the Cooking Pot and Buff classes; see below. A common feature of Medium Coarse bowls is the application of ridges (51) or taenias (50, 52, 53, and 54) either at or just below the lip. Jars are not very common; only two rather large-mouthed examples, 58 and 59, are included here. These shapes find similarities in the FN assemblages from the Southern Argolid Survey and elsewhere in the Peloponnese.⁴⁰

Most of the bases recognized in Medium Coarse are of the standard flat, thick-bottomed variety that appears almost like a disk, whether on open vessels such as 60, 61, and 62, or closed vessels such as 63 (Fig. 17). Three of these flat bases have impressions of mats on their undersides: 60, 64, and 65 (see below, Fig. 29). One base, 66, stands out for being a pedestal instead of the usual flat base. The foot is preserved to at least 0.03 m high; the interior of the bowl is slipped, indicating an open shape.

One tubular lug, 67, was formed by vertically piercing a large lug; the piercing removed some of the vessel wall (Fig. 18). The shape this lug might have belonged to is unclear, but its similarity to the unpierced lug 68 suggests that it may have come from a bowl or other open shape. 68 is a large horizontal lug or ledge handle that angles down from the vessel wall. Along the preserved margin of the lug the edge has been flattened into facets, perhaps indicating that the lug would have been continued by a taenia band. The red-slipped and burnished interior shows that the vessel was open, probably some large bowl or basin.

The bodies of Medium Coarse vessels could be decorated with ridges and taenias, as the rims are. 69 with a single ridge, 70 with two, and 71 with three preserved ridges show the common triangular-section ridge (Figs. 18–19). 72 (Fig. 20) has three rows of finger-impressed taenia bands, while 73, from a relatively large vessel, has two taenia bands angled to each other.

39. Pullen 1995, p. 8, no. 22; Renfrew 1972, p. 155.

40. Southern Argolid Survey: Pullen 1995, pp. 8, 10, nos. 28–34; Peloponnese: Phelps 1975.

Some of the most elaborate incised decoration from Halieis is found on two pieces of Medium Coarse. Both pieces, 74 and 75 (Figs. 11, 18), come from vessel walls and not handles. 75 seems to come from an open vessel, while 74 certainly seems to be from a closed vessel. From the curvatures we can reconstruct diameters of 0.10 and 0.13 m, respectively. 74 is decorated with alternating rows of diagonal slashes that form an overall herringbone design. 75 has a design of two rows of diagonal slashes (in opposite directions) between a pair of incised lines. Toward one edge of the preserved portion are four lines, suggesting an end to the pattern. There is, however, no indication that this is a rim; perhaps the pattern was deliberately relegated to only a portion of the exterior as part of the design or because it would be obscured, as by a handle.

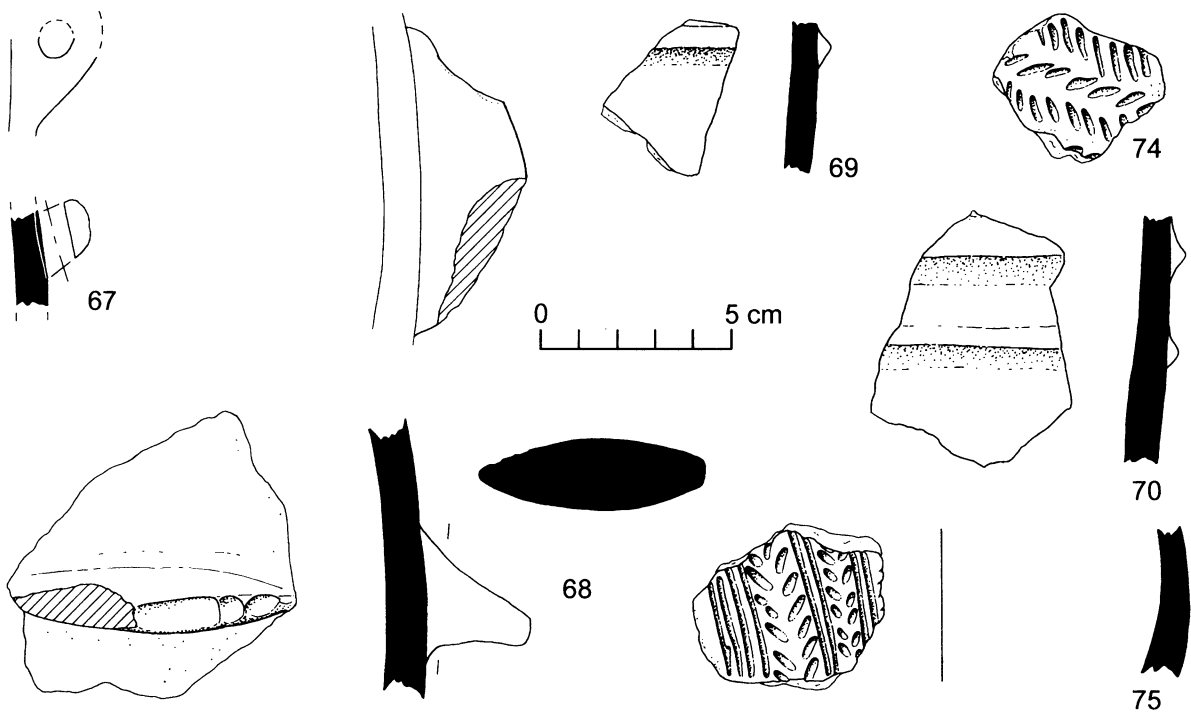


Figure 18. Medium Coarse class:
handles and decorated bodies

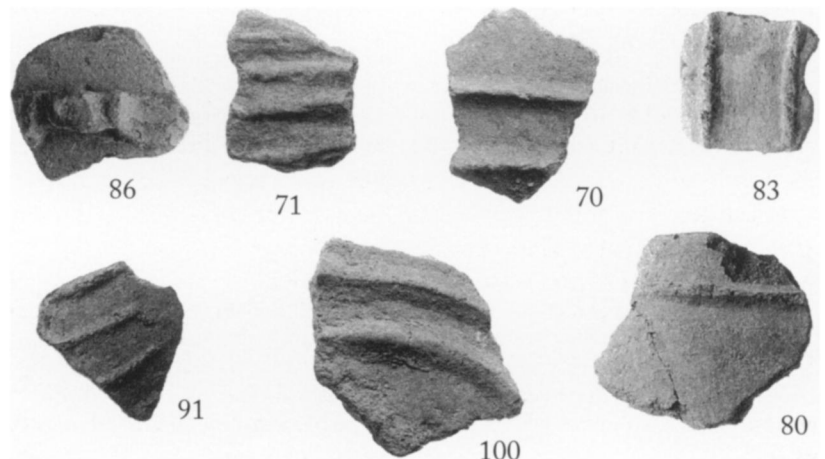


Figure 19. Ceramics with applied
ridges



Figure 20. Ceramics with taenia decoration

The majority of the features of the Medium Coarse class are found in FN assemblages. Although the high frequency of flat to slightly hollow or concave bases, the presence of plain and impressed ridges, and the tubular lug are characteristic of the FN period, it must be stressed that some of these elements are features of other periods, including EH I.

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>48 Bowl, rim Fig. 16
P152, findspot 4. Diam. 0.22–0.24 m? Medium uneven gray to red-brown (5YR 3/3 to 2.5YR 5/6); tiny quartz inclusions; nonvolcanic. Slightly thickened rim. Self-slip exterior(?), burnished exterior?
FN</p> | <p>51 Bowl, rim Fig. 16
P271, findspot 6. Medium uneven gray-brown to red-brown (5YR 4/3 to 2.5YR 4/6); tiny limestone, small quartz, small-large limestone inclusions. Red surface, unslipped? Interior smoothed. Shallow ridge.
FN</p> |
| <p>49 Bowl, rim Fig. 16
P301 + P290 + P312 + P326, findspot 3. Diam. 0.30 m. Medium even gray (10YR 5/2); tiny limestone, few small quartz inclusions; non-volcanic; hard-fired; similar to EH II jar fabric. Slightly thickened rim, flat lip.
FN</p> | <p>52 Deep bowl, rim Fig. 16
P133, findspot 4. Diam. ca. 0.30 m? Medium even orange (2.5YR 6/6) irregular small inclusions. Vertical rim, flat lip. Originally slipped(?) on interior and lip(?). Taenia; postfiring hole.
FN</p> |
| <p>50 Bowl, rim Fig. 16
P235, findspot 6. Diam. ca. 0.25 m. Medium even gray-brown (5YR 4/2); tiny quartz, tiny-small limestone inclusions; nonvolcanic. Piecrust rim.
FN</p> | <p>53 Bowl, rim Fig. 16
P419. Diam. indet. Medium uneven gray-brown core to red-orange (5YR 4/6 to 2.5YR 5/8); tiny limestone inclusions. Incurved rim (or nearly vertical?), slightly flattened. Taenia below lip.
FN-EH I</p> |

- 54 Deep bowl, rim Fig. 16
P251, findspot 2. Diam. indet. Medium uneven gray to orange-brown (5YR 4/3 to 2.5YR 6/6). Insloping(?), orientation not certain. Red-brown slip interior. Taenia. FN
- 55 Shallow bowl, rim Fig. 16
P229, findspot 6. Diam. ca. 0.16 m? Medium uneven gray-brown to orange-brown interior surface (5YR 5/3 to 2.5YR 5/6); tiny quartz inclusions; nonvolcanic. Flat lip. Slip? FN-EH I
- 56 Hemispherical bowl(?), rim Fig. 16
P445. Diam. 0.18 (interior)–0.22 m (exterior). Medium even yellow-brown (7.5YR 7/4); spongy ware (vegetal temper); nonvolcanic. Slightly thickened rim, horizontal lip. Burnished, but no luster. FN or EH I–II?
- 57 Cheesepot, rim Fig. 16
Findspot 2. Diam. > 0.35 m? Coarse uneven gray-brown to red-brown surfaces (5YR 4/3 to 2.5YR 6/6); tiny sand, small limestone inclusions; nonvolcanic. Vertical rim. Three holes pierced (prefiring) from interior; exterior irregular, interior smoother. Worn; similar vessel to 99. FN
- 58 Jar, rim Fig. 16
P407, findspot 6. Diam. 0.19 m. Medium even orange-brown (5YR 6/4); 1 very large inclusion (7 mm); tiny black and white quartz(?) inclusions; nonvolcanic; fabric gritty like Red-Slipped and Burnished class. Flaring rim, flat lip. FN?
- 59 Jar, rim Fig. 16
P175, findspot 9. Diam. ca. 0.25 m. Coarse even gray-brown (5YR 3/3); many tiny quartz, limestone(?) inclusions; nonvolcanic. Flaring rim. Slip(?) exterior, burnished exterior. FN
- 60 Mat-impressed base Figs. 17, 29
P039, findspot 2. Diam. 0.11 m. Medium even gray-brown (5YR 5/3); tiny quartz inclusions; nonvolcanic. Flat. Mat impression: diagonal plaited, double weft over warp. FN
- 61 Vessel, base Fig. 17
P047, findspot 2. Diam. 0.10 m. Medium uneven gray to brown (5YR 5/4 to 5YR 7/6); some tiny irregular small limestone(?) inclusions; nonvolcanic. Flat. FN
- 62 Vessel, base Fig. 17
P299, findspot 3. Diam. 0.065 m. Medium uneven gray to orange surface (5YR 3/2 to 5YR 5/6); many tiny limestone inclusions; nonvolcanic; heavy, dense. Flat. Burnished (interior dark and looks like Volcanic classes, but no volcanic temper). FN
- 63 Vessel, base Fig. 17
P189. Diam. 0.09 m. Medium even brown-buff (5YR 6/4); many tiny limestone inclusions; resembles EH II jar fabric. Flat. Self(?)–slip. FN? EH I?
- 64 Mat-impressed base Figs. 17, 29
HP530. Diam. 0.12 m. Coarse uneven gray to orange (7.5YR N5/0 to 2.5YR 6/6); tiny, small, large limestone inclusions; nonvolcanic; hard-fired like EH I fruitstand. Flat. Mat impression: widely spaced warp over multiple weft, twined? FN-EH I
- 65 Mat-impressed base Figs. 17, 29
Findspot 10. Diam. ca. 0.14–0.15 m. Medium uneven gray to orange-brown (7.5YR 5/2 to 5YR 6/6); tiny and small irregular quartz, occasional large (3 mm) inclusions; nonvolcanic. Flat. Mat impression: twined, faint and worn, weft seems angled between each warp group. FN

- 66 Pedestaled bowl, base Fig. 17
P036, findspot 2. Diam. ca. 0.08 m (near foot). Medium even orange-brown (10R 5/6); very gritty; many tiny quartz inclusions. Pedestal, slightly flaring toward foot. Slip interior bowl, wet-smoothed exterior. FN
- 67 Vessel, handle Fig. 18
P324, findspot 3. Medium uneven gray-brown to brown surface (5YR 3/2 to 5YR 6/4); tiny, some small quartz inclusions; nonvolcanic. Horizontal; similar to pierced lug (vertical piercing). FN
- 68 Large bowl, handle and body Fig. 18
P288, findspot 3. Medium even orange-brown (5YR 5/6); tiny, small, large quartz, limestone(?) inclusions; nonvolcanic. Lug handle; orientation not certain. Red slip and burnished interior. FN
- 69 Vessel, body Fig. 18
P031, findspot 2. Medium even gray-brown (5YR 5/4); tiny quartz(?) inclusions. Red slip, burnished. Ridge. FN
- 70 Vessel, body Figs. 18–19
P239, findspot 6. Medium uneven red-orange interior to brown exterior (2.5YR 4/8 to 5YR 5/6); many tiny, small white quartz inclusions; nonvolcanic; hard-fired. Orientation not certain. Red slip and burnished interior, exterior wet-smoothed. Ridges. FN
- 71 Vessel, body Fig. 19
P254, findspot 2. Encrusted. Medium uneven orange interior to gray-brown exterior (2.5YR 5/8 to 5YR 5/4). Red interior, self(?)–slip. At least three ridges. FN
- 72 Vessel, body Fig. 20
P282, findspot 6. Medium uneven brown to red-orange (5YR 3/2 to 2.5YR 5/6); small–large (2 m) quartz, tiny limestone inclusions. Three taenias; wet-smoothing around taenias. FN
- 73 Vessel, body
Th. (wall) 0.013 m. Medium even orange-brown (2.5YR 5/6); quartz(?) inclusions. Large vessel, section larger than 0.35 m diameter? Wet-smoothed interior. Two taenias, angled. FN
- 74 Vessel, body Figs. 11, 18
P035, findspot 2. Diam. ca. 0.10 m? Medium uneven gray to orange interior (5YR 6/1 to 2.5YR 5/8); tiny quartz inclusions; nonvolcanic. Small vessel, ca. 0.10 m diameter. At least four columns of herringbone incision; perhaps not vertical but diagonal; exterior surface worn off. FN–EH I
- 75 Vessel, body Figs. 11, 18
HP504. Exterior Diam. 0.13 m? Medium uneven gray-brown interior to red-brown exterior (5YR 4/3 to 2.5YR 4/8); tiny and small irregular limestone(?) inclusions. Incised herringbone and grooves; interior compacted slightly. EH I?

COOKING POT CLASS (76–93)

One distinctive group is the Cooking Pot class, so named because of its resemblance to the cooking pot fabrics of later EBA phases. Cooking pot fabrics are medium to coarse, more often unevenly fired than even, and have a reddish tinge to the fabric away from the core. The surfaces are

often wet-smoothed or even burnished, though never with a luster imparted but rather with a slight "compacted" appearance. Occasionally the compacting of the surface is very pronounced, creating a crazed or cracked surface (e.g., 88, 91, and 92). Slips are rare; indeed only 85, a handle, possibly had a red slip. "Self-slips," technical slips formed by wet-smoothing the surface, do appear sometimes.

The most common shapes in the Cooking Pot class are bowls and jars, as one might expect (Fig. 21). The bowls range from deep to hemispherical. 76, with a rim diameter of 0.12 m, has an irregular, slightly spreading wall; 77, just slightly larger with a rim diameter of 0.13 m, has a flaring rim. 78 (Fig. 20) and 79 are two hemispherical bowls with taenia decoration on the rim, just below the lip in the case of 79, lower down in the case of 78. A slightly larger bowl, 80 (Fig. 19), has a raised ridge instead of a taenia band below the rim. One example of a cheesepot, 81, was found in the cooking pot fabric. Two holes are preserved, both approximately 0.015 m below the lip, as is often the case in this shape.

Only one jar rim, 82, has been recognized: a flaring rim with lip thickened to the exterior. Other jars are attested by handles, several of which are decorated in some manner. 83 (Figs. 19, 21) is a vertical band handle, relatively flat in section, with two vertical ridges near the margins; the ridges are marked with very fine diagonal slashes. Another vertical band handle, 84, is more carefully made, rectangular in section with raised edges. It has a single finger impression centered at the (upper?) attachment. 85 is a relatively simple handle, probably vertical.

The most elaborate piece of cooking pot is the pierced spool lug 86, probably from an open vessel, to judge by the burnished interior. A high lug projects from the exterior surface, between pairs of wide horizontal grooves with edges raised above the wall. The two sides and the center of the front of the lug are articulated with disks. The lug is pierced vertically, from top and bottom, forming a hole slightly smaller in diameter in the middle. The lug is reminiscent of simpler trumpet or spool lugs found in EH I contexts, for example at Asea.⁴¹ A number of cooking pot vessels were decorated with taenia bands and ridges, such as 87–89, which have single or multiple taenia bands, including some meeting at angles; 90 (Fig. 20) is unusual in that one of the three poorly made taenias has had clay smeared into the finger depressions, apparently to convert the taenia into a wide ridge. A further example of plastic decoration, 91 (Fig. 19), has four narrow parallel ridges preserved on the exterior of a closed vessel. These ridges may be diagonal in their orientation, if we use the comparative wall thickness for orientation of the preserved portion; one of the ridges ends simply, another makes a bend before ending.

Two bases, one flat, 92, and one flat disk, 93, were recognized; the latter base has a mat impression preserved on the underside (see below, Fig. 29).

For the most part, the shapes in the Cooking Pot class are nearly the same as in the Medium Coarse class, though the thick-walled spreading bowls of the Medium Coarse class are not as frequent in the Cooking Pot class. The plastic and impressed decoration is similar in the two classes.

41. Holmberg 1944, p. 55, fig. 57:b.

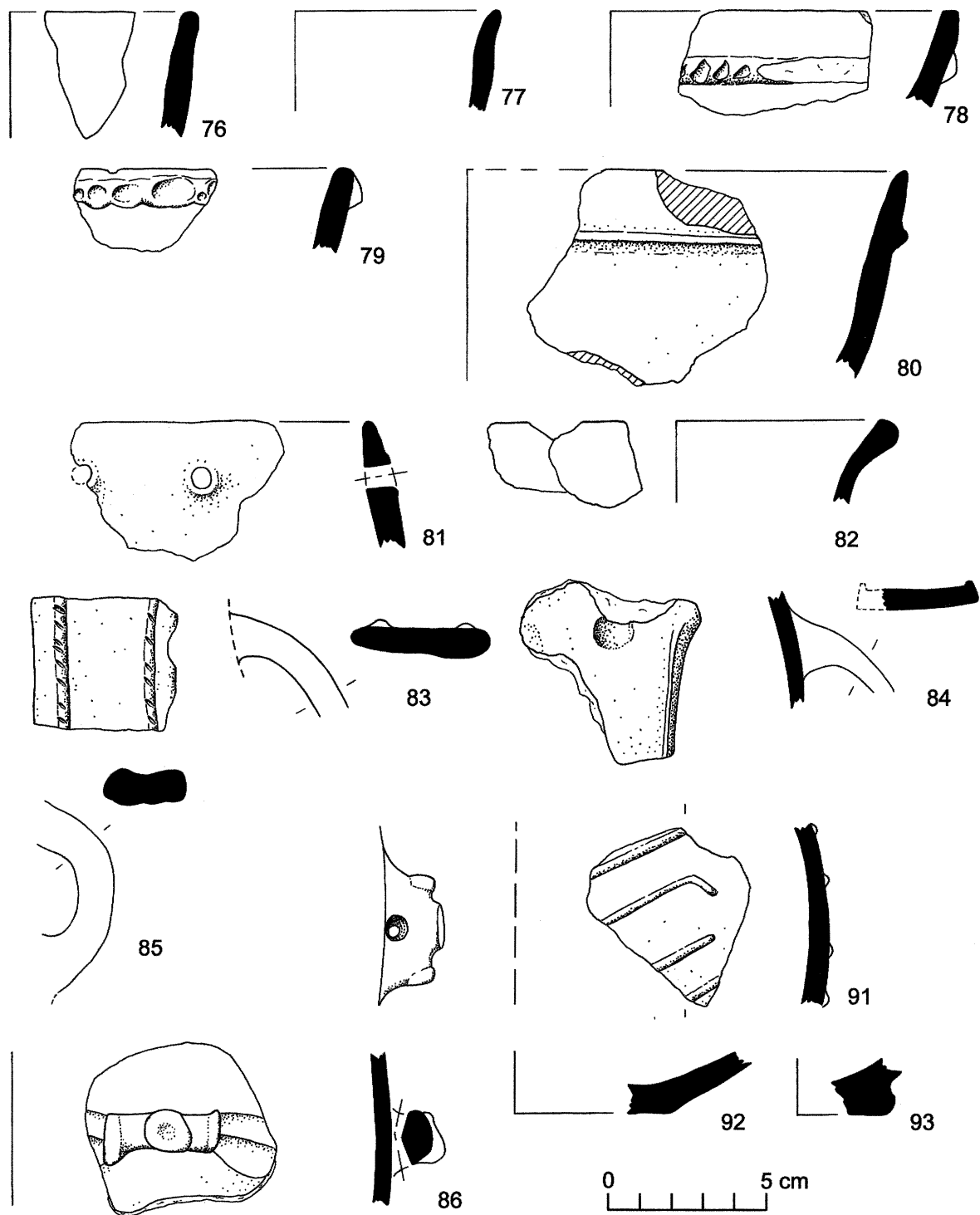


Figure 21. Cooking Pot class

- 76 Deep bowl, rim Fig. 21
P155, findspot 4. Diam. 0.12 m. Medium uneven gray interior to brown exterior (5YR 4/3 to 5YR 6/4); tiny quartz inclusions; nonvolcanic. Vertical rim, round lip. Burnished? FN
- 77 Bowl, rim Fig. 21
P084, findspot 1. Diam. 0.13 m. Medium uneven gray-brown to orange-brown (5YR 3/3 to 5YR 6/6); tiny, small, and occasional large quartz inclusions; nonvolcanic. Slightly flaring rim, round lip. Wet-smoothed surfaces. FN
- 78 Hemispherical bowl, rim Figs. 20–21
P030, findspot 2. Diam. 0.22 m. Coarse uneven gray to brown (5YR 5/1 to 2.5YR 5/4); tiny, small, and large (2 mm) quartz inclusions; nonvolcanic. Splayed rim, flat lip. Taenia with slashes. FN
- 79 Hemispherical bowl, rim Fig. 21
P032, findspot 2. Diam. indet. Coarse uneven brown to orange (5YR 3/2 to 2.5YR 4/6); many tiny, small, large quartz inclusions; nonvolcanic. Round lip. Self-slip. Taenia just below lip; compacted surfaces. FN
- 80 Bowl, rim Figs. 19, 21
P266. Diam. ca. 0.28 m? Medium even dark gray, red surface (5YR 4/1); tiny-small limestone, quartz, and other inclusions; nonvolcanic. Flaring rim. Burnished interior. Ridge. FN
- 81 Cheesepot, rim Fig. 21
P079, findspot 1. Diam. indet. Medium uneven gray-brown to red-brown (10YR 4/2 to 2.5YR 4/4); tiny quartz, small-large limestone inclusions. Nearly vertical rim. Interior compacted, very worn exterior. Two holes pierced (prefiring) from interior. FN
- 82 Jar, rim Fig. 21
P443. Two pieces. Diam. 0.14 m. Medium even gray (5YR 4/2); tiny to small nonquartz inclusions; nonvolcanic. Slightly flaring rim, lip rounded to exterior. Interior rim especially wet-smoothed. FN–EH?
- 83 Vessel, handle Figs. 19, 21
Findspot 10. Medium uneven gray-brown to red-brown (5YR 5/2 to 2.5YR 5/6); tiny quartz inclusions; nonvolcanic. Vertical. Wet-smoothed, slightly compacted. Two vertical taenias, narrow with diagonal slashes. FN
- 84 Vessel, handle Fig. 21
P241, findspot 6. Medium even gray-brown to red surface (5YR 5/1 to 10R 4/4–5/6); tiny-small limestone, some quartz(?) inclusions; nonvolcanic. Vertical, flat-sectioned with raised margins; finger impression near attachment. FN–EH I
- 85 Vessel, handle Fig. 21
P258, findspot 1. Medium even red-brown (2.5YR 4/4); many tiny, some small quartz inclusions. Vertical(?), two-ridged in section. Red surface (slip?), burnished. FN
- 86 Vessel, body and lug Figs. 19, 21
P111, findspot 1. Medium uneven brown to red-brown (5YR 4/4 to 2.5YR 5/8); tiny quartz inclusions; nonvolcanic. Horizontal lug with finials, pierced vertically. Self-slipped interior(?), burnished or compacted interior. Taenia(?) or three ridges continue out from lug. FN
- 87 Vessel, body Fig. 20
P033, findspot 2. Coarse uneven black interior to red-brown exterior (5YR 3/1 to 2.5YR 3/4); small, large (6 mm) limestone, quartz(?) inclusions; nonvolcanic. Taenia. FN

- 88 Vessel, body Fig. 20
P092, findspot 1. Medium even brown (5YR 4/3); many tiny, small, and large quartz inclusions; nonvolcanic. Taenia.
FN
pyrite(?) small quartz/limestone inclusions; nonvolcanic. Orientation not certain. Four ridges, may be diagonal if orientation by wall thickness and curvature is accurate.
FN
- 89 Vessel, body
P456, findspot 8. Medium uneven gray-brown to red-brown (5YR 4/2 to 2.5YR 5/6); tiny limestone, tiny-small quartz inclusions; nonvolcanic. Interior compacted. Two taenias at angle.
FN
- 90 Vessel, body Fig. 20
P256, findspot 1. Coarse mottled red-brown to black (2.5YR 5/4); 1 pebble (5 mm). Three taenias, poorly made; one has added clay to fill up finger depressions.
FN
- 91 Vessel, body Figs. 19, 21
P024, findspot 2. Medium uneven black to red-brown surfaces (5YR 2.5/1 to 2.5YR 4/6); tiny
- 92 Vessel, base Fig. 21
P180. Diam. 0.10 m. Medium uneven black-brown to red-brown surface (5YR 3/2 to 2.5YR 6/4 surface); tiny quartz inclusions, iron pyrite spalls(?); nonvolcanic. Flat; irregular underside or very faint mat impression? Burnished? Interior reddish, compacted.
FN
- 93 Mat-impressed base Figs. 21, 29
Diam. ca. 0.06 m. Coarse uneven brown to red-brown (5YR 3/3 to 2.5YR 4/6); many tiny, small, and large irregular limestone inclusions; gritty. Flat. Mat impression: small area preserved and unclear, perhaps basketry? Wet-smoothed exterior like Cooking Pot ware.
FN

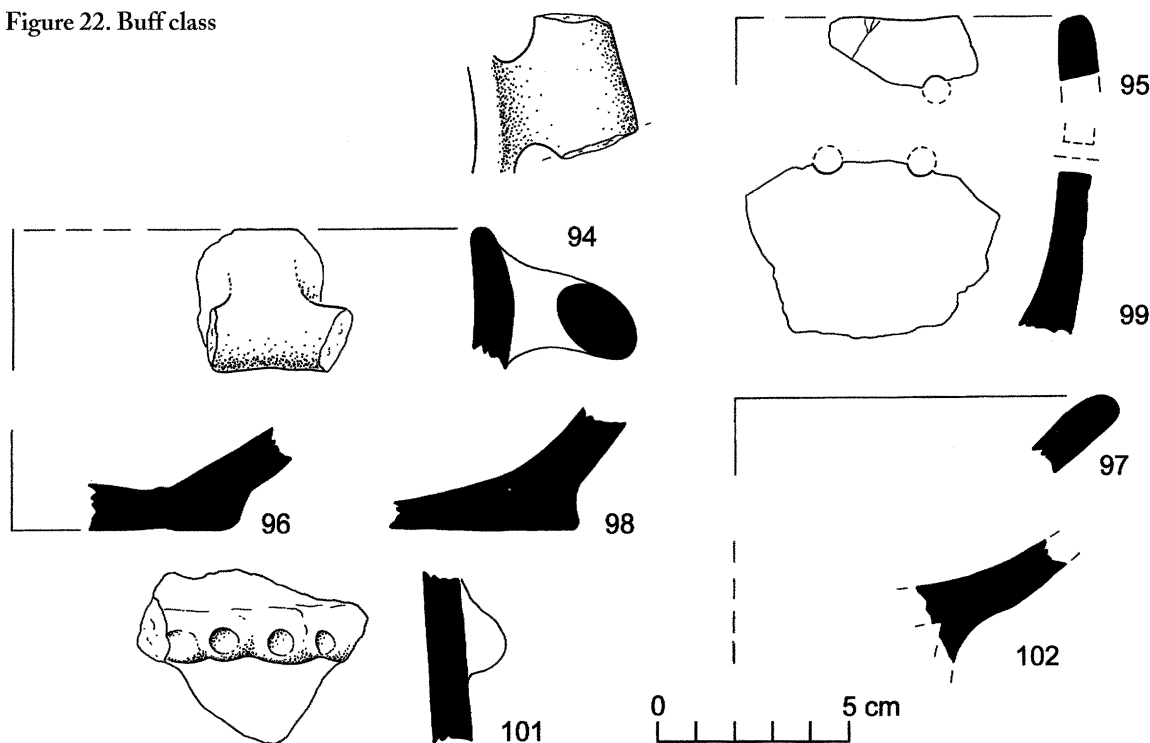
BUFF CLASS (94–104)

Another distinctive category is that called Buff. This group is characterized by a relatively soft, low-fired, and crumbly ware, often with compacted surfaces, such as **95**, **97**, **99**, **100**, and **102–104**. The colors of the fabric tend to be lighter—more orange to orange-brown—than those of the fabrics of the Medium Coarse and Cooking Pot categories: 2.5YR 5–6/6–8, 5YR 4, 6–7/6 (light red, yellowish red, and reddish yellow). Identifiable inclusions are often quartz, though other materials (limestone?) are also apparent. A few pieces seem to have a slip, probably a technical or self-slip from wet-smoothing the surface; only **95** and **102** might have a deliberately slipped surface, reddish in color.

The shapes found in the Buff class are thick-walled bowls for the most part, e.g., **94–99** (Fig. 22), though a few examples of closed shapes, e.g., **100** (Fig. 19), also occur. Notable shapes include two examples of cheese pots (**95**, **99**), a pedestaled bowl(?) (**102**), and an unusual T-shaped horizontal handle attached below the rim of a bowl (**94**). Applied ridges and taenias are found on a number of the closed vessels, such as **100**, **101**, and numerous uncatalogued examples. A few of the open vessels also have applied ridges and taenias, e.g., **103** and **104**. Bases like **96** and **98**, as in the other categories, are flat and thick.

In terms of shapes (thick-walled bowls, cheese pots, flat bases, and pedestals) and applied decoration (ridges and taenias), the Buff class seems

Figure 22. Buff class



to be very similar to the Medium Coarse class; perhaps it represents a poorly fired variant of the Medium Coarse class, with no functional or chronological distinction.

94 Bowl, handle and rim Fig. 22

P025, findspot 2. Diam. ca. 0.25 m? Medium uneven gray-brown to orange-brown (5YR 3/2 to 5YR 6/6); small to large (up to 2 mm) quartz inclusions; nonvolcanic. T-lug, projecting.

FN

95 Cheesepot, rim Fig. 22

P059, findspot 2. Diam. 0.18 m. Medium uneven brown to orange (5YR 5/3 to 5YR 6/6); nonvolcanic. Slightly flattened lip. Red slip? Hole pierced below lip.

FN

96 Vessel, base Fig. 22

P066, findspot 2. Diam. 0.12 m. Medium uneven gray to orange (5YR 6/4 to 2.5YR 5/8); nonvolcanic. Flat. Surfaces smooth and slightly compacted.

FN

97 Bowl(?), rim Fig. 22

P068, findspot 2. Diam. ca. 0.20 m. Medium even yellow-brown (5YR 6/6); tiny quartz inclusions; nonvolcanic. Flaring rim, round lip. Slip(?), very smooth surface.

FN

98 Vessel, base Fig. 22

P296, findspot 3. Diam. indet. (ca. 0.18–0.25 m?). Medium uneven gray-brown to orange-brown (5YR 5/4 to 2.5YR 6/8); many quartz inclusions; nonvolcanic. Flat, large, and irregular. Surface mottled yellow-brown to orange.

FN

99 Cheesepot, body Fig. 22

P298, findspot 3. Medium uneven gray to orange-brown (5YR 5/3 to 2.5YR 6/6); quartz and limestone(?) inclusions; nonvolcanic. Thickens toward base? Parts of two

holes preserved in thinner portion; wet-smoothed like Cooking Pot ware, but not very smooth.

FN

100 Vessel, body Fig. 19

Findspot 10. Three pieces. Diam. ca. 0.28 m? Medium even orange-brown (5YR 7/6); tiny regular quartz, small-large (2 mm) irregular quartz and other (limestone?) inclusions; nonvolcanic. Medium-sized vessel; estimate for diameter may be incorrect if pot is globular and thus larger in another direction. Interior very irregular. Two curved ridges.

FN

101 Vessel, body and lug Fig. 22

P431. Medium even brown (5YR 6/6); tiny-large (3 mm) quartz and limestone inclusions; nonvolcanic. Self-slip? Horizontal high lug with finger impressions on edge.

FN?

102 Vessel, pedestal base Fig. 22

P053, findspot 2. Medium even red-brown (2.5YR 5/6); small quartz inclusions; nonvolcanic. Pedestal. Red slip and burnished interior? Compacted interior, smoothed exterior.

FN

103 Vessel, body

P065, findspot 2. Th. (wall) 0.012 m. Medium even red-brown (5YR 4/6); tiny quartz inclusions; nonvolcanic. Thick vessel (1.2 cm thick). Taenia poorly made, not thick, peeling off. Same vessel as 104.

FN

104 Vessel, body

P249(?) + P050, P245, findspot 2. Four pieces. Medium even brown (5YR 4/6); nonvolcanic. Large vessel. Self-slip. Three taenias. Same vessel as 103.

FN

COMPACTED RED CLASS (105–107)

The small group of sherds termed Compacted Red is much like the Medium Coarse class in terms of fabric composition, but with a decidedly more reddish appearance to the fabric and with a heavily compacted surface. Some of the uncatalogued body sherds in this category exhibit a slip of some sort, and a few are burnished. The compacting of the surface, which creates cracks and crazing on an otherwise smooth surface, is also found on pieces in the Cooking Pot and Buff classes; the compacting may simply represent an alternative surface finish and not indicate a separate class as suggested here.

Similarly, a flat base of indeterminate diameter, 105, a body sherd preserving an applied angled taenia band, 106, and an unusual handle, 107, would not be out of place among the Medium Coarse or Buff categories (Figs. 20, 23). The handle 107 must be a flat, arched tab that rises from the rim of a bowl in two places; the inner margin of the handle, where the hole is, was thickened for strength, indicating it was not pierced but formed that way. A tab handle, usually single, rising above the rim is characteristic of some bowls of the Troy I culture, e.g., at Thermi, but only rarely in the FN period of the mainland and nearby islands, e.g., Eutresis and Kephala.⁴²

105 Vessel, base Fig. 23

P026, findspot 2. Diam. indet. (worn). Medium uneven gray to red-brown interior surface (7.5YR 4/2 to 2.5YR 5/6); many tiny quartz, small-

large (3 mm) irregular quartz inclusions; nonvolcanic. Flat, slightly rounded at edge (probably due to wear).

FN

42. Thermi: Lamb 1936, pp. 73–77, esp. 75, fig. 26, 77, fig. 27; Eutresis: Caskey and Caskey 1960, pl. 46, no. II.28; Kephala: *Keos* I, p. 14.

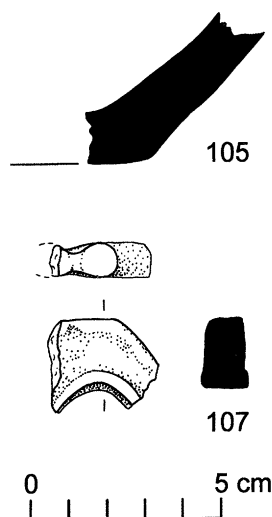


Figure 23. Compacted Red class

106 Vessel, body

Fig. 20

P250, findspot 2. Medium uneven gray-brown to orange-brown (5YR 3/1 to 2.5YR 6/8); tiny, small limestone, no quartz(?) inclusions; nonvolcanic. Self-slip exterior. Taenia, angled.

FN

107 Vessel, handle

Fig. 23

P191. Coarse even orange (2.5YR 6/6); 1 pebble, 5 mm. Tab handle, faceted in outline, with central circular hole.

FN

PITHOS CLASS (108–111)

Four sherds characterized by their coarse fabric and resemblance to later EBA pithos fabric have been placed into the Pithos class. The fabrics are orange to red-brown (2.5YR 4–6/6, 6/8), with a gray, gray-brown, or brown (2.5YR N6/0, 5YR 6/3, 7.5YR 6/4) core. The inclusions comprise many large pieces of limestone, typical of later EBA pithoi.

The shapes, though, are not those of pithoi but of medium to large bowls represented by rims, 108 and 109, body sherds, 110, and large flat bases, 111 (Figs. 20, 24). 111 has the impression of a mat on the underside (Fig. 29), but unfortunately it is too worn to determine much detail. Applied taenia bands are found on these large bowls (see 108 and 110), as is often the case on examples of later pithoi and large coarse vessels.

108 Bowl, rim

Fig. 24

P284, findspot 6. Coarse uneven gray to red-brown (5YR 6/3 to 2.5YR 4/6); tiny, small, and large limestone inclusions, as in EBA pithos fabric. Thickened rim, flat lip. Taenia on exterior; interior rim: slashes.

FN

110 Vessel, body

Fig. 20

Coarse uneven brown to orange (7.5YR 6/4 to 2.5YR 6/8); small to large limestone inclusions, as in EBA pithos fabric. Taenia.

FN

109 Large incurving bowl, rim Fig. 24

P436. Diam. 0.30 m. Coarse uneven gray-brown core to red-brown (5YR 6/3 to 2.5YR 6/6); many large limestone inclusions, as in EBA pithos fabric. Incurving rim thickened to exterior, slightly rounded lip; heavy and thick.

EH I(?) or post-prehistoric?

111 Mat-impressed base Figs. 24, 29

HP252. Diam. ca. 0.12 m? Coarse uneven gray to orange (2.5YR 6/0 to 2.5YR 6/6); many tiny, small, large, and very large limestone inclusions, as in EBA pithos fabric; gray patches may be grog? Flat. Mat impression: diagonal plaited mat (too vigorous a cleaning may have rendered it unclear and worn).

FN

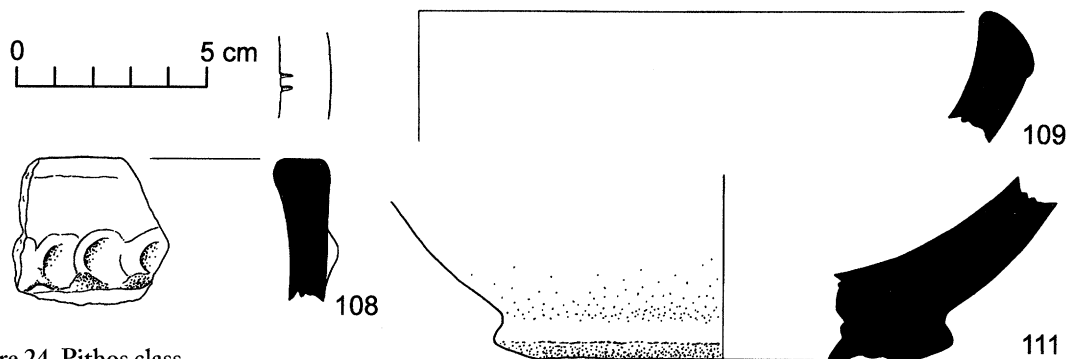


Figure 24. Pithos class

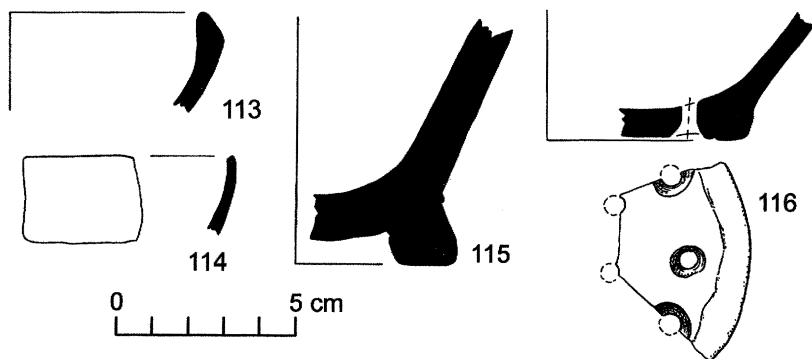


Figure 25. Pottery of EH II and LH periods

POTTERY OF LATER PERIODS (112–116)

Several sherds of EH II and at least one of LH date were identified among the pottery from the acropolis. The EH II sherds are mostly body sherds identified by the presence of urfiris paint, usually black, such as 112. Two sherds were identifiable by shape; 113 is the thickened rim of a small, incurving bowl, probably painted with urfiris on the interior, and 114 is the rim of a sauceboat, distinctive in its complex curvature, and painted in black urfiris (Fig. 25). 115 is a large, handmade ring base in a cooking pot fabric; it has been dated to the LH period.⁴³ Another ring base, 116, may also date to the LH period, but this is not certain.

112 Vessel, body	115 Vessel, base	Fig. 25
P141, findspot 4. Medium even orange. Black urfiris?	P434. Coarse uneven gray-brown core to red brown (5YR 3/3 to 2.5YR 5/6). Ring foot, handmade.	
EH II?	Cooking pot.	
113 Incurved bowl, rim	LH	
Fig. 25		
P219, findspot 6. Diam. 0.11 m. Medium even gray-brown (5YR 6/4); nonvolcanic. Thickened rim, pointed lip. Remnant of black urfiris interior?	116 Vessel, base	Fig. 25
EH (I–)II	P433. Diam. 0.11 m. Medium uneven gray-brown to red-brown (5YR 4/1 to 5YR 5/4); handmade. Flat, with slight ring formed by clay overlapping from wall; 5 holes preserved, drilled from interior before firing, but conical after firing. Similar to 115; Mycenaean cooking pot?	
114 Sauceboat, rim	LH? EH I?	
Fig. 25		
P178. Fine even yellow-brown (5YR 7/4). Beveled lip. Black urfiris.		
EH II		

THE LITHICS: CHIPPED STONE (117–230)

The chipped stone artifacts, while fewer in number than the ceramic artifacts, have a similar distribution in that the majority were found in the same general contexts, mixed with material of the historical periods. Similar problems in identification and analysis exist for the lithics as for the ceramics: they were found in contexts primarily of Archaic and Classical

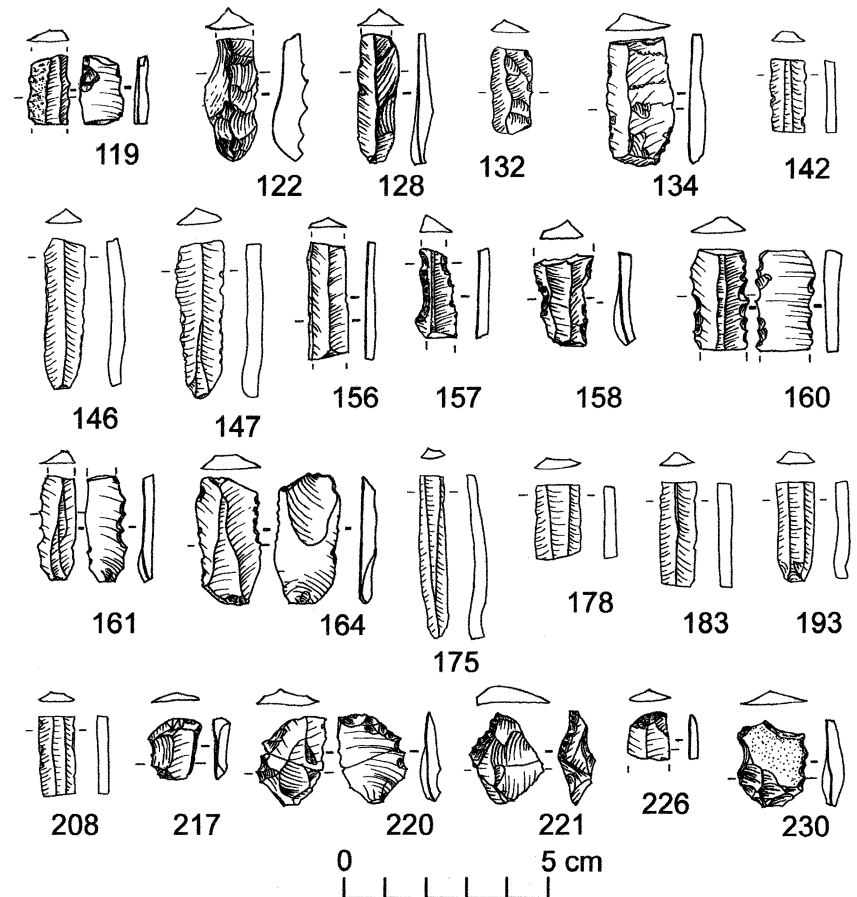
43. I would like to thank Gisela Walberg for confirming the LH date for this piece.

date, or surface deposits without clear dates. Thus, we may have lithics from periods other than the FN–EH I period included among those from the acropolis, just as we have a few ceramics of later prehistoric (EH II and LH) periods. Certain elements of the chipped stone manufacturing process are absent from the Halieis acropolis, but whether this is due to the methods of recovery or to the actual process remains problematic. Nevertheless, a careful comparison of the Halieis acropolis chipped stone with the chipped stone collections from the Southern Argolid Survey and Franchthi Cave yields some conclusions (see below), and makes clear the relative consistency of the Halieis assemblage.

The chipped stone from the acropolis consists of 107 obsidian and seven chert (flint) items (Fig. 26).⁴⁴ These 114 items have been broken down by their position in the reductive technology used to manufacture chipped stone (Table 4).⁴⁵

Cores or core fragments are absent on the Halieis acropolis, and debris (123–127), waste flakes, and traces of visible cortex (obsidian: 117–121; chert: 224–225) are few, suggesting that the material was not worked locally on any scale. It should be noted that some of the cortical pieces are typologically “blades” (117–119), but because of the presence of cortex, they are counted as cortical pieces. There are also a number of “semicrested” blades (128–136), that is, blades that have evidence for core preparation on only part of their dorsal surface; these have been counted as blades.

Figure 26. Chipped stone



44. Jacobsen used the figures of 115 obsidian and six chert objects in his draft manuscript (1974). In 1997 I found 107 obsidian and seven chert objects assignable to the acropolis; an additional six obsidian objects were noted in the records as missing. Catherine Perlès studied the lithics in 1972 and again in 1997, and I am deeply grateful to her for her observations on the Halieis material. I would also like to thank P. Nick Kardulias, who is publishing the lithics from the Lower Town of Halieis, and Curtis N. Runnels for reading and commenting on this section of the manuscript.

45. I employ here the chipped stone terminology as used by Kardulias and Runnels (1995) for the Southern Argolid Survey in order to facilitate comparisons.

TABLE 4. COMPOSITION OF CHIPPED STONE ASSEMBLAGE

<i>Type</i>	<i>Obsidian</i>		<i>Chert/Flint</i>		<i>Total</i>	
	<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>
Cores	0	0.0	0	0.0	0	0.0
Cortical pieces*	5	4.4	2	1.8	7	6.1
Crested blades	1	0.9	0	0.0	1	0.9
Blades	74	64.9	2	1.8	76	66.7
Flakes	22	19.3	3	2.6	25	21.9
Debris	5	4.4	0	0.0	5	4.4
TOTAL	107	93.9	7	6.1	114	100.0

* The cortical pieces include three blades.

The obsidian varies in color from gray-black to black. Although none of these pieces has been subjected to scientific analysis, all resemble Melian obsidian *in appearance*, and most can easily be attributed to the two principal varieties recognized by Renfrew: “opaque with a milky or pearly luster in reflected light”; and “partially translucent with alternating transparent and opaque bands or striations in transmitted light.”⁴⁶

The seven remaining pieces (6.1%), 224–230, are of a generally reddish variety of flint or chert commonly found in the Hermionid.⁴⁷ Traces of cortex are preserved on two specimens and perhaps on a third. One piece may be regarded as a tool (226).

117 Blade, central portion S103. Max. p.W. 0.86, max. p.L. 1.67, max. p.Th. 0.36 cm. Cortex.	0.60 cm. Crested blade/lame de dégagement.
118 Blade, central portion S021, findspot 6. Max. p.W. 1.08, max. p.L. 2.50, max. p.Th. 0.39 cm. Cortex. Accidental retouch.	123 Debris S017.
119 Blade, central portion Fig. 26 S115. Max. p.W. 0.95, max. p.L. 1.67, max. p.Th. 0.34 cm. Cortex. Inverse retouch on right edge.	124 Debris, fragment S037.
120 Cortical flake, fragment S003, findspot 3.	125 Debris S043.
121 Waste S057, findspot 7. Cortex, heavily rolled.	126 Debris S102, findspot 6.
122 Blade, proximal portion Fig. 26 HS016, findspot 2. Max. p.W. 1.20, max. p.L. 2.98, max. p.Th.	127 Debris. S111, findspot 6.
	128 Blade Fig. 26 S077, findspot 6. Max. p.W. 0.98, max. p.L. 3.07, max. p.Th. 0.38 cm. First blade after removal of crested blade.

46. Dixon and Renfrew 1973. Renfrew visually inspected the collection from Halieis in 1965 and reported seeing nothing that could not have been from Melos.

47. It is quite possible that more than one source is involved here, for the color of this material varies from a dark red, almost chocolate (Munsell 10R 3/2, “dusky red”), to a lighter red (10R 4/3, “weak red”). Cf. Kardulias and Runnels 1995, pp. 77, 103–104; van Andel and Vitaliano 1987, p. 20.

129 Blade, segment

S079, findspot 6. Max. p.W. 1.38, max. p.L. 1.40, max. p.Th. 0.50 cm. First blade after removal of crested blade.

130 Blade, central portion

S084, findspot 6. Max. p.W. 1.02, max. p.L. 1.43, max. p.Th. 0.25 cm. First blade after removal of crested blade.

131 Blade

HS023, findspot 8. Max. p.W. 1.39, max. p.L. 2.64, max. p.Th. 0.36 cm. First blade after removal of crested blade.

132 Blade, central portion Fig. 26

S054. Max. p.W. 0.99, max. p.L. 1.10, max. p.Th. 0.32 cm. First blade after removal of crested blade. Use retouch on left edge and distal end.

133 Blade, central portion

S010. Max. p.W. 1.70, max. p.L. 2.93, max. p.Th. 0.37 cm. Flat crested, with direct and inverse retouch on left edge; first blade after removal of crested blade.

134 Blade, distal portion Fig. 26

S016, findspot 3. Max. p.W. 1.62, max. p.L. 3.13, max. p.Th. 0.35 cm. Flat crested, with some direct retouch on left edge; first blade after removal of crested blade.

135 Blade, proximal portion

S045, findspot 5. Max. p.W. 0.91, max. p.L. 1.95, max. p.Th. 0.25 cm. Use retouch right edge and accidental left edge; first blade after removal of crested blade.

136 Blade, fragment

S053, findspot 6. Max. p.W. 1.89, max. p.L. 1.88, max. p.Th. 0.31 cm. First blade after removal of crested blade. Possible notch.

137 Rejuvenation flake, fragment

S002. Rejuvenation or crest preparation.

138 Flake

S061, findspot 6. Max. p.W. 2.18, max. p.L. 1.98, max. p.Th. 0.27 cm. Crest preparation.

139 Flake

S069, findspot 6. Max. p.W. 1.26, max. p.L. 1.49, max. p.Th. 0.32 cm. Crest preparation.

140 Flake

S083. Rejuvenation or crest preparation.

141 Flake

S013, findspot 3. Traces of steep retouch?

142 Blade, central portion Fig. 26

S039, findspot 6. Max. p.W. 0.93, max. p.L. 1.87, max. p.Th. 0.27 cm. Similar to 178.

143 Blade, proximal portion

S050, findspot 6. Max. p.W. 1.1 cm. Worn like 160, but without retouch.

144 Blade, proximal portion

S051, findspot 6. Max. p.W. 0.84, max. p.L. 1.51, max. p.Th. 0.22 cm. Use retouch on both edges.

145 Flake

S063, findspot 6. Max. p.W. 1.67, max. p.L. 2.67, max. p.Th. 0.60 cm. Slight vertical retouch on left edge.

146 Blade, distal portion Fig. 26 missing

S088. Max. p.W. 1.06, max. p.L. 3.74, max. p.Th. 0.37 cm. Ventral utilization, both edges.

147 Blade, distal portion Fig. 26 broken

S092. Max. p.W. 1.20, max. p.L. 3.81, max. p.Th. 0.39 cm. Utilization, both edges.

148 Blade, proximal portion missing

S104, findspot 6. Max. p.W. 1.35, max. p.L. 2.92, max. p.Th. 0.39 cm.

Small retouch on left edge; abrupt retouch on other edge with intentional breaking of blade; wear after retouch?

149 Blade, central portion

HS013, findspot 1. Max. p.W. 0.93, max. p.L. 2.75, max. p.Th. 0.25 cm. Both edges utilized, central ridge removed.

150 Blade, proximal portion

S007, findspot 3. Max. p.W. 0.90, max. p.L. 1.95, max. p.Th. 0.33 cm. Direct retouch on left edge.

151 Blade, proximal portion

S024. Max. p.W. 0.98, max. p.L. 1.85, max. p.Th. 0.26 cm. Direct retouch on left edge and use on right.

152 Blade, proximal and central portion

S041. Max. p.W. 0.92, max. p.L. 2.47, max. p.Th. 0.44 cm. Some direct retouch on left edge?

153 Blade, proximal portion

S055, findspot 6. Max. p.W. 1.20, max. p.L. 1.75, max. p.Th. 0.35 cm. Direct retouch on left edge.

154 Blade, proximal portion

S095. Max. p.W. 1.14, max. p.L. 2.51, max. p.Th. 0.25 cm. Direct retouch on right edge. Splintered? Flat crested?

155 Blade, distal portion

S106, findspot 6. Max. p.W. 0.80, max. p.L. 2.32, max. p.Th. 0.34 cm. Direct retouch on right edge.

156 Blade, central portion Fig. 26

S067, findspot 6. Max. p.W. 0.98, max. p.L. 2.84, max. p.Th. 0.27 cm. Same material as 178?

157 Blade Fig. 26

S028, findspot 6. Max. p.W. 0.90, max. p.L. 2.15, max. p.Th. 0.32 cm. Partially backed forming notches, with use retouch on other edge.

158 Blade, proximal portion Fig. 26

S078, findspot 6. Max. p.W. 1.43, max. p.L. 2.19, max. p.Th. 0.49 cm. Heavy retouch on both edges, notched?

159 Blade

S100, findspot 6. Max. p.W. 0.80, max. p.L. 2.17, max. p.Th. 0.34 cm. Inverse retouch, notched.

160 Blade, central portion Fig. 26

S031. Max. p.W. 1.35, max. p.L. 2.46, max. p.Th. 0.45 cm. Accidental retouch from use; worn after retouch; perhaps sickle?

161 Blade, distal portion
broken Fig. 26

S110. Max. p.W. 0.82, max. p.L. 2.54, max. p.Th. 0.30 cm. Denticulated, by three inverse adjacent notches on left edge.

162 Blade, central portion

S114. Max. p.W. 1.12, max. p.L. 1.79, max. p.Th. 0.29 cm. Retouch on right edge and small inverse denticulation on left edge.

163 Blade, central portion

HS014, findspot 2. Max. p.W. 1.12, max. p.L. 2.58, max. p.Th. 0.35 cm. Possible inverse retouch on both edges

164 Blade Fig. 26

S042, findspot 5. Max. p.W. 1.47, max. p.L. 3.13, max. p.Th. 0.40 cm. Inverse flaking on distal end.

165 Splintered blade, fragment

S004. Max. p.W. 1.38, max. p.L. 1.55, max. p.Th. 0.22 cm.

166 Splintered blade, fragment

S044, findspot 5. Max. p.W. 1.04, max. p.L. 2.48, max. p.Th. 0.48 cm.

167 Splintered blade

S048, findspot 6. Max. p.W. 0.92, max. p.L. 1.89, max. p.Th. 0.57 cm.

- 168 Splintered blade
S049, findspot 6. Max. p.W. 1.30, max. p.L. 2.10, max. p.Th. 0.31 cm.
- 169 Splintered blade, central portion
S056, findspot 6. Max. p.W. 1.29, max. p.L. 1.80, max. p.Th. 0.28 cm.
- 170 Splintered blade
S058, findspot 7. Max. p.W. 1.00, max. p.L. 1.35, max. p.Th. 0.32 cm.
- 171 Splintered blade
S068, findspot 6. Max. p.W. 0.84, max. p.L. 1.49, max. p.Th. 0.23 cm.
- 172 Blade
S029, findspot 6. Max. p.W. 0.87, max. p.L. 0.76, max. p.Th. 0.30 cm.
No retouch.
- 173 Blade
S020, findspot 6. Max. p.W. 1.22, max. p.L. 3.06, max. p.Th. 0.44 cm.
Percussion traces on distal end.
Splintered?
- 174 Blade, central portion
S036. Max. p.W. 0.63, max. p.L. 1.27, max. p.Th. 1.04 cm.
- 175 Blade, distal portion missing Fig. 26
S038, findspot 6. Max. p.W. 0.66, max. p.L. 4.03, max. p.Th. 0.32 cm.
Pressure-flaked; especially long and thin.
- 176 Blade, proximal portion
S006. Max. p.W. 0.70, max. p.L. 1.74, max. p.Th. 0.26 cm.
- 177 Blade, distal portion
S008. Max. p.W. 0.90, max. p.L. 2.00, max. p.Th. 0.28 cm.
- 178 Blade, central portion Fig. 26
S012, findspot 3. Max. p.W. 1.10, max. p.L. 1.80, max. p.Th. 0.30 cm.
Same material as 156?
- 179 Blade, central portion
S015. Max. p.W. 0.81, max. p.L. 1.35, max. p.Th. 0.20 cm.
- 180 Blade, distal portion broken
S025. Max. p.W. 0.93, max. p.L. 2.65, max. p.Th. 0.35 cm.
- 181 Blade, distal portion broken
S026, findspot 6. Max. p.W. 1.07, max. p.L. 2.69, max. p.Th. 0.34 cm.
- 182 Blade, central portion
S027, findspot 6. Max. p.W. 1.06, max. p.L. 1.46, max. p.Th. 0.35 cm.
- 183 Blade, central portion Fig. 26
S046, findspot 7. Max. p.W. 0.88, max. p.L. 2.58, max. p.Th. 0.32 cm.
- 184 Blade, distal portion
S052, findspot 6. Max. p.W. 0.76, max. p.L. 1.74, max. p.Th. 0.27 cm.
- 185 Blade, proximal portion
S064, findspot 6. Max. p.W. 0.90, max. p.L. 1.67, max. p.Th. 0.38 cm.
- 186 Blade, distal portion
S066, findspot 6. Max. p.W. 1.16, max. p.L. 1.42, max. p.Th. 0.28 cm.
- 187 Blade, distal portion missing
S070, findspot 6. Max. p.W. 0.93, max. p.L. 1.96, max. p.Th. 0.28 cm.
- 188 Blade, segment
S073, findspot 6. Max. p.W. 1.13, max. p.L. 0.72, max. p.Th. 0.24 cm.
- 189 Blade, central portion
S075, findspot 6. Max. p.W. 1.36, max. p.L. 3.78, max. p.Th. 0.46 cm.

190 Blade, central portion

S076, findspot 6. Max. p.W. 0.87, max. p.L. 2.84, max. p.Th. 0.27 cm.

191 Blade, proximal portion

S081. Max. p.W. 0.69, max. p.L. 1.14, max. p.Th. 0.38 cm.

192 Blade, segment

S085. Max. p.W. 0.80, max. p.L. 0.80, max. p.Th. 0.15 cm.

193 Blade, proximal portion Fig. 26

S090. Max. p.W. 0.95, max. p.L. 2.45, max. p.Th. 0.30 cm.

194 Blade, proximal portion

S091, findspot 6. Max. p.W. 0.98, max. p.L. 1.85, max. p.Th. 0.29 cm.

195 Blade, central portion

S097, findspot 6. Max. p.W. 0.90, max. p.L. 1.43, max. p.Th. 0.19 cm.

196 Blade, distal portion

S099. Max. p.W. 0.79, max. p.L. 1.58, max. p.Th. 0.15 cm.

197 Blade, central portion, broken on edge

S109. Max. p.W. 0.85, max. p.L. 1.60, max. p.Th. 0.32 cm. Margin not preserved (accidental?).

198 Blade, central portion

S112. Max. p.W. 0.96, max. p.L. 1.58, max. p.Th. 0.22 cm.

199 Blade, central portion

S101, findspot 6. Max. p.W. 1.20, max. p.L. 1.75, max. p.Th. 0.34 cm. Accidental notch.

200 Blade

S065, findspot 6. Max. p.W. 0.60, max. p.L. 2.02, max. p.Th. 0.30 cm. Accidental retouch.

201 Blade, central portion

S072, findspot 6. Max. p.W. 0.97, max. p.L. 2.02, max. p.Th. 0.31 cm. Accidental retouch.

202 Blade, central portion

S086. Max. p.W. 1.00, max. p.L. 1.71, max. p.Th. 0.34 cm. Accidental retouch.

203 Blade, central portion

S087. Max. p.W. 1.29, max. p.L. 2.08, max. p.Th. 0.33 cm. Accidental retouch.

204 Blade, distal portion

S089, findspot 6. Max. p.W. 1.24, max. p.L. 2.96, max. p.Th. 0.53 cm. Accidental retouch.

205 Blade, proximal portion

S113. Max. p.W. 1.36, max. p.L. 2.45, max. p.Th. 0.43 cm. Accidental utilization on both edges.

206 Blade, central portion.

S094. Max. p.W. 0.76, max. p.L. 1.82, max. p.Th. 0.18 cm. Bulb just broken away.

207 Blade, central portion

S001. Max. p.W. 0.96, max. p.L. 2.53, max. p.Th. 0.22 cm. No bulb preserved.

208 Blade, central portion Fig. 26

S030, findspot 5. Max. p.W. 0.90, max. p.L. 2.01, max. p.Th. 0.27 cm. Use retouch on both edges.

209 Flake

S011. Max. p.W. 1.89, max. p.L. 2.76, max. p.Th. 0.37 cm.

210 Flake

S014. Max. p.W. 1.42, max. p.L. 1.94, max. p.Th. 0.33 cm.

211 Flake

S022, findspot 3.

212 Flake

S034.

213 Flake

S040.

214 Flake, fragment S062, findspot 6. Max. p.W. 1.24, max. p.L. 1.65, max. p.Th. 0.33 cm.		223 Flake or chip S035.	
215 Flake, fragment S071, findspot 6.		224 Flake S060, findspot 6. Max. p.W. 2.7, max. p.L. 4.1 cm. Red flint. Cortex.	
216 Flake, fragment S082. Max. p.W. 1.34, max. p.L. 0.98, max. p.Th. 0.33 cm.		225 Debris S047. Red flint. Cortex. Accidental retouch.	
217 Flake S093.	Fig. 26	226 End scraper S105. Max. p.W. 1.01, max. p.L. 1.12, max. p.Th. 0.26 cm. Beige flint. Nonsymmetrical edge.	Fig. 26
218 Flake S096.		227 Blade HS388. Red flint.	
219 Flake S108.		228 Blade, distal portion broken S107, findspot 6. Max. p.W. 1.11, max. p.L. 2.92, max. p.Th. 0.48 cm. Chocolate flint.	
220 Flake S074, findspot 6. Max. p.W. 1.45, max. p.L. 2.35, max. p.Th. 0.38 cm. Inverse distal retouch (fresh from trampling?).	Fig. 26	229 Flake S032. Max. p.W. 2.16, max. p.L. 2.37, max. p.Th. 0.60 cm. Red flint. Inverse retouch of bulb.	
221 Flake, fragment S009, findspot 3. Max. p.Th. 0.58 cm. Retouched (accidental; fresh from trampling?).	Fig. 26	230 Flake S033, findspot 5. Max. p.W. 1.66, max. p.L. 2.12, max. p.Th. 0.48 cm. Red flint. Direct retouch on right edge. Rolled? Cortex?	Fig. 26
222 Flake or chip S023, findspot 6.			

TYPOLGY

Although it is possible that more than one industry is represented here, the preserved remains include a relatively limited number of types. The assemblage is clearly dominated by evidence of blade production. Of the total number of pieces of obsidian and flint (114), at least 82 (71.9%) may be regarded as typical blades or blade segments (117–119, 122, 128–136, 142–144, 146–208, 226–228). Only a fraction of these have their percussion bulbs intact, yet there is sufficient evidence to indicate that both pressure flaking and percussion were employed in their production.

The majority of pieces from Halieis are incomplete blades or segments of blades, whether intentional or accidental (Table 5). Often neither the proximal end (that end preserving the bulb of percussion) nor the distal end is preserved. A large portion of the preserved segments have lengths 1.5 to 2.5 times the maximum width (46 out of 77, or 60%); alto-

gether 65, or nearly 85%, have lengths 1.5 or more times the maximum width. These figures perhaps reflect the preservation more than any intentionally desired size of segment. No evidence for truncation (the deliberate shortening of a blade or segment) was noted.

Most of the blades or blade segments found in our collection are of the simple parallel-sided variety without secondary working. Although no complete blades have been preserved, the largest surviving segments usually exhibit ventral surfaces with little longitudinal curvature. Dorsal surfaces generally give the appearance of blades with a triangular section, trapezoidal section, or, less commonly, semicrested (128–136) of roughly triangular section. The semicrested form is more common than the fully crested form (*lame à crête*), represented on the acropolis by only one example (122).

A certain uniformity is attributable to this assemblage on the basis of its generally microscale character. This is indicated not only by the small size of most of the flakes but also by the maximum widths and thicknesses of the measurable blades and blade segments. The low coefficients of variation (Table 6) indicate consistency in the widths and thicknesses of the blades.⁴⁸ The mean width and coefficient of variation for the Halieis blades fit well with those of Neolithic blades found by the Southern Argolid Survey, though the Halieis blades are thicker.⁴⁹ The Bronze Age blades from the Southern Argolid Survey (overwhelmingly of EH date) are narrower than the Halieis blades. Nevertheless, the Halieis blades are as consistent in their widths as those blades from surrounding areas.

The crested and semicrested blades are significant, as they provide the best evidence for working of obsidian at Halieis itself. A crested blade, one with latitudinal flake scars on either side of a central dorsal ridge or crest (axes of flake scars perpendicular to the axis of the blade), is the first blade removed after the preparation of the core.⁵⁰ The next blade removed is semicrested and has latitudinal flake scars along only one facet of the dorsal face; the other dorsal face has the usual one longitudinal scar from the removal of the initial, crested blade. Four flakes (137–140) may have resulted from preparation of the crest or rejuvenation of the core.

TABLE 6. DIMENSIONS OF OBSIDIAN BLADES AND BLADE SEGMENTS FROM HALIEIS AND COMPARISONS WITH OTHER SAMPLES

Site or Region*	Width (cm)				Thickness (cm)			
	\bar{x}	SD	CV	n	\bar{x}	SD	CV	n
Halieis	1.03	0.29	28.2	77	0.33	0.12	36.4	77
Southern Argolid, Neolithic	1.04	0.29	27.9	35	0.28	0.08	28.6	35
Southern Argolid, Bronze Age	0.86	0.24	27.9	308	0.26	0.08	30.8	308
Lerna III (EH II)	0.96	0.24	25.0	318	0.26	0.07	26.9	318
Kephala, Neolithic	1.44	0.37	25.7	128	0.39	0.16	41.0	127

*Figures for sites and regions other than Halieis taken from Kardulias 1992, p. 440, table 6. \bar{x} = mean, SD = standard deviation, CV = coefficient of variation, CV = $100 \times \text{SD}/\bar{x}$

TABLE 5.
BLADE SEGMENTS

Preserved Portion	Number
Proximal end only	15
Proximal and medial portion	8
Medial portion/segment	33
Medial and distal portion	1
Distal portion	7

48. The distinction between “blades” and “bladelets,” based on widths greater or less than a certain arbitrary measurement, has not been made here. Bordaz (1970, p. 51) advocates 1.25 cm for the cutoff point, while Perlès has utilized 1.1 cm as the line of demarcation at Franchthi (*Franchthi* 3, p. 36, table III), but for purposes of description only. Whichever dimension one uses, it is clear that the Halieis acropolis blades, like those of so many Neolithic and Early Bronze Age lithic assemblages in the Aegean, are relatively narrow. Cf. Kardulias 1992, p. 440, table 6, for comparative dimensions (a version of this chart is reproduced in Kardulias and Runnels 1995, p. 98, table 5.15, but the dimensions are given there in tenths of millimeters, not millimeters as per the caption).

49. Kardulias 1992, p. 440, table 6.

50. This preparation of the core can take place during the removal of blades if the core needs to be rejuvenated for further blade production.

While these crested and semicrested blades and flakes attest some working of obsidian at Halieis, they do not necessarily provide evidence of core formation.

Some obsidian blades and flakes give evidence of utilization in the form of light marginal wear, due to the relatively brittle quality of obsidian (141–149).⁵¹ 143 and 148, though, exhibit wear similar to that of the denticulated blade 160 and perhaps could be labeled as sickles. Other blades (23, or 30% of all obsidian blades) provide evidence of purposeful secondary working. In a number of cases, this takes the form of simple marginal retouch (usually quite delicate) on one edge, perhaps intended to serve as light blunting (150–155). Yet blunting may also have been effected by means of burin blows, that is, by striking a narrow longitudinal flake from one edge of a blade in order to create a steeper surface there, as is the case with 156. In some instances, the marginal retouch is extensive, in order to produce notched or denticulated blades. Examples of the former are 157–159, while examples of the latter are illustrated by 160–162. Inverse retouch is also observable on a number of blades. 119 is of interest in this respect since it shows evidence of light marginal retouch on the same edge as the inverse retouch; it also retains some cortex. One blade, 163, has possible inverse retouch on both edges, while another blade, 164, has inverse flaking on its distal end. A number of blades are splintered: 165–171. The denticulated blade 160, as well as perhaps also 143 and 148, which are worn in a similar manner though without the same retouch, can be identified as a sickle blade, but none of the other retouched obsidian blades and flakes are identifiable as true tool types.⁵²

Flakes of obsidian, that is, pieces that do not conform to the blade form, are not plentiful: only fifteen were recognized (209–223), of which only two (220–221) have any retouch, though only that on 220 may be deliberate.

Among the chert pieces, in addition to the two cortical pieces 224–225, are two unretouched blades (227–228) and two retouched flakes (229–230). A small specimen of red flint, 226, is of some interest. It is the snapped distal end of a small blade or bladelet with asymmetrical steep retouch at the end. Although it may give the appearance of a small end-scraper, this artifact was possibly meant to serve a purpose similar to that of a small trapeze or geometric microlith. As such, it may be earlier than the general FN–EH I character of the acropolis lithic collection.⁵³

The chipped stone assemblage from the acropolis at Halieis is typical of a small FN–EH site in the Hermionid.⁵⁴ While some sites in the Hermionid were extensively involved in obsidian procurement and processing into cores, other sites, such as Halieis, were involved only in the later part of the process, that of blade production from cores prepared elsewhere, while still others seem to have been merely recipients of blades produced elsewhere. As has been noted for sites of the Final Neolithic and Early Bronze Age, blades were a major part of the stone tool production, and the high frequency of blades in the Halieis acropolis assemblage fits this model. What is noticeable about the Halieis assemblage, compared to the rest of the Hermionid, is the low percentage of tools of various types. Other than the three possible sickles, direct retouch and utilization are

51. Accidental notches as in 199 or accidental retouch as in 118, 200–205, and 220–221 can be produced by a variety of methods, especially during and after excavation.

52. No silica gloss or matting (dulling of the obsidian surface by contact with plant material) was observed on 160 or on any other chipped stone from the Halieis acropolis.

53. A possibility raised by Perlès (pers. comm.). But as she and Kardulias (pers. comm.) note, a Bronze Age date is not out of the question.

54. Cf. Kardulias and Runnels 1995.

found on a limited number of blades and flakes, but not in the manner of any recognizable tool type.

Runnels, in examining the lithics from the Lower Town at Halieis, has noted the rarity of cores, debris from core reduction, and tools in contrast to the high frequency of blades and flakes in that collection;⁵⁵ that is, the lithics appear to have been worked elsewhere. Runnels argues that while the *assemblages* from the Lower Town date to the Geometric, Archaic, and Classical periods in which the various pieces were found, the *individual* pieces may actually be reused items from earlier times. He notes that if the lithics were indeed “kickups” from earlier levels, or had been part of the earth used for mudbricks, then prehistoric pottery would have been found in the Lower Town; such is not the case. The presence of lithics, generally “unspecialized or retouched blades, bladelets, and flakes,” in floor deposits and mixed with domestic debris suggests to Runnels that the lithics from the Lower Town represent deliberate selection and use by the inhabitants.⁵⁶ Though the acropolis lithic assemblage would appear to be similar to that from the Lower Town, the circumstances of the findspots are different. Rather than being a functional part of the Archaic and Classical deposits as in the Lower Town, the acropolis lithics are truly kickups, found with ceramics of the appropriate period. One might suggest that if the Lower Town lithics are indeed collected from elsewhere, the acropolis would be a likely source, especially as the prehistoric levels there were disturbed by building activities. The few lithics from the Industrial Terrace are more likely to be similar to those from the Lower Town, since no prehistoric pottery was identified there.

GROUND AND POLISHED STONE (231–235)

Four ground and polished stone objects found on the acropolis have been associated with the prehistoric period, largely on the basis of their morphology (Figs. 27–28). It is important to recognize, however, that none of their contexts permits any certainty of dating. These objects include two steatite “buttons” or “whorls” of Mycenaean (LH III) date (231 and 232), a pierced pebble bead or pendant (233), and a felsite hammerstone (235).⁵⁷ The pierced pebble bead is a rather simple ornament, one that would not be out of place in a Neolithic or earlier context, as they are not very common in EBA contexts. One such pebble, though incompletely pierced, was discovered by the Southern Argolid Survey at a FN site near Franchthi Cave; another incompletely pierced example was found in the recent excavations at Tsoungiza, but not in a good context.⁵⁸

The hammerstone need not be of prehistoric date; indeed, one of the major contributions of the Southern Argolid Survey was the demonstration that handstones or hammerstones have been found at sites of all periods from the Neolithic to the Roman period, with little chronological distinction possible.⁵⁹ Given the importance of milling activities in an agricultural community or a self-sustaining military outpost, it would not be surprising if the hammerstone in question dated to the Classical period of occupation on the acropolis.⁶⁰

55. Runnels 1982, pp. 366–369.

56. Runnels 1982, p. 371.

57. R. Giegengack of the Department of Geology at the University of Pennsylvania originally identified the stones included here.

58. Natural pebble, incompletely pierced, from site C29 of the Southern Argolid Survey; on the basis of comparanda of Upper Mesolithic date from Franchthi Cave, Kardulias and Runnels (1995, p. 136, fig. 116) suggest that this ornament may be a recycled object, but a similar natural pebble, also incompletely pierced, from late MH fill at Tsoungiza that includes EN, EH I–III, and MH material (Nemea Valley Archaeological Project inventory number 430-8-1 [Pullen, in preparation]) would suggest it need not be so early.

59. Kardulias and Runnels 1995, p. 121.

60. Similarly, a fine-grained quartz sandstone disk, 234, is more likely to be of Classical date than prehistoric, given the lack of similar objects in prehistoric contexts.

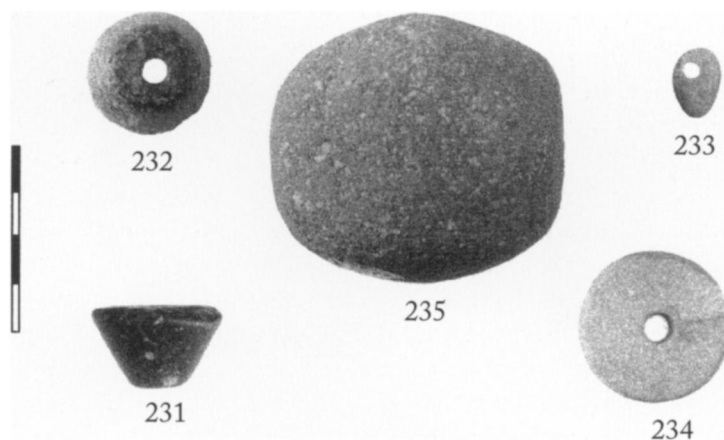


Figure 27. Ground stone objects

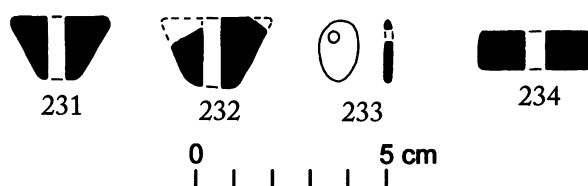


Figure 28. Ground stone objects

None of the ground stone from the acropolis at Halieis is necessarily dated to the FN-EH I period. The two steatite conical buttons add to the meager evidence for possible Mycenaean activity at Halieis.

231 Whorl	Figs. 27-28	1.6, Th. 0.2 cm. Limestone, tan microcrystalline. Pierced pebble.
HS025. Diam. 2.6, H. 1.6 cm.		
Steatite.		
LH III		
232 Whorl	Figs. 27-28	234 Stone disk Figs. 27-28
HS045. H. 1.8 cm. Steatite or alabaster. Fragmentary.		HS038. Diam. 3.1, Th. 0.9 cm.
LH III		Sandstone, fine grained, quartz sandstone, iron-oxide cementing agent.
		Post-prehistoric?
233 Bead	Figs. 27-28	235 Grinding (hand) stone Fig. 27
HS041, findspot 3. Max. dim.		HS043, findspot 7. L. 6, diam. 5.5 cm. Felsite or rhyolite.

MAT IMPRESSIONS

Six flat bases have mat impressions on their undersides, but only five are presented here (Fig. 29); the sixth is too small and too poorly preserved to allow more than the recognition of an impression. A major difficulty in dealing with mat impressions is that they represent only one face of the textile and they rarely preserve the edge or selvage, so the identification of warp and weft are difficult. For purposes of description, I have arbitrarily assigned the term "warp" (the vertical, fixed element) to that ele-

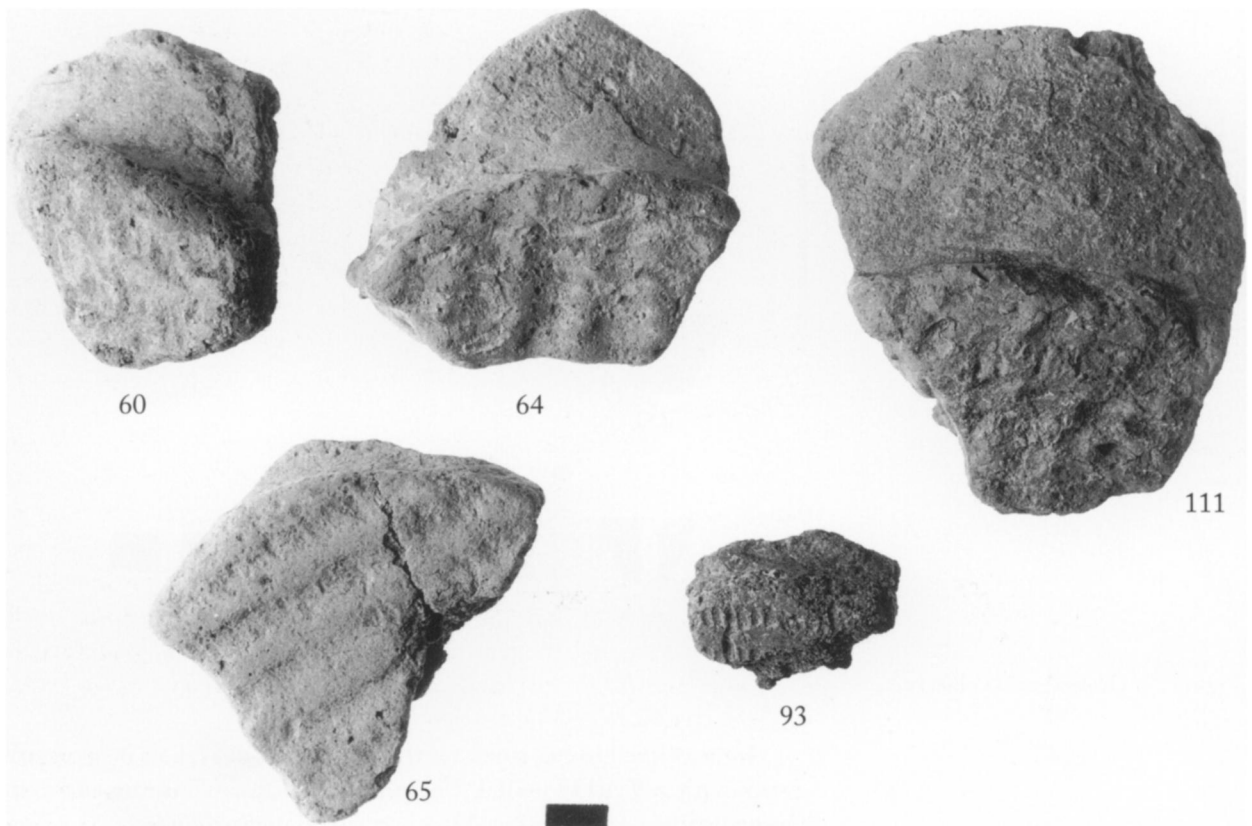


Figure 29. Mat-impressed bases

ment that seems to be more often in the background, and “weft” (the horizontal, flexible element) to that which appears to be interwoven and more often in the foreground.

One impression, 93, may be of basketry utilizing wide flat material, though the area preserved is small and unclear. The remaining four impressions seem to be impressions of mats, using cordage, in either a plaited or twined technique. No remains of finely woven cloth⁶¹ or fabric were detected. The term “plaiting” is sometimes applied to the technique used to form mats, to distinguish it from “weaving” as applied to the production of cloth.⁶² Weaving involves the use of a loom or frame to provide tension for the warp elements; in plaiting there is no need for a frame, as the warp is often self-supporting.

The most common techniques used to produce mats in the FN and EH I periods are the simple or diagonal plaiting techniques.⁶³ In a simple plait, the same groupings of warp elements are used for all weft elements. In diagonal plaiting, the warp elements are regrouped in various patterns. Twining involves two weft elements: one goes over and the other goes under the same warp element, then the two weft elements are twisted around each other before the next warp element. This last technique is used more for producing mats and basketry of an open or loose weave than for producing cloth. Twining often produces weft rows where the twisting of the weft over the warp produces a distinctive angled appearance in each segment of the weave, much like a single row of herringbone masonry.

61. I use the term “cloth” following Barber (1991, p. 5), who distinguishes between cloth, defined as “large, thin sheets of material made from fiber,” usually with the aid of a loom, and mats and baskets, defined as relatively stiff and self-shaped, made from materials that do not require a loom for interweaving.

62. Barber 1991, p. 5.

63. The majority of the Tsoungiza impressions are of plaited mats, often with a definite diagonal pattern, indicating a shift in the grouping of warp elements as the weft is plaited or woven through.

111 and 60 show the diagonal plaited technique. In 60 the weft elements are doubled and several warp elements grouped to create a strong diagonal pattern; 111, unfortunately, is not very clear, so we cannot determine whether there was multiplication of the weft elements. The impression on 64 seems to indicate a widely spaced weft over multiple warp; though the forward weft elements are not particularly angled as in a twining technique, the wide spacing of the weft elements suggests that this might be the technique involved. There is some indication too that this mat might have been circular. 65 might also be twined, as the weft seems angled between each warp group. This impression is faint and worn, but it seems to be of a fairly tightly interwoven mat, which probably indicates that it was not twined.

Mat impressions, while found on the bases of vessels of many periods, are common in the EH I period of the northeast Peloponnese. Of the twenty-five mat impressions preserved at Tsoungiza, sixteen date to the EH I period.⁶⁴ Weisshaar has recently commented on the high frequency of mat impressions on the bases of vessels of the Talioti, or late EH I, phase, while on Kea, a large number of mat impressions were found on the FN pottery at Kephala.⁶⁵ That six mat impressions appear among the small number of sherds (ca. 400) from the Halieis acropolis gives an impression of their popularity during the FN–EH I period.

Mats were probably not made specifically for use in pottery manufacturing; rather, the presence of several impressions of torn mats in the Tsoungiza corpus suggests that the mats were recycled into pottery manufacture. We might imagine households with mats covering floors and other surfaces as well as basketry and open-plaited or twined containers such as nets, none of which is usually directly preserved in the archaeological record. Though meager, this evidence of mat impressions from the acropolis does give us a small window into the domestic economy at the site and helps place Halieis among other sites of the FN–EH I period.

64. Though only one mat impression at Tsoungiza is dated to the FN period, it should be pointed out that the total number of FN ceramics is fairly small.

65. Talioti: Weisshaar 1990, pp. 2–4; Kephala: Carrington Smith 1977.

66. This section is paraphrased from Jacobsen's manuscript (1974), updated with reference to Judith Shackleton's study (*Franchthi* 4). None of the recovered marine shell was found in the Halieis storeroom in Nauplion in 1982 or 1997, so all identifications and conclusions presented here must remain unconfirmed. The animal bone and shell from the Archaic and Classical deposits on the acropolis are to be published by David Reese in the forthcoming *Halieis* I.

67. Confirmation of these identifications was provided by Nicholas J. Shackleton of Cambridge University upon examination of photographs of selected specimens from the site.

MOLLUSCA

Both animal bone and shell were noted during the course of the excavations on the acropolis, but the only class of organic remains in association with the prehistoric pottery was the shells of both marine and terrestrial molluscs (Fig. 30).⁶⁶ Land snails and several varieties of marine shell were especially numerous in the deepest deposits on the hill, particularly in the pits or fissures in bedrock, where evidence of prehistoric activity was also most frequently encountered. Findspot 4, the pit north of Building A, was a seemingly uncontaminated deposit of prehistoric pottery (see above) and contained a substantial quantity of marine molluscs, most notably bivalves. A sample of these was submitted to the University of Pennsylvania for radiocarbon analysis, and the result is discussed below.

Several species of marine molluscs were noted among the preserved collection: *Cerastoderma* (*Cardium*) *edule* L. (cockle), *Murex trunculus* L., *Cerithium vulgatum* Brug., and perhaps *Spondylus gaederopus* L.⁶⁷ Although accurate statistics are not available, it is fair to say that *Cerastoderma* and

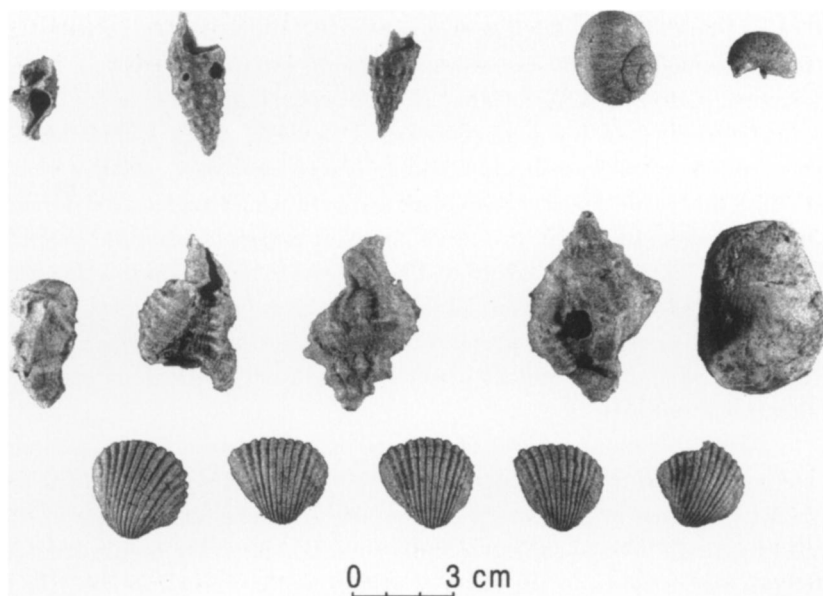


Figure 30. Selection of molluscs

Murex were the most numerous species represented. The recent publication of the Franchthi Cave molluscs by Shackleton provides the most in-depth study of this class of archaeological remains.⁶⁸ She suggests that *Murex*, *Cerastoderma*, and *Cerithium* are found in shallow waters, as well as deeper, and are relatively easy to collect. *Spondylus*, while found in deeper waters and more difficult to collect, are often found washed ashore, and it is probably by that method that many if not most were collected. All four species are readily edible. It is likely that most of the preserved shells represent the remains of meals; none shows clear-cut indications of working for a tool or ornament. Thus, although other evidence relating to the diet and the economy of the prehistoric inhabitants of the Halieis acropolis is not available, these modest remains suggest that shell collecting was at least part of their subsistence base.

ABSOLUTE CHRONOLOGY

The sole indication of the absolute date of the prehistoric remains from the acropolis is the radiocarbon analysis of a group of marine shells, predominantly *Cerastoderma (Cardium) edule* L.,⁶⁹ from findspot 4, which, as discussed above, contained potsherds of the Brown-Slipped and Medium Coarse classes. The result is a date of 5102 ± 72 B.P., or, when calibrated in accordance with the bidecadal calibration curve of Stuiver and Reimer on a 2-sigma basis, 4037–4016 B.C., 4006–3750 B.C., 3750–3712 B.C.; with the marine-corrected option, a date range of 3909–3367 B.C. is derived.⁷⁰

In the most recent assessment of Early Bronze Age chronology, Manning makes a valiant attempt to deal with the meager data for the FN and EH I periods in particular.⁷¹ He supports a date of ca. 3100–3000 B.C. for the beginning of the EB I period in the Aegean. He argues that while certainly “part of the LN/FN period must have occurred during the first

68. See *Franchthi* 4.

69. The sample was collected in 1965 and consisted of a total of thirty-six shells, twenty-eight of which were of the species *Cerastoderma (Cardium) edule* L.

70. For the uncalibrated date (P-1397), see Lawn 1971; for calibration curves and marine-corrected date, see Stuiver and Reimer 1993 and Manning 1995, pp. 169–170.

71. Manning 1995, pp. 168–170.

half of the fourth millennium B.C.” (with the Halieis date contributing modestly to this argument), there are in addition a few dates, however problematic, that support a mid- to late-4th-millennium B.C. date for the FN period, thus closing the apparent 4th-millennium “gap” in radiocarbon dating between dates associated with the later Neolithic and dates associated with the Early Bronze Age.⁷² Therefore, though perhaps better than no date at all, the above radiocarbon date can be accepted as no more than the most general indication of the absolute chronology of the prehistoric occupation at Halieis.

CONCLUSIONS

The assemblage of prehistoric materials from the Halieis acropolis spans the period from the Final Neolithic through Early Helladic I. Given that the prehistoric materials are found in contexts mixed with material of later date, it is not surprising that these prehistoric ceramics and lithics are chronologically mixed themselves. Despite the overlap in shapes among the various classes (e.g., similar shapes in the Volcanic Red-Slipped and Burnished and the Volcanic Black-Burnished classes) that might lead to the conclusion that those classes were contemporaneous, there are enough features to conclude that the preserved prehistoric ceramic assemblage from the acropolis includes material from both the FN and the EH I periods as defined elsewhere. The frying pans and the Volcanic Red-Slipped and Burnished class are strong indications of an EH I date, while the Brown-Slipped and Black-Burnished classes and the cheesepots are strong indications of a FN date. Attempts at discerning some meaningful distribution of the various classes of prehistoric ceramics were not entirely successful: the best candidate is the small pit north of Building A from which came most of the examples of the Brown-Slipped class as well as a small quantity of marine shells that provided the single radiocarbon determination for the prehistoric material.

The FN material from Halieis, like that collected by the Southern Argolid Survey, has little in common with the FN assemblage from Franchthi Cave. Vitelli suggests that the FN material from the Survey postdates the stratified deposits at Franchthi Cave.⁷³

The Halieis acropolis is apparently one of several small FN–EH I sites situated on low hills throughout the Hermionid; another site with some FN and considerably more EH I material was found by the Southern Argolid Survey (A33) nearby on the Nisi Kheliou to the west, across from the entrance to the Porto Cheli Bay. The hilltop location of both sites provided some degree of security, while at the same time affording good vantage points for viewing the surrounding sea, the nearby islands such as Spetses and Dhokos, and further lands, including the Peloponnese, across the Argolic Gulf.⁷⁴ Numerous resources in addition to the sea and its sheltering bay are found in the surrounding area, including gently rolling hills and well-watered lowlands. The large number of FN sites in the Hermionid represents a fundamental change in settlement patterns from the earlier (perhaps intermittent) habitation documented at Franchthi Cave

72. Manning 1995, p. 170.

73. For the Southern Argolid Survey, see Pullen 1995. For Franchthi, see *Franchthi* 10, p. 99.

74. See Jameson, Runnels, and van Andel 1994 for a more complete picture of the geographical and historical setting of the Hermionid and its connections to the rest of Greece and the Aegean.

to a number of open-air and cave sites. This expansion of settlement continues into the Early Bronze Age.⁷⁵

While a careful study of the ceramics can distinguish the pottery of the FN period from that of the EH I period, perhaps what is more important is the evidence for continuity between the later FN and EH I at Halieis and in the southern Argolid; this continuity stands in contrast to the apparent differences between the earlier FN as represented at Franchthi Cave and the later FN as represented by Halieis and the southern Argolid material. The prehistoric remains on the Halieis acropolis, then, look not back to the Neolithic but forward to the Early Bronze Age.

75. Jameson, Runnels, and van Andel 1994; Wiencke 1989.

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