EARLY BRONZE-AGE STONE MORTARS FROM THE SOUTHERN ARGOLID

IN THE COURSE OF THE STANFORD UNIVERSITY archaeological and environmental survey of the Southern Argolid, fragments of 12 stone mortars were recovered from surface sites.[1] All but one of the fragments appear to belong to a single type of mortar. A fragment of another mortar was found in the excavation at the site of Halieis in the same region by an Indiana University team, bringing the total to 13. The mortars are all made of a distinctive dark gray, fine-grained, volcanic andesite typical of the volcanic deposits of the Southern Aegean, especially those of Aigina.[2] Their shape, as it is reconstructed from two large fragments, is that of a shallow, circular, unspouted pan with a flat base and with one handle, or lug, on the exterior below the rim. The lug may be either H-shaped or spool-shaped. The type found in the Southern Argolid closely resembles mortars from Ayios Kosmas in Attica and Lithares in Boiotia which belong to the Early Helladic II (EH II) period, or roughly the middle of the third millennium B.C.[3] This specific form of stone vessel has a limited distribution at present and is known only from the Southern Argolid, Ayios Kosmas, and Lithares (Fig. 1). A full treatment of the subject to elucidate the cultural and chronological significance of the type is a useful preliminary step to the further recognition of this form. In this paper, it is proposed that the mortar in question be designated the Ayios Kosmas (AK)-type mortar, because the type was first recognized at that site.

A second mortar type is also found in the Southern Argolid sample and is at present without a parallel. It appears to be made of the same material as the AK-type mortar and to have had a similar function. Its overall shape may have been a rectilinear palette or box with short, square feet, but it is not possible to reconstruct the shape from this one fragment.

[1] I wish to thank Priscilla Murray, Daniel Pullen, and two anonymous reviewers for their help and advice in the preparation of this paper. I owe a special debt to Jeremy Rutter, who provided numerous insightful comments on an early draft. Any errors that remain are of my own making.

Works frequently cited are abbreviated as follows:
Mylonas = *Aghios Kosmas. An Early Bronze Age Settlement and Cemetery in Attica*, Princeton 1959
Tzavella-Evjen = H. Tzavella-Evjen, Λιθαρές, Athens 1984

[2] For the Southern Argolid survey see M. H. Jameson, "The Southern Argolid: The Setting for Historical and Cultural Studies," *Annals of the New York Academy of Sciences* 268, 1976, pp. 74–91; C. Runnels and T. H. van Andel, "The Evolution of Settlement in the Southern Argolid, Greece. An Economic Explanation," *Hesperia* 56, 1986, pp. 303–334; and T. H. van Andel and C. Runnels, *Beyond the Acropolis. A Rural Greek Past*, Stanford 1987. For the excavations at Halieis see T. D. Boyd and W. W. Rudolph, "Excavations at Porto Cheli and Vicinity, Preliminary Report IV: The Lower Town of Halieis, 1970–1977," *Hesperia* 47, 1978, pp. 333–355. Evidence for the sources of andesite in the Aegean is given in C. Runnels, *A Diachronic Study and Economic Analysis of Millstones from the Argolid, Greece*, diss. Indiana University 1981; C. Runnels and R. Cohen, "The Source of the Kitsos Millstones," in *La grotte préhistorique de Kitsos (Attique)*, N. Lambert, ed., Paris 1981, pp. 233–239. Fragments of mortars were found at six sites in the Southern Argolid; another 47 sites which produced Early Helladic artifacts were carefully investigated but did not yield any mortars.

[3] Mylonas; Tzavella-Evjen.

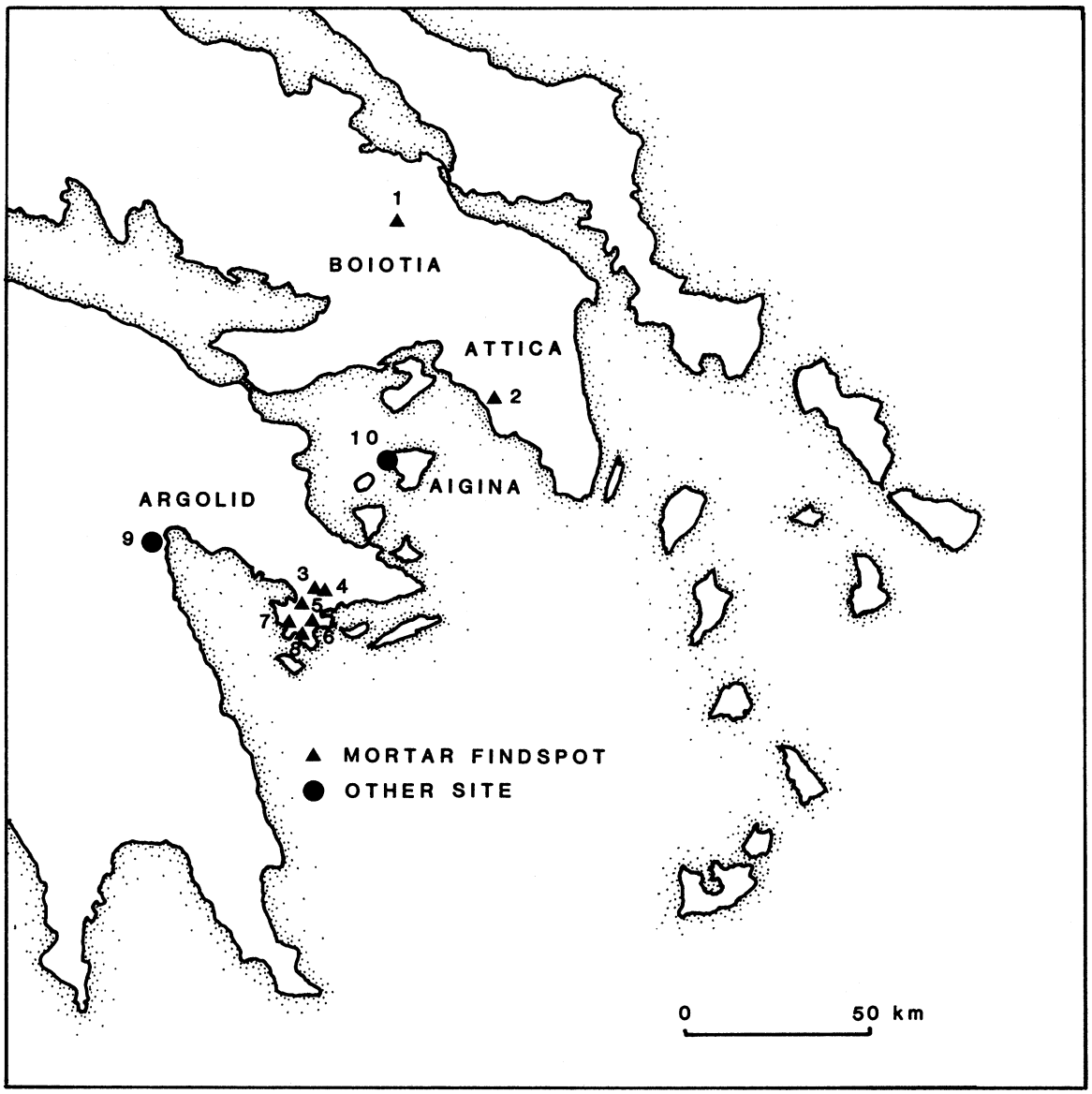

FIG. 1. Map showing sites mentioned in the text: 1. Lithares 2. Ayios Kosmas 3. F32 (Petres) 4. F2 (Papoulia) 5. C11 (Magoula Efstratiou [Mases]) 6. A6 (Samioti Magoula) 7. A33 (Nisi Kheliou 2) 8. A65 (Halieis) 9. Lerna 10. Kolonna

Catalogue

Site numbers and names are those used in Jameson, Runnels, and Van Andel (footnote 8 below).

1. Site A6 (Samioti Magoula). Fragment, mortar — Fig. 2:A

L. 0.092; W. 0.086; H. at foot 0.069 m. Fine-grained, dark gray andesite.

Fragment preserves part of a corner of a rectilinear vessel with horizontal lug and short rectangular foot. The foot continues up to a flat rim and is square in section. The exterior of the bottom is flat; the edge

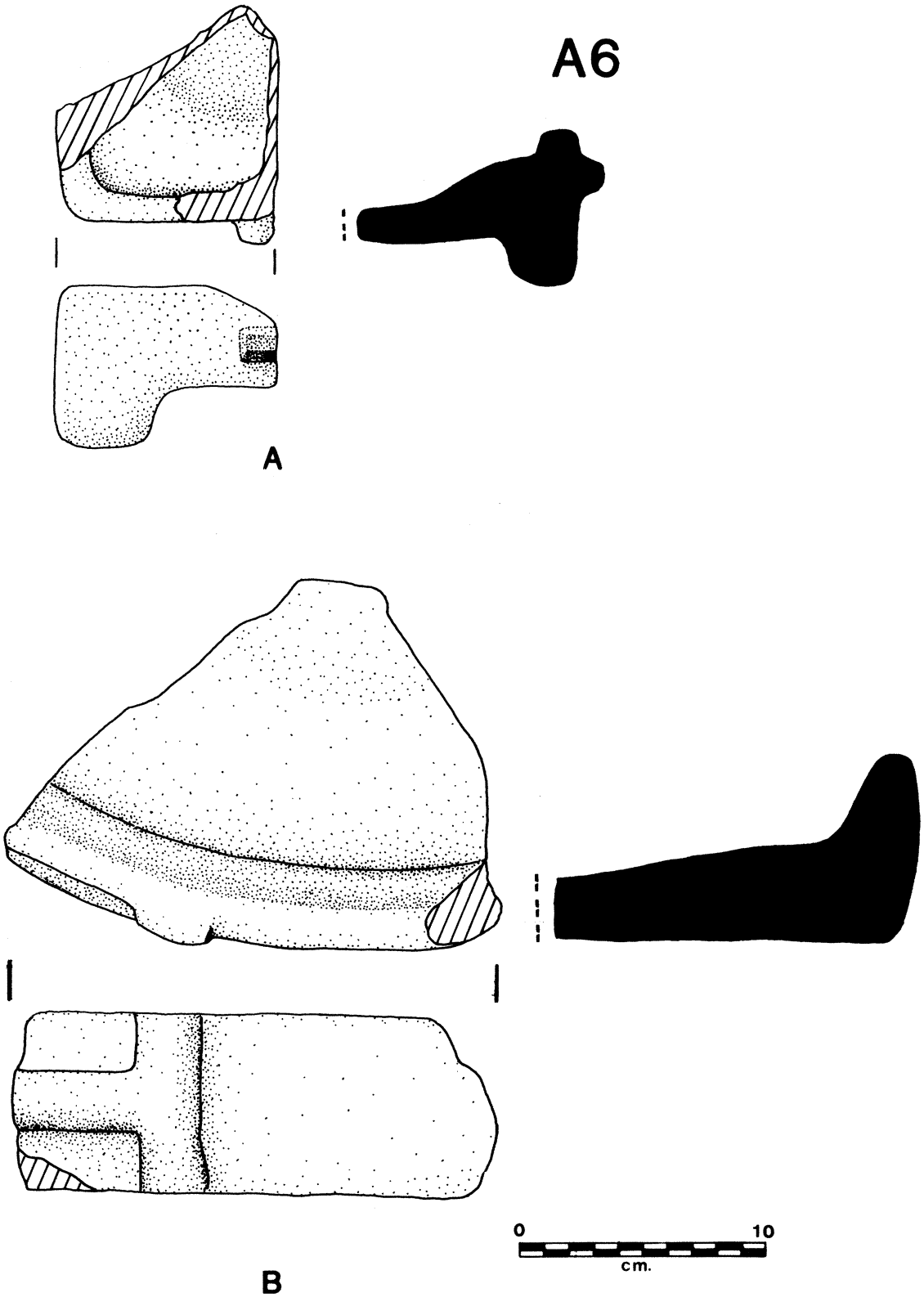

FIG. 2. Stone mortars from site A6 in the Southern Argolid: **1** (A), **2** (B)

profile is straight. The interior slopes down from the rim to the thin center portion. The outer surface is finely pecked. The entire inner surface has been polished by extensive abrasive wear, forming a shallow concavity in the center of the bottom.

2. Site A6 (Samioti Magoula). Fragment, AK-type mortar — Fig. 2:B

Diam. (estimated) 0.138; H. 0.075 m. Fine-grained, dark gray andesite.

Fragment preserves flat rim, part of a horizontal lug, and flat base of a mortar. Outer edge slopes up to rim and is somewhat convex in profile. About half of lug preserved. Horizontal lug terminates in vertical boss which extends from base to rim. The exterior is neatly pecked, and the preserved interior has extensive abrasive wear.

3. Site A6 (Samioti Magoula). Fragment from base, AK-type mortar

Diam. (estimated) 0.145; L. 0.154; Th. 0.063 m. Fine-grained, dark gray andesite.

Fragment preserves base and part of interior of a mortar. The rim is broken away. The interior of the flat base has extensive abrasive wear. The preserved outside edge is slightly convex in profile.

4. Site A33 (Nisi Kheliou 2). Fragment, AK-type mortar

L. 0.118; H. 0.081; Th. 0.033 m. Fine-grained, dark gray andesite.

Small fragment preserves the edge from flat base to low rim of a mortar. The base is broken away. The exterior is pecked to shape. The interior preserves a small area with abrasive wear near the rim.

5. Site A65 (Halieis: HS 337). Fragment, AK-type mortar — Fig. 3

H. 0.067; W. 0.066; Th. 0.049 m. Fine-grained, dark gray andesite.

Fragment preserves part of base, handle, and rim of a mortar. The base and rim are flat; the exterior profile is straight. The horizontal lug preserves one vertical scroll-shaped termination. The object has been weathered by long exposure to the elements. Found in the course of excavation of a mixed deposit (Tr. I-51, basket 8, 1970) in the Lower Town.

6. Site C11 (Magoula Efstratiou [Mases]). Fragment, AK-type mortar — Fig. 4:A

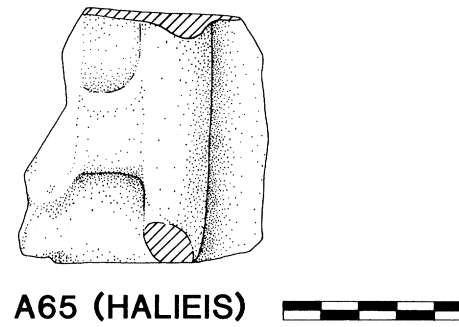

FIG. 3. Stone mortar from Halieis (A65) in the Southern Argolid: **5**

W. 0.086; H. 0.069 m. Fine-grained, dark gray andesite.

Fragment of the rim of a mortar preserves half of a horizontal lug, with scroll-shaped vertical termination, and a small portion of flat base. The interior slopes in from the rim, and a small area of extensive abrasive wear is preserved. The fragment has been weathered by long exposure to the elements.

7. Site F2 (Papoulia). Fragment, AK-type mortar

L. 0.088; H. 0.069 m. Fine-grained, dark gray andesite.

Fragment preserves part of the edge of a mortar including the rim and part of a horizontal lug. The base and interior are broken away. The horizontal lug preserves part of a vertical termination. The preserved rim is rounded.

8. Site F32 (Petres). Fragment, AK-type mortar — Fig. 4:B

Diam. (estimated) 0.110; L. 0.160; H. 0.067 m. Fine-grained, dark gray andesite.

Fragment preserves base, rim, and bottom of a mortar. The base is flat; the exterior profile is convex. The interior slopes sharply down to a thin interior base. The exterior is finely pecked. The interior is polished by very extensive abrasive wear.

9. Site F32 (Petres). Fragment, AK-type mortar — Fig. 4:C

L. 0.116; W. 0.057; H. 0.058 m. Fine-grained, dark gray andesite.

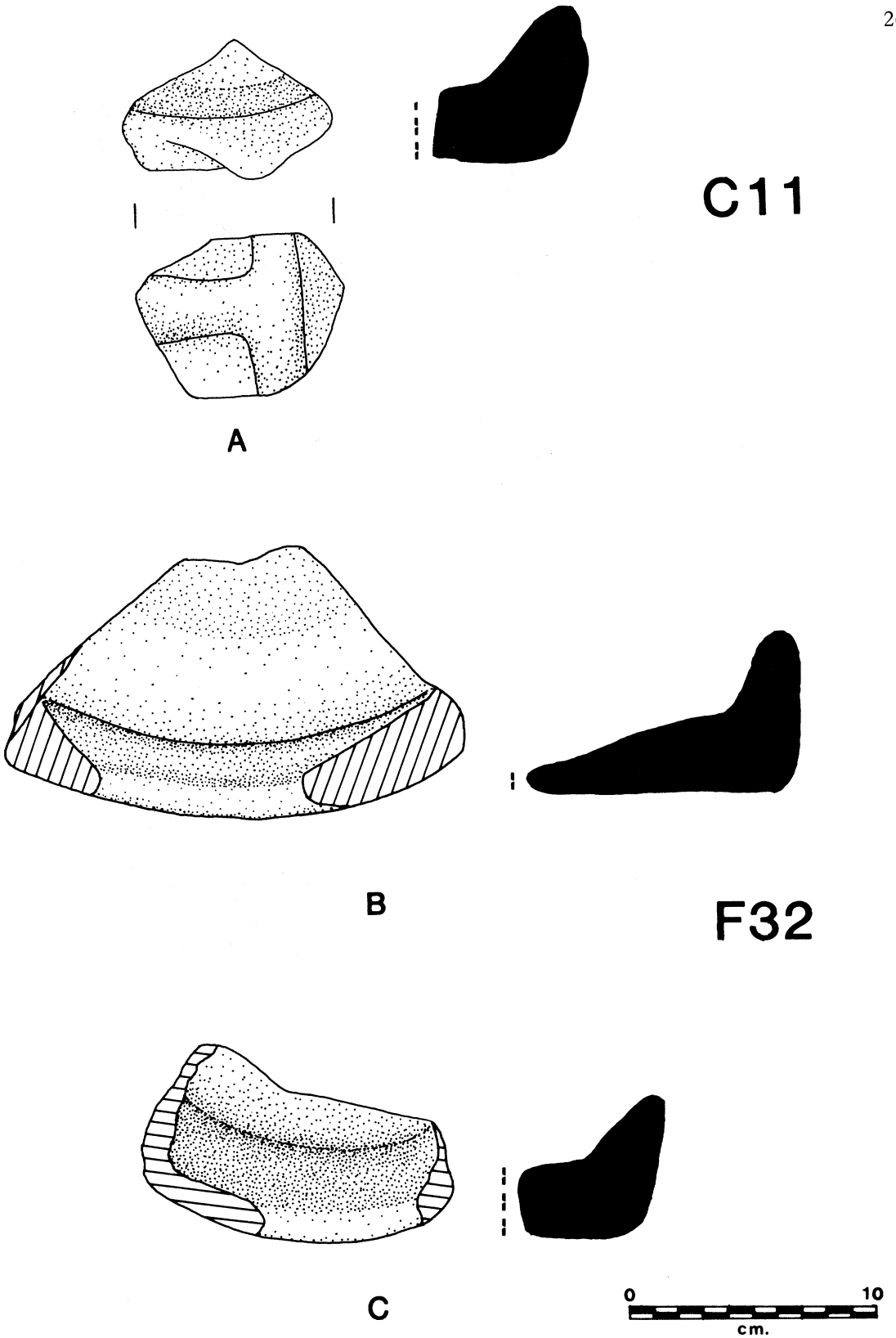

FIG. 4. Stone mortars from sites C11 and F32 in the Southern Argolid: **6** (A), **8** (B), **9** (C)

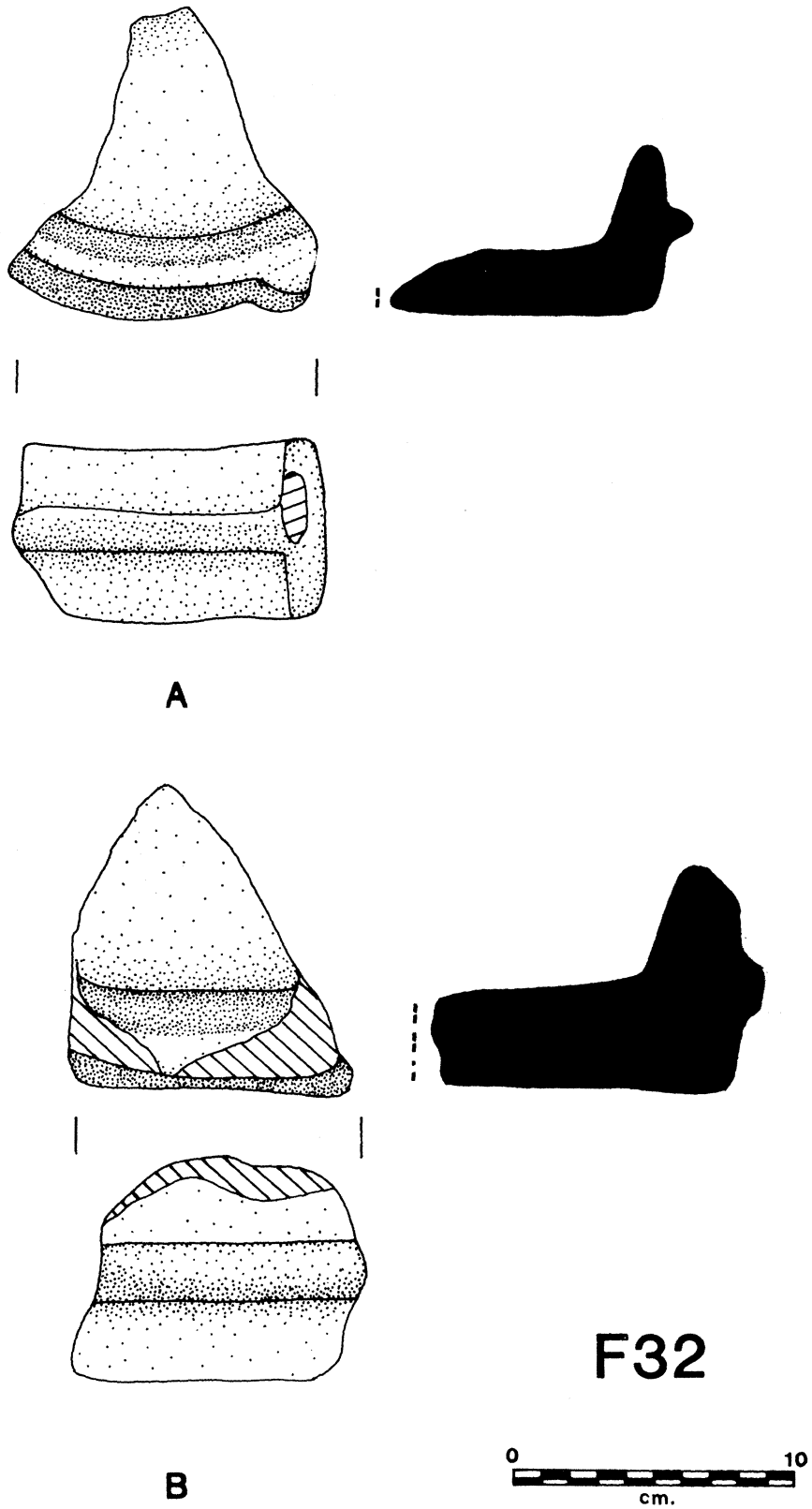

FIG. 5. Stone mortars from site F32 in the Southern Argolid: **10** (A), **11** (B)

Fragment preserves part of rim of a mortar. The base is flat; the exterior surface slopes out from the base and is convex in profile. The interior slopes down to the flat interior base. The exterior is pecked to shape, and the inner surface preserves slight abrasive wear.

10. Site F32 (Petres). Fragment, AK-type mortar — Fig. 5:A

Diam. (estimated) 0.088; L. 0.114; H. 0.065 m. Fine-grained, dark gray andesite.

Fragment preserves flat base, vertical exterior profile, and rim of a mortar with horizontal lug. The base is flat; the interior slopes inward sharply from the rim, down to a thin concave surface. The horizontal lug has a single vertical termination. The exterior is pecked, and the interior preserves extensive abrasive wear. The use-wear is so extensive that the base of the mortar is worn through at the center.

11. Site F32 (Petres). Fragment, AK-type mortar — Fig. 5:B

Diam. (estimated) 0.099; L. 0.098; H. 0.078 m.

Fine-grained, dark gray andesite.

Fragment preserves base, rim, handle, and bottom of a mortar. The base is flat; the profile of the exterior is straight. The rounded rim is damaged. The horizontal lug has no preserved terminations. The exterior is pecked. The interior preserves moderate abrasive wear.

12. Site F32 (Petres). Two fragments, AK-type mortar — Fig. 6

Diam. 0.36; H. 0.070 m. Fine-grained, dark gray andesite.

Two fragments join to form about half of a mortar. The base is flat; the exterior surface has a convex profile and slopes upward to a rim with a rounded profile. The interior surface slopes down from the rim to the bottom which has been thinned by very extensive abrasive wear. No handles or lugs are preserved. The exterior is pecked.

13. Site F32 (Petres). Fragment, AK-type mortar?

L. 0.113; W. 0.098; Th. 0.031 m. Fine-grained, dark gray andesite.

Fragment of irregular shape preserves two worked surfaces. One surface is covered by a calcium carbonate deposit, but traces of abrasive wear are visible. The other surface also preserves abrasive wear traces. The fragment may be a part of the bottom of a mortar.

A reconstruction of the Ayios Kosmas-type mortar from the Southern Argolid is based primarily on **2** and **12** (Fig. 7). The mortar resembles the type found by Mylonas at Ayios Kosmas in Attica and dated by him to the end of EH II (Fig. 8).[4] More than six such mortars came to light at Ayios Kosmas (Table 1). Four or more were recovered from the structures in the settlement, and two came from the North Cemetery. At least one of the latter was posited to be a grave offering (no. 48), and another example, from Grave 14, was used in the wall construction of the grave.[5] The context is sufficient to establish the mortars at Ayios Kosmas as household utensils and not specialized grave goods. The mortars from Ayios Kosmas are also of andesite, and Mylonas considers them to be querns, or millstones, used for the grinding of grain.[6] One example (Fig. 8), however, was found with a conical pestle, and there is no doubt that we are dealing with mortars at this site.

Another five examples of Ayios Kosmas-type mortars have recently come to light in Boiotia at the EH II site of Lithares (Fig. 1:1). Tzavella-Evjen illustrates four specimens

[4] Mylonas, p. 145. Mylonas publishes one photograph, presumably of the best specimen, no. 48, pl. 169. For a discussion of the evidence for assigning the latest EH material at Ayios Kosmas to the end of EH II, see J. L. Caskey, "The Early Helladic Period in the Argolid," *Hesperia* 29, 1960, pp. 285–303.

[5] Mylonas, pp. 94, 145.

[6] Mylonas, pp. 92–93, 145, and pl. 169.

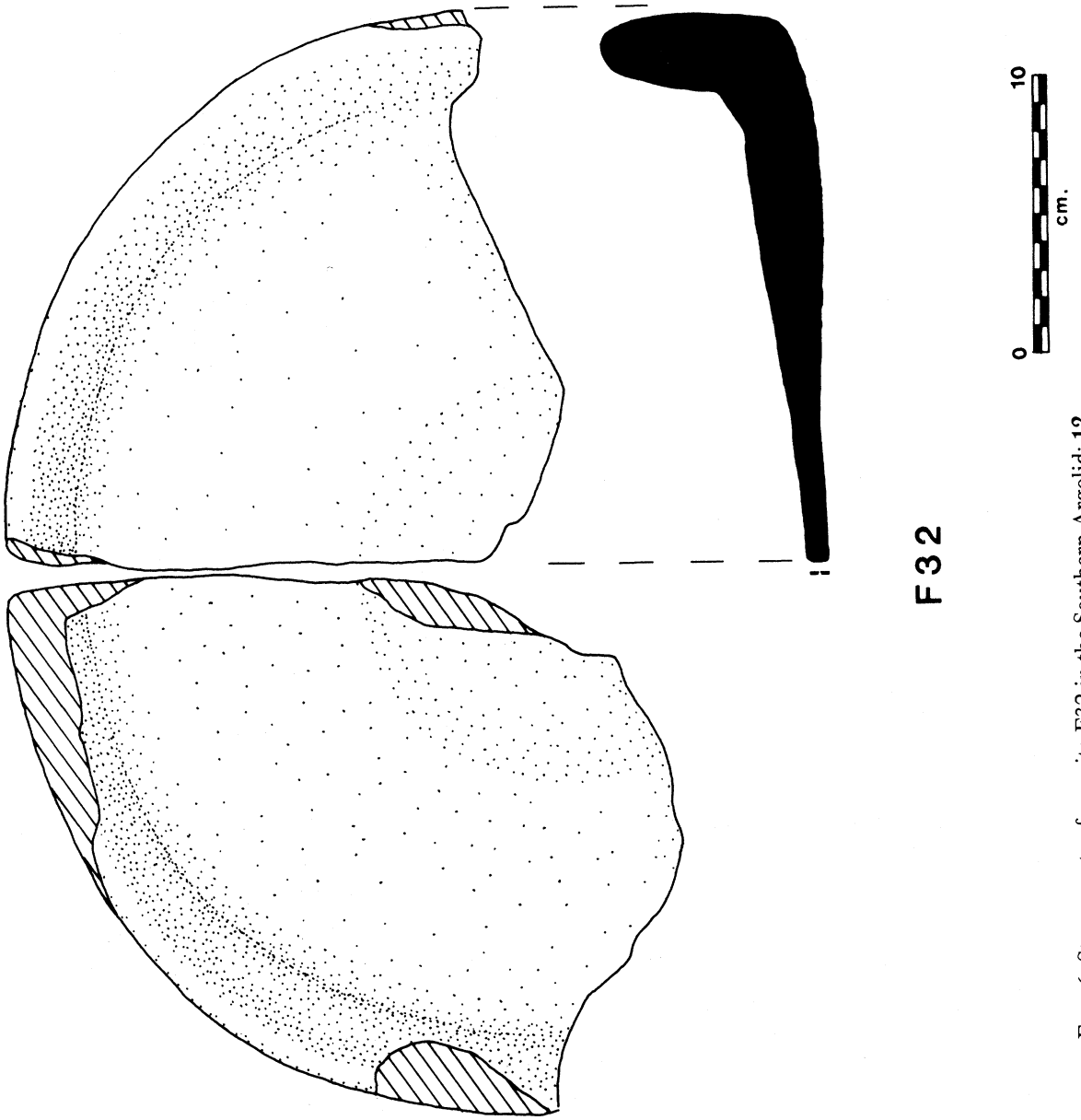

FIG. 6. Stone mortar from site F32 in the Southern Argolid: 12

TABLE 1: Andesite mortars at Ayios Kosmas

Context	Number of specimens	References in Mylonas, *Aghios Kosmas*
House H	2	p. 38
House I	1	p. 41
Structure J	1(?)	p. 145
Grave 12	1	pp. 92–93, 145
Grave 14	1	p. 94
Total	6	

which have horizontal lugs, and she divides the mortars by handle type into two classes: those with lugs having vertical terminations (H-shaped), and those with lugs that end in trumpet-shaped scrolls (spool-shaped).[7]

The Southern Argolid mortars were found at six surface sites and in the Halieis excavations (Fig. 1). An evaluation of the pottery recovered from the surface sites (Table 2) indicates that four of the six belong to the Early Bronze Age (EH I–II).[8] The mortar (**5**) from the excavation at Halieis (A65) was found in a stratum of decayed mud brick in the Lower Town. Early Helladic (I–II?) artifacts were found in the course of the excavation of the acropolis, and the mortar could derive from this part of the site.[9]

Similar mortars have not been reported from excavated contexts of later date, and on the basis of the comparison with the Ayios Kosmas and Lithares mortars, the Southern Argolid mortars may also be assigned provisionally to EH II. The largest and best preserved specimens, however, e.g. those from A6 (**2**) and F32 (**8–13**), come from sites where the majority of the pottery and other artifacts may be securely assigned to EH I–II (*ca.* 80% at A6 and *ca.* 90% at F32). In view of the presence of later sherds on three sites, another date, however improbable, cannot be absolutely ruled out.

The AK-type mortars from the Southern Argolid are somewhat smaller in diameter and not so tall as the single published example from Ayios Kosmas (Table 3). The mortars from Ayios Kosmas vary in dimensions, and if more specimens from Ayios Kosmas were available for measurement, the sizes of the mortars from this site would possibly be found to overlap with those of the Southern Argolid. The Southern Argolid mortars have an average

[7] Tzavella-Evjen, p. 172, ills. 86:a, 87:a.

[8] Details on the surface survey are given in M. H. Jameson, C. Runnels, and T. H. van Andel, *A Greek Countryside. The Southern Argolid from Prehistory to the Present Day*, in press (Stanford University Press). One of the mortar fragments, **5**, was excavated from the Lower Town of Halieis, where it was found in mixed fill. No other EH II artifacts were found in the same excavation unit, but EH materials are reported from stratified deposits on the acropolis (see footnote 9 below) and as stray finds from the Lower Town. The weathered surface of the specimen suggests that it was brought to the Lower Town after being picked up from the surface elsewhere on the site.

[9] I wish to thank Thomas W. Jacobsen and Daniel Pullen for information on the unpublished Early Helladic remains from the excavation of the acropolis of Halieis.

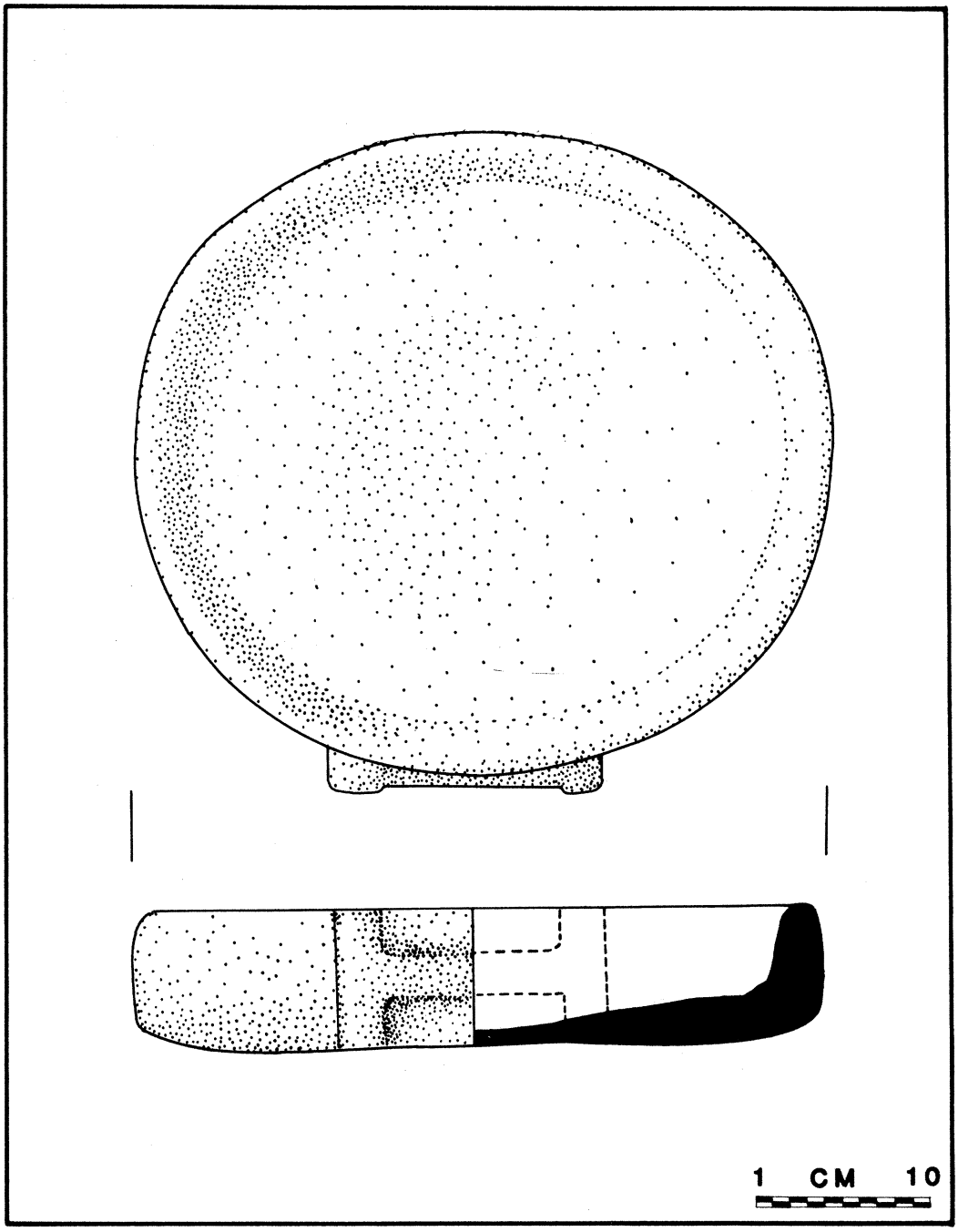

FIG. 7. Reconstruction of a stone mortar from the Southern Argolid based on **2** and **12**

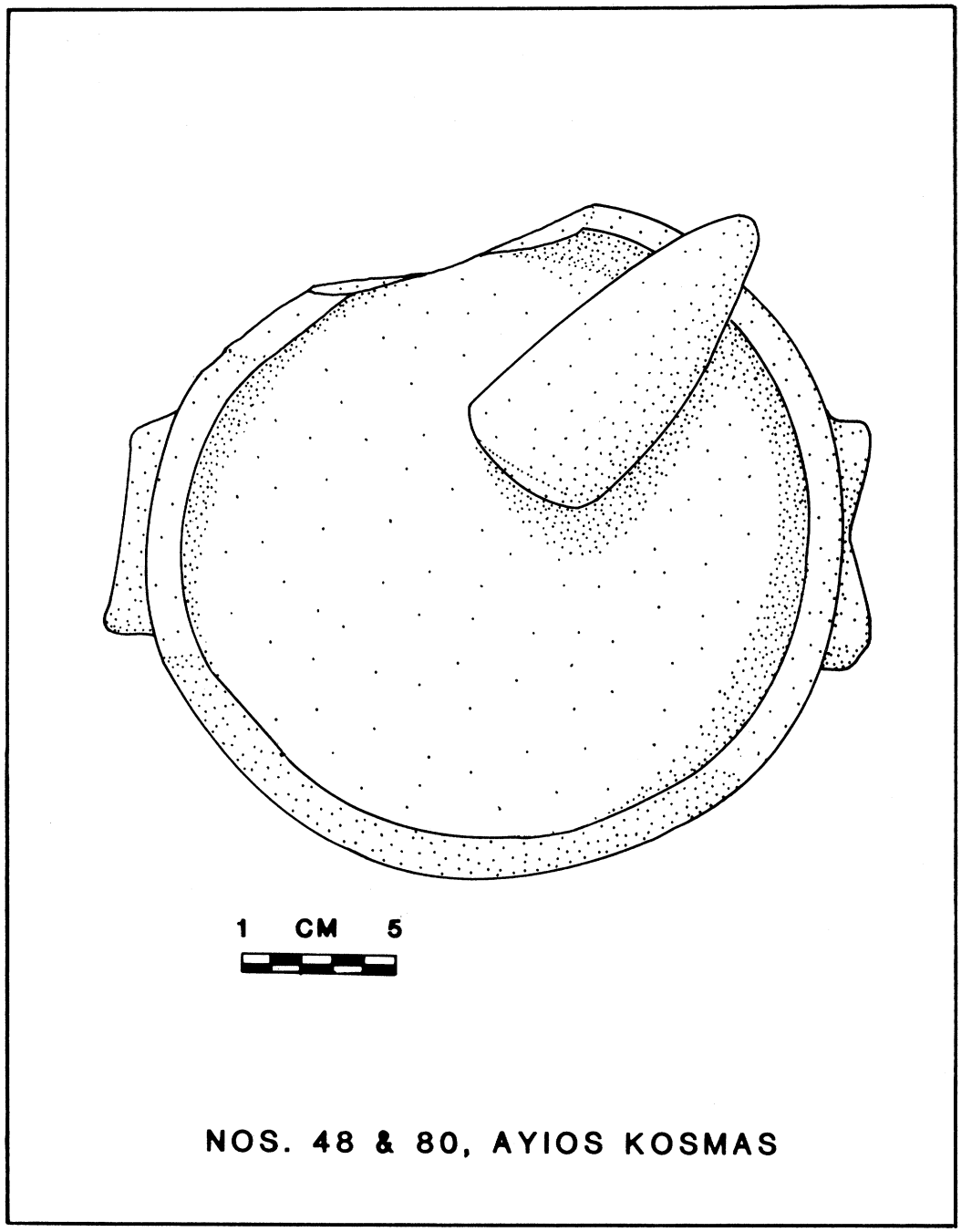

FIG. 8. Stone mortar from Ayios Kosmas in Attica, after Mylonas, *Aghios Kosmas*

TABLE 2: Andesite mortars in the Southern Argolid

Site	No. specimens	Final Neolithic	EH I	EH II	EH III	MH	LH
A6	3	—	X	X	?	X	X
A33	1	—	X	X	?	—	—
A65	1	—	—	—	—	—	—
C11	1	—	X	X	—	—	X
F32	6	—	X	X	—	—	X
F2	1	—	—	—	—	—	—
Total	13						

X = phase represented by more than five artifacts
? = phase represented by fewer than five artifacts

diameter of 0.25 m. and a height of 0.07 m. They are similar in most respects to the Ayios Kosmas mortar (Fig. 8), except that there is no evidence that the Argolid mortars had more than one handle. Mylonas does not indicate whether the other specimens have more than one handle. The lugs on the Southern Argolid mortars closely resemble the lugs from Lithares, where more examples are illustrated, but the excavator does not state whether the Lithares mortars had one or two handles.[10] Where such a small number of specimens is available for study, it may be premature to attempt to classify the lugs or to distinguish subtypes of the AK-type mortar.

The distribution of the mortar is at present confined to the Southern Argolid, Ayios Kosmas, and Lithares. Tzavella-Evjen notes the general similarity of the H-shaped and spool-shaped lugs to pottery lugs in the Cyclades and Crete.[11] Stone vessels, palettes, and mortars are indeed very common in the islands, and it is natural to suspect an island source for the mainland AK-type mortars. Neither unfinished examples of the mortar nor manufacturing debris indicating local production were found on the Southern Argolid sites, nor was any such material reported from Ayios Kosmas and Lithares. We may infer, therefore, that the mortars are indeed imported. The distinctive "salt-and-pepper" texture of the andesite used for the Argolid mortars closely resembles the material of the published mortar from Ayios Kosmas (no. 48), to judge from the photograph, and they are perhaps from the same source. The Lithares specimens appear also to be of andesite, but it is not possible to say whether they are the same material as the mortars from Attica and the Argolid on the basis of the published photographs. Specimens of andesite from Aigina are similar in appearance to the andesite of the Argolid and Attica mortars (Fig. 1), but andesite of this same

[10] Tzavella-Evjen, *loc. cit.* (footnote 7 above).

[11] Tzavella-Evjen, *loc. cit.* (footnote 7 above). The handles on the Lithares mortars resemble the H-shaped and spool-shaped handles on the jarlike bowls at Ayios Kosmas (Mylonas, p. 124, fig. 123:4–7), but it should be noted that the AK-type mortar has no exact pottery parallel.

TABLE 3: Summary of characteristics of the Ayios Kosmas-type mortar

Cat. No.	Max. diam. (estimated)	Max. pres. height	No. pres. handles
2	0.28	0.075	1
3	0.29	—	—
4	—	0.081	—
5	—	0.067	1
6	—	0.069	1
7	—	0.069	1
8	0.22	0.067	—
9	—	0.058	—
10	0.17	0.065	1
11	0.20	0.078	1
12	0.36	0.070	—
Mean	0.25	0.070	
Ayios Kosmas no. 48	0.37–0.45	0.091	2

type is found on other Cycladic islands with volcanic deposits, e.g. Melos and Thera, among others.[12] It would seem to be a reasonable hypothesis that AK-mortars should be found at the Kolonna site in Aigina, if they were manufactured on that island, but no mortars have been identified among the numerous stone artifacts recovered in the course of the Austrian excavations there.[13] Until new evidence from excavations is forthcoming, it is perhaps sufficient to infer that the AK-mortars were made on one or more islands in the Aegean, a supposition already made by Mylonas.[14]

The specific use of the EH stone mortars is a matter for speculation. All the preserved examples from the Southern Argolid show signs of use-wear in the center of the bottom. The wear, consisting of a polished area, results from abrasion caused by the use of a pestle perhaps similar to one found at Ayios Kosmas (no. 80) in association with a mortar (Fig. 8). The Argolid mortar fragments were carefully examined for traces of color that might have resulted from use in grinding pigments, but no such traces were identified. The suggestion that these shallow, pan-like mortars were used to grind grain, as put forward by Mylonas, is not an acceptable alternative. All the EH sites discussed in this paper have numerous large saddle querns of andesite for this purpose.[15] The use of the mortar to grind spices, or to crush some other substances, is a more probable hypothesis. A very different prehistoric

[12] Runnels, and Runnels and Cohen (footnote 2 above).

[13] For the excavations at Kolonna see H. Walter and F. Felten, *Alt-Ägina,* III, i, *Die vorgeschichtliche Stadt: Befestigungen, Häuser, Funde*, Mainz 1981. The conclusion that the AK-mortar is not found at Kolonna is based on my study for publication of the stone objects from the Austrian excavations.

[14] Mylonas, p. 144.

[15] Runnels (footnote 1 above), pp. 105–116; C. Runnels and P. Murray, "Milling in Ancient Greece," *Archaeology* 36, 1983, pp. 62–75.

stone mortar, known to us from many excavations of Late Helladic (LH) sites in Greece, may help illustrate some of the possible uses of the EH AK-type mortar.[16] The LH mortar was introduced to mainland Greece from Crete or Cyprus late in the Middle Helladic or early in the Late Helladic period. The LH mortar has a deep, bowl-shaped body, three short, rectagular legs, and a spout at the rim. The LH mortar has been found in both domestic and ritual contexts, and it was used for grinding spices such as those used to scent olive oil. The form of the LH mortar is unrelated to that of the EH AK-type mortar, but the function was probably very similar.

The AK-type mortar finds its closest parallel in shape with the kitchen mortar of clay or stone of the Archaic to Hellenistic periods. This later mortar, or grinding bowl, is more similar in shape to the AK-type mortar than is the tripod-shaped LH mortar. The Archaic–Hellenistic mortar has a shallow, bowl-shaped body with a flat base, a spout at the rim, and one or two scroll-shaped lugs on the exterior at or near the rim. It was used with a stone pestle to grind spices, salt, and a variety of substances. They are often worn in the interior; sometimes a hole has been worn right through the base by continual use.[17]

We may conclude, on the basis of the traces of abrasive wear on the interiors of the AK-type mortars from the Southern Argolid, that their uses were similar to those of the mortars of the Late Helladic period and classical antiquity. They were used to grind spices, salt, coloring matter, plants, drugs, or combinations of substances. The similarity in shape and material and the limited distribution of the type together suggest that the production of these mortars was undertaken on a limited scale at a small number of locations. They were carefully manufactured by being pecked to shape with a pointed stone or metal tool, after which the exterior and interior surfaces were finely smoothed by fine pecking, or even polished with a piece of hard stone. Traces of manufacture in the interior, however, were for the most part removed by abrasive use-wear, although they are often still visible near the rim.

The high degree of skill involved in making stone vessels, when considered in light of the lack of evidence for manufacture on the mainland, points to a center of production at a source of andesite on one of the Aegean islands. The existence of deposits of andesite in Aigina, Melos, Kimolos, Thera, and other islands centrally located for trade with the mainland would make these islands prime candidates for production centers.

Early Helladic andesite mortars may have been traded to the mainland along with other stone vessels, saddle querns, pottery, and obsidian.[18] To modern eyes these finely made

[16] H.-G. Buchholz, "Steinerne Dreifußschalen des ägäischen Kulturkreises und ihre Beziehungen zum Osten," *JdI* 78, 1963, pp. 1–76; P. Warren, *Minoan Stone Vases*, Cambridge 1969, pp. 115–117; *idem*, "The Stone Vessels from the Bronze Age Settlement at Akrotiri, Thera," Ἀρχ Ἐφ 1979 (1981), pp. 82–113.

[17] B. Sparkes, "The Greek Kitchen," *JHS* 82, 1962, pp. 121–137, pl. IV:4. The "grinding bowl" or "mixing bowl" was probably the ancient θυεία and was an everyday piece of household equipment. These mortars are approximately the same size as the AK-type mortars and were in use from the Archaic period through Roman times. Specimens made of andesite are known, although the mortars are usually of terracotta. I am informed by Mary Lou Zimmerman Munn that at least one terracotta variety of the 5th and 4th centuries B.C. may have been produced at Corinth for export.

[18] Trade networks connecting the Cyclades with the mainland in the Early Bronze Age may have resembled

mortars appear to be "luxury" items, perhaps products of the trade in imported commodities that encompassed the Aegean in the Early Bronze Age. Although they were undoubtedly traded to Ayios Kosmas, Lithares, and the Southern Argolid sites, the trade network, or the strength of demand, did not extend, for whatever political or economic reasons, to Lerna or to the other Early Bronze Age sites in the Argeia 40 kilometers north of the Southern Argolid.[19] This is an unexpected anomaly in the distribution pattern of the AK-type mortar; perhaps we are justified in seeing here evidence of regional diversity of trade and communication? Why are AK-type mortars not found in the Argeia, when other Cycladic products, notably obsidian and andesite saddle querns, were?

A comparison of flaked-stone artifacts from EH II Lerna and the EH II sites of the Southern Argolid, although still in a preliminary stage, has also brought to light differences between the Argeia and the Southern Argolid.[20] To cite but one example, EH II denticulated sickle elements made on high-quality, pressure-struck flint blades are known from Lerna III (EH II: 28 from a sample of 2,902 lithic artifacts) but are rare in the Southern Argolid (2 from a sample of 3,031 lithic artifacts from 32 sites). The lack of flint-manufacturing debris at Lerna indicates that the sickle elements were imported to that site. The sources of the flint have not been identified, but present evidence suggests that the blades are probably coming from somewhere outside the Argolid. The trade in flint blades evidently did not extend to the Southern Argolid.

Different local or short-range trade networks are to be expected within small regions, in addition to the long-range trade networks which are identified by rare and exotic materials and artifacts from beyond the confines of the Aegean. The identification of intraregional trade, however, is especially valuable as it will allow us to identify cultural diversity within smaller regional units than has until now been usual. Different cultural histories are known to characterize different parts of the Greek mainland in the Early Bronze Age (e.g., western *vs.* northwestern Peloponnese, or Peloponnese *vs.* central and northern Greece), and it is

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that identified by Davis as the "Western String Network" of the Late Bronze Age, and many of the same materials may have been exchanged: obsidian, marble, andesite saddle querns, and metals. The precise content of EBA trade is unknown. For Bronze Age Aegean trade, see J. L. Davis, "Minos and Dexithea: Crete and the Cyclades in the Later Bronze Age," in *Papers in Cycladic Prehistory*, J. L. Davis and J. F. Cherry, edd. (Monograph XIV, Institute of Archaeology), Los Angeles 1979, pp. 143–157; C. Runnels, "Trade and the Demand for Millstones in Southern Greece in the Neolithic and the Early Bronze Age," in *Prehistoric Production and Exchange. The Aegean and Eastern Mediterranean*, A. B. Knapp and T. Stech, edd. (Monograph XXV, Institute of Archaeology), Los Angeles 1985, pp. 30–43; T. H. van Andel and C. Runnels, "An Essay on the 'Emergence of Civilization' in the Aegean World," *Antiquity* 62, 1988, pp. 234–247.

[19] I have examined all the ground-stone artifacts from the Bronze Age excavations at Lerna in the course of preparing them for publication. No fragment of an AK-type mortar, or of any other artifact made from the same material, was identified among the 222 artifacts from Lerna (Lerna III, 10%; Lerna IV, 52%; Lerna V, 38%). No published AK-type mortars are known to me from other Argive sites.

[20] For the trade in andesite saddle querns in the Early Bronze Age, see Runnels (footnote 18 above). For the flaked-stone industries of the Argolid, see C. Runnels, "The Bronze-Age Flaked-stone Industries from Lerna: A Preliminary Report," *Hesperia* 54, 1985, pp. 357–391; C. Runnels and N. Kardulias, "Lithic Artifacts from Southern Greece: A Short Report on the Argolid Survey," *Old World Archaeology Newsletter* 9, 1985, pp. 6–8.

safe to assume that these larger regions can themselves be broken down to smaller parts.[21] How, precisely, we are to account, in cultural terms, for small-scale regional differences is another subject, but all discussion must be based upon archaeological data such as those presented in this paper. The present study has identified the AK-type mortar as a distinctive Aegean product of the Early Helladic period, and it is hoped that discoveries of other specimens will be forthcoming.

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[21] J. B. Rutter, *Ceramic Change in the Aegean Early Bronze Age. The Kastri Group, Lefkandi I, and Lerna IV: A Theory Concerning the Origins of Early Helladic III Ceramics*, Los Angeles 1979; *idem*, "A Group of Distinctive Pattern-decorated Early Helladic III Pottery from Lerna and its Implications," *Hesperia* 51, 1982, pp. 459–488.