

A MID-SIXTH-CENTURY TILE ROOF SYSTEM AT GORDION

(PLATES 31 AND 32)

THE PHRYGIAN SETTLEMENT OF GORDION, situated on the Sakarya River (Fig. 1) about ninety kilometers southwest of Ankara, is one of the more prolific sources of architectural terracottas in Anatolia. Several thousand tiles have been preserved from three epochs of excavation at the site, that of the Körte brothers in 1900, that of Rodney S. Young from 1950 to 1973, and that of Mary M. Voigt, ongoing since 1988. This study focuses on a number of previously unpublished tiles that together make up an interesting and uncommon roof design and attempts to place that roof within its proper historical setting.¹

Historically and archaeologically, the city of Gordion is best known as the capital of the Phrygian kingdom of Midas in the 8th century B.C. Around 700 B.C. the city suffered a major catastrophe, evidenced by widespread burning over much of the excavated area of the Citadel Mound. The destruction has been attributed to an attack by the Kimmerians, and the extensive remains have provided archaeologists with a good sampling of "Early Phrygian" material culture.² The architectural terracottas, however, derive entirely from later times. Excavation has determined that the citadel destroyed by the Kimmerians was covered with a layer of clay 2.5 to 4 m. thick and that a new fortified city was laid out on top. The new citadel plan (Fig. 2) resembles the old, with a fortification circuit, a monumental gateway at the southeast, and numerous freestanding megaron buildings grouped into distinct quarters.³ Some of these structures were once covered with tiled roofs and decorated with revetment plaques molded in relief and brilliantly painted. Such tiles have turned up in quantity during excavation of postdestruction levels in nearly all sectors of the Citadel Mound.

The invention of the baked-clay tiled roof can be assigned, on the basis of current evidence, to the city of Corinth in the first half of the 7th century B.C.⁴ Terracotta tiles were first used there to cover the early temple of Apollo after *ca.* 680 B.C.⁵ The new technology, offering the advantage of being both waterproof and fireproof, soon spread to other Greek sanctuaries, and throughout the remainder of the 7th century different regions elaborated on

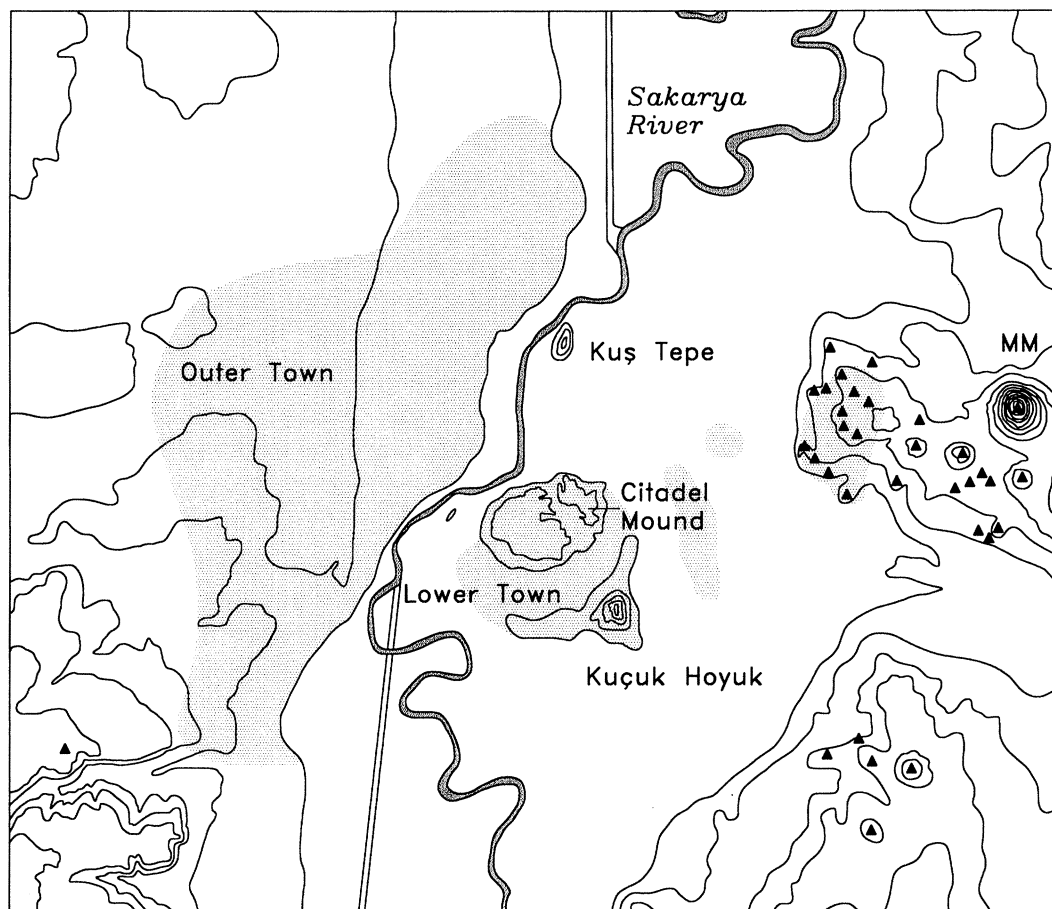
¹ Special thanks are owed to the director, G. Kenneth Sams, both for permission to study the tiles and for his continuous guidance; to Nancy A. Winter, Mary C. Sturgeon, Mary M. Voigt, and Richard F. Liebhart for helpful criticism of the manuscript; and to Sondra A. Jarvis for transferring Figure 8 to a digitized format. Research for this report was made possible by the generous support of the Fulbright and 1984 Foundations. A preliminary version of this paper was presented at the 96th Annual Meeting of the Archaeological Institute of America (Atlanta, December 30, 1994), abstract in *AJA* 99, 1995, pp. 343–344.

² Phrygian history: Körte and Körte 1904, chap. 1; Barnett 1975. Early Phrygian remains: DeVries 1990, pp. 377–389; Voigt 1994, pp. 267–273; *Gordion* IV, pp. 1–7. Bossert (1993) proposes a lower date for the destruction.





³ Postdestruction Gordion: DeVries 1988; *idem* 1990, pp. 391–400; Mellink 1988; *eadem* 1991; Voigt 1994, pp. 273–275, 278. Plan of the earlier citadel: DeVries 1990, p. 376, fig. 7.

⁴ Winter 1993a, p. 12; Wikander 1990, p. 290.

⁵ Robinson 1984, p. 57; Roebuck 1990, p. 47.



YASSIHOYUK/GORDION

-  Settlement Areas
-  Old Sakarya River Course
-  Modern Dredged River Course
-  Tumuli

0 250 500 M
S. Jarvis 1995

FIG. 1. Gordion. Plan of site, with Citadel Mound and Küçük Hüyük

the essential components of the Corinth roof, adding decorated members such as the raking sima, the antefix, and the akroterion. Tiled roofs then spread overseas. The technology had reached Sicily by the last quarter of the 7th century and Samos by *ca.* 600 B.C.⁶ In Anatolia proper, both the types of tiles that became popular and their heavy concentration at sites on the west coast suggest that the technology was imported from Greece. Tiles at Sardis

⁶ Wikander 1988, p. 206; *idem* 1990; Ohnesorg 1990, p. 188; Winter 1993a, pp. 247, 274–275.

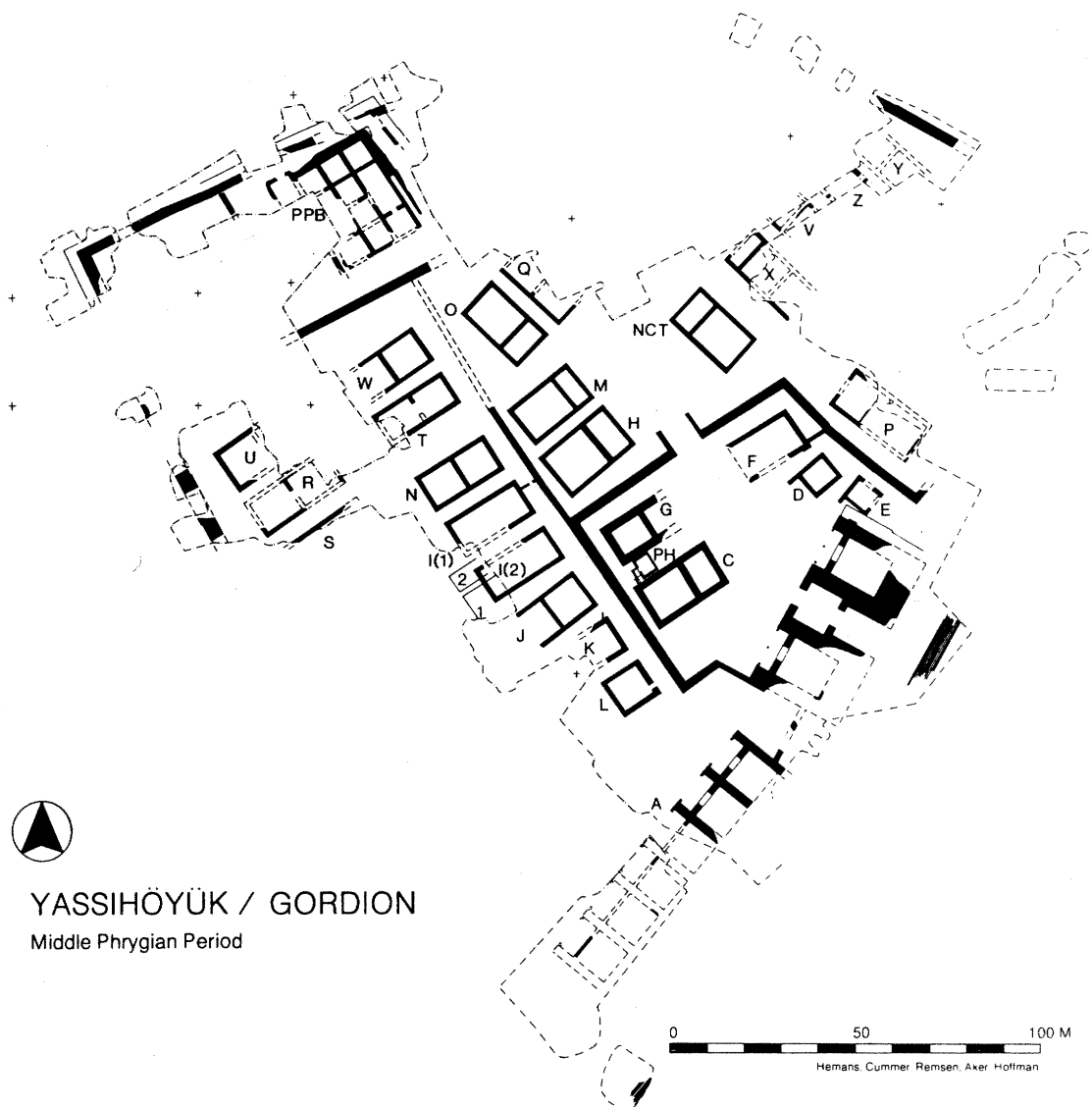


FIG. 2. Gordion. Plan of postdestruction citadel

and Akalan may date as early as 600 B.C.,⁷ but the heyday of the tradition came in the second and third quarters of the 6th century.⁸ It was presumably from western sites such as Sardis and Miletos that tile technology penetrated to inland Anatolia.⁹

The Gordion tiles follow the general range of types familiar in Greece and western Anatolia, including Corinthian-style pan tiles, Corinthian- and Lakonian-style cover tiles, ridge cover tiles, raking and lateral simas, antefixes, and revetment plaques. Many of these

⁷ *SardisMon* 5, pp. 9, 38–41; Cummer 1976, pp. 31–35; cf. Wikander 1988, p. 206.

⁸ Billot 1980, pp. 292–293; Winter 1993a, pp. 233–236; Ratté 1994, pp. 383–385.

⁹ Åkerström 1978; Winter 1993b.

are decorated. They display a wide variety of motifs, from a simple checkerboard or lozenge pattern to figural compositions such as the well-known "Theseus and the Minotaur." A substantial number of these tile types, from both the Körte and the Young excavations, were published in 1966 by Åke Åkerström.¹⁰ His study sheds light on the diverse artistic currents at work on the Gordion tiles and addresses the iconography of the individual motifs. A more recent article by Fahri Işık discusses several of the revetment plaques.¹¹

Current understanding of the roof-tile industry at Gordion, however, is in need of revision and amplification, primarily in two areas. The first is chronological. Åkerström, in 1966, maintained that the use of architectural tiles in Anatolia was mostly a phenomenon of the second half of the 6th century B.C.¹² His chronology was based to no small degree on what was then perceived as the history of the citadel at Gordion.¹³ More recent research at Gordion, however, has discounted the notion of a Persian reconstruction, and scholarly opinion now favors an earlier date for the project.¹⁴ The tiles thus may be pushed back in date as well. As mentioned above, other sites, e.g., Sardis and Samos, have produced tiles dated by archaeological context in the first half of the 6th century, and possibly as early as the late 7th.¹⁵ Işık has argued on stylistic grounds, although unconvincingly, for a date in the first half of the 7th century for some of the revetment plaques from Gordion and Pazarlı.¹⁶ The overall chronology for Anatolian tiles, therefore, is clearly in need of reexamination.

Methodological approaches to the study of the Gordion roof tiles should also be reexamined. Åkerström and Işık had limited themselves largely to stylistic and iconographic analyses of the motifs on the Gordion tiles. Although their studies remain useful, their approach is risky. Treating the tiles as isolated objets d'art allows unrelated dates to be assigned to tiles that may have once belonged to the same roof or that may have been made in the same workshop. A sounder method would be to consider the tiles within their original contexts, treating them as interrelated components of real, functioning roofs. Individual roofs potentially can be identified through factors such as fabric, form, and surface treatment of tiles and archaeological context. Only after such criteria have been considered should stylistic dating be taken into account, because no tile can be dated without cross-referencing

¹⁰ Åkerström 1966, pp. 136–161, pls. 69–86.

¹¹ Işık 1991.

¹² Åkerström 1966, pp. 239–245.

¹³ The original American excavator, Rodney S. Young, had long attributed the rebuilding to the Persians in the second half of the 6th century (Young 1956, p. 264; *idem* 1964, pp. 284–285). Åkerström, who visited Gordion and studied the tiles there in 1955, used that chronology as essential stratigraphic corroboration for his stylistic dating of tiles from other sites (Åkerström 1966, pp. 137–138, 143–144, 152, 241; cf. Young 1962, p. 154).

¹⁴ Before his untimely death in 1974, Young had come to assign the rebuilding to the first half of the 6th century, and this date has been largely accepted in subsequent literature (*PECS*, 1976, *s.v.* Gordion, p. 360 [R. S. Young]; DeVries 1988; *idem* 1990, pp. 391–392; Mellink 1991, p. 629). More recent excavation at the site, however, has recovered evidence taken to imply that the rebuilding began immediately after the Kimmerian destruction and was completed by the mid-7th century (Voigt, in Sams and Voigt 1990, pp. 459–460; Voigt 1994, pp. 274–275). This chronological debate remains unsettled.

¹⁵ See notes 6–8 above.

¹⁶ Işık 1991, pp. 76–86. See note 17 below.

all other components of the same roof.¹⁷ A new assessment of the Gordion architectural terracottas has thus long been necessary. The following group of five tile types is presented as a first step in the process of chronological and methodological revision at Gordion.

THE TERRACOTTAS

A major goal of the Gordion tile project, begun in 1992, has been the examination and documentation of all extant tile fragments from Young's excavations. Approximately 500 pieces preserve a good proportion of their original form and decoration and are either on display in the Gordion Museum or are stored in depots at the site or in the Museum of Anatolian Civilizations in Ankara. Approximately 1,500 other pieces, only fragmentarily preserved but still recognizable by type, are stored in bags, together with context pottery, in a depot at the excavation compound. In the course of inventorying these tiles, it became apparent that a substantial number are related by similarities of fabric, decoration, and dimension. A total of 478 fragments were identified as belonging to this group, within which five basic tile types can be distinguished: spouted eaves tiles, Corinthian-style pan tiles, Lakonian-style cover tiles, Lakonian-style ridge cover tiles, and semicircular end cover tiles with antefixes. These five types form the basis of the following catalogue and comprise most of the elemental components of a tiled roof. None of the five representative tiles, however, is related by archaeological context, since they were recovered from widely scattered areas of the excavation. The contexts of these particular pieces are so diverse, in fact, as to be irrelevant here; thus the contexts are listed in the catalogue but otherwise omitted from the discussion. The five tiles were selected simply on the basis of their condition: each is the best-preserved example of its respective type. The tiles as a group are therefore representative of a type of roof, not of an actual roof.

The fabric of the following five tiles, and of all 478 in the group, is the same. It contains clay, abundant feldspar, and volcanic-rock fragments, quartz, calcium carbonate, and volcanic glass. The volcanic-rock fragments are typical of rocks in the Gordion area; under an electron microscope they appear as small dark grains containing long slender laths of plagioclase feldspar. The core of a tile is usually gray (7.5YR 5/0) to pinkish gray (7.5YR 7/2) in color, while the surfaces have fired light reddish brown to pink (5YR 6.5/4). The

¹⁷ See the comments of Le Roy (1990, p. 35), "une publication de terres cuites architecturales devrait donc être une publication de toits," and of Winter (1993a, p. 3), "The study of plain roof tiles and decorated architectural terracottas of the Archaic period is predicated on the observation that . . . elements of the same roof were made at the same time and in the same place for that specific roof. . . ." Applying these principles to the Gordion tiles, for example, it is unlikely that the "Theseus" and "Hirschjagd" revetment plaques date to the first half of the 7th century B.C., as Işık claims (note 16 above), unless much of the rest of the Gordion tile corpus does as well. All the tiles at Gordion belong to one of several coherent groups based on fabric, form, and finish. There are no grounds for separating these two motifs from the rest of the tiles and assigning them an earlier date.

fabric and its color after firing are easily distinguishable by eye from other fabrics in use at Gordion.¹⁸ Surface decoration on these types of tiles consists of an overall red or buff slip.

1. Fragmentary spouted eaves tile Fig. 3, Pl. 31:a
Gordion Inv. A 106. City Wall Trench, Cut 5, Layer 3. Fieldbook 27, p. 30.
P.L. ca. 0.60, W. 0.430, est. L. spout 0.33, H. lateral and front edges 0.080, Th. front edge 0.040 m. Spout mended with original end, back of pan broken away. Flat pan, with upturned lateral edges beveled on exterior, except where vertical at front end. Low, upturned front edge pierced by a U-shaped spout. Underside flat, undecorated. Pan floor, sima, and spout slipped red (10R 4/7) and burnished.

This type of tile¹⁹ served in the lowest row of pans along the lateral eaves. Water was conducted into the long, narrow spout by means of the upturned front edge of the pan, which thus functioned like a lateral sima. The edge differs from a true lateral sima, however, in being relatively low, only 8–9 cm., and relatively thick, 4 cm.²⁰ The raised side edges are also 8–9 cm. high, basically flat on top, and are beveled at about forty-five degrees on the exterior, except at the front end of the tile where the side walls form a slightly projecting vertical panel (Fig. 3). The panel allowed adjacent tiles to abut snugly along the eaves, somewhat in the manner of anathyrosis.²¹ Surface decoration on these tiles consists of either a monochrome red or buff slip covering the pan floor, the raised front edge, and the entire surface of the spout. The soffit, however, is always unpainted, suggesting that the tiles did not overhang the eaves. Fifty-one pieces of this kind of tile have been preserved.

2. Fragmentary Corinthian-style Fig. 4, Pl. 31:b
pan tile

Gordion Inv. A 73. Southeastern Trench-North, Layer 6b. Fieldbook 25, pp. 69–70.
L. 0.560, upper W. 0.440, est. lower W. 0.38, H. lateral edges 0.080, L. flange 0.070, Th. 0.025 m. Front right corner broken away. Flat pan, narrowing in width toward front, with upturned lateral edges beveled on exterior. Underside flat, except where flanged at front end for overlapping; undecorated. Pan floor slipped buff (10YR 8/2).

Pan tiles of this scale and fabric are common at Gordion (171 extant pieces). They are always painted with a solid red or buff slip, and their maximum width, 44 cm., as well as the profile of their side edges (Fig. 4), is generally the same as on spouted eaves tiles like **1**. These kinds of pan and eaves tiles are thus taken to be products of the same workshop and to belong to the same type of roof.

Pan tiles of this variety were designed to overlap one another by means of tapering in width toward their front end.²² The front end of an upper pan could fit between the raised side edges of the back end of the next lower pan, thereby providing a waterproof overlap. To prevent downward sliding, the underside of the front end of each pan was rabbeted in order to brace against the back edge of the pan below.²³ The overlapping flange is usually ca. 7 cm. long and wedge-shaped in section.

¹⁸ This is the fine, light-colored clay erroneously mentioned by Åkerström (1966, p. 138) as occurring only in the “Hirschjagd” revetment plaques. Thanks are owed to William McClain, Director of the Stable Isotope Laboratory at the University of Georgia, Athens, for analyzing thin sections of the tiles. All color indexes here and following are taken from the *Munsell Soil Color Charts*.

¹⁹ See Winter 1993a, p. 251.

²⁰ True lateral simas in Anatolia are regularly at least 15–20 cm. high, and sometimes 40–45 cm., and are ca. 2–3 cm. thick. See Winter 1993a, pp. 241–244 and Åkerström 1966, *passim*, esp. pp. 246–250. See note 35 below.

²¹ Such lateral projections were common on Greek eaves tiles in the Archaic period. See, e.g., Winter 1993a, p. 79.

²² Such significant tapering was not a usual means for Corinthian-style pan tiles to effect an overlap (Wikander 1988, pp. 209–210), although it was the normal method in the Lakonian system (Winter 1993a, p. 95).

²³ Such undercut flanges were common on pan tiles beginning with the earliest Protocorinthian roof at Corinth (Winter 1993a, p. 15; cf. Wikander 1988, p. 208).

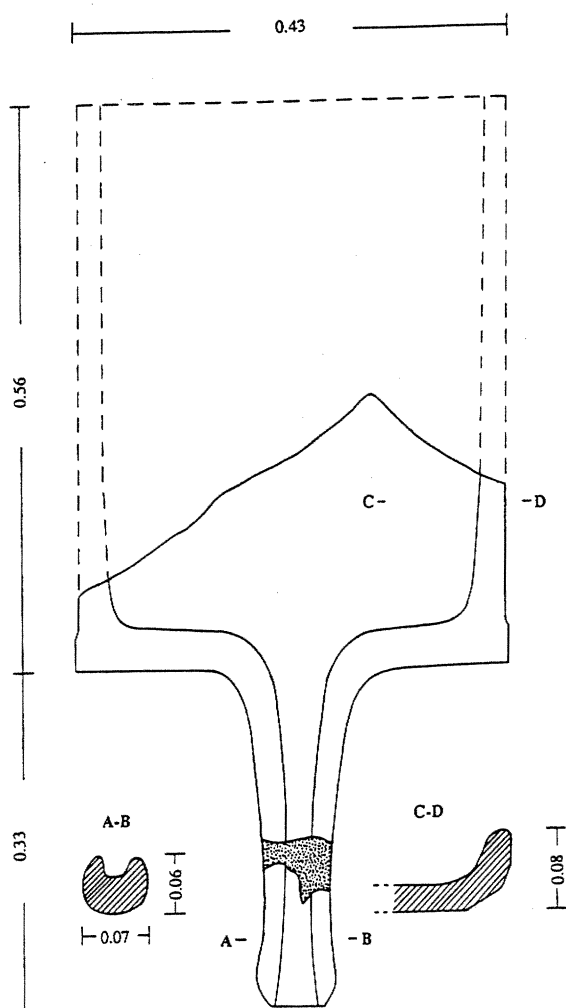


FIG. 3. Spouted eaves tile 1

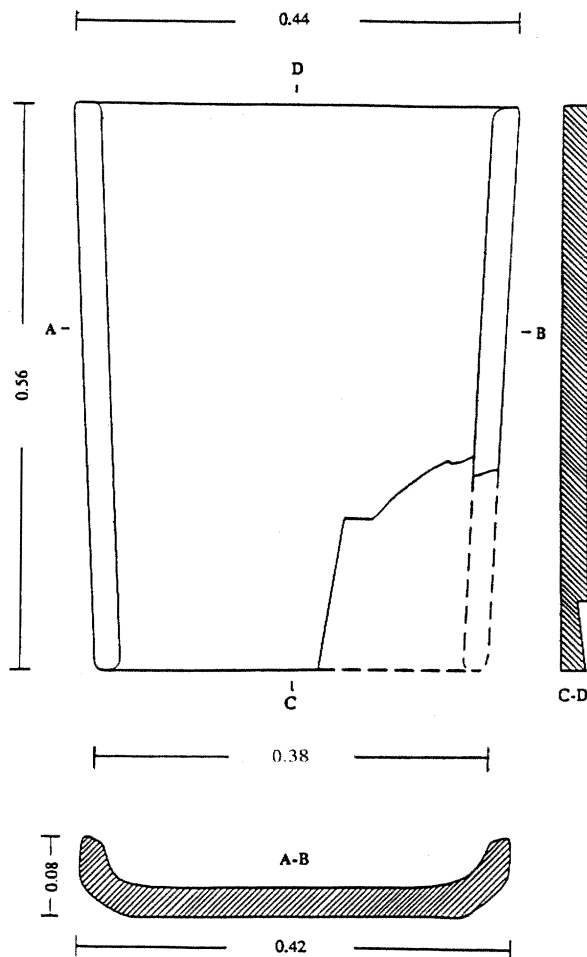


FIG. 4. Pan tile 2

3. Fragmentary Lakonian-style cover tile

Fig. 5, Pl. 31:c

Gordion Inv. A 272. Trench PBX-E; reused as a drainpipe. Fieldbook 150, p. 79.

L. 0.530, est. upper W. 0.20, lower W. 0.270, upper H. 0.170, lower H. 0.195, Th. 0.025 m.

Part of back end broken away. Arched in section and narrowing in diameter toward back. Interior walls smoothed to height of *ca.* 5 cm., remainder rough, undecorated. Exterior slipped red (10R 5/6) and burnished.

Cover tiles of this scale and fabric are also common at Gordion (183 extant pieces). They too are always

painted with a solid red or buff slip (the buff types can also have a red band at the front end), and their length, 53–56 cm., generally matches that of pan tiles like 2. The covers are thus taken to be products of the same workshop and to belong to the same sort of roof as the pans.

The cover tiles are large and bulky, being *ca.* 17–20 cm. high and 20–27 cm. wide. The height is significantly greater than that of most Lakonian-style cover tiles in antiquity,²⁴ giving the covers a pronounced horseshoe shape (Fig. 5). Like the pans, each cover was designed to overlap its lower neighbor by means of tapering, growing wider at the front end in order to

²⁴ Nancy A. Winter, personal communication.

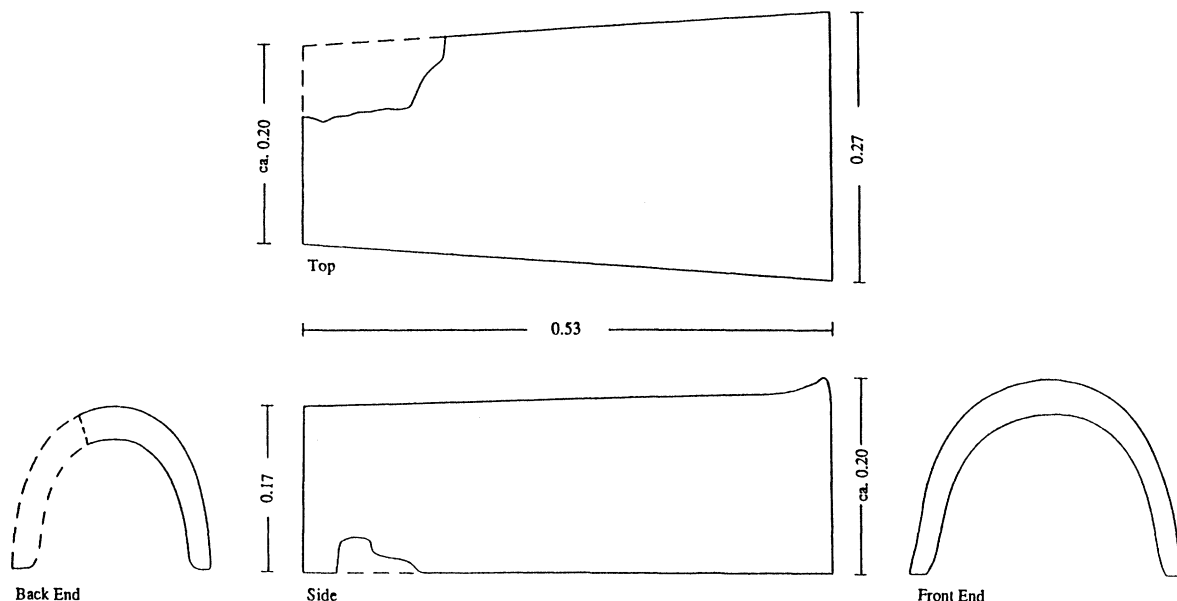


FIG. 5. Cover tile 3

fit over the narrower back end of the tile below.²⁵ The underside of the front end generally is not provided with a flange as are the pan tiles.

4. Fragmentary Lakonian-style ridge cover tile Fig. 6, Pl. 31:d

Gordion Inv. A 343. Building A Trench, Layer 6. Fieldbook 22, p. 97.

P.L. 0.211, p.W. 0.380, Th. 0.038, est. Diam. 0.50 m.

Part of one end preserved. Arched in section. Part of the rim of an arched side opening preserved along one edge. Interior rough, undecorated. Exterior slipped buff (10YR 7/4).

This type of tile is also decorated with a solid red or buff slip. The arched side opening, designed to fit over the back end of an uppermost cover tile, indicates deployment on a roof with arched cover tiles. Unfortunately, of the six extant pieces of this type,

none preserves enough of the side opening to establish its diameter for comparison with cover tiles like 3. Nevertheless, the fabric and finish make it likely that these ridge tiles are from the same workshop and belong to the same type of roof as the 1–3 ensemble.

Aside from the rim, designed to receive a cover tile, 4 can be identified as a “pipe” ridge cover on the basis of its thickness, which is greater than that of ordinary cover tiles like 3, and the large diameter of its curve, which can be estimated at roughly fifty centimeters (Fig. 6). Part of one end of the piece is preserved. Neither this fragment nor any of those from the same series preserves traces of a flange for over- or underlapping an adjacent tile, as one might expect in the usual Greek Lakonian style.²⁶ Rather, just as on cover tile 3, each ridge tile seems to overlap its neighbor by tapering, growing wider at one end to fit over the narrower end of the next tile.²⁷ The length of the tile along the ridge beam can be restored

²⁵ This is a normal means of overlapping for Lakonian-style cover tiles (Wikander 1988, p. 211; Winter 1993a, p. 108).

²⁶ Wikander 1988, p. 213, figs. 5L2, 5L3; Winter 1993a, p. 109, fig. 11:b.

²⁷ Overlapping of arched ridge tiles by means of tapering rather than rabbeting at the ends was not common in Archaic Greece or Anatolia. It occurs on the Temple of Hera at Olympia (Winter 1993a, p. 136) but apparently is known elsewhere only in Archaic Latium (Wikander 1988, p. 213).

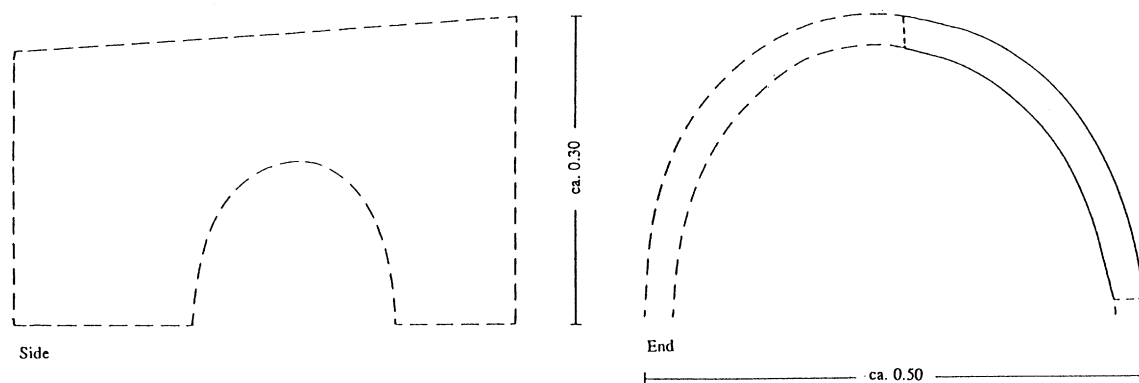


FIG. 6. Ridge cover tile 4

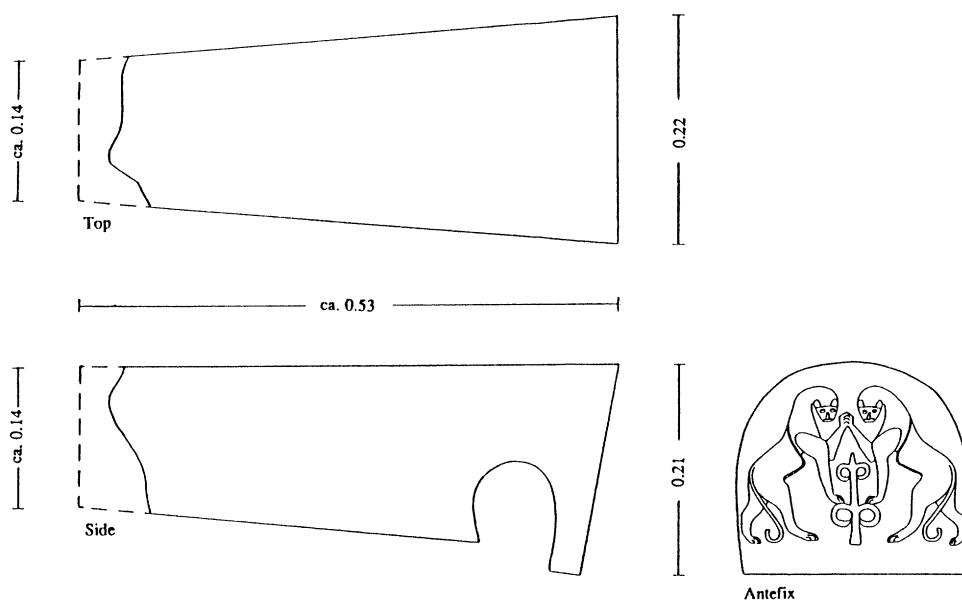


FIG. 7. Bottom cover tile and antefix 5

as 44 cm. (the spacing of the pans center to center, based on their maximum width) plus the amount needed for overlapping. The latter is not known, and thus no measurement for length appears in Figure 6. The illustration arbitrarily represents the tile as *ca.* 50 cm. long.

5. Fragmentary arched cover tile Fig. 7, Pl. 32:a, b and antefix

Gordion Inv. A 172. Trench Q1, Level 4, Cellar. Fieldbook 60, p. 134.

P.L. 0.500, lower W. 0.225, est. upper W. 0.14, H. antefix 0.212, est. Th. cover 0.025.

Back end broken away. Cover proper arched in section and narrowing in diameter toward back. Antefix face decorated in relief with two felines *en face*, arranged heraldically to either side of a "tree of life", one paw raised, the other resting on the lowest volute tendril. Cover walls cut out just behind antefix. Interior cover walls smoothed to height of *ca.* 5 cm., remainder rough, undecorated. Antefix and cover slipped red (10R 4.5/5) and lightly burnished.

Cf. Åkerström 1966, pls. 69:1, 82:1.

The motif on the antefix has been published by Åkerström,²⁸ who provides iconographic analysis of this and the several other heraldic animal compositions on the Gordion tiles. He dates them to the 5th century B.C. The rest of the cover-tile backer (Pl. 32:b), however, was not discussed there.

Antefixes with this heraldic feline composition most frequently are decorated with a solid red or buff slip.²⁹ The length and general proportions of the attached covers are similar to those of cover tiles like **3** (although the width and height of the latter are somewhat greater), and the cutouts in the cover walls indicate deployment with spouted eaves tiles like **1** (see below). All these tiles are thus taken to be products of the same workshop and to be elements of the same type of roof.

The front opening of each bottom cover tile was closed by an antefix, the face of which forms an 80-degree angle with the top of the cover-tile backer. The raised front edge of the eaves pans (cf. **1** above) required that rounded cutouts be let into the lower sides of the bottom cover tiles just behind the antefix (Fig. 7). The cutouts correspond in height and width to the size of the raised edge and thus allow the covers to fit snugly over it. Locked in place in this way, the eaves covers probably could have withstood dislodgment by even a very strong wind. Thirty-three fragments of such feline antefixes are preserved. Another thirty-four pieces, of the same fabric, dimension, and design but decorated on the antefix face with one or more painted oblique squares, could also have belonged to this sort of roof.³⁰

THE SPOUTED-EAVES-TILE ROOF

DESIGN

As mentioned above, the five tiles discussed here were recovered from widely scattered areas of the excavation and thus probably do not belong to the same actual building. They are, however, representative of types that can be associated on the basis of fabric, decoration, and dimension and also on the basis of their interrelated functions. Terracottas of these kinds were common at Gordion (483 catalogued pieces); they make up about twenty-five percent of all extant tiles from the site. They have been recovered from all sectors of the Citadel Mound as well as from the Küçük Hüyük, the smaller mound to the southeast of the main mound (Fig. 1; see below). One suspects, then, that this particular combination of tiles was used for a number of different buildings at Gordion.³¹

A partial, schematic reconstruction of the roof system represented by **1–5** appears in Figure 8. The roof was “hybrid”,³² i.e., a combination of the traditional Corinthian and Lakonian systems, using flat pan tiles, arched cover tiles, and an arched Lakonian-style ridge cover “pipe”, but at the eaves, this system used tiles with an upturned front edge and central

²⁸ Åkerström 1966, pp. 151, 159–160.

²⁹ The buff types occasionally have black and red linear details and spots on the felines, as in Åkerström 1966, pl. 82:1.

³⁰ Antefix with single oblique square: Åkerström 1966, pl. 80:1. A single, unpublished antefix has four oblique squares (Gordion Inv. A 201, from Trench TBT-6b, Level 5). All semicircular end cover tiles or antefixes from Gordion use side cutouts. There is no evidence for the arrangement shown by Åkerström (1966, p. 233, fig. 72:3), which depicts a normal Lakonian-style antefix designed to overhang the eaves tiles (cf. Winter 1993a, p. 99, fig. 11:a, b).

³¹ See Åkerström 1966, p. 149. The use of the same roof on more than one building is contrary to normal practice in Archaic Greece, where a tiled roof generally was designed for a single, usually sacred, building (Winter 1993a, pp. 3–4). But such usage was not uncommon in Anatolia, where tiles were employed to cover nonsacral as well as sacral architecture (Winter 1993a, p. 233; *SardisMon* 5, p. 9 and *passim*).

³² Åkerström 1966, pp. 11, 197, fig. 64:3, 4.

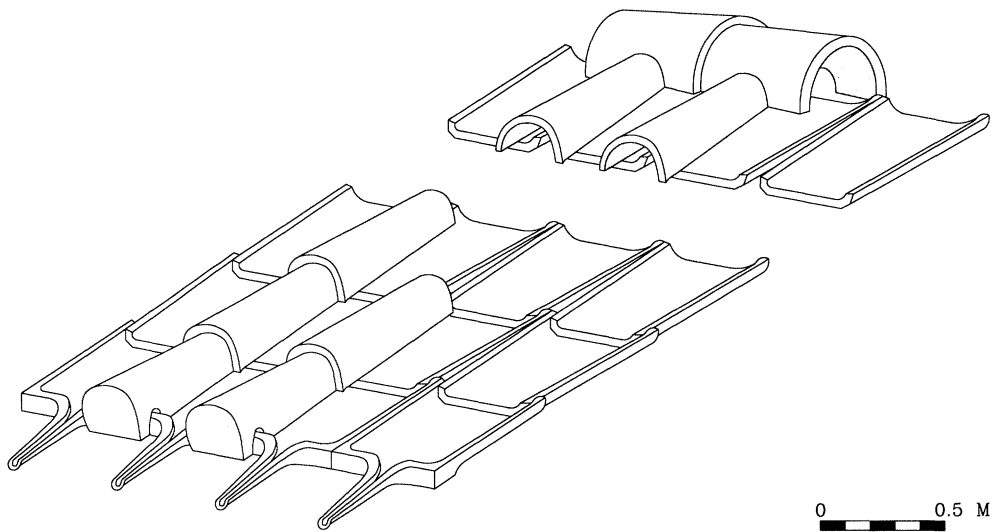


FIG. 8. Roof system 1–5, suggested reconstruction

spout rather than normal Corinthian-style eaves tiles.³³ In addition, rather than normal Lakonian-style antefixes designed simply to overhang the eaves tiles,³⁴ cutout antefixes were used, designed to clamp over and hang in front of the upturned front edge of the eaves tiles. This arrangement thus resembles a composite of Corinthian-style pan tiles, Lakonian-style antefixes, and the more Anatolian practice of using a lateral sima.³⁵

Tiles of this roof system were painted either red or buff. It is impossible to know for certain whether whole roofs were made up of tiles of one color only or whether bichrome schemes occurred. The latter is at least possible, as suggested by some unpublished hybrid combination tiles from the site, which comprise red-painted Corinthian-style pan tiles attached to white-painted Lakonian-style cover tiles.³⁶ Tiles of alternating colors may have been used to create a checkerboard or other pattern over the expanse of the roof. Similar bichrome roofs were known in the 6th century at Sardis and Pazarlı.³⁷ The use of polychromy on architectural tiles was an old tradition, dating back to the very inception of tile technology on the Temple of Apollo at Corinth.³⁸

³³ Cf. Winter 1993a, p. 25, fig. 3:a, b.

³⁴ Cf. Winter 1993a, p. 99, fig. 11:a, b.

³⁵ Akurgal (1955, pp. 71–72) describes the similar system at Neandria as a “Kompromisslösung” between Greek and Anatolian tile systems. A clear distinction should be maintained between a spouted eaves tile and a lateral sima (cf. note 20 above). The latter eliminates the need for antefixes by fully covering the front opening of the bottom cover tiles. The former requires the use of antefixes because the “pseudo lateral sima” is not tall enough to protect the opening of the bottom cover tiles.

³⁶ Uninventoried, from a collapsed scarp near “Building Q”, Fieldbook 169.

³⁷ Ratté 1994, p. 369; Koşay 1941, p. 14.

³⁸ Wikander 1988, p. 207; Winter 1993a, p. 16; see note 5. A Geometric terracotta temple model from Aitos in Ithaca has a bichrome checkered roof (Robinson 1984, pp. 58–59). The steep pitch of the roof makes it

It has proved impossible thus far to associate the spouted-eaves roof system with specific buildings at Gordion. The scattered contexts of the tiles are frequently disturbed and generally undiagnostic. A number of buildings on the site conceivably could have carried such a tiled roof. Most of the buildings are large; roughly ten by twenty meters is a typical size (Fig. 2). All are rectangular, the footprint most easily covered by a modular system of rectangular tiles,³⁹ and most have massive rubble foundations bedded deep in the postdestruction clay, possibly in preparation for supporting the excessive weight of a tiled roof and its accompanying timbers. But the buildings frequently are preserved only to the extent of their foundations or robbed wall trenches. Structural evidence with which the tiles could possibly be integrated, e.g., interior supports, cornice blocks with rafter cuttings, or well-preserved beams from the roof tree, is totally lacking.

The morphology of the roof invites some speculation. The eaves tiles, each with a spout *ca.* 33 cm. long, were designed to shed water in concentrated streams well away from the eaves. One suspects that the walls below must have been particularly susceptible to damage from water, i.e., that they were made at least in part of mud brick.⁴⁰ The use of long spouts might also imply that the eaves did not much overhang the vertical wall face below, or else there would have been no need for the spouts.⁴¹ There is no further evidence from Gordion itself for or against these assertions, but the lack of overhanging eaves would at least be consistent with what is known about the appearance of "Phrygian" architecture from the familiar Highland rock-cut façade monuments.⁴²

No fragments of raking sima have been identified for the spouted-eaves-tile roof, a surprising circumstance given the large number of preserved pieces in the group. This roof system might not have used a raking sima on its pediments, perhaps relying instead on the raised side edge of the last row of pan tiles to prevent water from seeping over the raking eaves. Or perhaps the roof was deployed on a building without pediments, as in a hipped or shed arrangement. Such arguments from negative evidence, however, are inconclusive.

There is a series of revetment plaques at Gordion comprising a decorated vertical panel attached to an upper, horizontal shelf.⁴³ Such revetments were designed to be nailed onto and thus protect horizontal wooden beams within a vertical wall. Four varieties are made from the same buff fabric as tiles 1–5: the "4 square" panel;⁴⁴ the checkerboard panel;⁴⁵ the heraldic "lion and bull" panel;⁴⁶ and the "chariot hunt" panel.⁴⁷ These revetments may have been used on the same buildings as was this roof system, but their exact structural

unlikely that actual clay tiles are represented (Wikander 1988, p. 205, note 21), although the model might suggest an older tradition of roof decoration using painted or criss-crossed thatch or wooden shingles.

³⁹ Wikander 1988, p. 207.

⁴⁰ The use of mud brick in wall construction, particularly with the addition of half-timbered frames, was typical of Phrygian building technique. See *PECS*, 1976, *s.v.* Gordion, p. 360 (R. S. Young); Young 1953, p. 161; *idem* 1956, p. 255; *idem* 1958, pp. 140–141; *idem* 1960.

⁴¹ Cf. Cummer 1970, p. 42.

⁴² See, e.g., Haspels 1971, figs. 8, 14, 84, 189.

⁴³ Åkerström 1966, pp. 138, 149.

⁴⁴ Åkerström 1966, pl. 80:2.

⁴⁵ Åkerström 1966, pl. 84:3.

⁴⁶ Åkerström 1966, pl. 86:1–3.

⁴⁷ Åkerström 1966, pl. 75.

position is uncertain. They might have sheathed the horizontal geison, as a combination spouted eaves tile/revetment plaque from Düver suggests.⁴⁸ They could also have covered a wooden element at any height within a wall.

DATE

There is evidence for the date of this roof system at Gordion, independent of the chronological controversy surrounding the rebuilding of the city.⁴⁹ Spouted eaves tiles and pan tiles of the same fabric and design as **1** and **2** were recovered in the 1950's on the Küçük Hüyük (Fig. 1) in association with a layer of destruction debris.⁵⁰ That level, with its burned mud-brick "barracks", fortification walls, and abundant mid-6th-century Lydian and Attic pottery, has been interpreted as the remains of a Lydian garrison taken in a siege by the Persians during their march to Sardis *ca.* 547 B.C.⁵¹ Not many tiles were found there, certainly not enough to be interpreted as a roof fall, and consequently the tiles cannot be attributed with any certainty to specific buildings.⁵² Machteld Mellink's field notes make it clear, however, that the tiles derive either from the destruction level or from a layer of clay (possibly part of a tumulus or siege mound) already being heaped over the area when the fire struck. The mid-6th-century date established for the destruction by ceramic evidence and historical considerations should, therefore, serve as a *terminus ante quem* for the tile types in this context.⁵³ Unfortunately, it cannot be ascertained from the context exactly when this style of roof began to be used or how long it persisted at Gordion.⁵⁴ At the very least, the evidence from the Küçük Hüyük helps to substantiate the suggestion that Gordion was using roof tiles by the middle of the 6th century B.C. and supports an upward revision of Åkerström's chronology.

No examples of cutout Lakonian-style antefixes have been preserved from the Küçük Hüyük, nor have any been identified from datable contexts elsewhere at Gordion. But the other types of tiles, *viz.* spouted eaves tiles, that do survive from the Küçük Hüyük make it virtually certain that such antefixes were used there as part of this roof system. Therefore, not only was the feline antefix **5** probably in use by the mid-6th century but so, possibly, were two other antefixes mentioned above, i.e., the ones decorated with one or more painted lozenges.⁵⁵ Two other types of semicircular antefix, one decorated in relief with a walking

⁴⁸ See notes 71–74 below.

⁴⁹ See notes 13 and 14 above.

⁵⁰ The finds are described by the excavator, M.J. Mellink, in Fieldbooks 24, 65, 75, and 97. Cover tiles like **3** were also recovered but not certainly from the destruction level.

⁵¹ Young 1953, pp. 165–166; *idem* 1968, pp. 31–34; Sams 1979a, p. 6; *idem* 1979b, p. 48; DeVries 1988, p. 53; *idem* 1990, p. 392; Mellink 1988, p. 228; *eadem* 1991, pp. 629, 647, 653.

⁵² Most of the fragments, however, were recovered in the vicinity of "Room 1" of the "barracks" (cf. Young 1953, p. 161, fig. 3).

⁵³ As suggested by Mellink on p. 64 of Fieldbook 97.

⁵⁴ A general *terminus post quem* for the tiles could be established by the date of construction of the Küçük Hüyük, but suggestions for that date have ranged from the early 7th century or 7th century in general (Edwards 1959, p. 264; Mellink 1991, pp. 629–630, 653) to the early 6th century (Young 1957, p. 324; *idem* 1958, pp. 140–141; *idem* 1960, p. 7), much too broad a range to be useful for dating the tiles.

⁵⁵ See note 30 above. Åkerström 1966, pl. 80:1, dated on p. 151 to the second half of the 6th century B.C.

griffin,⁵⁶ the other with a painted star,⁵⁷ have the same cutout design and thus belonged to the same type of roof, but they are made from other distinct fabrics and probably represent different roofs.

Although **1** represents the most common type of spouted eaves tile at Gordion, at least three other varieties were used at the site. These share the same basic design, i.e., a flat pan with raised front edge and drainage spout, but differ from **1** either in fabric, dimension, or surface treatment. The most elaborate variety,⁵⁸ shown in Plate 32:c, is made of a coarse gray fabric easily distinguishable from the buff fabric of **1**. The full width can be restored at *ca.* 44 cm., generally matching that of tile **1**. But the U-shaped spout of **1** here takes on a tubular shape (at least for the first 14 cm., where the break occurs), and the pseudo lateral sima is no longer smooth but is articulated by two square horizontal margins framing a central recess. Since all fifty-one of the spouted eaves tiles of roof system **1–5** are of standardized form, variations like the tile in Plate 32:c are taken to be components of roofs similar to but distinct from that in Figure 8. Considering also the varieties of antefix just discussed, at least six different spouted-eaves-tile roofs can thus be distinguished at Gordion.

COMPARANDA

The roof design represented by tiles **1–5** was not common in antiquity. It does not occur in mainland Greece⁵⁹ and is known elsewhere in Anatolia only at Neandria, Sardis, Düver, and Pazarlı. At Neandria spouted eaves tiles, pan tiles, semicircular antefixes, raking simas, “pipe” ridge cover tiles, and a possible disk akroterion were recovered during German excavations in 1889.⁶⁰ The eaves tiles are rectangular, and the low pseudo lateral sima is pierced by a short, U-shaped spout. The pseudosima face is articulated along the top by a raised margin, somewhat reminiscent of the Gordion tile in Plate 32:c. This molded face extends slightly beyond the edges of the pan-tile backer, providing narrow panels for snug abutment, as on Gordion tile **1**. The plain pan tiles, 53 cm. wide by 84 cm. long, are flat with upturned side edges. The Lakonian-style antefixes, 26 cm. wide and 20 cm. high, are decorated with a feline head and paw in relief, and with a row of projecting triangular teeth around their circumference. The attached cover-tile backers must have been cut out in some way in order to accommodate the raised front edge of the eaves tiles, but this feature is not described in the publication.⁶¹ The raking sima carries a chariot scene in relief, above which is a Lesbian cymation and a row of projecting triangular teeth. The arched ridge cover tiles are 40 cm. in diameter.

These tiles, as well as fragmentary Aiolic capitals, were recovered in association with a small temple. Its date, however, depends solely on stylistic appraisal of the terracottas. Good

⁵⁶ Åkerström 1966, pp. 140, 147, pls. 69:2, 82:2.

⁵⁷ Unpublished, Gordion Inv. A 174, from Trench Q2, Layer 4, Fieldbook 46, p. 84.

⁵⁸ Unpublished, Gordion Inv. A 249, from Trench TB7-F, Floor 5, Fieldbook 118, p. 84.

⁵⁹ Spouted eaves tiles do occur, however, in Sicily and in southern Italy. See Winter 1993a, p. 280, notes 33–34.

⁶⁰ Koldewey 1891; Åkerström 1966, pp. 8–13, pls. 3, 4; Winter 1993a, pp. 237, 246, 250, 251–52.

⁶¹ The drawing in Koldewey (1891, p. 46; Åkerström 1966, pl. 3:1) depicts an antefix resting on the top of the pseudo lateral sima but does not indicate whether the rest of the cover-tile backer also stopped at this level or perhaps continued down to the eaves-tile floor. Neither scenario is likely. Probably the cover-tile backer was fully cut out so as to clamp over the sima. For similar criticism of the drawing, see Le Roy 1967, p. 128.

parallels are lacking, so that the traditional date of *ca.* 575–550 B.C., while possible, is not well grounded.⁶² A slightly lower date also could be argued, based on the occurrence of similar chariot motifs and projecting triangular teeth on tiles at Larisa, Sardis, and Temnos around the middle or in the third quarter of the century.⁶³ A date anywhere in the second or third quarter of the 6th century is suggested for the Neandria spouted-eaves-tile roof.

A single possible example of a spouted eaves tile has been published from Sardis.⁶⁴ Only a part of the sima wall and the stump of the spout are preserved. The surface is slipped white and decorated with a curling black tendril. A torus painted with black and red panels runs along the base of the “sima”, while the soffit is painted with a black-and-red tongue pattern on a white ground. The fragment originally was identified by Andrew Ramage as a normal lateral sima. Nancy Winter, however, has suggested that the piece is from a spouted eaves tile and has dated it *ca.* 560–550 B.C. based on the appearance of the tongue pattern.⁶⁵ Owing to the fragment’s poor state of preservation neither Ramage’s nor Winter’s identification is certain. Nothing about it is exclusively diagnostic of either a spouted eaves tile or a true lateral sima.⁶⁶ The piece, therefore, should not be counted as evidence for this kind of roof, or for its date, at Sardis.

It is virtually certain, however, that spouted eaves tiles were in use at Sardis. Plate 32:d shows a fragmentary spouted eaves tile recently brought to the Sardis excavation house from a nearby field by a local villager.⁶⁷ The characteristic U-shaped spout and the square horizontal margins on the pseudo lateral sima are similar enough to the Gordion fragment in Plate 32:c, and to the pieces from Neandria,⁶⁸ to suggest that the fragment is ancient. Unfortunately, nothing is known about the date or context of this singleton. It must have belonged to a roof with cutout antefixes, but to what degree the remainder of the roof was similar to the Gordion roof shown in Figure 8 is unknown.

Further evidence for a spouted-eaves-tile and cutout-antefix roof from Sardis possibly exists in a small fragment of a Lakonian-style antefix published by Ratté.⁶⁹ The lower right corner of the piece is preserved. The back is smooth and shows no trace along its curved

⁶² Older opinions considered the tiles “more advanced” than those of the Heraion at Olympia and dated them consequently after *ca.* 580 B.C. (Koldewey 1891, p. 49; Dinsmoor 1975, p. 62 note 2; Betancourt 1977, pp. 71–73), but the roofs are of different types, and the comparison meaningless. The Lesbian molding on the raking sima has been judged “more primitive”, and therefore earlier, than moldings on tiles from the Old Palace at Larisa, dated *ca.* 550 B.C. (Betancourt 1977, p. 73; date of the Old Palace, Schefold 1978), but too little is preserved of the Neandria sima for accurate comparison. The antefix motif has been compared to a sphinx head on the altar of the Heraion at Samos, dated *ca.* 560 B.C. (Winter 1993a, p. 250). Similar motifs, however, occur over a wider range of dates (see Åkerström 1966, pp. 11–12).

⁶³ Larisa, tiles from the Old Palace and the Temple of Athena: Åkerström 1966, pp. 51–61, pls. 19, 21–27, 28:2; Winter 1993a, pp. 237–238. Sardis, raking sima: Åkerström 1966, pp. 70, 90–91, pl. 39:1; *SardisMon* 5, nos. 7, 9, pp. 17–18, figs. 38, 40; Winter 1993a, p. 238. Temnos, lateral sima: Åkerström 1966, pp. 37–42, pls. 13–15; Winter 1993a, p. 242. The dates of these tiles also depend on stylistic considerations.

⁶⁴ *SardisMon* 5, no. 41, pp. 25–26, figs. 79–82; Winter 1993a, p. 251.

⁶⁵ Winter 1993a, p. 251.

⁶⁶ Thanks are owed to Crawford H. Greenewalt Jr. for permission to study this and other pieces at Sardis.

⁶⁷ Uninventoried. The piece is illustrated here with the kind permission of Greenewalt.

⁶⁸ See note 60 above.

⁶⁹ Ratté 1994, no. 30, p. 382, pl. 88.

edge of a join between cover-tile backer and antefix face. Probably the smooth finish along the edge indicates the position of a cutout, thus suggesting that this antefix was deployed over a spouted eaves tile with an upturned front edge. Ratté estimated the full diameter of the antefix to have been *ca.* 25 cm. The piece can be dated before *ca.* 560–550 B.C. on the basis of its archaeological context.⁷⁰

Spouted eaves tiles, cutout bottom cover tiles, revetment plaques, raking and lateral simas, and “pipe” ridge cover tiles were found in the early 1960’s near Düver in Pisidia during illicit excavations.⁷¹ Some of the eaves tiles⁷² are remarkable in having a revetment plaque attached to the underside along the front edge but otherwise are of a form similar to pieces described above. The pan-tile backer is flat with upturned side edges. Its width is 44.5 cm., and its raised front edge is pierced by a U-shaped spout. A date for this variety of spouted eaves tile can only be estimated from the style of the figural decoration on the attached revetment plaques, which show a horseman preceded by a walking griffin. The facial features of the rider are similar to those of a male figure, the so-called Lydian Dandy, on a tile from Sardis probably made in the second quarter of the 6th century.⁷³ The pose and trappings of the horse and the form of the griffin are paralleled in Chiot and Klazomenian pottery painting of the middle and third quarter of the 6th century.⁷⁴ A date in the second or third quarter of the century seems warranted for the tiles.

Another variety of spouted eaves tile from Düver is similar but lacks the attached revetment plaque.⁷⁵ The pan is 46–47 cm. wide and 65 cm. long; the side edges are 9 cm. high. A “bridge” of sorts runs across the U-shaped spout at its point of attachment to the pseudo lateral sima. The bridge is abbreviated to each side, leaving space for the bottom cover tiles, and is decorated with a horizontal row of relief “teeth” surmounted by a torus painted with bands. The best estimate of the date of this variety is Winter’s suggestion of 550, or 550–540 B.C., based on the appearance of the “teeth” motif. Parallels occur in Rhodian pottery painting of the mid-6th century.⁷⁶

On a third variety of spouted eaves tile from the site a similar bridge comprises a simple square molding.⁷⁷ The pan element is 44 cm. wide and 64 cm. long. The spout, 32 cm. long,

⁷⁰ Fragments of tiles, including the antefix, were recovered in the 1980’s from the rubble fill packed behind a monumental terrace wall, as well as from the earth piled up against its foundations during construction, in Sector ByzFort at Sardis. The construction of the terrace is dated by Ratté (1994, p. 366) *ca.* 560 B.C. or a bit later, thus providing a *terminus ante quem* for the tiles reused in the fill. Stylistic considerations on some of the better-preserved pieces suggested to Ratté a *post quem* date of *ca.* 570 B.C. for all the tiles from this context (Ratté 1994, pp. 383–384; cf. Billot 1980, pp. 292–293).

⁷¹ Åkerström 1964; *idem* 1966, pp. 218–221, figs. 70, 70:a, 75; Thomas 1965; Greifenhagen 1966; Trichon 1967; Cummer 1970; Mayo 1981; Winter 1993a, pp. 234–254.

⁷² Mayo 1981, pp. 30–32, figs. 3–17. Thanks are owed to Margaret E. Mayo for permission to study tiles from Düver now in the Virginia Museum of Fine Arts, Richmond.

⁷³ Åkerström 1966, p. 95, fig. 29:2; *SardisMon* 5, no. 2, pp. 15–16, frontispiece and fig. 33; Billot 1980, pp. 272–273.

⁷⁴ Åkerström 1964, p. 53; *idem* 1966, pp. 218–221; Thomas 1965, p. 70; Trichon 1967, p. 353; Winter 1993a, pp. 244–245.

⁷⁵ Cummer 1970, p. 32, fig. 5.

⁷⁶ Winter 1993a, p. 242.

⁷⁷ Johansen *et al.* 1994, no. 185, p. 237 (Ny Carlsberg Glyptotek, IN 3494); Mayo 1981, p. 34, fig. 24 (J. Paul Getty Museum, 77.AD.63-2). Thanks are due to Claus Grønne and Karol Wight, respectively, for information about the tiles in Copenhagen and Malibu.

forms a tapering U-shaped channel decorated on its underside with black, red, and white lateral bands. This type of tile cannot be dated by any external means, although its design and scale are close enough to the previous examples to suggest general contemporaneity.

The bottom cover tiles from Düver are arched, 65–66 cm. long, and cut out at the front end for locking onto spouted eaves tiles.⁷⁸ The semicircular antefix faces are 19–24 cm. wide and 13–16 cm. high. The contour edge carries a series of painted bands. The face is decorated in relief with a three-, five-, six-, or seven-lobed palmette above a pair of volutes and with a battlement motif along the bottom edge. The ridge cover tiles⁷⁹ are arched, 36.5 cm. in diameter, 22.5 cm. high, and 42 cm. long, and, like those at Gordion, have arched openings cut in their side walls for the uppermost covers. A broad white stripe decorates the length of the tiles along the top. Both ends of these tiles are smooth, i.e., not flanged, and as no mention of tapering is made in the publication, it is uncertain how the tiles overlapped along the gable peak.

Spouted eaves tiles, bottom cover tiles with antefixes, hybrid-system pan and cover tiles, and revetment plaques were recovered at Pazarlı, within the bend of the Halys River, during Turkish excavations of 1937–1938.⁸⁰ The brief publication discusses the figural revetments in some detail but the plain tiles hardly at all, so that a roof system like that represented by Gordion tiles 1–5 cannot be well documented. The existence of spouted eaves tiles at the site can be surmised only from a brief reference in the publication and from a reconstructed drawing.⁸¹ On display in the Alaca Hüyük museum, however, is a U-shaped waterspout from Pazarlı, the form and red slip of which are similar to Gordion tile 1. The fragment is almost certainly from a spouted eaves tile. Whole examples of Corinthian-style pan tiles and Lakonian-style cover tiles are preserved.⁸² Some appear from photographs to have overlapped by means of tapering, as did the Gordion pans and covers. The bottom cover tiles, attached to antefixes decorated with heraldic griffins or deer, were in all likelihood cut out in order to fit over the raised front edge of the spouted eaves tiles.⁸³ The size of the antefixes can be estimated at 20 cm. wide and 17 cm. high.⁸⁴ The date of this roof depends entirely on stylistic appraisal of the numerous revetment plaques, which show a delightful but confusing blend of Near Eastern and Greek features. Most scholars place these pieces in the 6th century, with a number favoring the middle of the century or the third quarter.⁸⁵

⁷⁸ Thomas 1965, pp. 69–70, figs. 8–14; Cummer 1970, p. 33, fig. 5, pl. 4:3.

⁷⁹ Cummer 1970, p. 36, fig. 7, pl. 7:1.

⁸⁰ Koşay 1941; Åkerström 1966, pp. 161–189, pls. 87–96.

⁸¹ Koşay 1941, p. 16 and pl. 40.

⁸² Koşay 1941, pl. 17. Dimensions are not given.

⁸³ Koşay 1941, pl. 40; Åkerström 1966, pl. 87:1. This reconstructed drawing is at variance in several respects with the comparative evidence for roofs of this type. The bottom cover tiles are shown with a simple overhanging antefix rather than a full cutout. These covers do not rest on the floors of the eaves tiles but on their suggested raised front and back edges, and the spouted eaves tiles are shown only at the corner of the building, rather than along the entire length of the eaves. One wonders how water would have been conducted laterally in order to drain only from the corners and how water would have been prevented from seeping into the joints between eaves tiles. For other problems with this drawing, see Akurgal 1955, p. 87.

⁸⁴ Åkerström 1966, p. 165.

⁸⁵ Schefold 1950, p. 147; Akurgal 1955, p. 80; Winter 1993a, p. 250; cf. Åkerström 1966, pp. 169–189, where a late-6th-century date is suggested.

CONCLUSIONS

From this brief survey, it is clear that comparative evidence for Gordion's spouted-eaves-tile roof design is scattered and sometimes fragmentary. But limited as the evidence is, the tiles from Neandria, Sardis, Düver, Pazarlı, and Gordion nevertheless demonstrate a certain degree of homogeneity in design and scale. One notes the use of horizontal moldings on the *sima* faces at Neandria, Sardis (Pl. 32:d), Düver, and Gordion (Pl. 32:c); the recurring width of *ca.* 44–47 cm. for the eaves tiles as well as the matching lengths of the spouts at Düver and Gordion; the similar sizes of the ridge cover tiles at Neandria, Düver, and Gordion; and the roughly similar sizes of the antefixes from all five sites. Further, where evidence is available, the dates of the tiles at these sites cluster around the mid-6th century B.C. The Neandria and Düver pieces can be dated tentatively to the second or third quarter of the 6th century, the Pazarlı fragments to the middle of the century or the third quarter,⁸⁶ and the antefix from Sardis and the Gordion fragments from the Küçük Hüyük can be dated by stratigraphic context before the mid-6th century.⁸⁷ These similarities in design and date over such widely separated geographic regions suggest a sort of roofing *koiné* spanning western and central Anatolia around the middle of the 6th century B.C.

The existence of such an architectural *koiné*, the membership of which could conceivably grow as the result of future publications and excavations, is understandable in light of the broader history of Anatolia in the first half of the 6th century B.C. At some point after the collapse of the Phrygian kingdom *ca.* 700 B.C., much of western and central Anatolia was taken over by the emerging Lydian state under the Mermnad dynasty. Herodotos (1.28) states that by the time of Kroisos most of the peoples west of the Halys River, including the Phrygians, were under Lydian control. The Lydians may have expanded eastward into Phrygia even earlier, possibly in the reign of Alyattes, who, having driven the Kimmerians out of Asia once and for all (Herodotos 1.16), could have taken over the former domain of King Midas.⁸⁸ Conceivably it was Alyattes, or even an earlier Lydian king, who set up the Lydian garrison on the Küçük Hüyük.⁸⁹ Lydian pottery recovered from the Citadel Mound, as well as coins very likely minted at Sardis, probably was introduced at Gordion as the result of expanding Lydian commercial interests, if not necessarily by resident Lydians.⁹⁰ Both historical and archaeological evidence thus suggest that Gordion, by the first half of the 6th century B.C., was falling under the broader cultural influence of the Lydian kingdom.

The similarity between Gordion's spouted-eaves-tile roof and those at other sites can probably be taken as further testimony to Gordion's assimilation into the larger Lydian sphere. But where did this roof design originate? The finds from Neandria and Sardis raise the possibility that the type was at home in western Anatolia. The Lydian capital of Sardis was a center for the production of architectural terracottas in the 6th century and is thought

⁸⁶ See notes 62, 63, 73, 74, 76, 85 above.

⁸⁷ See notes 70, 51, 53 above.

⁸⁸ Sams 1979a, p. 6; DeVries 1990, p. 392; Mellink 1991, p. 647.

⁸⁹ See note 51 above.

⁹⁰ Pottery: Sams 1979a, pp. 9, 15; *idem* 1979b, p. 48; Mellink 1991, p. 646. Coins: Bellinger 1968; Sams 1979a, p. 16; DeVries 1988, p. 51; *idem* 1990, p. 391; Mellink 1991, p. 646.

to have played a major role in the dissemination of roof-tile technology in Anatolia.⁹¹ The coroplasts at Sardis and Gordion were clearly in contact with one another, as suggested by such tile types as the well-known “star and scroll” raking simas, the “tongues” lateral simas, and the lozenge-decorated pan and cover tiles from both sites.⁹² It might therefore make sense if the spouted-eaves-tile roof design at Gordion had been derived from Sardis, particularly since elements of this system were recovered from the putative Lydian garrison on the Küçük Hüyük.

This scenario, however, although possible, is based on historical assumptions regarding the nature of Lydian influence at Gordion and is supported only by the circumstantial evidence of the other tile types common to both Sardis and Gordion. In fact, there is little archaeological evidence for the date and frequency of this type of roof at Sardis, or elsewhere in western Anatolia, and thus no compelling reason to believe that this roof design traveled east into Phrygia with the Lydians.

Conversely, as far as can be determined from published archaeological evidence, Gordion has more examples of this type of roofing system (at least six, possibly more) than any other Anatolian site. The concentration of this roof style there and its occurrence at Pazarlı and Düver might suggest that it was a particularly inland-Anatolian phenomenon. One wonders if this was not a specifically “Phrygian” invention, and whether the finds at Gordion might not allow identification of a characteristically “Phrygian” style of roofing, as defined by tiles 1–5. Perhaps it was the Phrygians, in response to the needs of their particular style of architecture, who first developed the spouted-eaves-tile roof. The design could then have spread to other sites in Anatolia by means of Gordion’s participation in the Lydian cultural *koiné*. The similar roofs at Sardis and Neandria could then be seen as the result of influence moving east to west, with the Lydians again perhaps having served as the agents of dissemination.

Certainty, however, is beyond reach, and a Phrygian origin for this design must remain only a tentative suggestion. In the first place, the Gordion tiles do not hold any demonstrable chronological priority over those at Sardis. Second, the known examples of this roof design might not reflect the true pattern of its origin, use, and dissemination. The assemblage of tiles at Gordion is unusually well preserved in comparison to other Anatolian sites, so that the number of roofs of this type at Gordion is not statistically meaningful. At the same time, accident of preservation elsewhere cannot be ruled out, nor can the possibility that at other sites these types of tiles have not yet been recognized or published. But even if a Phrygian origin for this style ultimately proves untenable, this design does seem, on the basis of current evidence, to have been especially favored in that region.

The spouted-eaves-tile roof was not the only design used at Gordion. Corinthian-style roofs edged with raking and lateral simas were also popular.⁹³ It is to be hoped that future work with these other types of tiles will meet with similar success in isolating individual roofs. For the present, though, the system of tiles 1–5 represents the first identifiable whole roof

⁹¹ Winter 1993b.

⁹² Åkerström 1966, pls. 44:2, 83:3 (raking simas); pls. 49:1, 2, 83:1 (lateral simas); p. 69, fig. 20:1, 2, pl. 81:1, 2 (pan and cover tiles). Cf. Åkerström 1978.

⁹³ See note 92 above.

from the site and the only one for which stratigraphic evidence for the date is available. Tiles 1–5 are now the earliest types of roof tile attested at the site.

The tile industry at Gordion previously has been characterized as provincial and conservative, particularly when compared to more mainstream “Greek” tiles from western sites such as Larisa and Miletos.⁹⁴ Identification of the spouted-eaves-tile roof system at Gordion should begin to modify that view. The presence of this roof at the site by the mid-6th century brings Gordion out of provincial isolation and places her within a broader Anatolian setting. The roof testifies to a give-and-take of ideas and technology between Gordion and other Anatolian cities and raises the possibility that the Gordion coroplasts were inventors and trendsetters. At the very least, regardless of where the design originated, the roof demonstrates that Gordion tilemakers were avid participants in an architectural *koiné* resulting from the spread of the Lydian kingdom. As in many of her other minor arts, Gordion was fully in vogue with the latest tile style before the coming of the Persians.

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⁹⁴ Åkerström 1966, pp. 149–150; *idem* 1978, pp. 321–324.

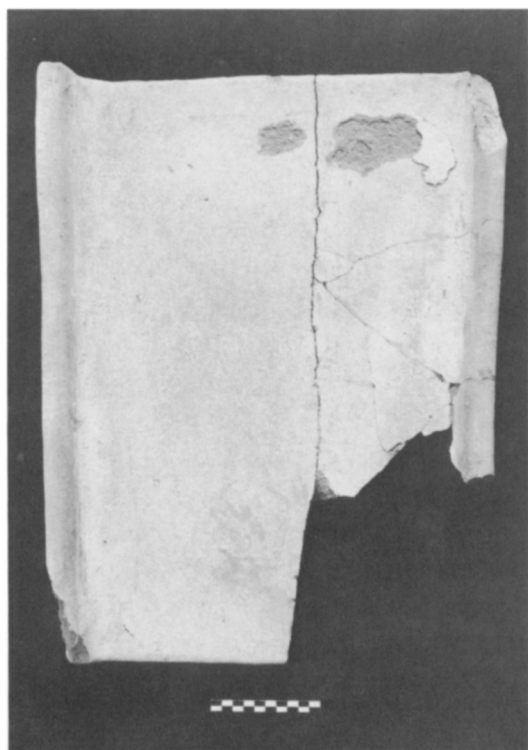
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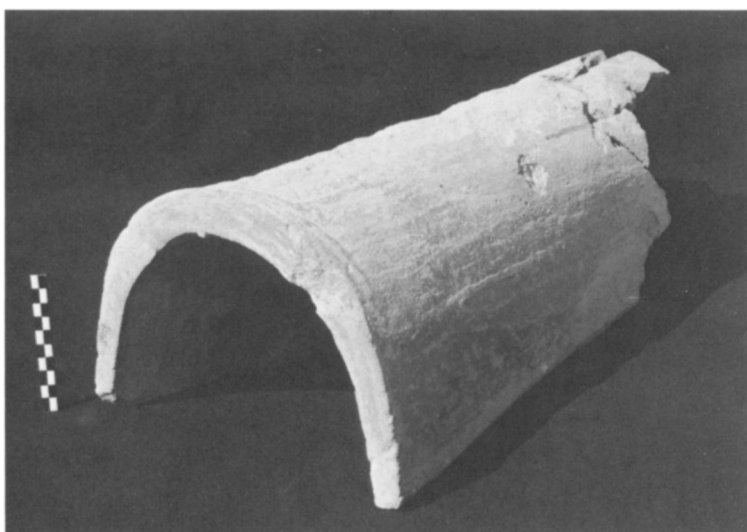
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a. Spouted eaves tile 1



b. Pan tile 2



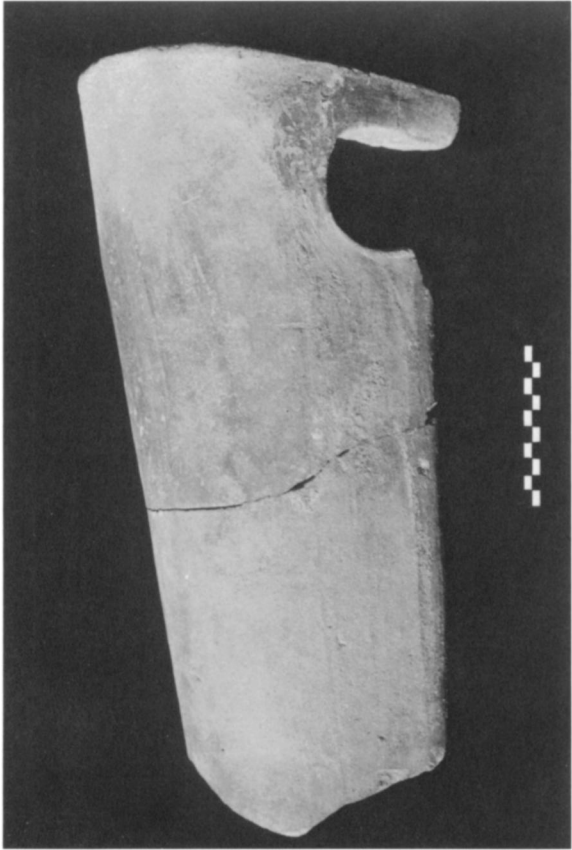
c. Cover tile 3



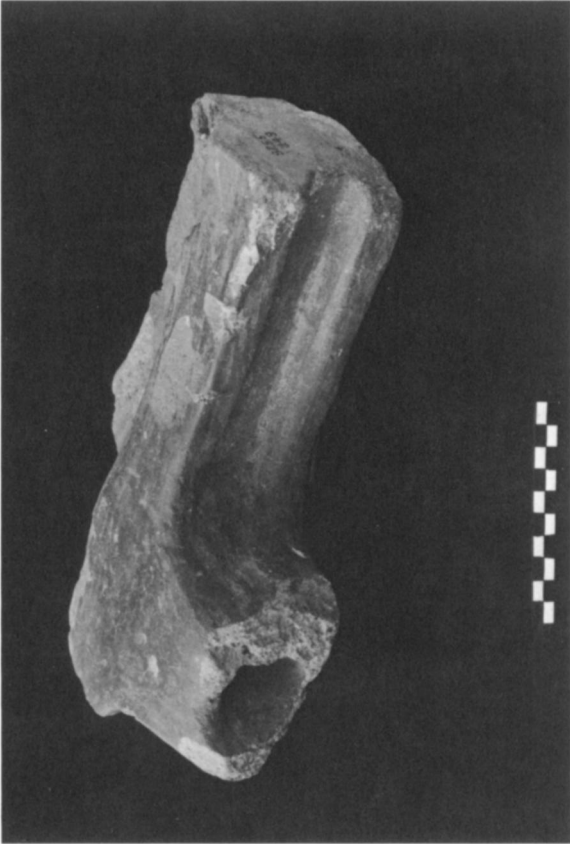
d. Ridge cover tile 4



a. Bottom cover tile and antefix 5, front view



b. 5, side view



c. Gordion: spouted eaves tile



d. Sardis: spouted eaves tile