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A LATE ROMAN BATH AT CORINTH

Excavations in the Panayia Field, 1995–1996

Over the past fifty years several test excavations have been conducted in the area southeast of the Roman forum at Corinth. In response to applications for building permits, the Greek Archaeological Service has excavated at four discrete locations within a 100-m radius of the intersection of a road running due south from the village square and the east–west road immediately to the south of the main site (Fig. 1: areas A–D).[1] The largest and most southerly of these projects revealed an impressive Late Roman structure of which a portion some 300 m^2 has been uncovered (area A). It appears to be a form of nymphaeum, with a central marble-revetted pool set within a mosaic pavement and flanked on either side by what plausibly are dining rooms, each with a broad apse. To the west of the crossroads a smaller operation exposed a section of the *cardo maximus,* an extension of the Lechaion Road, running south from the Forum toward Acrocorinth (area B). To the northeast of the crossroads, two separate excavations brought to light part of a Late Roman house over the impluvium court, complete with mosaic pavement, of an earlier urban "villa" (area C) and, nearby, part of a small Late Roman bath (area D). A fifth excavation undertaken by Robert Scranton in 1947 to the southeast of the Julian Basilica and Southeast Building completes the round of archaeological exploration in the area (area E).

1. Work in the Panayia Field was instigated by C. K. Williams II, then director of Corinth Excavations, under whose auspices the 1995 and 1996 seasons took place. I am grateful for his boundless generosity and good counsel. I am also grateful to Nancy Bookides, the Assistant Director, for her constant patience and support; to Stella Bouzakis, who spent several months in 1996 lifting and conserving fresco and consolidating mosaics; to the acting foreman on site, Athanassios Notis; and finally to the foreman, Aristomenes Arberores, for maintaining the high professional standards of the locally employed technicians. Nikolaos Didaskalou, Anastasios Papaioannou, and Yiorgos Arberores restored the small quantities of mendable pottery.

David Romano supplied coordinates for the site grid, but the site benchmark was surveyed by Bookidis and the author. Ino Ioannidou and Lenio Bartzioti devoted many hours to producing their beautiful and high-quality site and object photographs. Orestes Zervos kindly identified the coin finds, publication of which will append a future Panayia Field report. Joseph Rife, who supervised a trench in 1996, proved a valuable colleague throughout. Rebecca Sweetman was kind enough to comment and provide bibliography that helps to describe and date the mosaic pavements. In considering and writing up the Late Roman bath I have benefited from the critical opinion of Williams, Fikret Yegul, and particularly Jane Biers. Special thanks go to Kathleen Slane, who helped to solve some of the problems with the final version of the text and helped to assemble the lot descriptions.

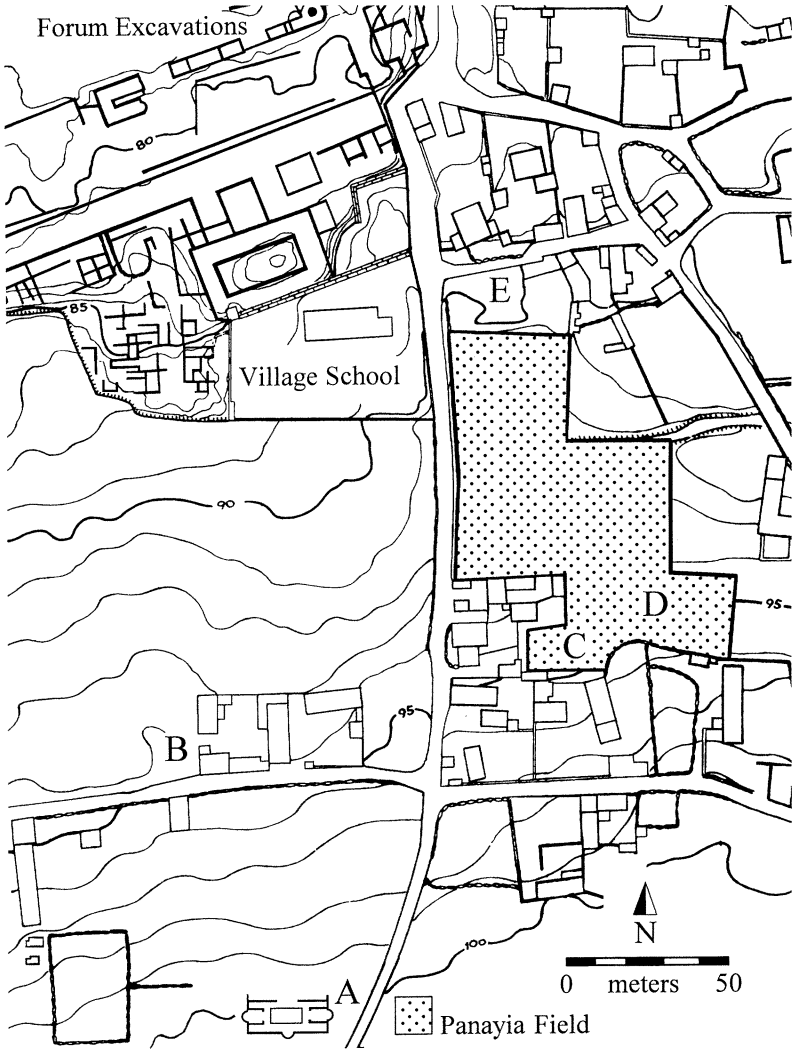


Figure 1. Area southeast of the Forum. Redrawn from the Greek Geodetic Survey 1:2000 series

Scranton dug test trenches along the north and west sides of the Panayia church. A long narrow cut, 30 by 3 m, along the northwest side of the church was excavated to a depth of 4 m. Here the lowest strata covered a Classical street and an inspection shaft, or manhole, that gave access to a tunnel of a water system 10 m below. A red-figured skyphos, depicting Hermes and a youth on one side and a winged horseman on the other, was found within the manhole fill.[2] Above the Classical street were two superimposed Roman phases, including part of an Early Roman structure built of cut limestone blocks, two rooms identified as shops, and a large Late Roman building with a marble floor. The "shops" had been destroyed by fire, probably in the 3rd century.[3] In the tile and brick debris of one shop were found a small terracotta statue of a standing figure identified as Zeus or Hades, though perhaps actually a bearded philosopher, a terracotta figurine of a youthful Dionysos, and a marble figurine of Aphrodite Hoplismeni.[4] The large room paved with marble may have been used into the 5th century before being abandoned and partially dismantled.[5] Above the Roman levels were monumental Middle Byzantine walls below a fill that

2. Corinth Excavation notebook (NB) 193, pp. 80–83. C-47-85, red-figured skyphos, in manhole 1947-001. See Broneer 1947, pl. 65:31, 32 and *Corinth* VII, iv, pp. 74–75, 188Q, pl. 30.

3. Corinth NB 193, pp. 77, 79. Broneer type XXVII lamps and a coin of Severus Alexander (A.D. 221–231) were found in the red earth fill over the floor with the inventoried objects.

4. Broneer 1947, pp. 243–246, pl. 65:30 = MF-9034, standing figure; pl. 65:29 = MF-9035, Dionysos; and pl. 64:28 = S 2548, Aphrodite Hoplismeni.

5. A Vandal coin and a coin of Marcian (A.D. 450–457) were found in the layer of the broken-up flooring. Corinth NB 193, p. 99, 26.III.47 coins 5–6.

contained several interments associated with a post-medieval church dedicated to the Panayia. The church was damaged by earthquakes in 1928 and 1930, demolished in the early 1950s, and replaced by the new Panayia church on the eminence to the east of the plateia. The old church originally possessed two adjacent fields, one to the west on which the village school now stands and one to the south that served as the cemetery. With the abandonment and demolition of the old edifice, most of the known burials were removed to the cemetery church of Ayia Anna.

THE PANAYIA FIELD

The tantalizing insight into Classical, Roman, and Late Roman Corinth, largely unencumbered by medieval and post-medieval layers, presented by these five unpublished excavations offered an opportunity to investigate phases of the city's development hitherto poorly understood from excavations close to the Roman Forum. In 1994 approximately five *stremmata,* or about 1.25 acres, of land including the old Panayia cemetery and an adjacent orange grove, where the Greek Archaeological Service had found the bath, were purchased by the American School of Classical Studies. A small plot to the southwest encompassing the villa was subsequently acquired in 1995.

Excavation in 1995 and 1996, carried on by small teams of workmen, was concentrated in and around the bath and villa in areas C and D with a view to elucidating their plan and date. The upper strata were associated with 18th- and 19th-century domestic structures. Quantities of Geometric to Hellenistic pottery from these and earlier contexts suggest that there may be extensive pre-Roman remains in the area. The layers into which the footings and service area of the bath were cut preserve part of a house with associated occupation deposits dating to the 5th century A.C. Below this Late Roman pre-bath phase is the burnt destruction of an extensive structure from an earlier Roman period, the carbonized beams of which lie under a stratum of collapsed tile.

Efforts to test the stratigraphy to virgin soil around the bath were everywhere confounded by an extensive underlying horizon of painted plaster, which required careful attention. After the roof of the earlier house collapsed, the walls were exposed to seasonal precipitation, with the result that the plastered pisé walls eroded; large fragments of paneled frescoes, similar in style to those found east of the theater between 1981 and 1988, were found over the destruction debris.[6] A particularly large fragment, which fell in one piece directly onto the tile collapse, is decorated with a lively depiction of a winged Victory, painted on a red background. The frescoes are tentatively dated to the 2nd century and, when further explored, will add considerably to the rapidly expanding corpus of fresco that derives from Corinth and will help to define and date regional and local schools of painting in the eastern Mediterranean.

The mosaic court (Fig. 2), which apparently belongs to a building different from that under the bath, contains a polychrome marble pool set within a mosaic floor. The mosaics consist of eight panels, which depict

6. Two schemes of suspected Flavian date from east of the theater, which closely parallel the finds from the Panayia Field, are reported in Williams and Zervos 1986, pp. 139–141, pls. 31:a and 32:a, and Williams and Zervos 1989, pp. 13–19, pls. 4–6. Paneled decoration with a yellow ground and a design of swags on a white ground resemble Gadbery 1993, figs. 4 and 5, respectively.

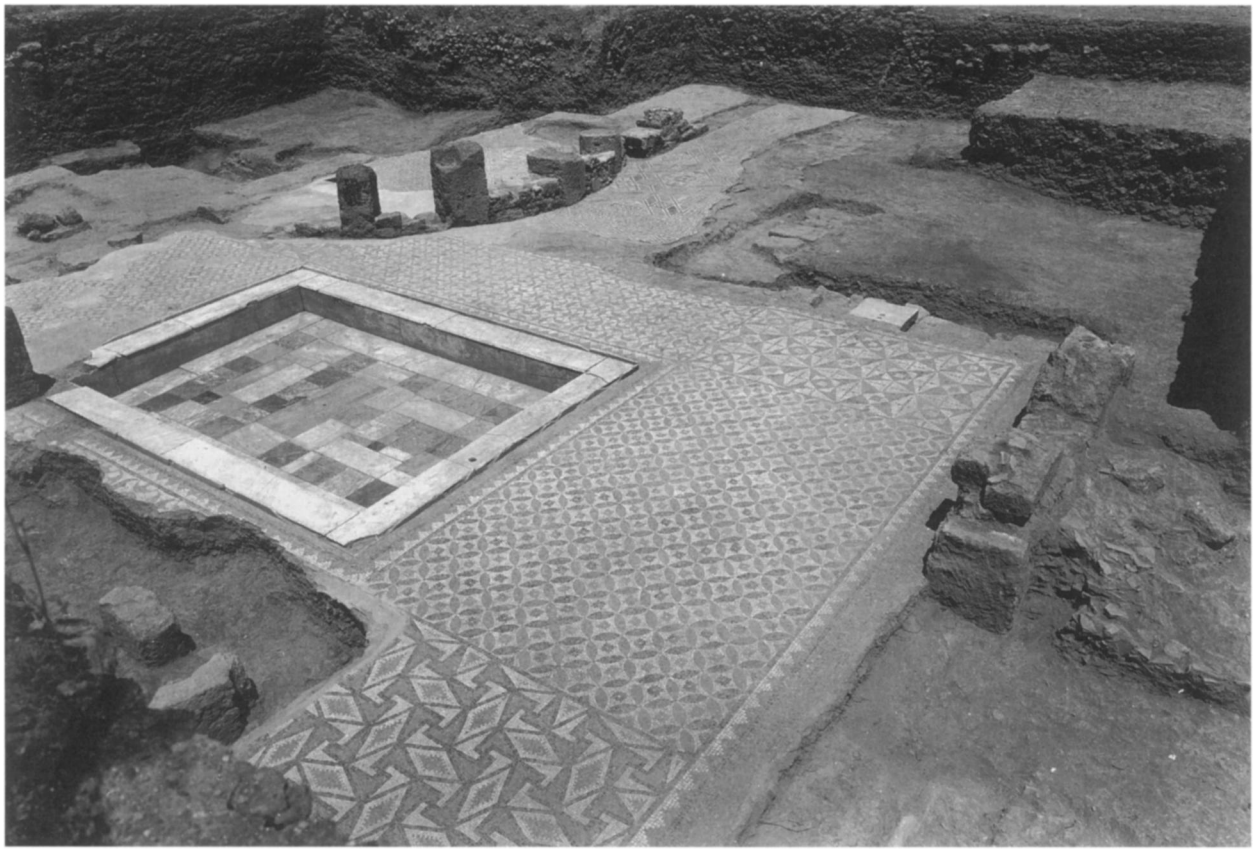


Figure 2. Mosaic court, looking northwest

four distinct geometric designs, including Greek key, four-pointed star, *peltae,* and concentric circles. An adjoining room to the north has a fine and intricate pattern with panels of Solomon's knots, key pattern, and *peltae*. Parallels for the patterns suggest a date from the late 2nd to as late as the early 4th century.[7] To the east of the court, from David Romano's reconstruction of the city plan, a north–south street and the entrance to the house were expected to be found.[8] Instead, a sequence of strata including burning, fallen roof tile, and fresco, probably related to that south of the bath, was encountered. Painted plaster adhering to the east face of the party wall between this space and the court clearly indicates that the expected street is either illusory or further east than predicted. After a period of abandonment the site was redeveloped in the 5th century for a new villa with a sequence of earthen floors. The Early Roman and 5th-century strata in both areas (C and D) will be discussed in greater detail in subsequent reports.

THE LATE ROMAN BATH

The Late Roman bath complex is located toward the southeast corner of the Panayia Field some 70 m east of the modern road and 40 m northeast of the villa complex (Fig. 1: area D). Here the modern ground surface

7. Campbell 1988, baths A, C, D, and E.

8. Romano 1993.

slopes at about a five-degree angle from the south down to the north. At the southern end the remains of an early modern house, dating to the first half of the 19th century, directly overlie the *praefurnium* (furnace) and the west side of both the *caldarium* and *frigidarium*. At the northern end of the complex the floor of the *frigidarium* lies intact just below topsoil while the floor of the entrance hall has been scarred by plowing at its southernmost end and is completely destroyed elsewhere. In addition, two phases of stone quarrying have removed substantial portions of the walls to well below floor level in the northern part, and recent plowing has scarred the tops of the walls where preserved.

The bath is aligned with the cardinal points of the compass and consists of four adjoining rooms. From the north and circulating clockwise these are an entrance hall or, possibly, an *apodyterium,* a *frigidarium,* a *tepidarium,* and a *caldarium,* respectively (Figs. 3–6). The bath was built in three distinct abutting modules: the heated rooms, the *frigidarium,* and the entrance hall (see below, Fig. 18:3). The *tepidarium* and *caldarium,* both with hypocausts, were built together as a unit within a very large rectangular trench, about 0.85 m deep, 6.5 m wide, and at least 10 m long, cut through strata of the 5th and 2nd centuries A.C. The walls of these rooms were placed against one side of the pit, leaving a narrow backfilled foundation trench to the west and a broad open space to the south and east of the *tepidarium*. This latter space, with plain earthen walls, acted as an open-air service corridor for periodic cleaning of ash buildup in the hypocaust.

The walls of the rectangular entrance hall were set within deep foundations a couple of meters to the north of the heated rooms, to which they were physically linked by the separately built *frigidarium* plunges. The east plunge was erected within a northward extension of the *tepidarium* cutting. The south wall and floor of the east *baptisterium* is clearly visible in the section. Its apse projects beyond the east line of the complex, and its walls abut the south and north walls of the entrance hall and *tepidarium,* respectively. The west plunge was built within an approximately square trench dug at the western extremity of the space available. It projects beyond the western line of the complex and while its north wall abuts the hall's south face, its south wall abuts the west face of the *caldarium*. The firing chamber was placed on the west side of the *caldarium*. The channels draining the north and south *caldarium* plunges and the west *frigidarium* plunge were routed along the west side of the bath and flowed in a northerly direction. There is no evidence to suppose that the drain of the east *frigidarium* plunge ran northward along the east side of the entrance hall, and a channel draining to the east must be supposed. No trace of a water supply has yet been identified.

The Entrance Hall

The entrance hall has not been completely excavated but is clearly in a poor state of preservation. It is oriented north–south with interior dimensions of approximately 7.3 by 5.7 m. The walls have been systematically robbed out, leaving only traces of the east wall, 4.9 m of the west wall and

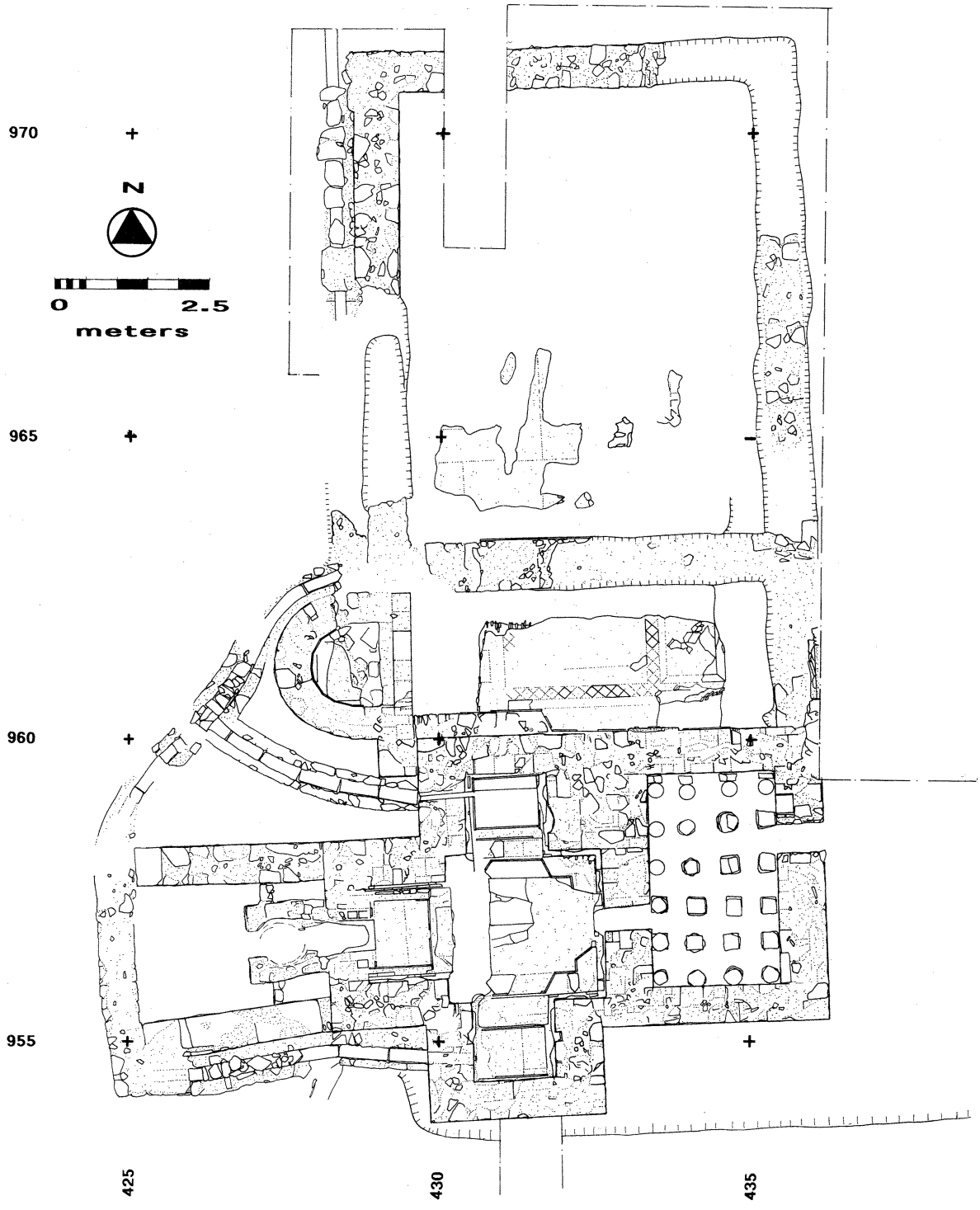


Figure 3. State plan of the Panayia bath

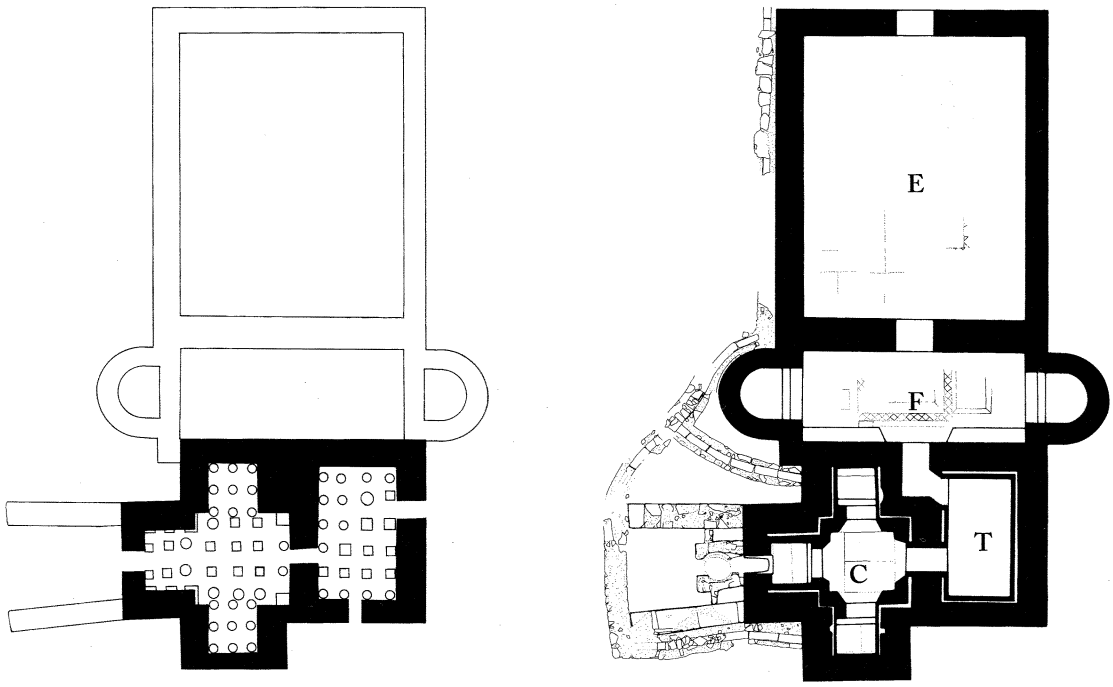


Figure 4. Restored plans of the Panayia bath at hypocaust level *(left)* and at floor level

5.0 m of the north wall at their junction at the northwest corner, and 2.3 m of the south wall at the southwest corner. In places the footing trenches of the walls were quarried to a depth of 0.6 m and to a maximum of 1.6 m below the original floor level, revealing the lowest stones and cement of the wall footings. Where preserved, the walls stand only to a height of a few centimeters above floor level and are built of roughly dressed and coursed limestone blocks set in a coarse white lime mortar. The interstices and the packing are filled with smaller stones and fragments of tile. The wall footings were prepared by pouring a fairly fluid white lime mortar over layers of rubble. The south wall is partially preserved to a height of 0.04 m above floor level, and its north face still has the base of gray, schisty marble revetment plaques in place. This is an indication that the walls of the room were originally decorated with colored marble, at least at baseboard level and possibly at dado level. There is no direct evidence for the location of entrances to the room, but the assumption can be made that the door to the *frigidarium* was more or less centrally placed in the south wall. The course of the drain carrying water from the bathing facilities along the exterior of the west wall does not preclude a western access but does tend to weigh in favor of an east or north entrance to the establishment.

Plowing, a planting trench, and roots of a large lemon tree have heavily damaged the floor (el. +93.19 m). The elevation of modern ground surface over the room was between +93.31 m at the south end and +93.15 m at the north, in other words, approximately 0.12 m above and 0.04 m below the floor surfaces, respectively. Where preserved the cement substructure is a layer of coarse white mortar 0.06 m thick laid directly on top of a stratum of compacted earth. Impressions of marble slabs and fragments of flooring still in place are partially preserved in the southern one-third of the room,

but the northern two-thirds of the floor have been shaved off with repeated plowing. The traceable outlines indicate that the floor was paved, probably with large slabs of marble 0.55 m wide, laid on an east–west axis. The southeast corner of an off-center panel with a triangle and lozenge border of white marble and a dark gray slatelike stone is preserved.

The function of this space is not entirely clear, but it is large enough to be more than a simple entrance hall.

Frigidarium

The *frigidarium* is a long rectangular room, 5.8 by 2.4 m, oriented east–west. Structurally it is a space set perpendicular to the axis of the building, between the entrance hall and warm rooms. The room has been closed off by a basin inserted into the width of the room at the east end and by another basin abutting the west end. Neither basin bonds with the adjacent structures.

The *frigidarium* floor (el. +93.16) was cut on its west side by a 19th-century wall, exposing a vertical section of its construction. A 0.02-m layer of mortar was laid over a 0.14 m-thick bedding of tile and small slabs, laid on their side and bonded with white mortar. Onto this was laid an *opus sectile* floor consisting of two panels of white and gray-streaked white marble with borders of white marble lozenges and gray slate triangles. The walls were decorated with plaques of schisty blue marble held in place by a layer of white lime cement 0.05 m thick. A low bench, 2.2 m long by 0.4 m wide and faced with marble revetment, abuts the south wall at the west end of the room. At the east end of the room, the floor abruptly stops 0.4 m along the face of the south wall at a point 1.9 m west of the robbed-out parapet (*pulvinus*) of the east *baptisterium* (literally, a vessel for bathing). The floor here may have been disturbed for some obscure reason, though the thickness and hardness of the floor footings would have made this a difficult undertaking. A more plausible explanation is that there was a second but slightly shorter bench corresponding to that at the west that was subsequently robbed out for building stone, leaving the floor running up to its former face. A low bench, 2.2 m long by 0.4 m wide and faced with marble revetment, abuts the west end of the south wall. Its western end is built against the *pulvinus* while its eastern extremity is beveled. Presumably the west end of this bench was also beveled. By analogy with similarly segmented recesses in the *caldarium,* the beveled ends of the benches acted as a visual frame for the entrance to the *tepidarium.*

The small individual-sized tub, a *baptisterium* with an interior diameter of 1.4 m, is relatively well preserved against the west wall. Its apsidal wall is ca. 0.55 m thick and is built of roughly dressed limestone blocks, with tiles used for leveling, set with white lime mortar. The exterior wall face preserves patches of mortar scored to receive a final layer of colored plaster over a base coat (see below on the exterior of the *caldarium*). The interior wall face is clad with veneer of the same blue schisty marble used for the *frigidarium,* between 0.24 and 0.28 m wide and at least 0.55 m high, set in place with a thick layer of pink hydraulic cement. The floor consists of a bedding of small boulders set in mortar over which a 0.10-m

leveling course of mortar and tile was laid. Finally, a veneer of rectangular, schisty blue marble slabs (el. +92.81) was set on a white mortar bedding 0.04 m thick. At the junction of the wall and floor slabs is a talus, 0.08 m high and 0.07 m wide, of tile fragments liberally covered with cement. The parapet, or the low front wall, of the *baptisterium* was brick and was built in two steps. The upper step is 0.30 m deep, the depth of one brick, and the lower step 0.25 m above the floor of the basin is 0.23 m deep. Each course of brick is 0.035 m high and set with cement coat 0.03 m thick. The parapet was also faced with marble veneer. The outflow pipe, located on the north side, is not preserved. The east plunge—the floor (el. +92.90) and the inside face of the south wall of which can be seen in the section where it extends under the perimeter fence of the property—presumably had similar details. The brick of the east parapet has been completely robbed out to a depth of 0.73 m below the *frigidarium* floor level, as is the north wall.

If the reconstruction on the east side of the *frigidarium* of a second bench is acceptable, then the southern door must have opened onto a narrow passage, perhaps 0.7 m wide, through the 1.6 m thickness of the wall between the *tepidarium* and the *caldarium*. If the passage had been of the same width but straight, running at an acute angle through the wall, as has been reconstructed elsewhere,[9] then the *tepidarium* door would have been extremely wide, taking up almost the whole length of the party wall north of the door to the *caldarium*. The alternate solution is a passage in the same place, but one that is oriented with the main axis of the building for most of its length before turning sharply eastward.[10] Unfortunately the south wall of the *frigidarium* is preserved only slightly above the room's floor. There is therefore no trace of the corridor, but at its northern entrance there is a fragment of slightly recessed wall revetment at baseboard level that presumably clad the low step up from the *frigidarium* into the corridor. Presumably both ends of this corridor were closed with doors, thus creating an effective airlock that would have sealed warm air within the heated chambers.

The shape of the room and the thickness of the walls suggest that a longitudinal masonry vault spanned the *frigidarium,* with semidomes over the *baptisteria*.

Tepidarium

The *tepidarium,* oriented north–south, is located south of the eastern end of the *frigidarium* and to the east of the *caldarium*. An operation of indeterminate date, probably medieval, involved the excavation of a long north–south trench, which extended from a point at least 3 m south of the room, along its east side and into the *frigidarium*. This trench is too narrow to have been dug for modern foundations or as a test trench. From its stratigraphical relationship to the negligible medieval strata and on the evidence of the latest pottery within the cutting, it seems to be a 12th-century operation, perhaps for the planting of trees or vines. Excavation by the Greek Archaeological Service removed the fill of the northern half of the room almost as far as the ash on the hypocaust floor. The trench was subsequently backfilled by the property owner.

9. Such as bath C at Antioch; see Yegul 1992, p. 327.

10. I am grateful to C. K. Williams II and Jane Biers for discussing with me solutions to the problem of access to the *tepidarium* from the *frigidarium*. Although we are agreed that the corridor existed, there is some evidence for a door from the *frigidarium* to the *tepidarium* in the middle of the latter's north wall. This includes what appears to be a square cutting for a possible door jamb and a stretch of recessed walling revetment. It is possible that there were two phases, of which the corridor probably belonged to the first; it is easier to imagine its construction from scratch than its being cut from a brick and cement wall at a later date. The corridor may well have been closed off and replaced by a door after the removal of the east bench.

The *tepidarium* has interior dimensions of 3.5 by 2.1 m, with walls 0.75 m thick on the north, east, and west sides and only 0.60 m on the south side. It was probably entered from the corridor leading from the center of the south wall of the *frigidarium* to the northwest corner of the *tepidarium* (see above). The walls are built of brick and narrow bands of *opus caementicium,* or rubble and cement, on the inside, but the outer faces of the exterior walls are predominantly cement and rubble with courses of brick. The hypocaust floor is of white cement; its twenty-four original *pilae,* or small pillars supporting the floor, are arranged in six east–west rows and four north–south columns. They are best preserved in the southwest corner, where they survive almost to their original estimated full height of 0.7 m, but are progressively less well preserved toward the north and east. The *pilae* are a mixture of reused round tiles, 0.25 m in diameter and 0.06 m thick, and both rounded and, predominantly, squared andesite blocks of rather larger but irregular dimensions. This mixture of tile and stone seems to reflect a certain eclecticism in the use and reuse of available materials rather than later structural repairs. The north row of *pilae* and the two westernmost *pilae* of the second and third rows from the north consist entirely of round tiles while the remainder are built of andesite blocks, some squared and some rounded.[11] Andesite is considerably more resistant to heat than is tile, and the use of stone for the south and east pillars is doubtless related to the anticipated circulation of hot air within the hypocaust. On the west, south, and east sides the *pilae* abut the walls, but on the north side the space between each pillar of the north row and the wall is filled with stacked bricks.

Although none of the *suspensura,* or suspended floor, is preserved either in place or in fragments in the fill over the *hypocaust* floor, the spacing of the *pilae* suggests that the *suspensura* was built in the same fashion as was that of the *caldarium* (see below). From pillar center to pillar center the rows average 0.62 m and the pillars are 0.59 m apart, indicating that *bipedales,* bricks two Roman feet square, were probably placed on the *pilae* with their longer axes oriented north–south (the in situ extant *bipedales* average $0.62 \times 0.60 \times 0.05$ m). Although the actual spacing of the *pilae* departs from the average by as much as 0.1 m, the arrangement of tiles need not have been irregular. A large square tile found in the *caldarium* may indicate the means of distributing the weight of floor tiles over off-center *pilae.*

At hypocaust level there are three entrances to the room. Hot air entered the *tepidarium* hypocaust from the *caldarium* hypocaust through a simple unvaulted passage 0.39 m wide, 0.77 m long, and 0.75 m tall, cut obliquely into the party wall about 1 m from its southern end. Apertures in the exterior walls, for cleaning rather than heating, are set approximately in the middle of the south wall and toward the northern end of the east wall of the room. The former, 0.4 m wide and 0.5 m high, is poorly but completely preserved; the finished brick sides are fractured, and the flat brick lintel is broken. It was originally filled with a large block, now slumped out of position, set with white marl mortar. The opening in the east wall, measuring 0.76 m long and 0.50 m wide, has slightly better preserved faces, but the lintel is absent. A thick layer of very fine reddish clay adhering to the sides of the entrance suggests that this, too, was normally kept

11. A plagioclase-hornblende-phyric rock. Essentially a volcanic lava made up of a very fine hornblende matrix containing large black hornblende and white feldspar inclusions. I thank Ruth Siddall for this identification.

Figure 5. Panayia bath, looking north

blocked during regular use. It is clear from material found in the opening that the plugging material was removed relatively soon after the bath ceased functioning. The fact that the lower courses of brick in the aperture are fractured and burnt by flames, the finding of a stewpot in situ, and the presence of wood ash combine to suggest later use as a hearth and supplementary heat source. Closing the apertures presumably prevented hot air from escaping and maintained an even circulation through the system and up the walls.

The thickness of the east and west walls tends to suggest that the room was barrel-vaulted along its north–south axis. Nothing of the walls' revetment survives, but a score of hollow spacer tubes (**25–26**, Fig. 17), found in the destruction fill over the ash on the hypocaust floor, indicates that the wall was veneered, probably with marble slabs attached to vertically placed bricks. The bricks would have been kept in place by iron spikes driven through predrilled holes in their corners, through the spacer tubes and into the wall. A gap of about 0.07 to 0.08 m between the veneer and the wall face was thereby left for the circulation of hot air. These spacer

tubes are paralleled at Corinth by finds in the Great Bath on the Lechaion Road, from the *tepidarium* hypocaust of the South Stoa bath, and in the *caldarium* of the Zevgolatio bath.[12]

Caldarium

The *caldarium* is relatively well preserved except for a section of flooring removed to construct foundations for the long east wall of a 19th-century house. Part of the trench excavated by the Greek Archaeological Service had exposed the north *baptisterium* and the northern half of the main room.

The *caldarium* has a cruciform plan consisting of three small chambers axially arranged and opening onto a central main room. The north and south chambers are clearly *baptisteria,* but the west chamber is significantly different in form and must have served a slightly different function from the other two. The sidewalls of the chambers are 0.75 m thick except where the east wall of the north chamber is cut back to accommodate the corridor between the *frigidarium* and *tepidarium,* while the back walls of all three are only 0.65 m thick. They are constructed of *opus mixtum,* or cemented rubble with bands of brick, on the exterior and of coursed brick and mortar on the interior. Excavation of the fill of the *caldarium* hypocaust is far from complete, and much of the reconstructed arrangement remains provisional.

Main Room

The hypocaust plan consists of a square central space with a narrow tunnel connecting the *caldarium* with the *tepidarium* to the east and smaller rectangular arms on the remaining three sides (Fig. 4). The central hypocaust area measures 2.5 m square and originally had fourteen freestanding *pilae* arranged in four rows, of which only ten are now preserved. The north and south rows each have three *pilae* and a rectangular pier, 0.3 by 0.35 m, that abut the hypocaust wall at their eastern ends. As in the tepidarium, the *pilae* are a mixture of round tiles and roughly rounded and squared andesite blocks standing to a height of approximately 0.7 m. At the northwest corner of the space there is a narrow ledge of bricks about 0.1 m wide abutting but not bonding with the hypocaust wall. Presumably there was once a similar ledge in the corresponding position at the southwest corner since these instead of corner *pilae* or piers would have served to support the floor. The floor, 0.22 m thick, is made from six distinct layers of building material. A layer of *bipedales* rests directly on top of the *pilae.* A second layer of *bipedales* is mortared to the first by a 0.06-m-thick band of coarse white cement. Another layer of coarse cement acts as the bedding foundation for a fine white mortar onto which the marble slabs of the floor's surface are laid.

North and South Rooms

Although little can be seen of the north and south *baptisteria* hypocausts, it is possible to reconstruct the arrangement of *pilae.* Round brick *pilae* can be seen supporting the parapets of both of the *baptisteria,* and the edges of

12. *Corinth* XVII, nos. 113–115 and Corinth NB 170, p. 63; the saved material included about twenty fragments of these tubes. According to *Corinth* XVII, p. 46, notes 28 and 29 and Yegul 1992, p. 465, note 26, fig. 454:d, these tubes are also known from the British Isles and Romania.

the overlying *bipedales,* with segmental heating ducts cut at their outer edges, are visible at the sides of the *baptisteria.* Since *bipedales* have clearly been used as a floor foundation and the dimensions of the rooms, both 1.3 m square, would accommodate four of these tiles laid edge to edge, one must assume that the floor is supported by nine regularly spaced *pilae.* The floors of the *baptisteria* are approximately 0.3 m lower than that of the main room, and the *pilae* are therefore shorter than those of the central hypocaust. The *pilae* visible at the entrance of the *baptisteria* hypocausts touch or almost touch the *pilae* at the north and south rows of the main room. They support the brick-built front edge of the *pulvini* (Figs. 3, 4). The *baptisteria* floors are made of two layers of tiles mortared by a thin application of coarse white cement and covered by coarse white cement and a finer cement to secure the floor veneer. The floors, 0.15 m thick, are considerably less substantial than the floor of the main hot room.

Both spaces were clad in a schisty blue marble revetment and seem to have been covered with a short north–south barrel vault. The parapet of the north *baptisterium* is better preserved than that of the south. It is built of brick and mortar, about 0.6 m thick, and stands to an incomplete height of 0.2 m (el. +93.51) above the marble floor surface of the main room. Viewed from the south, the recessed portal, about 0.6 m wide, is displaced to the east, and a jamb 0.3 m wide projects on the west side of the entrance. The outer step of the parapet, the surface of which is not preserved, is one tile thick with a facing of revetment on both sides; white marble is used on the outside and the schisty blue on the inside. A narrow ledge on the north side of the parapet, almost 0.2 m wide, also serves as a step. This step, at an elevation of +93.41, is 0.11 m higher than the floor of the main room (el. +93.30) and 0.33 m above the *baptisterium* floor (el. +93.08). To judge from the preserved height of the parapet of the west room, the *baptisterium* was at least 0.6 m deep with the top of the parapet at about 0.35 m (el. ca. +93.67) above the floor of the main room.

Iron braces, which helped to keep the revetment in place, are preserved on the ledge. The interior of the tub measures 1.03 m long by 0.82 m broad, and revetment plaques are partially preserved on all four sides and on the floor of the tub. The floor is paved with two unequally sized slabs of the same blue stone laid across the room, with the broader slab on the north side. A shallow, worn channel in the latter slab carried water westward toward the drain, of which only the cement casing remains. On the north and south sides the revetment is cemented directly onto the walls, and thus we know that the walls were unheated. The facing on the east and west sides of the *baptisterium* is approximately 0.2 m from the face of the wall, and it is clear that both of these surfaces were heated. The lowest course of flooring is visible, revealing that although the tiles supporting the floor ran up to the side walls, they were cut segmentally along their outer edge to permit the passage of hot air vertically. The gap between the revetment and the walls was created by mortaring the plaques to a tile surface presumably kept in place by spacers similar to those found in the fill of the *tepidarium.*

The south *baptisterium* lacks some of these features but retains others. The parapet has been robbed to below the lobby floor level (el. +93.36) but

was clearly almost a mirror image of the north portal and parapet. The entrance is offset slightly to the east again, and there is a 0.3-m jamb on the west side. Fragments of revetment adhere to the north step and south wall, but on the east and west walls only the line of the revetment surface is apparent from the raised cusp at the edges of the cement flooring. The floor plaques have been robbed, but the impressions of two unequally sized slabs, laid on a north–south axis, are preserved in the cement bedding (el. +93.02). Surviving traces of the floor and wall revetment indicate interior dimensions of 0.99 by 0.78 m. There are clear indications that the side walls were heated from below. In both there are recessed rectangular flues, and the east wall preserves part of a terracotta gutter tile, with a U-shaped profile, still in place. There was, furthermore, a gap between the tub's revetment and the wall proper. The walls here stand as much as 0.6 m (el. +93.60) above the *baptisterium* floor and in the west wall a lead drain pipe at floor level runs westward through its thickness. This pipe has an interior diameter of about 0.06 m with a wall thickness of approximately 0.002 m.

West Room

The west cubicle is different from its neighbors in a number of respects. Its side walls are preserved to floor level only on the north side, while its floor was found immediately below the floor of a 19th-century house. The parapet of the cubicle abutted the interior west wall of the later house and acted as a form of low bench or perhaps as a threshold step.

The hypocaust, measuring 1.3 by 1.6 m, is the same length as those of the north and south *baptisteria* but is somewhat broader. The interior is not easily accessible, but six *pilae* are clearly visible. These are a mixture of trimmed square and round andesite blocks arranged in two slanting and irregular rows 0.7 m from each other along the east–west axis of the room. The *pilae* are closely spaced within the rows, leaving an interval of only about 0.5 m between each. Two *pilae* support the concrete parapet and two abut the west wall on either side of the *praefurnium* tunnel (see below). Instead of columnar supports for the floor on the sides there are narrow piers, 0.1 m wide and 0.25 m long, at each corner and at the center of the north and south walls. The tiles used as the undersurface of the floor are poorly preserved and have been burnt dark gray from the heat in the hypocaust. The floor is made up of two layers of tile bonded together by white cement and a cement base for the marble plaque surface. This preserves the impressions of two unequally sized marble plaques spanning the breadth of the room. The top of the cement is level (el. +93.34) with that of the main room.

Because the north and south walls are 0.75 m thick, a short east–west barrel vault can be restored over this room. A deposit of window glass (MF-1995-052) found to the north of the furnace outside indicates that a window, probably in the arched gable on the west side, lighted the room. Fragments of revetment survive at the base of the three walls, and the imprint of revetment in the cement on the west edge of the floor shows the interior dimensions, approximately 0.9 m by 1.1 m, to be slightly larger than those of the *baptisteria*. The west wall was pierced at floor level by an

aperture 0.35 m wide over the *praefurnium* tunnel where the cement of the flooring continues through the thickness of the wall. Here the cement surface is 0.03 m lower than the bedding for the marble floor revetment and an edge with two corners can be clearly traced projecting eastward just beyond the line of the wall revetment. The aperture and recessed floor probably accommodated a semicylindrical metal tank with one open end (a *testudo* or *testudines alveolorum*). This tank was heated directly by the flames and heat radiating from the furnace. Warm water in the cubicle was able to circulate in and out of the *testudo* and was thereby kept at a much higher temperature than in the north and south *baptisteria*.

Apparently related to the west room's function as a tank for holding hot water is a curious diagonal line of smoothed cement with an almost semicircular profile that can be traced on the exposed surface of the parapet. It can be traced running through the entire thickness at its south end at a height of about 0.2 m above the floor of the chamber. This was created by the impression of a long cylinder with an external diameter of about 0.07 m into the cement during construction. The shadow of a corresponding line can be seen at the north end of the same parapet, and at the west end of the parapet of the north *baptisterium* there is a similar impression. It is clear that these are the imprints of lead pipes that once ran from the west cubicle to the north and south *baptisteria* through the offset western jambs of the cubicles. Heated water was thus supplied from the hot west room to the other two tubs. To judge from the elevation of the outflow pipe, however, it seems that the majority of water in the chamber was retained, plausibly for bathing in very hot water. The water in the north and south *baptisteria* must have been somewhat cooler.

The parapet survives to a height of about 0.25 m (el. +93.61), perhaps close to its original elevation, above the marble paving of the main room. Marble revetment still adheres to its inside surface while a flat iron revetment rivet and the flattened surface of the cement on the exterior surface show that its total thickness of 0.4 m was rather less than the corresponding elements of the north and south *baptisteria*. A slightly raised, rectangular block of brick and cement just over 0.6 m long and 0.25 m wide, centrally placed, appears to be the threshold of the doorway from the main room. Its position suggests that the doorjambs to either side were about 0.14 m wide. Along the inside (western) edge of the threshold is a narrow ledge, or step, 0.14 m wide. Through the middle of the parapet at its base is a lead drainpipe with an exterior diameter of 0.07 m and walls 0.002 m thick. Since it would have been simple to drain water to one of the two exterior drains, we must assume some purpose was served, such as further raising the humidity, by emptying the tub into the main room.

The north and south walls were heated from below through two almost semicircular cuttings in the floor tiles located between the narrow brick piers supporting the floor on either side of the room's hypocaust. The revetments applied to the walls of the room are over 0.2 m thick and are mortared not to a single but to a double thickness of tile, leaving a narrow gap between it and the exterior wall.

Figure 6. Panayia bath, looking east

Service Areas

The *tepidarium* service area is the approximately "L"-shaped space that remained in the southeast corner of the foundation cutting after the bath's construction (see above). Its earthen walls are parallel with and 1.60 m from the south wall and at least 3.0 m from the east wall of the bath. On the south side the floor of the service area is about 0.1 m lower than the *tepidarium* hypocaust floor. When excavated it was covered with a thick layer of ash and carbon left presumably after cleaning the hypocaust. As mentioned above, the inspection hatch door on the south side was sealed with a large limestone block mortared into place with marl. The *opus caementicium* exterior walls of the *tepidarium* and south *caldarium* plunge are covered with a layer of coarse cement scored with the edge of a trowel or similar tool. Traces of a superior-quality outer coating of plaster survive. These preserve patches of dark red color, and presumably the entire exterior of the bath was painted. The east side has not yet been excavated to floor level and so remains to be defined.

After abandonment the service area was backfilled with a dump of earth, tile, and pottery, and a small structure was subsequently built against the east side of the *tepidarium* at its north end. This addition perhaps rep-

resents a phase of reoccupation for domestic purposes since there is ample evidence for the east clean-out tunnel being used as a fireplace. The brick of the tunnel has been badly damaged by direct contact with flames, and the exterior room contained a quantity of ash. In the ash was a substantially preserved cooking pot, **19**, of a type normally considered to be later 6th to early 7th century in date. The fire may have had the dual purpose of warming a domestic apartment and serving as a kitchen hearth.

On the west side the floor of the service area was at the level of the surrounding ground level from which the foundations were dug. It is divided into three distinct parts by two 3-m-long spur walls projecting westward from the west cubicle of the *caldarium* (Fig. 4). The northern wall, made principally of rubble and cement with some large reused limestone blocks bonded with a coarse white mortar, is perfectly aligned with the axes of the bath. The south wall, however, constructed principally of very large, reused limestone cut blocks, is oriented at an angle 5 degrees south of the main east–west axis. Its construction and orientation both suggest that this wall is part of an earlier construction incorporated into the bath's layout.

The north and south divisions of the west service area are dedicated to drainage of water from the *caldarium*. From the south *baptisterium* the drain runs west along the exterior face of the west cubicle and the south spur wall for a distance of about 3-m before turning north, at a 90 degree angle, past the ends of the service area spur walls. From the north spur wall the drain runs northeast to the west apse of the *frigidarium,* around which it curves before following the west face of the entrance hall northward along its entire length. From the north *baptisterium* a shorter stretch of drain runs northwest to its confluence with the main channel.

The drain is imperfectly preserved at the southwest, where only its foundations survive, and to the north of the west *frigidarium* apse, where a stretch of almost 5 m has been completely robbed out; elsewhere it survives almost intact. The drain is constructed of Laconian roof tiles 0.63 m long and from 0.25 to 0.19 m wide, laid end to end on a foundation of large pebbles and tile fragments set in white cement. Flanking the tiles on either side are low side walls 0.15 to 0.20 m wide and about 0.2 m high. These are constructed in places of small limestone blocks cemented together, but are mainly of white cement—with the minimal addition of large pebbles and broken tile—that had been poured into a rough form. In places, flat stones, and tile fragments of the original covers were found in situ. The drain has an average flow line grade of 1.8%, descending 0.42 m over its 23 m length from the south *baptisterium* (el. +92.89) to its north end (el. +92.47) at the northwest corner of the entrance hall.

The *caldarium* furnace occupies the central space between the service area spur walls. It is a brick- and cement-built structure, 1.3 m square, appended to the west side of the west cubicle of the *caldarium*. The original form consisted of two parallel walls, each about 0.4 m thick and set 0.4 m apart, but continuous use as a firing chamber broke and eroded the interior into a more or less circular shape. The interior was repaired with a layer of cement on at least one occasion. It is unclear whether the furnace walls supported a separate boiler tank, whether it was simply closed off, or whether the *testudo alveolorum* extended over the space. Two short side

walls, each 0.2 m thick, close off the space between the furnace and the north and south spur walls. The enclosed space was evidently left open; excavation of the area on the north side encountered ash and charcoal as well as a substantial fragment of a glass windowpane (MF-1995-052).

The walls of the furnace area show no sign of plaster or paint layers, suggesting that the walls were left plain. The exterior surfaces of these walls, the walls of the *baptisteria,* and the *frigidarium* plunge have extensive traces of the same sequence of plaster and paint noted on the southwest side of the bath, clearly indicating that the west side of the baths were also painted dark red.

Date

The date of construction can be established from the material in strata below the floor level of the entrance hall, from the foundation trench fill south of the *caldarium,* and from the layers cut by this foundation trench.[13]

To the south of the bath there is a sequence of pre-bath habitation and destruction layers. The earliest levels excavated to date are associated with a building destroyed by fire, perhaps sometime in the 3rd century. After a period for which there is as yet no evidence of activity, a flimsy structure was built. This building is represented by the stumps of two parallel walls, one south of the bath's *tepidarium* and the other south of the west *caldarium* cubicle. Both walls are constructed of orthostates retaining an earth and rubble packing. Strata running up to the eastern wall contained very fragmentary material datable to the 5th or even early 6th century.[14] The fragmentary pottery includes sherds of Late Roman C (LRC or Phocaean Red Slip) form 1B, a base possibly of LRC form 3, Gaza and Benghazi Late Roman 2 amphoras, corrugated basins, bowls with folded rims as *Corinth* XVIII, ii, no. 275, stewpots as and including **17**, and fragments of late lamps. The fragment of LRC form 1B should date to sometime in the first three quarters of the 5th century[15] while bowls as *Corinth* XVIII, ii, no. 275 are common in Late Roman levels at Corinth dating from the 4th to the 6th centuries.[16] Stewpots with an everted folded rim and a corrugated body as **17** also seem to be fairly typical of the mid to late 5th century. A late-5th- to early-6th-century coin (coin 1996-184, Vandal) at the bottom of the series of strata (basket 107) is certainly the best indication of their late date. All these layers were physically cut by either the *tepidarium* service area trench, the *caldarium* foundation trench, or both.

Excavation of pre-bath levels in the entrance hall, at the north end of the bath, was made possible by the destruction of the original floor in the room's north part by recent plowing. The north 3.0 m of the room were excavated to a depth of 0.5 m below floor level.

Lot 1996-070 contains material from a dumped fill associated with phases predating the construction of the bath.

Lot 1996-070. Lens of tile and earth under the floor of the entrance hall.

Pottery: 2 AfRS Hayes form 50B; 1 AfRS Hayes form 67; 5 misc. AfRS; 2 LR Attic bowls; 1 unid. RS with stamped concentric circles; 1 ESA plate floor; 1 rim red-washed jar; 1 rim red-

13. The abbreviations employed in the lot descriptions below are those usually employed in the Corinth record-keeping system. Many, such as AfRS (African Red-slip Ware), ESA (Eastern Sigillata A), and LRC (Late Roman C), are standard for pottery of this period; others are b.s. (body sherd), gl. (glazed), inc. (including), misc. (miscellaneous), ptd (painted), and unid. (unidentified). Amphora types are usually referenced to either *Agora* V or *Benghazi* II, and lamps to *Agora* VII. For our convenience we frequently reference forms that recur in Corinth to inventoried, numbered, or published examples; for the reader's convenience I have added references to published examples wherever possible.

14. Sequentially from bottom to top these are Corinth NB 881, baskets 107, 106, 105, and 102, to the west of the wall, and NB 881, basket 111, lot 1996-072, and lot 1996-073 to its east.

15. Hayes 1972, pp. 325–327.

16. Williams and Zervos 1982, p. 138.

washed dish; 9 matte-ptd amphora b.s.; 4 rims, 4 bases Cor. amphoras as C-1981-012 (= Williams and Zervos 1982, no. 78); 15 micaceous water jar b.s.; handle and b.s. of Aegean red amphoras (= Niederbieber 77; Slane 1994, nos. 21–23); 2 basins with flaring rim; 1 wheel-ridged basin with horizontal rim; 1 basin with outward-folded rim; 2 rims bowls with folded rim (as *Corinth* XVIII, ii, no. 275; Williams and Zervos 1982, no. 69 with comparanda; and Slane 1994, nos. 44–46); 1 stewpot with outturned folded rim as **17**; 4 stewpots with outturned horizontal rims; 1 dish lid; 1 sombrero lid; 2 stoppers cut from sherds.

Lamps: 3 Attic gl. (1 as *Corinth* XVIII, ii, no. 55 and *Agora* VII, no. 1912, 1 discus with bear moving left and 1 Attic nozzle); 1 postglazing, cf. *Agora* VII, nos. 1651–1662.

Other finds: 1 ptd plaster; 3 glass inc. 1 window, 1 knob; 1 bovine scapula, 1 ovid mandible, 7 *murex*, 3 oyster, 2 *gaederopus*.

The lamp fragments from these pre-bath construction phases are important inasmuch as they confirm the relatively late date ascribed to the immediate preconstruction phase. Since the publication of *Agora* VII there has been a tendency to downdate the end of Attic glazed lamp production. The old standard proposed that Athenian workshops had already abandoned the practice of glazing before the fourth quarter of the 4th century,[17] but new hypotheses suggest continuity well into the 5th century.[18] So far scholars working on Corinthian contexts remain uncommitted, preferring to draw their conclusions strictly from the stratigraphic, ceramic, and numismatic evidence presented by their study material. Following the old chronology and evidence from the Demeter sanctuary, the lamps in lot 1996-070 should belong the second half of the 4th century. According to the new chronology they date to the first half of the 5th century. In this case, the pottery does not help to resolve the problem or to supply a more precise dating; Hayes dates AfRS form 50B to ca. 350–400+ and form 67 to 360–470; the latter is presently subdivided only by stamped decoration.

Construction Contexts

The construction contexts include the fill of the foundation trench of the south *baptisterium* of the *caldarium*[19] and fill below the floor of the entrance hall above lot 1996-070. The foundation trench was cut from the

17. In *Agora* VII, p. 64, "ca. A.D. 360" is proposed as a working hypothesis only.

18. In Garnett 1970 (a study of the material found in the Fountain of the Lamps at Corinth), p. 155, the change is dated at ca. A.D. 375, while in Garnett 1975, pp. 185, 191, Corinthian copies of Attic lamps are placed "in the last years of the fourth century and early in the fifth," and the new beginnings of the Corinthian lamp industry "in the early years of the fifth century." The implication is that the Attic prototypes were still being produced in the last decades of the 4th century, if not later. The waterlogged conditions in the Fountain did not permit excavation of stratified horizons except at its extreme end. Here, lot 6105, overlying the floor, contained 48 catalogued lamps, including 32 gl. and 4 ungl. Attic lamps. The latest pottery dated to the mid 5th century, and the latest coin was identified as an issue of Honorius (A.D. 408–423). Lot 6103, overlying both lot 6105 and the floor, contained 734 registered lamps, among which are only 7 gl. and 81 ungl. Attic lamps and 153 imitations of North African lamps (*Corinth* IV, ii, type 31). The latest pottery dated to the early 6th century, and there were no associated coins. The limited and discrete nature of lot 6105 suggests that the Attic lamps therein contained date to the late 4th and to the first half of the 5th century and that Corinthian imitations start in the early 5th and continue into the 6th century. Judith Binder in *Kenchreai* V, Addenda, opposite pl. 1, examined lamps from the Kerameikos at Athens in the light of Garnett's study and acknowledged that much of what, in *Agora* VII, she had placed in the later 4th century was indeed forty to sixty years later. A deposit of lamps from a burnt strosis in and immediately outside room I of the baths at Isthmia (Wohl 1981, pp. 119–123) can be argued to be early 5th century in date. Most recently, Karivieri (1996) has put these ideas together with supporting evidence from Athenian and other contexts, most plausibly context H–I 7:1, excavated in the Athenian Agora in the early 1930s. If this new interpretation stands up to closer scrutiny, a complete reassessment of the 4th to 6th centuries in Greece will be necessary.

19. Lot 1996-074 and Corinth NB 881, basket 101.

surface of basket 102, the highest in the series of 5th-century strata associated with the orthostate walls described above. In its upper portions was a stewpot, as **18**, of a type usually found in mid- to late-6th-century contexts. Above lot 1996-070 were two layers also apparently of 6th-century date.

Lot 1996-071. Compact red earth with tiles under the floor level in the entrance hall above lot 1996-070.

Pottery: 3 AfRS including 1 Hayes form 50; 6 LRC including Hayes form 3.25, 3.29; 9 red-washed pitchers; 5 b.s. *Benghazi* II, LR amphora 1; 1 handle and 7 b.s. Gaza amphora (= *Benghazi* II, LR amphora 5?); 2 b.s. Palestinian (= *Benghazi* II, LR amphora 4?); 2 basins with upturned horizontal rims; 1 basin as C-1956-018; 1 spouted pitcher nozzle; 1 dimple-based jug; 2 round-mouthed pitchers; 1 jar with concave outturned rim; 1 jar with flaring rim and beveled lip; 1 jar with vertical collar rim; 1 bowl with flaring rim and beveled lip; 2 flat-based closed vessels; 1 table amphora with rounded rim.

Other finds: 1 ring stand for an amphora; 2 window glass; 1 possible heel of an iron hammer.

NB 881, basket 133. Lens of fill immediately below lot 1996-071.

Pottery: 1 rim AfRS Hayes form 104A.

On the face of it, the latest material in the bath construction phase dates to the 6th century. The rims of LRC form 3.25 and 3.29 in lot 1996-071 are both dated by Hayes to the second quarter to the middle of the 6th century[20] while the earliest fragments of AfRS form 104A are now dated to about A.D. 500.[21]

Lot 1996-071 is not physically sealed by the entrance hall floor because the floor here was destroyed by recent plowing. Its top, however, begins at an elevation about 0.2 m below the upper surface of the floor where it is preserved to the south. Only with some difficulty could it be argued that both lot 1996-071 and the upper reaches of the foundation trench containing the stewpot **18** were deposited in a postconstruction phase. In the case of the latter, it is possible that the foundation trench fill had settled and the stewpot was deposited in the ensuing hollow. Erring on the side of caution, therefore, one may say that the bath was certainly constructed after the end of the 5th century and that a date as late as the mid 6th century is probable. A more definitive statement may be possible only after excavation below the surviving cement of the lobby floor.

Two contexts, lots 1995-062 and 1995-070, contain material belonging to the period of the bath's use.

Lot 1995-062. Ash above the tepidarium hypocaust floor.

Pottery: 1 AfRS b.s. Hayes form 104–106?; rim of flanged bowl with combed decoration as **10**; neck and b.s. of a red-washed pitcher; 1 rim and 1 handle of a small Gaza amphora; 1 rim of stewpot as C-73-239 (cf. **19**).

20. Hayes 1972, p. 338.

21. Hayes (1972, p. 165) remarks on its absence from the 526 earthquake deposit at Antioch and its presence in Athenian Agora deposit O–Q:18–19, dated 530–550. The Athenian context also contained LRC group III stamps (Hayes 1972, p. 349) and a variety of lamps; see *Agora* VII, p. 227, M–Q:17–21; Hayes 1980, p. 507, no. 30.

Other finds: 2 wall spacer tubes as **25–26**; coin 1995-411: half-follis of Justin I (518–527), Cyzicus.

Lot 1995-070. Ash from cleaning the hypocaust in the service area of the tepidarium.

Pottery: **2** (LRC Hayes form 3); **8** (bowl with flaring wall and vertical rim); 7 b.s. red-washed table amphora; 12 b.s. red-washed jug; 3 low and 1 high rim Gaza amphoras and 3 handles; 2 rims LR amphora 2; 1 basin rim as C-76-255 (similar to **16**); 1 rim basin with flaring rim; **13–14** (small bowls); 2 stewpot rims as C-73-239 (similar to **19**); 2 knobs and 2 rims of lids.

Other finds: 1 AE ring without bezel; 1 rim of a marble mortarium; 2 bases and 4 rims glass cups; 19 frags. water pipe; 1 terracotta "hoe."

These lots both contain material that is close in date to the latest material of the presumed construction phases. The pottery suggests only that the last clean-out of the bath was in or after the mid-6th century and that the use of the bath was probably extremely short-lived. The half-follis of Justin I (518–527), minted in Cyzicus, is a rarity.

In and to the east of the *tepidarium* there is ample evidence to suggest that the bath was no longer in use by the end of the 6th or early 7th century. Lot 1995-063 consists of material from a thin stratum of powdered cement overlying the ash within the *tepidarium* hypocaust. It contains fragments of thirty-five ceramic spacer tubes, which were originally used to separate the bath's marble veneer from the wall (**25–26**). Two rims of LRC Hayes form 10A indicate a date of deposition no earlier than the last quarter of the 6th century.[22]

Lot 1995-063. Layer of powdered cement overlying the ash in the tepidarium (above lot 1995-070).

Pottery: 1 rim AfRS possibly Hayes form 50B but coarse with spiral burnishing (cf. Hayes form 109); 2 rims LRC Hayes form 10A; 2 b.s. LR amphora 1A; 3 handles and 1 b.s. Gaza amphora; 20 b.s. LR amphora 2; 10 b.s. wheel-ridged amphora; 2 basin rims, inc. 1 as C-76-255 (similar to **16**); 2 stewpot rims as C-73-239 (similar to **19**); 2 lid knobs similar to **20**; 2 rims of a lid as C-69-244.

Other finds: 35 conical wall spacer tubes including **25** and **26**.

Outside the *tepidarium* to the east was a dump of pottery over what had been the service area. Again, the latest pottery dates no earlier than the late 6th century.

Lot 1995-061. Dumped fill in the service area of the tepidarium.

Pottery: **1** (LRC Hayes form 3); **7** (dish); **22–23** (knobs with christogram); **15** (basin); **16** (basin); 3 rims AfRS inc. Hayes form 104,

22. Hayes 1972, pp. 343–346.

105, and 91C; 2 rims imitation AfRS Hayes form 104?; 4 rims flanged bowls as **11**; 3 rims as **5** (Attic RS dish, cf. C-73-036); 1 bowl with outturned rim; 15 more knobs as **20**, **22–23**, and 33 rims of bell lids as **20–21**; 14 other inturned rims of basins as **15**; 17 other rims of basins as **16** (cf. C-76-255); 2 rims of table amphoras as C-74-188; 18 rims stewpots as **18–19**.
Lamps: 2 frags. imitation AfRS lamps, 8 other frags. LR lamps.
Other finds: 1 small bronze cross.

Against the east wall of the *tepidarium* a small structure was built after the building had ceased to be used as a bath. Ash layers indicate that the *tepidarium* hypocaust was still being heated into the early 7th century and that the bath perhaps was occupied as a residence. An almost complete cooking pot within the occupation levels of this small room shows that it may have served a double purpose as a service area *cum* kitchen.

Lot 1995-064. Earth and tile fill over the floor in the post-bath room to the east of the tepidarium (above lot 1995-065).

Pottery: **3** (LRC Hayes form 10A); **4** (LRC Hayes form 10A); **9** (flanged bowl); 2 other rims, 1 base, 2 bodies LRC Hayes form 10A; 1 base and 2 b.s. AfRS Hayes form 105 or 106?; 1 rim as **5** (Attic RS dish, cf C-73-036); 1 handle LR amphora 1B; 5 rims LR amphora 2; 2 handles Gaza amphoras; 1 knob lid as C-69-244; 2 rims flat lid, 2 rims basin as **16**; 1 rim basin as **15**; 1 rim stewpot of a developed form of **19**.
Other finds: 14 window glass, one preserving edge.

Lot 1995-065. Floor in the post-bath room to the east of the tepidarium (below lot 1995-064).

Pottery: **19** (stewpot); 2 rims of bowls as **8**; 1 b.s. as **9–11**; 1 rim small Palestinian amphoras; 3 handles Gaza amphoras; 2 rims LR amphora 1; 1 basin rim as **16**.
Lamps: 1 handle imitation AfRS lamp; 1 shoulder as Garnett 1975, no. 30.

North African lamps were apparently made from the 5th to mid-7th centuries.[23]

The evidence clearly seems to indicate that the bath ceased operating in the mid- to late 6th century, at which point it may have been converted into a residence. There is less clear-cut evidence for the date of its desertion, however. On the south side of the bath, layers of cobbles and broken cement from a demolition operation are retained by rough east–west walls. These layers have produced no datable material that necessarily postdates the mid-6th century. Overlying the rubble is a stratum of loose, gravely, dark earth with little material culture besides sporadic 11th- and 12th-century sherds. Although there are traces of isolated occupation elsewhere in the Panayia Field,[24] the area to the south of the bath was apparently

23. Hayes (1972, pp. 313–315) cites a North African lamp with impressions of the obverse and reverse of a gold coin of Theodosius II dated 430. Wilson (1996, p. 95) reports a complete example of the same type from a putative Vandal destruction horizon dated A.D. 440 to 475. The end of the range is attested from the floor of the fortress, destroyed in the third quarter of the 7th century, at Emborio on Chios; see Ballance et al. 1989, pp. 118–121, nos. 329–333.

24. A mid-12th-century pit (lot 1995-059) was found about 12 m to the east of the bath. A large late-11th-century pit (pottery lots 1996-036 and 1996-037 and bone lots 1996-016 and 1996-015) was found about 45 m to the southeast. So far no associated structures have been revealed.

under cultivation, perhaps as a kitchen garden. It would seem then that the bath's demolition occurred sometime between the 7th and the 11th century. An Abbasid coin of the second half of the 8th or first quarter of the 9th century was found in the broken cement immediately over the footings of the robbed-out parapet of the west *baptisterium* in the *frigidarium*.[25]

The bath walls certainly had been reduced almost to or below ground level when a simple house was erected over its west side during the Tourkokrateia. The east wall of the house was founded on the west wall of the north and south *baptisteria* of the *caldarium,* and its floor overlay the west *baptisterium* and west service area. New footing trenches were cut through the *caldarium* floor into the hypocaust and, probably in expectation of another hypocaust, through the *frigidarium* floor as well. A coin of Ahmet III (1703–1730)[26] found on the packed marl floor, beneath a fall of tiles and above the west *baptisterium* of the *caldarium,* dates occupation of the house at least to the 18th century. A pit[27] north of the west end of the *frigidarium* and pottery within the robbing trenches of the walls at the north end[28] of the bath suggest that occupation and quarrying for stone continued into the 19th century.

The unremarkable quantity of material culture from the excavation of the bath hardly merits its description in detail as yet. Certain pieces of typological or chronological interest are presented below with a view to facilitating future pottery descriptions and to supplementing the known repertoire of Late Roman ceramics at Corinth.

Fabrics

The fabric typology for the catalogued pottery was assembled using the standards that appear in Appendix 2. A subjective description of hardness, color, and texture appears in the text, and a second, more detailed description based on standard ceramic petrographic practice is provided in the notes.

Fabric A
: Medium hard, red. Few small to large sparkling and white inclusions.[29] Example: **7**.

Fabric B
: Medium hard, red with light reddish brown surface. Few small to medium white and sparkling inclusions.[30] Examples: **6** and **8**.

Fabric C (possibly from Asia Minor)
: Soft, reddish brown to yellowish red core and gray to dark gray edges. Rare to few small to medium sparkling, black and white inclusions.[31] Example: **17**.

Fabric D (probably Attic)
: Fine, medium hard, reddish yellow. Few fine, small and medium sparkling, white and yellow inclusions.[32] Examples: **5**, **10**, and **12**.

Fabric E (probably Attic)
: Related to D but slightly finer. Fine, soft, reddish yellow. Few fine to small sparkling and white inclusions.[33] Examples: **9** and **11**.

25. Coin 1995-377.
26. Coin 1995-274.
27. Lot 1995-060.
28. Lot 1996-075.
29. Medium hard, red (Munsell 10R to 2.5YR 5/8) with a smooth but slightly granular and conchoidal break. Rare, small, platy sparkling; rare, large, spherical, angular opaque white quartz; rare, medium to large, subrounded, tabular and spherical, milky white inclusions.
30. Medium hard, red (2.5YR 5/8) with light reddish brown (2.5YR 6/4) surface. Smooth to hackly break. Rare to few, medium, yellowish brown spherical and tabular, subrounded sandstone(?); rare, small to medium, spherical, rounded, milky white lime(?); few, small, platy sparkling inclusions. Rare to few large channels visible on surface and in section.
31. Soft, reddish brown (5YR 4/4) to yellowish red (5YR 5/6) at core and gray to dark gray (5YR 5/1 to 4/1) at extreme edges. Some examples with granular break but more usually with a smooth conchoidal break. Rare fine to small angular, sparkling calcite(?); rare rounded, spherical, medium black and rare rounded, spherical, medium milky white inclusions.
32. Fine, medium hard, reddish yellow (5YR 6/8) with an even, slightly conchoidal break. Rare fine to very small platy, sparkling inclusions; rare rounded small to medium, spherical, rounded, milky white; rare, small to medium, spherical, subrounded, yellow inclusions.
33. Fine, soft, reddish yellow (5YR 7/6) with an even to conchoidal, slightly laminar break. Rare to few fine to very small platy, sparkling inclusions; rare, small to medium, spherical, rounded, milky white inclusions.

Fabric F (Corinthian)

This fabric displays a considerable range of color, from pink to red to gray, but has a consistent variety and quantity of inclusions. It is probably made from a mixture of two clays.[34]

F1. Medium hard, red sometimes with pink or yellowish red firing horizons and frequent medium to very large white, gray, and orange red inclusions.[35] Examples: **15**, **16**, **18**, **19**, **20**, and **21**.

F2. A fine version of F1 apparently made from a mixture of the same or similar clays, with similar color range, but with far fewer inclusions. Medium hard, red, with few small to medium white and yellow inclusions.[36] Examples: **13** and **14**.

Fabric G (probably Corinthian)

Medium hard to hard, light reddish brown fabric sometimes with darker inner surface and core. Frequent medium to very large white and orange and medium white and orange inclusions.[37] Examples: **22** and **24**.

34. Two very distinctive clay beds are to be found on the saddle between Acrocorinth and Penteskouphi within 50 m of a medieval pottery kiln on the knob directly west of the tarmac road and south of the track to Kastraki. Test firings were made in May 1993 using an industrial kiln at a variety of temperatures; the data below derive from a firing at 900° Celsius.

Clay 1: A *terra rosa* found about 50 m west of the kiln but also widely distributed over the local conglomerates. Red (10R 5/8). Hackly, slightly conchoidal break. 5–>10% medium to very large gray, black, and white inclusions with few laminar voids. 3–5% pale gray medium to very large angular, spherical, granular sandstone(?); 1–3% white, medium to large, vitreous, milky, subrounded, spherical quartz(?); 1% matte black medium, subrounded, spherical; 1% white subrounded, granular, subrounded, spherical, milky white lime(?); <1% opaque white, medium, angular, tabular to spherical chert(?).

Clay 2: A very pale brown clay from under the conglomerate beds southeast of the kiln. This has not yet been found elsewhere within a 2-km radius of the city center. Pink (7.5YR 7/6). Smooth, slightly conchoidal break. 3% medium to very large gray, black, and white inclusions with few laminar voids. Few channels and vughs(?). 1–3% pale gray medium to very large angular, spherical, granular sandstone(?); <1% white and pink medium to large, vitreous, milky, subrounded, spherical quartz(?); <1% white subrounded, granular, subrounded, spherical, milky white lime(?); <1% fine sparkling schist(?).

Clays 1+2 (2:1): Red (2.5YR 5/8). Conchoidal, slightly hackly break with >5% white, black, and yellowish gray inclusions. Few voids. 3% medium to large, matte pale yellowish gray, angular, spherical sandstone; 1% medium to large, vitreous white, subrounded, spherical quartz; 1% medium, opaque white, subrounded, spherical lime; 1% medium, matte black, subrounded, spherical; <1% medium, opaque white, angular, platy to rounded chert(?).

Clays 1+2 (1:1): Reddish yellow (5YR 6/6). Conchoidal, slightly hackly break with 5% white, black, and gray inclusions. Few voids. 1–3% medium to large, matte pale gray, angular, spherical sandstone; 1% medium to large, vitreous white, subrounded, spherical quartz; 1% medium, opaque white, subrounded, spherical lime; 1% medium, matte black, subrounded, spherical; <1% medium, opaque white, angular, platy to rounded chert(?).

35. Medium hard with a hackly break. Often red (ranging from 10R to 2.5YR 5/6 to 5/8), often with distinct firing horizons including pink (7.5YR 8/4 to 7/4) and reddish yellow to yellowish red (5YR 6/6 to 5/6) edges or exterior edge only and light reddish brown to reddish brown (5YR 6/3 to 5/3) cores and interior edges. Some vessels (usually for cooking) are burnt gray (5YR 5/1) and reddish brown (5YR 5/3) on the exterior surface. Few large to very large spherical and tabular, angular (possibly crushed) opaque lustrous white calcite(?); few medium spherical, rounded, milky white and gray quartz; rare, medium, tabular, subrounded, orange red. Occasional fine laminar pores in section parallel with surfaces.

36. Medium hard, red (10R to 2.5YR 5/6 to 5/8) with a smooth to conchoidal break. Few visible round pores and few small, spherical, rounded, hollow yellow lime(?) and rare, medium, milky white inclusions.

37. Medium hard to hard, pink to light reddish brown (5YR 6/4 to 7/4) sometimes with darker (5YR 6/2 to 6/4) inner surface and core. Smooth, slightly hackly to hackly break. Frequent medium to very large spherical, angular, milky white and orange quartz, rare, medium, tabular, white and orange quartz inclusions.

Fabric H (possibly Corinthian)
Unable to obtain fresh break. Red at core and edges fired gray.[38] Example: **23**.
LRC1 (Phocaean)
Medium hard, red with rare, small milky white inclusions.[39] Examples: **1**, **2**, and **3**.
LRC2 (Phocaean)
Medium hard, red with frequent small to medium yellow inclusions.[40] Example: **4**.

Catalogue of Pottery[41]

1 LRC Hayes form 3 Fig. 7

Lot 1995-061:1. Several fragments preserve about one-third of upper body and rim.
Max. p.H. 0.056; D. rim 0.274 m.
Fabric LRC1.
Steeply flaring convex body rising to offset, outwardly thickened rim with inwardly beveled lip. Light red (10R 6/8) slip inside and out fired to red (10R 5/6) on outside of rim.

2 LRC Hayes form 3 Fig. 7

Lot 1995-070:1. Two fragments preserve about one-fifth of rim and upper body.
Max. p.H. 0.052; D. rim 0.262 m.
Fabric LRC1.
Steeply flaring convex body rising to outwardly thickened rim, offset outside, with inwardly beveled lip. Red (10R 5/8) slip inside and out.

3 LRC Hayes form 10A Fig. 7

Lot 1995-064:2. One fragment preserves about one-tenth of the rim only.
Max. p.H. 0.037; D. rim 0.298 m.
Fabric LRC1.
Flaring, slightly convex wall rising to outwardly and inwardly thickened rim. Light red to red (10R 6/8 to 5/8) slip inside and out fired weak red (10R 5/2 to 4/2) on exterior of rim.

4 LRC Hayes form 10A Fig. 7

Lot 1995-064:3. One fragment preserves about one-sixth of rim.
Max. p.H. 0.028; D. rim 0.281 m.
Fabric LRC2.
Flaring, slightly convex wall to outwardly thickened rim with inwardly beveled lip. Red (10R 5/6) slip in and out fired weak red to reddish brown (10R to 2.5YR 5/4) on exterior of rim.

5 Attic RS dish Fig. 8

NB 881, basket 023. One sherd preserves less than one-tenth of rim and upper body.
Max. p.H. 0.033; D. rim 0.190 m.
Fabric D.
Flaring, slightly convex wall rising to narrow carination. Flaring rim concave outside with rounded lip. Red (10R 6/8) slip in and out with pale red (10R 6/3) patches inside.

6 Dish Fig. 8

NB 881, basket 015. One fragment preserves about one-eighth of rim and upper body.
Max. p.H. 0.019; D. rim 0.150 m.
Fabric B.
Outwardly convex wall flaring to horizontal rim with broad groove on upper surface and squared outside edge. Undecorated.

7 Dish Fig. 8

Lot 1995-061:2. Three fragments preserve about one-quarter of rim and body including profile from base to rim.
H. 0.0470; D. rim 0.180; D. base 0.064 m.
Fabric A.
Flat bottom with flaring, slightly convex wall. Vertical, outwardly thickened rim with rounded lip offset

38. Light red (2.5YR 6/8) core with weak red (2.5YR 5/2) edges. Large laminar pores parallel with surface and occasional voids visible on the surface.

39. Fine, medium hard, light red (10R to 2.5YR 6/8) with smooth, slightly conchoidal break. Rare, small, spherical, rounded, granular, milky white lime(?) inclusions and frequent small to medium pores.

40. Medium hard, red (10R 5/6) with fairly smooth, slightly conchoidal break. Frequent small to medium, spherical and platy, rounded, granular, milky yellow lime(?) inclusions and frequent small to medium pores.

41. In cases where it is not desirable to inventory an object the Corinth system allows one to number it within its lot; hence the notation lot 1995-064:3 refers to the third fragment so numbered in lot 1995-064. Some of the contents of certain contexts are discarded with the exception of certain pieces of interest; these are set aside and collected together as material deriving from unsaved deposits pertaining to a particular excavation notebook. When the notebook has been completed this material is given a lot number. Since the notebooks referred to in the excavation of the bath have not yet been completed some of the sherds in the catalogue are referred to by their notebook and basket reference alone, hence NB 881, basket 023.

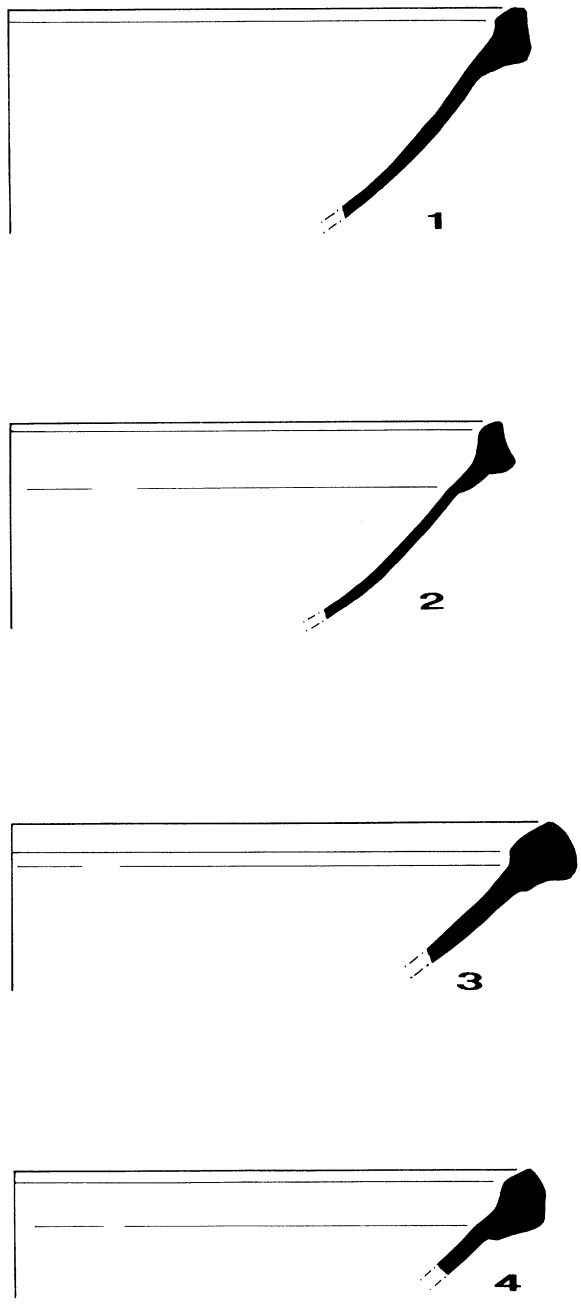


Figure 7. LRC bowls 1–4. Scale 1:2

outside. Fugitive light red (lighter than 2.5YR 6/6) slip inside and out.

8 Bowl Fig. 8

Lot 1995-070:2. Two large fragments preserve complete profile including about two-thirds of the base and one-sixth of the rim and body.

H. 0.060; D. rim 0.197; D. base 0.064 m.

Fabric B.

Slightly concave base. Flaring wall to tall, vertical, slightly convex rim with flattened lip. Pronounced wheel ridges inside and outside. Undecorated.

9 Attic(?) flanged bowl Fig. 9

Lot 1995-064:1. One fragment preserves about one-tenth of the rim only.

Max. p.H. 0.030; D. rim 0.015 m.

Fabric E.

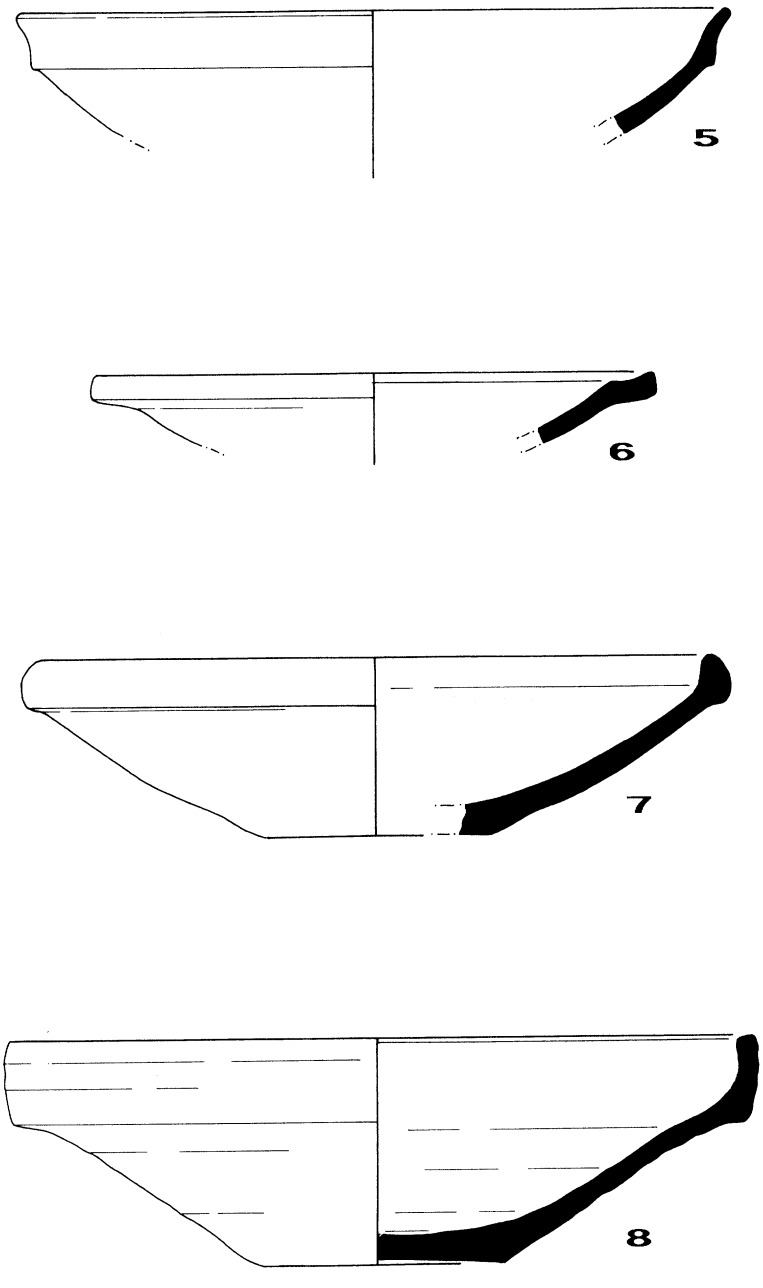


Figure 8. Attic and local dishes and bowls 5–8. Scale 1:2

Flaring convex wall rising to pronounced, slightly downturned carination. Tall vertical, slightly flaring rim with rounded lip. Fugitive, thin light red (10R 6/6) wash outside and inside.

10 Attic(?) flanged bowl Fig. 9

NB 881, basket 051. One fragment preserves about one-fifth of body.

Max. p.H. 0.054; D. rim 0.170 m.

Fabric D.

Flaring convex wall to broad downturned flange. Vertical, slightly concave rim with rounded lip. Tool marks from smoothing while turned on wheel inside and outside. Wavy line incised with a three-tined tool on upper surface of flange. Light red (2.5YR 6/8) slip inside and out.

11 Attic(?) flanged bowl Fig. 9

NB 878, basket 122. One frag-

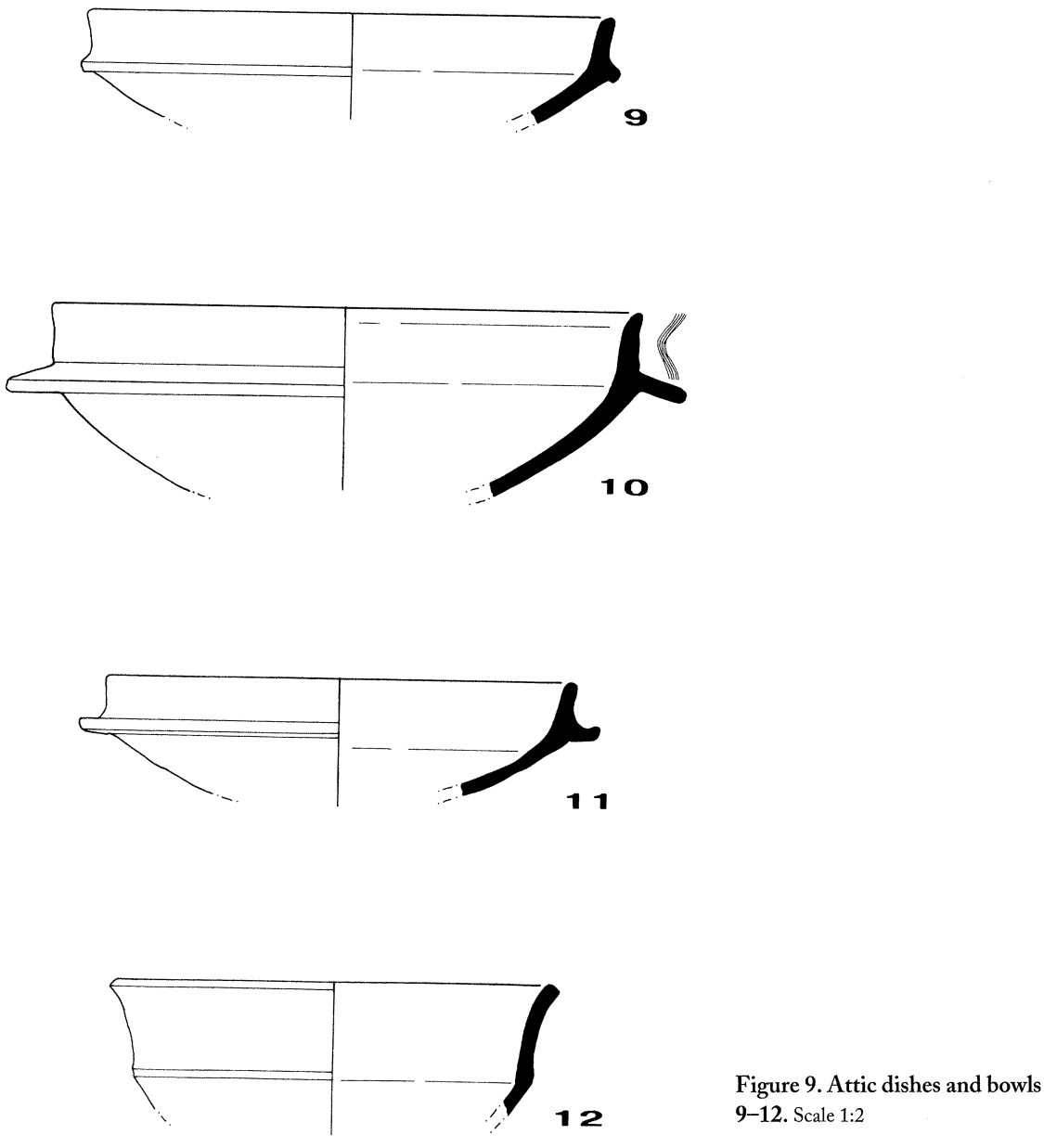


Figure 9. Attic dishes and bowls 9–12. Scale 1:2

ment preserves about one-fifth of body.

Max. p.H. 0.033; D. rim 0.135 m.
Fabric E.

Flaring convex wall to narrow upturned flange with concave upper surface. Vertical, slightly concave rim with rounded lip. Tool marks from smoothing while turned on wheel inside and outside. Wavy line incised with a three-tined tool on upper surface of flange and exterior of rim. Light red (2.5YR 6/8) slip inside and out.

12 Attic(?) bowl Fig. 9

NB 881, basket 051. One fragment preserves approximately one-eighth of rim and upper body only.

Max. p.H. 0.038; D. rim 0.13 m.
Fabric D.

Flaring, slightly convex body to pronounced angle from which tall flaring concave rim rises to rounded, slightly everted lip. Groove at angle outside. Fugitive light red (2.5YR 6/6) slip inside and patchily outside.

13 Bowl Fig. 10

Lot 1995-070:4. One fragment preserves about one-eighth of rim and upper body.

Max. p.H. 0.042; D. rim 0.127 m.

Fabric F2. Pink surface (7.5YR 7/4) with light red (2.5YR 6/8) core and light reddish brown (2.5YR 6/4) edges.

Squat ovoid body, with maximum diameter above median, curving in to vertical, slightly inturned rim with tapering lip. Undecorated.

14 Bowl Fig. 10

Lot 1995-070:3. One fragment preserves about one-fifth of rim and upper body.

Max. p.H. 0.031; D. rim 0.090 m.

Fabric F2. Pink to reddish yellow surface (7.5YR 7/4 to 7/6) with light red (2.5YR 6/8) core and light reddish brown (2.5YR 6/4) edges.

Squat ovoid body, with maximum diameter above median, curving in to vertical, slightly inturned rim with tapering lip. Undecorated.

15 Basin Fig. 11

Lot 1995-061:3. Eleven fragments preserve two-fifths of rim and upper body including one handle.

Max. p.H. 0.089; D. rim 0.280 m.

Fabric F1. Reddish yellow (5YR 6/6 to 6/6) exterior edge, light reddish brown to reddish brown (5YR 6/3 to 5/3) inner edge. Pink (7.5YR 8/4 to 7/4) surface outside.

Hemispherical body rising above the maximum diameter to a sharp angle from which a narrow sloping shoulder to heavy, outwardly thickened rim with rounded lip. Horizontal, oval loop handle attaches below angle and above maximum diameter. Undecorated.

16 Basin Fig. 11

Lot 1995-061:4. Two fragments preserve about one-fifth of rim and upper body.

Max. p.H. 0.069; D. rim 0.364 m.

Fabric F1. Pink (close to 5YR 7/4) exterior edge, red (2.5YR 5/6 to 5/8) interior edge.

Hemispherical body rising slightly above maximum diameter to heavy inwardly and outwardly thickened rim with rounded lip. Three horizontal incised lines outside.

17 Stewpot Fig. 12

Lot 1996-072:1. Six small fragments preserve about one-seventh of rim and upper body.

Max. p.H. 0.056; D. rim 0.201 m.

Fabric C.

Rounded echinoid or hemi-

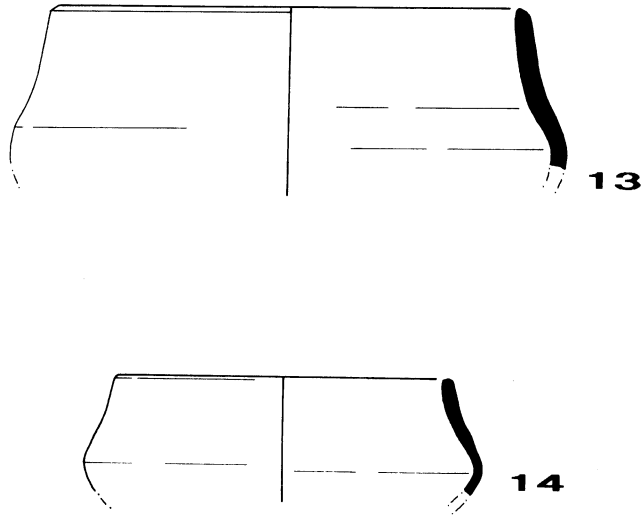


Figure 10. Local dishes and bowls 13, 14. Scale 1:2

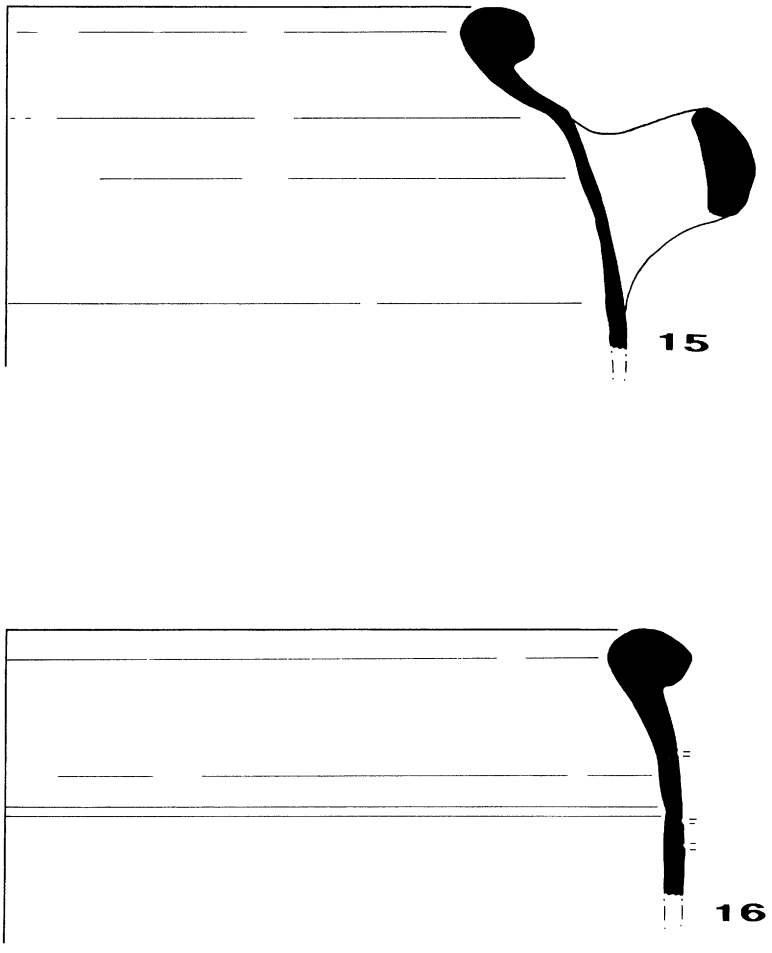


Figure 11. Local basins 15, 16. Scale 1:4

spherical body rising to sharp angle from which shoulder slopes in to horizontal rim with upwardly folded lip. Flattened oval loop handle attaches to bottom of rim and at shoulder above angle. Pronounced wheel ridges inside and outside above angle.

18 Stewpot Fig. 13

Lot 1995-065:5. Four fragments preserve one handle, one-third of rim, and part of upper body.

Max. p.H. 0.116; D. rim 0.165 m.

Fabric F1. Fired gray (5YR 5/1) with reddish brown (5YR 5/3) exterior surface.

Ovoid body curving in to flaring, outwardly thickened rim. Rim undercut outside. Oval loop handle attaches at rim and body above maximum diameter. Undecorated.

19 Stewpot Fig. 14

Lot 1995-065:1. Several fragments preserve two-thirds of rim and one-half of body, including complete profile and one handle.

H. 0.196; D. rim 0.176 m.

Fabric F1. Red (10R to 2.5YR 5/8) core and interior edge, gray (no Munsell equivalent) exterior surface and edge.

Round bottom. Squat ovoid body, with greatest diameter below the midpoint, rising to flaring, triangular, outwardly thickened rim with rounded lip. Rim undercut outside. Oval, sloping loop handle attaches at rim and body above maximum diameter. Undecorated.

20 Bell lid Fig. 15

Lot 1995-063:3. Two fragments preserve about one-sixth of vessel,

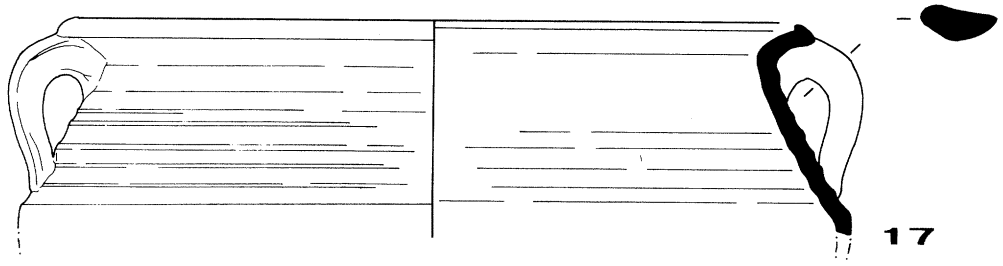


Figure 12. Imported stewpot 17.
Scale 1:2

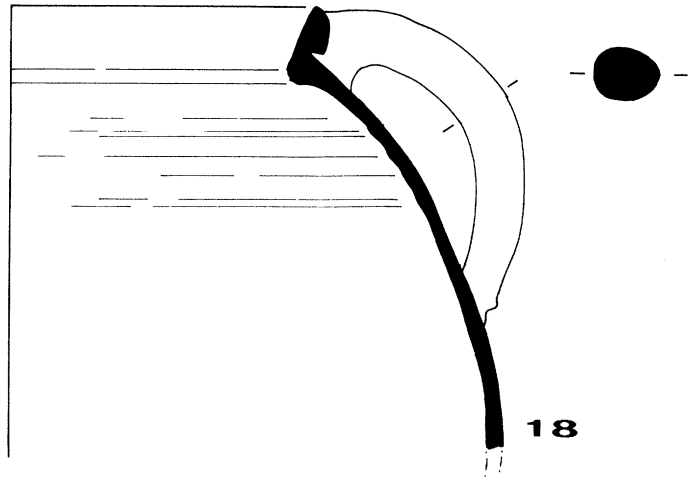
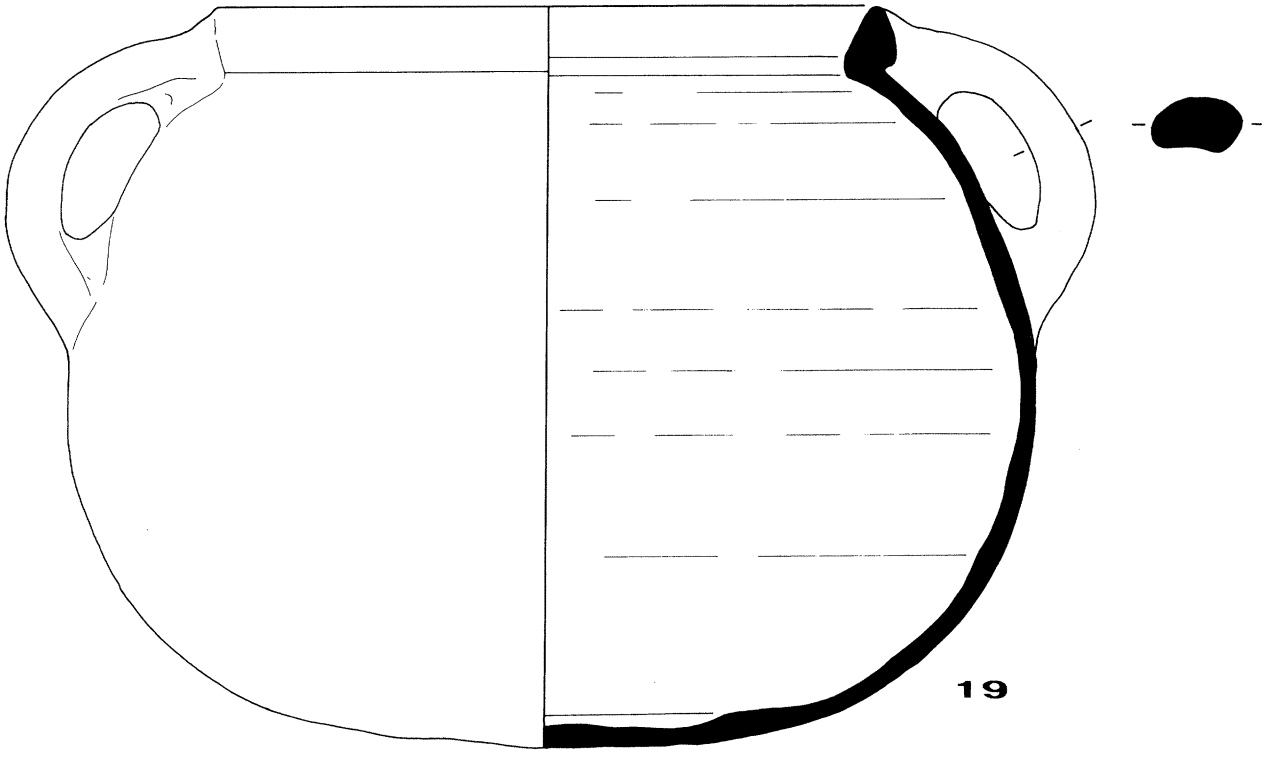


Figure 13. Local stewpot 18. Scale 1:4

Figure 14. Local stewpot 19. Scale 1:2



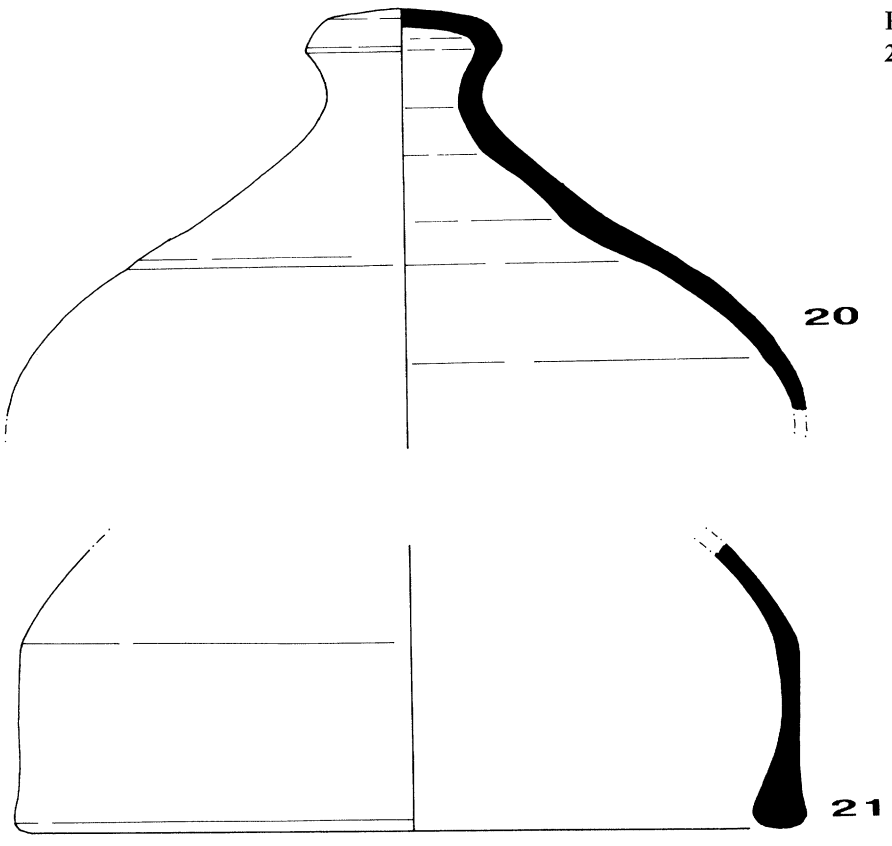


Figure 15. Local bell or cloche lids 20, 21. Scale 1:2

including profile of upper body to shoulder.

Max. p.H. 0.106; D. knob 0.052 m.

Fabric F1. Red (close to 2.5YR 5/8), burnt gray in patches outside and inside.

Vertical wall curving in sharply to shoulder. Outwardly convex shoulder rising to vertical concave neck and hollow flaring knob with flat upper surface and rounded edges. Pronounced wheel ridges inside. Undecorated.

21 Bell lid Fig. 15

NB 878, basket 055. Two fragments preserve about one-eighth of resting surface and lower body.

Max. p.H. 0.075; D. "rim" 0.208 m.

Fabric F1. Reddish brown (5YR 5/3) core, reddish yellow to yellowish red (Munsell 5YR 6/6 to 5/6) edges.

Inwardly and outwardly thickened, flat resting surface with rounded edges. Vertical wall rising to sharp angle from which steeply sloping convex shoulder.

22 Bell lid Fig. 16

C-1995-021. One fragment preserves knob and part of shoulder only.

Max. p.H. 0.046; D. knob 0.043 m.

Fabric G. Pink to light reddish brown (5YR 7/4 to 6/4) outer surface and edge and darker (5YR 6/2 to 6/4) inner surface and core.

Convex shoulder rising to vertical concave neck and solid flaring knob with rounded upper surface and beveled edges. Incised cross with arms of equal length and pendant alpha and omega incised on the top of the knob before firing.

23 Bell lid Fig. 16

C-1995-035. Two fragments preserve about one-eighth of vessel including complete knob and part of shoulder.

Max. p.H. 0.079; D. knob 0.051 m.

Fabric H. Red core (2.5YR 6/8 light red), edges fired weak red/gray (2.5YR 5/2).

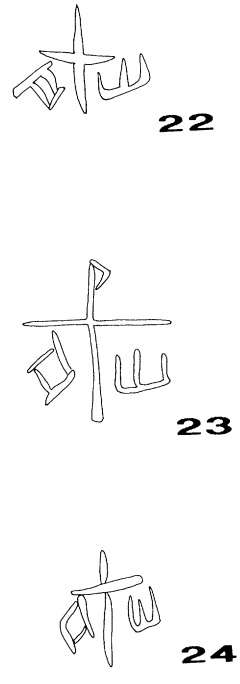
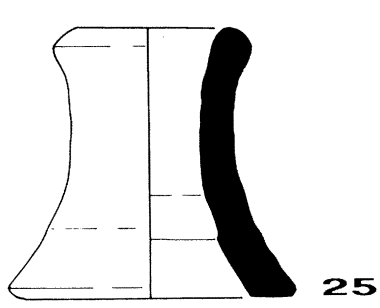
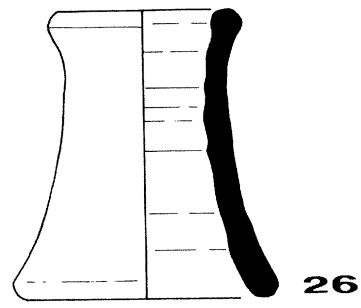


Figure 16. Christograms on local bell or cloche lids 22–24. Scale 1:2

Figure 17. Spacer tubes 25, 26. Scale 1:2





Convex shoulder rising to concave neck and solid, thickened knob with rounded edges and rounded surface. Incised cross with horizontal arm above midpoint and pendant alpha and omega incised in the clay before firing.

24 Bell lid Fig. 16

C-1996-053. One fragment preserves knob and part of shoulder only.

Max. p.H. 0.055; D. knob 0.045 m.

Fabric G. Light reddish brown (5YR 6/4 to 6/3) core and edge and pinker (5YR 6/4 to 6/6) edges.

Convex shoulder rising to vertical concave neck and solid flaring knob with rounded upper surface and rounded edges. Incised cross with horizontal arm above midpoint and pendant alpha and omega incised in the clay before firing.

25 Spacer tube Fig. 17

Lot 1995-063:1.

Max. p.H. 0.072; D. base 0.076; D. rim 0.052 m.

Large voids in break and on surface from burnt-out organics.

Broad, flat resting surface, beveled at edge. Convex conical body rising to slightly outturned "rim" with rounded lip. Striations where object removed from potter's wheel. Pronounced wheel-ridging inside. Undecorated.

26 Spacer tube Fig. 17

Lot 1995-063:2.

Max. p.H. 0.076; D. base 0.070; D. rim 0.051 m.

Large voids in break and on surface from burnt-out organics.

As **25** with thicker wall and taller. Striations where object removed from potter's wheel. Pronounced wheel-ridging inside. Undecorated.

THE BATH IN ITS CORINTHIAN AND LATE ROMAN CONTEXT

The Panayia bath is one of several bathing establishments at Corinth, including four medieval baths of the 11th to 12th century[42] and two other establishments built in the Late Roman period. There are no precise parallels for the Panayia bath at Corinth, but several features can be directly compared with the unpublished Hill House bath west of the Odeion, perhaps also 6th century in date, and the late bath in the South Stoa that can now be dated no earlier than A.D. 400.[43]

A bath excavated by S. Charitonidis at Tsakiri in the *kinotis* of Zevgolatio (Fig. 18:2) has the closest parallels with the Panayia bath. The bath, located on the south side of the National Highway immediately west of the toll booths, was excavated by Charitonidis in the early 1950s.[44] Although the shape of the rooms differs slightly, the overall scale and disposition are remarkably consistent with the Panayia bath. The entrance ves-

42. The North Bath over the east colonnade of the Lechaion Road (*Corinth* XVI, pp. 78–79, plan V 8:C); the bath over the stylobate of the South Stoa (*Corinth* XVI, pp. 29–30, 92–93, plans VI, VII 9–11:N–O); and the bath south of the museum (Williams, Barnes, and Snyder 1997, pp. 37–41, fig. 10). The bath built over the south wall of the South Basilica was considered to be "Turkish" because of its apparent association with a "Turkish" house with an apsidal north wall; see *Corinth* XVI, pp. 29–30, 92–93 and *Corinth* I, v, p. 77. The argument for dating the house so late is spurious since the notebooks clearly show that burials overlie the house and, indeed, the bath; see plans in Corinth NBs 142 and 146. The house is Late Roman but the bath is medieval; glazed pottery was found in the firing chamber and a coin of John Tzimisces was found built into its wall (see pottery box 898 for the hypocaust contents and Corinth NB 142, p. 149, 2.V.34 coin 4). It has square hypocaust columns and a basin arrangement similar to both the South Stoa bath and the bath south of the museum; see Corinth NB 142, pp. 134–135 for a sketch.

43. For the South Stoa bath see *Corinth* I, iv, pp. 145–151. The Roman baths were discussed in a paper entitled "Lavari est Vivere: Baths in Roman Corinth," by Jane Biers at the Corinth centennial conference at the American School of Classical Studies, Athens, in December 1996. The papers are being prepared for publication as *Corinth: The Centenary, 1896–1996* (*Corinth* XX).

44. Charitonidis and Ginouvès (1955, p. 103) state that the bath could be found at the mouth of a short, deep gully where it opens onto a narrow terrace on which the church of Ayios Charalambos stands. Wiseman (1978, pp. 100–102) implies that it was still visible in 1970, but when I visited in December 1997 there was nothing to be seen. A local who had lived at Tsakiri for over forty years knew nothing of the antiquities but did say that the floor of the *rema* had been backfilled and leveled with a bulldozer.

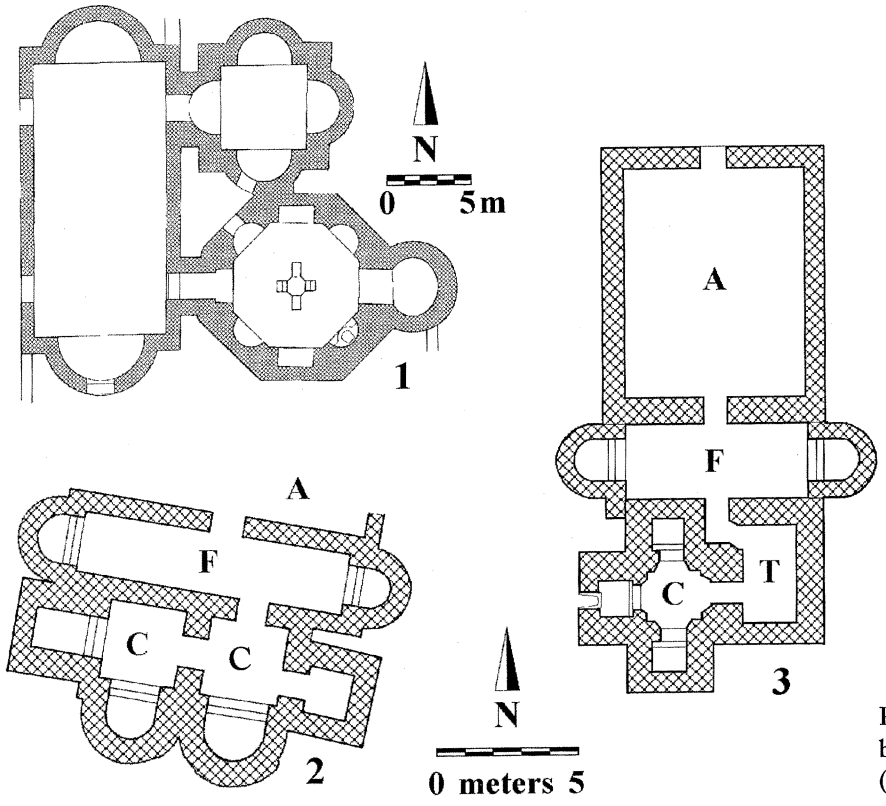


Figure 18. (1) Lechaion basilica baptistry; (2) Zevgolatio bath; (3) Panayia bath

tibule *cum apodyterium* on the north side opens onto a long, narrow, east–west *frigidarium* with *opus sectile* flooring. Its two apsidal cold *baptisteria* are identical in size and shape to those of the Panayia bath and have the faceted revetment lining also found in the Hill House bath. Instead of a *tepidarium,* the Zevgolatio bath had two separately heated *caldaria,* side by side, each consisting of an apsidal hot *baptisterium* adjacent to the furnaces on the south side and a rectangular warm *baptisterium,* like those of the Panayia bath, on the remaining open side. In their arrangement and plan the hot rooms bear a close resemblance to the South Stoa bath. According to the excavator there were two phases of construction, which were dated on stylistic considerations to the 2nd or 3rd century and not earlier than the 4th century, respectively. In the light of the stratigraphic evidence from the Panayia and South Stoa baths, both phases of the bath at Zevgolatio should be dated later than the excavator proposed.

Both archaeologists and historians have tended to present 6th-century Corinth as a depressed and depopulated city reduced by natural disasters and, eventually, barbarian invasion. The plague of A.D. 542 may have halved the population of Corinth, which had survived the devastating earthquake of 522 or 532.[45] The plague was followed by a completely separate series of earthquakes in the general area of central Greece in 551/2. These affected Achaia, Boiotia, and the region of the Alkionidon and Malaic Gulfs, destroying "countless towns and eight cities," of which Chaironeia and Koroneia (both in western Boiotia), Patras and Naupaktos (both at the west end of the Corinthian Gulf), and Echinos and Skarpheia on the

45. Procopius, *Aed.* 4.2.24, *Anec.* 18.41–44: "And earthquakes destroyed . . . Corinth . . . and afterwards came the plague as well . . . which carried off about one half the surviving population"; Evagrius, *Hist. Eccl.* 4.23; Cosmas Indicopleustes 1.22.13–14; Malalas, *Corpus scriptorum historiae byzantinae,* p. 418; *PG* XCVII 417–418; and Cedrenus, *Corpus scriptorum historiae byzantinae,* p. 838.

Malaic Gulf are enumerated.[46] Most scholars would include Corinth in the list of cities destroyed, but if this were the case, surely Procopius would have specifically mentioned the principal city of the region. There is no supporting evidence to suggest that the city was in any way affected. Indeed, recent research on seismic events in the Aegean region indicates that the Corinthia would be unlikely to suffer ill effects from strong earthquakes centered in Achaia and Boiotia.[47] According to one widely accepted but highly questionable source, the *Chronicle of Monemvasia,* Slavic colonization of the Peloponnese later in the 6th and 7th centuries resulted in the resettlement of Corinthian population on Aegina.[48]

In the light of these devastating events, there may have been some reluctance on the part of those interpreting the historical record and archaeological remains to ascribe buildings and deposits to the mid-6th century. By dating the Panayia bath no earlier than about 500 and probably to the second quarter or middle of the 6th century it is possible to show that quite elaborate, albeit small, and richly appointed buildings were being constructed at Corinth in this difficult period. In this context it is worth observing that D. I. Pallas ascribed the last construction phase of the vast Lechaion basilica to the reign of Justin I (518–527), or possibly later, in company with the paving of the nave floor and the completion of the atrium. The basilica's baptistery is probably an earlier construction plausibly identified as the original martyrium of Saint Leonidas, whose body was cast ashore nearby, and of his beatified mourners.[49] The structure has a plan reminiscent of the Panayia and Zevgolatio baths, and it is possible that the 5th-century martyrium-turned-baptistery of Corinth's most celebrated saint (Fig. 18:1) provided an architectural model for both the later bath buildings. The bath's subsequent use in the 7th century draws into question statements that Roman Corinth's population was displaced by a Slavic invasion.

46. Procopius (*Bell. Goth.* 8.16–25) describes the later earthquakes in central Greece. See, too, Finlay 1932, p. 478.

47. Ambraseys and Jackson 1996.

48. Charanis 1950, p. 148, lines 86–144.

49. Pallas 1990.

APPENDIX 1
BRICK SIZES AND FORMS

TABLE 1. PANAYIA BATH

Brick Type	*Measurements (m)*	*Location*
Pedales	0.315 × 0.305 × 0.033	Walls
Bipedales	0.620 × 0.600 × 0.050	*Suspensurae* floors
Circular	0.245 × 0.058	Hypocaust *pilae* (fingerprinted)
Trapezoidal	0.299 × 0.267 × 0.232 × 0.030–0.035	Vaults? (fingerprinted)
Imbrices	0.625 × 0.190 × 0.250	Water channels

TABLE 2. *TEPIDARIUM PEDALE* MEASUREMENTS

Wall	*Avg. Thickness of Brick*	*Courses*	*Avg. Thickness of Cement*	*Courses*	*Total Height*
South wall	0.032	9	0.034	8	0.555
Flue	0.037	9	0.031	8	0.581
North wall	0.033	4	0.034	3	0.233
West wall	0.030	4	0.034	3	0.221
Total	0.034	26	0.033	22	1.590

TABLE 3. COMPARISONS AMONG SEVERAL BUILDINGS

	Panayia Bath	*South Stoa*	*Hill House*	*Zevgolatio*	*Lechaion Basilica*
Tiles (wall)	0.300 × 0.033	0.295 × 0.034	0.315 × 0.034	0.280 × 0.030	0.300 x 0.035
Tiles (floor)	0.62 × 0.60 × 0.05	0.58 × 0.58 × 0.04	0.54 × 0.54	—	—
Tiles (circular)	0.245 × 0.058	0.20 × 0.06	—	—	—
Avg. thickness of mortar courses	0.034	0.02–0.03	0.040	0.026	0.025
Height of ten courses	0.662	0.740	0.600	0.550–0.650	—

APPENDIX 2
FABRICS

The system of fabric description employed here is based on one developed principally by archaeologists with a background in geology and petrology.[50] The standards were simplified for use on a large corpus of ceramics at Sparta[51] and have been further developed for use at Corinth in collaboration with the Fitch Laboratory.[52] The color is described using the Munsell Soil Color Charts or a *CEC* chart in natural light.[53] Since the Munsell color names refer to an objective classification complementary to the numerical notations, they are used in preference to more descriptive but subjective terms. An estimation of "hardness" is based on a hardness scale (Table 4).[54] It should be noted that this is actually a test of cohesiveness; scratching the surface of a break tests the cohesion of the phases from which the ceramic body is formed.

TABLE 4. HARDNESS OF FABRIC (MODIFIED MOH'S SCALE)

Category	*Test Result*
Very hard	Penknife will not scratch
Hard	Penknife just scratches
Medium hard	Penknife scratches
Soft	Fingernail scratches
Very soft	Fingernail scratches easily

The appearance of a new fracture is described using the terms outlined in Figure 19:1. This notation of texture gives an impression of clay particle size, cohesion, hardness, and inclusions that is qualitative and not quantitative. The estimate of inclusion size and frequency is based on the frequency chart in Figure 19:2 and the Udden-Wentworth scales.[55] Finally, the inclusion shape is based on Figure 19:3; however, it should be remembered that the observed surface presents only two dimensions of what are three-dimensional objects: thus a cylindrical object may appear tubular, spherical, or oval in cross-section. Inclusions are never given a Munsell number; their color varies according to chemistry and the impu-

50. Robinson 1979; Steinstra 1986; Vaughan 1987; and Orton, Tyers, and Vince 1993, pp. 231–241.

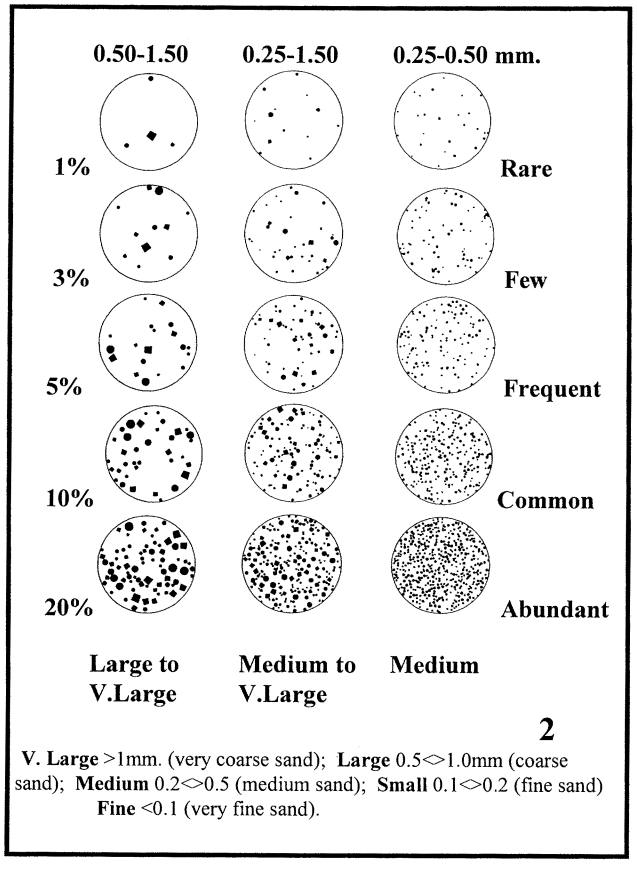
51. Sanders 1993, pp. 253–256.

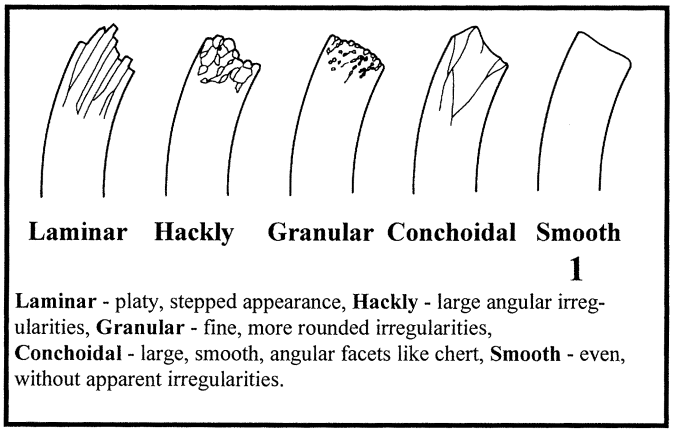
52. This system was presented at the Dumbarton Oaks colloquium on scientific analysis of Byzantine pottery in the spring of 1995 by L. Joyner, I. K. Whitbread—both of the Fitch Laboratory in Athens—and G. D. R. Sanders and is being prepared for publication. Fresh breaks of a range of samples, approximately ten, from a fabric group were then examined to determine the variation in a fabric's appearance. The fabrics were examined both by eye and using a 10–16x magnification hand lens.

53. *Munsell*; *CEC*, n.d. The *CEC* charts are intended "for the practical identification of the colors and shades of fired clay materials used in the pottery industry" whereas the Munsell charts are intended for describing soil colors. *CEC* charts are available from the Fédération Européenne des Fabricants de Carreaux Céramiques, Société Anonyme Fiduciaire Suisse, St. Jakobs-Strasse 25, Basel, Switzerland.

54. For instance, a Moh's Scale, as illustrated in a number of basic geological textbooks.

55. Hodgson 1974; Matthew, Woods, and Oliver 1991. Shape of particles is defined in Pettijohn 1975, table 3.9. Udden-Wentworth scales can be easily found in basic textbooks.





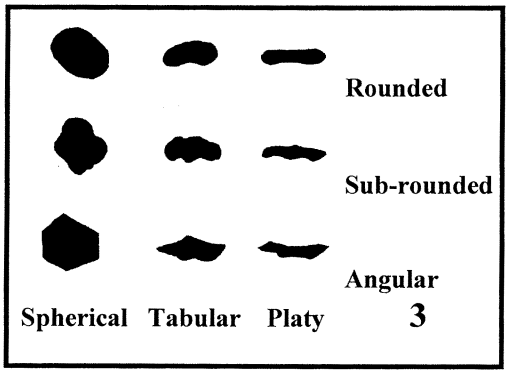


Figure 19. Chart for assisting fabric descriptions. (1) Break profile; (2) size and percentage of inclusions; (3) inclusion shape.

rities present. A simple mineral color notation, for instance "brown" or "white," qualified by adjectives such as "milky," "vitreous," or "glassy," is best in these circumstances. Inclusions are also usually too small to identify with any certainty in a hand specimen; an identification represents only a qualified guess.[56]

56. Peacock 1977, pp. 30–32, should be used only with great caution, and one is advised to consult a basic textbook such as Dietrich and Skinner 1979 for the identification of minerals.

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