

ARCHAIC ROOF TILES FROM THE HERAION ON SAMOS

(PLATES 20–22)

DURING THE PAST EIGHTY YEARS OF EXCAVATIONS in the precinct of the Heraion of Samos, tiles belonging to several Archaic roofs have been found.¹ Although the records of some tiles discovered before World War II have been lost, most of the tiles (or rather, fragments of tiles) have been extracted from well-stratified contexts for which full documentation exists. This is especially true in the case of finds made since Kyrieleis and Kienast took charge of the excavations in 1976.² The correct dating even of the stratified tile fragments presented a slight problem at first, because the contexts tend to be mixed or offer too wide a range. A few informative fragments could, however, be provided with a safe *terminus ante quem*; on these fragments rests the dating of complete roofs. I decided, therefore, first to classify the tiles typologically. I hope to show that at least some 40% of the resulting roof types may, with the help of the few “safe” examples, be put into chronological order and dated with a satisfactory degree of accuracy.

The tile fragments from the Heraion of Samos may be divided into a Laconian and a Corinthian class.

LACONIAN TILES

The Laconian tiles are comparatively thin, averaging 2–2.5 cm., with a minimum thickness of 1.2 cm. We may distinguish five groups: there are five types of pan tiles³ of different appearance as well as five types of cover tiles.

Pan Tiles

Pan tiles which have simple, straight edges, evenly cut off all around, I call “plain” pan tiles (Fig. 1). These are slightly tapering and so support each other just as do Laconian marble tiles, for example, those of the Oikos of the Naxians on Delos.⁴

¹ This is a preliminary report on my catalogue and reconstruction of Samian roof terracottas, which was started in 1978. I would like to thank K. Gödecken not only for her interest and subsequent analyses of the tiles but also for help with the English version of this short report. Thanks are due also to Irene Ring, who helped with the drawings.

Frequently cited works are abbreviated as follows:

Kyrieleis, 1981 = H. Kyrieleis, *Führer durch das Heraion von Samos*, Athens 1981

Kyrieleis *et al.*, 1985 = H. Kyrieleis *et al.*, “Ausgrabungen im Heraion von Samos 1980/81,” *AA (JdI)* 100, 1985, pp. 365–450

² See Kyrieleis, 1981, esp. p. 57.

³ Greek: *stroteres*, *pace* M.-Chr. Hellmann (“A propos d’un lexique des termes d’architecture grecque,” in *Comptes et inventaires dans la cité grecque. Actes du Colloque international d’épigraphie tenu à Neuchâtel . . .*, Neuchâtel 1988, pp. 239–261, esp. 256), I prefer to follow the definition of *stroter* given by Orlandos and Travlos. [The terms *stroter*, *kalypter*, and *hegemon* have been changed to pan tile, cover tile, and eaves tile, respectively, to conform with the usage in the other English texts—Editor.]

⁴ P. Courbin, *Délos*, XXXIII, *L’Oikos des Naxiens*, Paris 1980, pp. 81–85 with pl. 59; A. Ohnesorg, “Ein

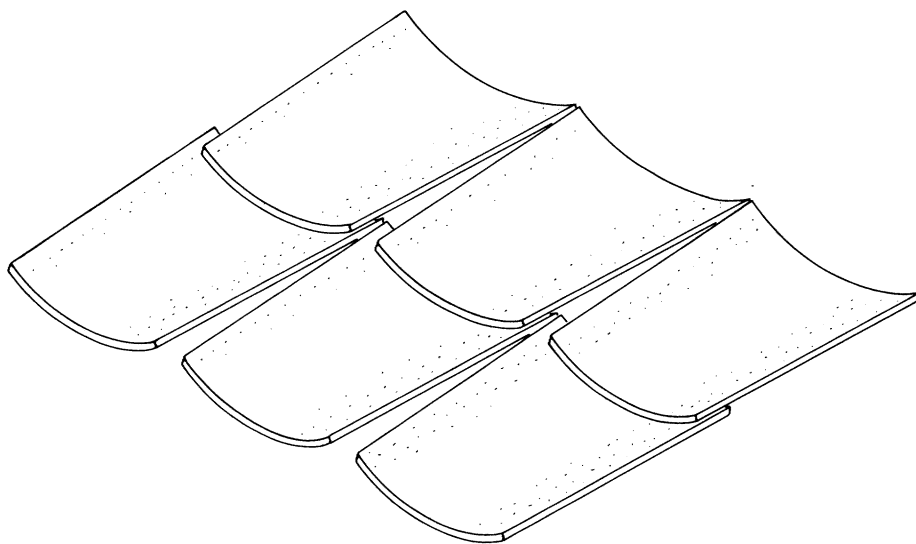


FIG. 1. Laconian pan tiles ("plain"), Type 1

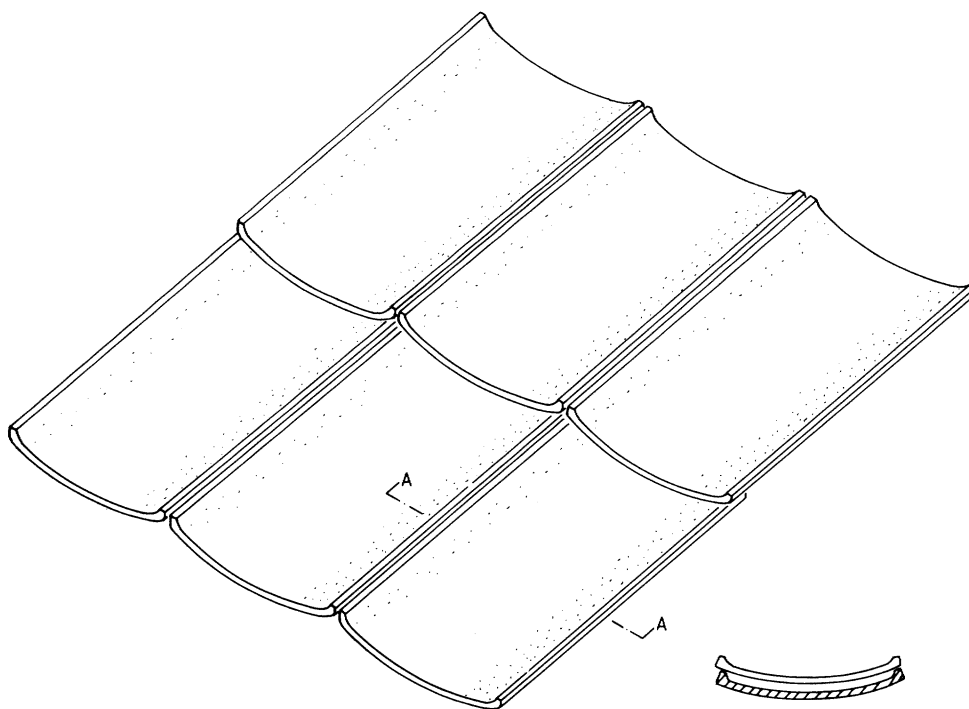


FIG. 2. Laconian pan tiles, Type 2

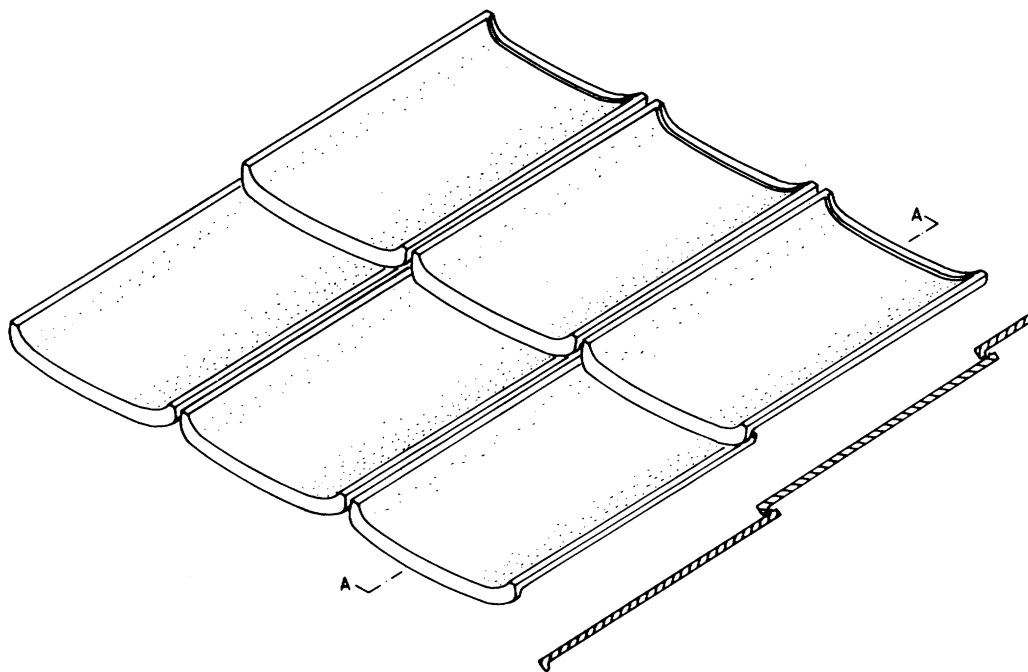


FIG. 3. Laconian pan tiles, Type 3

Other pan tiles show raised rims along the non-concave sides in combination with the two plain, cut-off edges on the concave (Type 2; Fig. 2).

A third type has similar raised rims along the non-concave sides and a similarly raised rim along the rear concave edge; there is sometimes in addition a rim bent downwards in front, which I would like to call an “apron” (Type 3; Fig. 3).

Another criterion for classification is whether glaze (engobe) was applied to both top and bottom of the Laconian pan tiles or only to the top. The plain pan tiles of Type 1, like the cover tiles, show glaze only on the top. Types 2 and 3 can be divided into Type 2a, rimmed pan tiles with glaze on top, and 2b, rimmed pan tiles with glaze on top and bottom; Types 3a and 3b are correspondingly distinguished.

Thus there are five distinct groups of pan-tile types in the Laconian class.

A word on the colors of the glaze, black and red. My own observations agree with the notes on these tiles made by Walter:⁵ I have found only indications for intentional black or

naxisches Marmordach auf der Athener Akropolis,” in *Bericht über die 34. Tagung für Ausgrabungswissenschaft und Bauforschung vom 7.–11. Mai 1986 in Venedig* (Koldewey-Gesellschaft), Karlsruhe 1988, pp. 11–16, esp. p. 14, fig. 3.

⁵ Professor H. Walter and architect Angelika Kubanek-Clemente sorted the Samian tiles, most of which were found during their excavations in the 1960’s; these fragments were made available to me. A final publication of the material is planned.

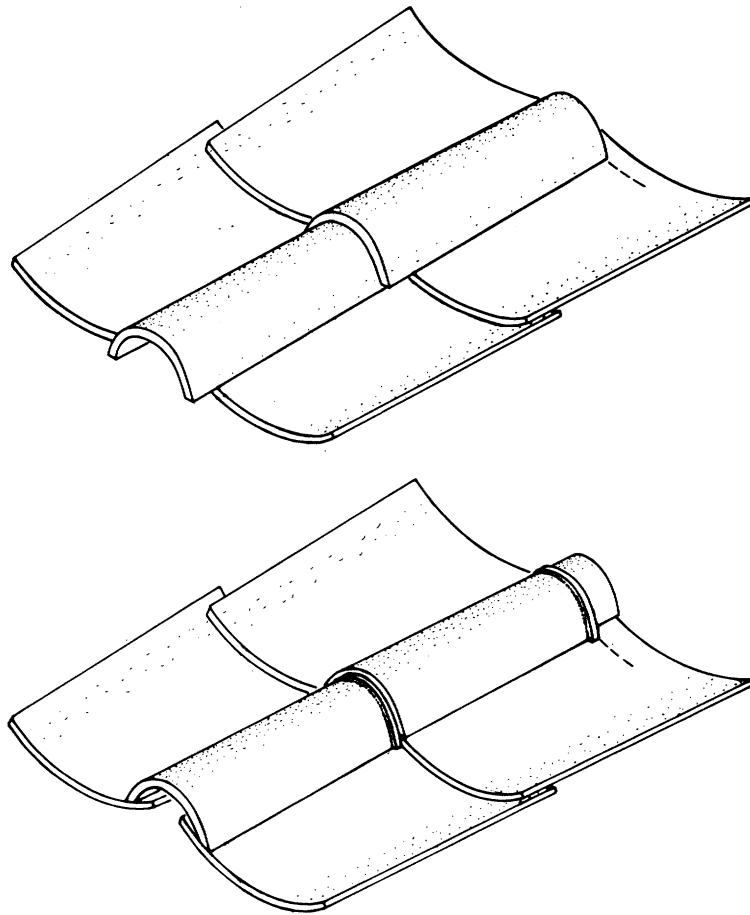


FIG. 4. "Plain" Laconian pan tiles, Type 1 and Laconian cover tiles, Types 1a (top) and 1b (bottom)

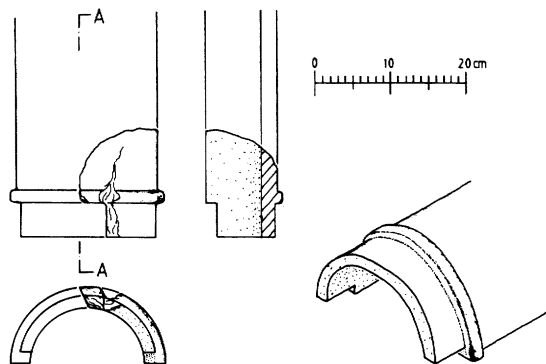


FIG. 5. Laconian cover tile, Type 1b (Inv. no. 533)

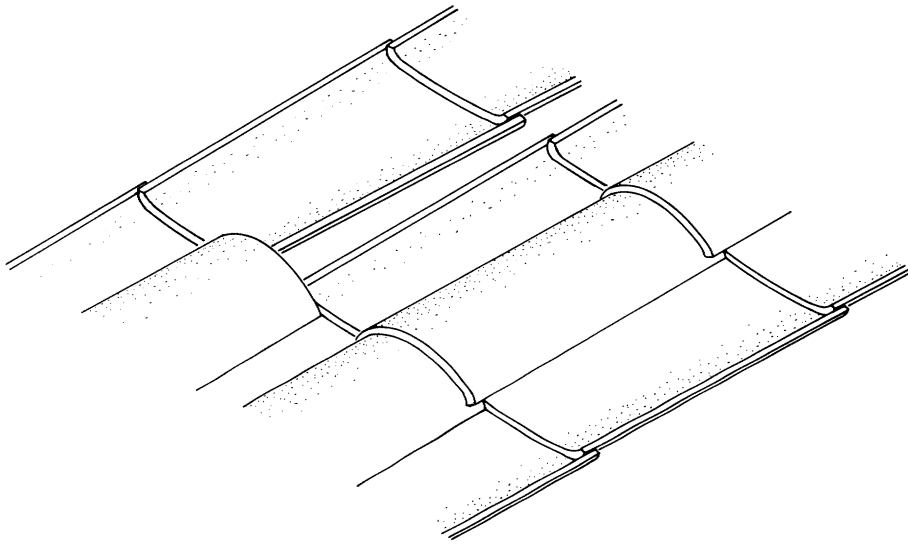


FIG. 6. Laconian pan tiles, Type 2 and cover tiles, Type 3

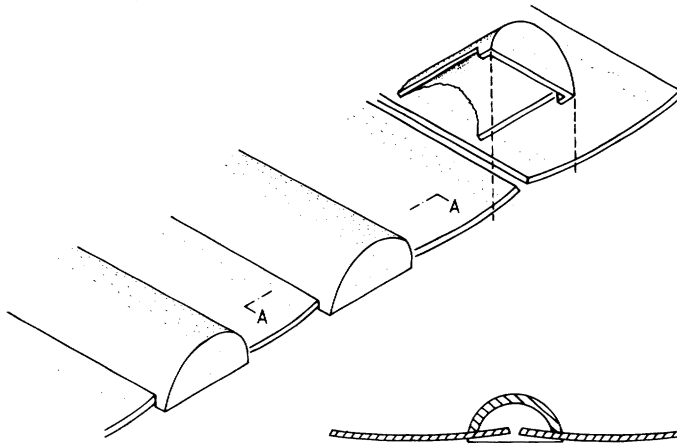


FIG. 7. Laconian front cover tile, Type 1

for red, but not for the two together. Some fragments bearing both colors are obviously the result of varying conditions in the kilns.

Cover Tiles

As far as I can say now, the treatment of the cover tiles seems to bear out my classification of Laconian tiles. For example, the “plain” cover tiles must be combined with the “plain” pan tiles and vice versa and show the same tapering form (Fig. 4). Laconian cover

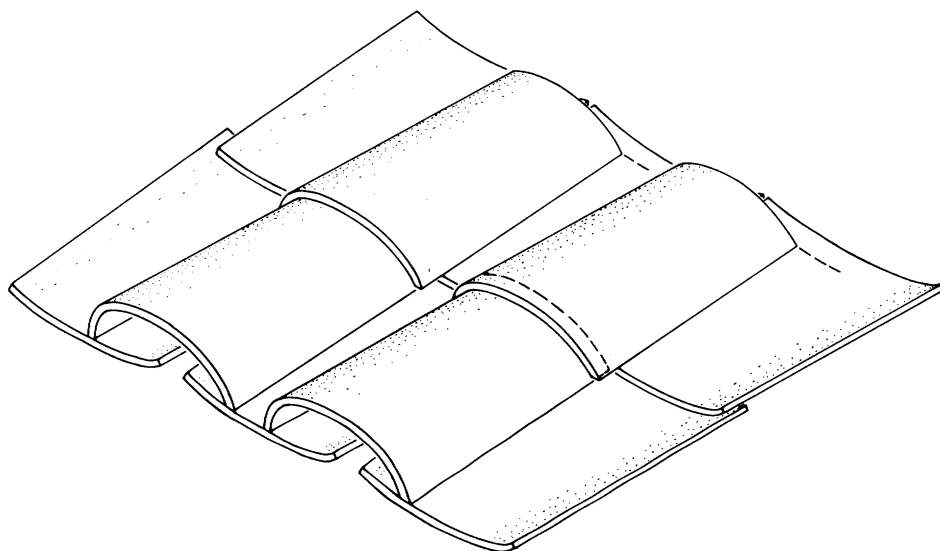


FIG. 8. Eaves of the Laconian roof with pan tiles of Type 1 and cover tiles of Type 2

tiles divide into two distinct groups which may then be further subdivided. The first group comprises both a “plain” cover-tile type and a similar type with a notch at the back, hereafter called Types 1a and 1b (Figs. 4 and 5); both types have average diameters of about 15 to 20 cm. and show a full semicircle in cross section.

The second group, with diameters about or larger than 30 cm. (which yields a much smaller segment in cross section), divides into a large, “plain” cover-tile type, henceforth Type 2 (Pl. 20:a), and cover tiles with two parallel rims that are even but bent slightly inward and with plain concave sections; these can be divided by diameter into Types 3a and 3b (Fig. 6).

It may be of interest that about 60% of the cover-tile fragments show an average diameter larger than 20 cm.

The coloring of all five types of cover tiles—either black or red, and present only on the top—seems again simply to reflect taste or the choice of color for individual roofs.

Other tiles of the Laconian class have been found with the exception of eaves tiles, but I think it quite probable that they were identical with ordinary pan tiles (cf. for example the roof of the Heraion of Olympia⁶).

Examples of at least one type of antefix can be identified (Fig. 7). They must be seen as belonging to a roof with the smaller Laconian cover tiles, i.e., Type 1 (although I am not yet sure whether to 1a or 1b).

⁶ *Olympia* II, pp. 27–36, pl. 98.

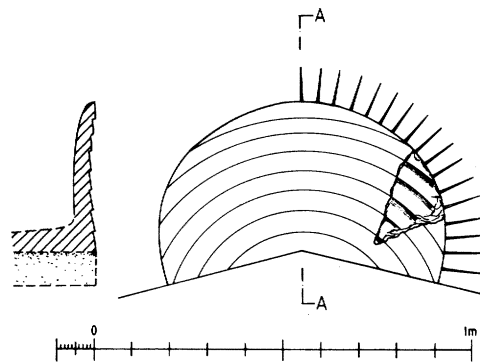


FIG. 9. Fragment of disk akroterion (?; Inv. no. 950), suggestion for the reconstruction

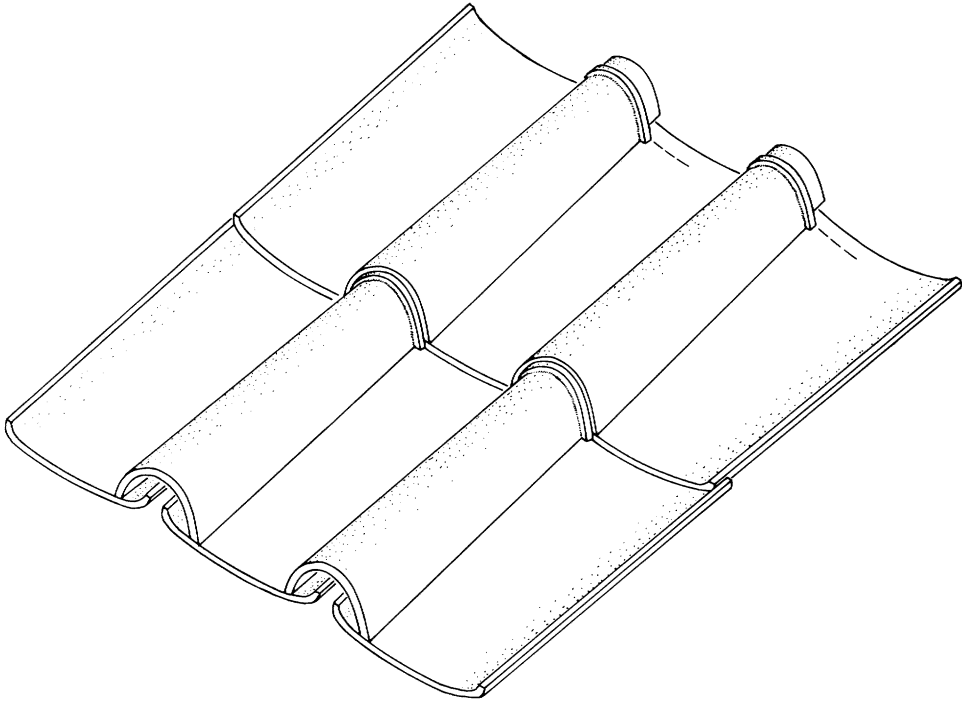


FIG. 10. Laconian pan tiles of Type 2a and cover tiles of Type 1b

The flat, undecorated front of these antefixes was covered by black glaze and extended about 3 cm. below its tile, thus hiding the joint of the pan tiles and probably locking neatly into the geison; until now this feature was known only in marble roofs on Delos and Naxos.⁷

For roof groups with the second type of cover tiles we have no conclusive evidence so far, but I would like to suggest that they were built very much like mediaeval and later roofs, with "monks and nuns",⁸ probably in an arrangement like that shown in Figure 8.

Some fragments of ridge cover tiles are known, with a diameter of about 50 cm.⁹ One of them (Pl. 20:b) belongs to a roof of the smaller cover-tile Types 1a or 1b.

Fragments of disk akroteria are also known and were published by Buschor.¹⁰ A third, as yet unpublished, fragment came from the excavation in 1981 (Fig. 9, Pl. 20:c).

This short survey of the current evidence for Laconian roofs on Samos has left out the question of dimensions because the measurements have largely to be reconstructed from fragments. Pan tiles seem to have been about 0.50 m. wide and up to 1 m. long.

A few words on indications of date. About 25 pan tile fragments of Type 2a, uniformly blackish brown on top, are dated by three well-stratified fragments earlier than 540/520, even as early as 590 B.C. These pan tiles I would like to combine with the narrower cover tiles of Type 1b mentioned above (Fig. 10).

Another fragment dates a Laconian roof with "plain" Type 2 cover tiles to the turn of the 7th to the 6th century B.C. This roof seems to have used pan tiles of Type 2b with glaze on top and bottom; the combination can be restored on the basis of excavation results.

CORINTHIAN TILES

The same criteria may be used to define specific types of Corinthian tiles, but the variations within groups are on a much larger scale; the classifications are therefore not quite satisfactory, and some degree of overlapping takes place. Extra help, however, comes from the evidence of the many antefixes. It should be noted that Corinthian tiles show paint only on the top. Five or six different types of antefixes can be distinguished so far; they must be assigned to different roofs and may, in some cases, be combined with fragments of pan and cover tiles. The following list of roof-tile assemblies is not necessarily in chronological order.

1. The well-known "Rhoikos antefixes" (Pl. 20:d), together with the equally well-known pan and cover tiles (Pl. 20:e) of the roof of the "Rhoikos temple" published by Buschor,¹¹ represent one of the earliest and most complete groups. They are tiles of exceptional quality in

⁷ For the Oikos of the Naxians on Delos, see footnote 4 above. For the temple of Demeter at Sangri on Naxos, see G. Gruben and M. Korres, preliminary reports in *Πρακτικά* 1976 and subsequent years.

⁸ Cf. W. Dörpfeld *et al.*, "Über die Verwendung von Terrakotten am Geison und Dache griechischer Bauwerke," 41. *Programm zum Winckelmannsfeste*, Berlin 1881, p. 16. See also Schwandner, p. 292 below and Pl. 49:a.

⁹ The marble ridge cover tiles of the Oikos of the Naxians on Delos have the same diameter and show similar semicircular openings to accommodate the adjoining ordinary cover tiles of the slopes.

¹⁰ Buschor, 1957, pp. 2-3, figs. 1, 2.

¹¹ E. Buschor, "Heraion von Samos: Frühe Bauten," *AM* 55, 1930 (pp. 1-99), pp. 87-90, figs. 40-43, Beil. XXIII; Buschor, 1957, p. 3, Beil. 1.

form as well as in material, quite in keeping with all other known details of the "Rhoikos temple".

2. Important too are the "South Building antefixes" published by Ziegenaus¹² (Pl. 21:a), to which I would add some fragments of cover tiles, pan tiles, and possibly of eaves tiles to complete the roof; these fragments, like the antefixes, were painted red on top.

3. A group of palmette antefixes in rather high relief (Pl. 21:c, d) in a bright red color alternating with white and perhaps five fragments of pan and cover tiles in a similar bright red are part of another roof.

4. The existence of a fourth roof is indicated by a set of Late Archaic gorgoneion antefixes (Pl. 21:b), but no additional tiles have yet been identified which definitely belong with them. This set of antefixes is interesting because three other gorgoneion antefixes are known so far, almost identical and attached to the same type of cover tile (Pl. 21:e, f). As these tiles should be dated to the Classical period on stratigraphic and stylistic grounds, and especially as they copy the paint as well as the modeled forms, I would like to suggest that they represent repairs to the original Archaic roof. Perhaps these antefixes belong to the "North Building".¹³

5. Last but not least, there is a group of plain, undecorated antefixes with a sometimes unevenly applied blackish paint (Fig. 11, Pl. 22:a), to which may be added some cover-, pan- and eaves-tile fragments of suitable dimensions and similarly applied non-lustrous paint. They constitute a fifth roof.

The five groups of roofs defined by these antefixes may be dated on various grounds. Groups 1 through 3 represent the earliest types, with the "Rhoikos roof" (No. 1) between 570 and 560 B.C.,¹⁴ the high-relief palmette antefix type (No. 3) between 540 and 530 B.C.,¹⁵ and the South Building roof (No. 2), on the evidence of the antefixes, in the last quarter of the 6th century B.C.¹⁶ The original gorgoneion antefixes (No. 4) are dated stylistically to the last years of the 6th century B.C., while the Classical replacements must have been manufactured early in the 4th century B.C.¹⁷ The correct dating of the fifth group (No. 5) presents a slight problem, as the antefixes were found in the Classical debris along the processional way, which contains sherds dating from the 7th to the late 4th century B.C. But if the combination which I have suggested above of the antefixes of this group and the various fragments of similar size and surface treatment is accepted, this roof can be dated by some well-stratified pan- and cover-tile fragments to the turn of the 7th to the 6th century.

These are, so far, the five surest roof assemblies of Corinthian tiles from the precinct of the Heraion of Samos.

¹² O. Ziegenaus, "Der Südbau," *AM* 72, 1957 (pp. 65–76), pp. 72–73, fig. 1, Beil. 92, 93. Kyrieleis *et al.*, 1985, pp. 432–433, fig. 75.

¹³ H. Kienast and A. Furtwängler, *Samos, III, Der Nordostbau im samischen Heraion* (in press).

¹⁴ Buschor 1957, p. 4. Kyrieleis, 1981, pp. 73–78.

¹⁵ E. Diehl, "Fragmente aus Samos," *AA* 79, 1964 (cols. 493–612), cols. 502–503, figs. 1, 2.

¹⁶ Ziegenaus (footnote 12 above), p. 72. Kyrieleis, 1981, pp. 91–94, fig. 69.

¹⁷ Kyrieleis *et al.*, 1985, pp. 432–433, fig. 76; E. Buschor, *Δελτ* 17, 1961/1962, p. 280, pl. 342; J. Floren, *Studien zur Typologie des Gorgoneion*, Münster 1977, pp. 62–64, 171–173, pl. 15:3.

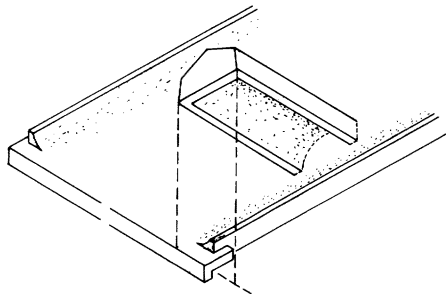


FIG. 11. Corinthian antefix and eaves tile of group 5

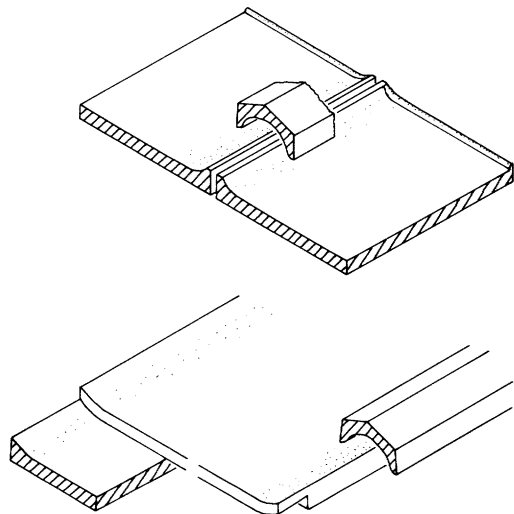


FIG. 12. Corinthian cover tiles and pan tiles of group 8 (top) and group 7 (bottom)

There are four other groups which thus far have no typical antefixes of their own, but definitely represent separate roofs:

I would like to distinguish as a sixth group the “ Γ O-stamped tiles” (Pl. 22:b).¹⁸ Twelve pan-tile fragments with this stamp have been found so far and I am hopeful of ascribing cover-tile fragments as well. The meaning of the Γ O will be further discussed below.

A seventh and an eighth group are characterized by their “white” tiles: both pan and cover tiles are covered with a creamy white paint (Fig. 12). If they are imitations of marble tiles, Samian architects were ahead of their time, for the earliest examples of Corinthian tiles in marble known so far are from Naxos, and these are dated to the years around 550 B.C.¹⁹ It should be noted that only the later-looking group of Samian “white tiles”, the eighth group, shows a form comparable to the marble tiles of Naxos with the same type of pronounced rims on the pan tiles.

A last group of tiles, a ninth type, always painted black, may be seen in Plate 22:c.

To add some absolute dates for the Corinthian types 6 to 9: I can suggest only a general date of the 6th century B.C. for roof 6, the Γ O-stamped tiles, and for roof 9, the black tiles. A

¹⁸ G. Schmidt, “Heraion von Samos: Eine Brychon-Weihrung und ihre Fundlage,” *AM* 87, 1972 (pp. 165–185), pp. 167–168, pl. 71. In the inventory of the inscriptions begun by G. Dunst which I was permitted to see, two Γ O-fragments bear the numbers 12 and 13 (or J 39 and 40); Dunst completes Γ O(Λ EΩΣ) and dates them generally to the 6th century B.C. [See R. C. S. Felsch, pp. 301–323 below.]

¹⁹ G. Gruben and W. Lambrinoudakis, “Das neuentdeckte Heiligtum von Iria auf Naxos,” *AA* (*JdI* 102) 1987 (pp. 569–621), p. 600.

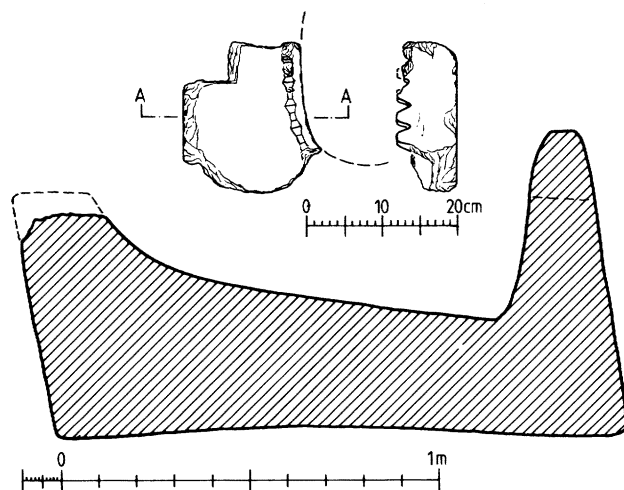


FIG. 13. Corinthian pan tile (?) with opaion (?; Inv. no. 1334)

date earlier than 550 B.C. is indicated by the better-stratified examples of the “white tiles” (roofs 7 and 8).

So far only the so-called Rhoikos roof and that of the South Building have been securely assigned to a known monument. The other roof types of Laconian and Corinthian tiles I have mentioned still await future discoveries; for example, fragments of Archaic simas are still lacking. Thus, no certain reconstruction of the front or back view of the temples can be drawn, just as no satisfactory evidence for Corinthian akroteria yet exists.²⁰ Corinthian gables cannot be properly reconstructed.

I would like to draw attention to another rather curious and so far unique Corinthian pan tile which, in my opinion, could be an opaion tile. The zigzag rim (Fig. 13) might then be intended to provide a better hold for a lid or a similar feature.²¹

A last remark concerning the “Rhoikos” and Π O-stamped tiles: Karin Gödecken is analyzing the clay of architectural terracottas and pottery from Samos, especially the Archaic finds from the Heraion. I can report one of her preliminary results, that the “Rhoikos” and the Π O-stamped tiles are made of a distinctly Samian clay, one found in the vicinity of the sanctuary. These pieces are comparable in quality and clay technology to the excellent Archaic pottery of Samian manufacture, even though that was made from clay of a different

²⁰ Buschor, 1957, pp. 3–4, Beil. 2. The two fragments, which Buschor suggests are sphinxes, are in my opinion not conclusive evidence.

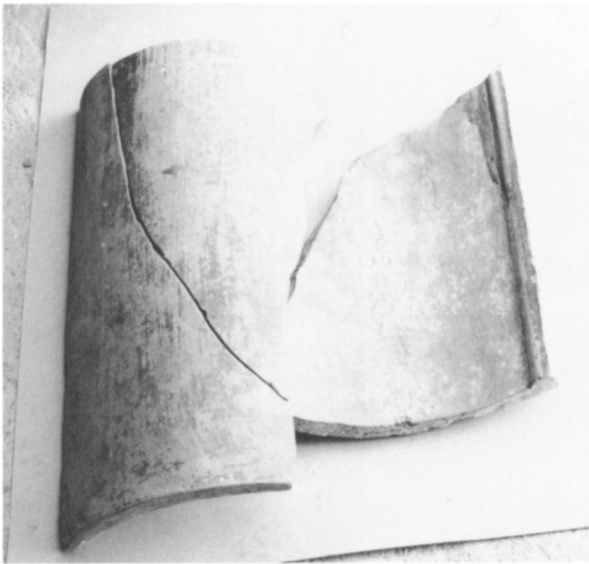
²¹ Two other “special” Corinthian tiles, with secondary engravings, were presented in the preliminary report: Kyrieleis *et al.*, 1985, pp. 432–433, figs. 77, 78.

source. We therefore agree that the FO stamp does not signify “Polykrates”, which would have been tempting as the tiles could have been manufactured during his reign, but should rather be read “πόλεως”.

AENNE OHNESORG

INSTITUT FÜR BAUFORSCHUNG UND BAUGESCHICHTE
DER TECHNISCHEN UNIVERSITÄT MÜNCHEN
Arcisstrasse 21
D-8000 München 2
Federal Republic of Germany

PLATE 20



a. Laconian cover and pan tiles (inv. nos. 1189 and 1190)



b. Laconian ridge cover tile (inv. no. 3)

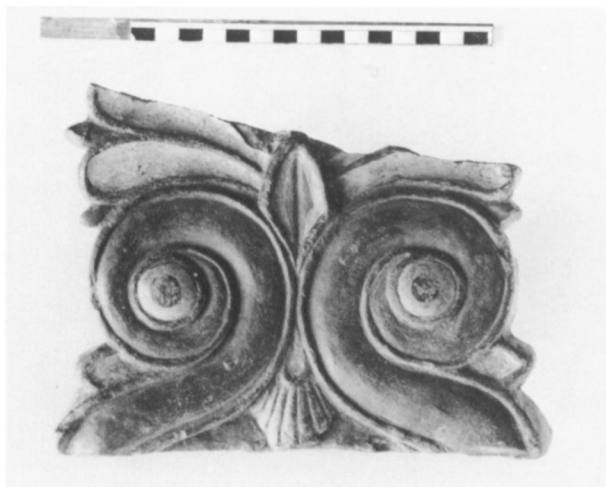


c. Fragment of disk akroterion? (inv. no. 950). (DAI Athen)



e. "Rhoikos" pan and cover tiles. (DAI Athen, Neg. 88/615)

d. "Rhoikos" antefix (inv. no. 861; found 1983). (DAI Athen, Neg. 83/1089)



a. "South Building" antefix (inv. no. 860; found 1980).
(DAI Athen, Neg. 80/893)



b. Fragments of Late Archaic gorgoneion antefixes (inv.
nos. 864-867).



c. Front



d. Back

c, d. Palmette antefix, Berlin Antikenmuseum (inv. no. 494x). (Photograph, Antikenmuseum Berlin, SMPK)



e. Front



f. Back

e, f. Classical gorgoneion antefix, Samos Museum (inv. no. 448). (DAI Athen, Neg. Samos 5371, 5372)



a. Antefixes of group 5



c. Pan-tile fragments of type 9



b. Pan tile with FO stamp. (Photograph DAI Athen)