

The Sanctuary of Artemis at Sardis: Preliminary Report, 2002–2012

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Excavations in the Sanctuary of Artemis between 2002 and 2012 clarified problems of chronology and reconstruction. Evidence for occupation of this area in the Lydian period was ambiguous: pottery suggests that there was activity here, but no deposits were found. Surviving monuments from the Persian period include a calcareous tufa altar (LA 1) and a roughly square sandstone “basis.” In the Hellenistic period, a new temple was laid out with the sandstone basis in the center of its cella, while the tufa structure was incorporated within a larger altar. The Hellenistic builders thus constructed the largest temple possible between these earlier monuments, but they brought its west front so close to the altar that a normal colonnade on the front would not have been possible. In the Roman period, the temple was divided into two back-to-back cellas, and work on the exterior colonnade began on the new east front. Ceramic evidence indicates that the foundations were laid in the mid first century C.E. During this phase, the Hellenistic columns in antis still stood in situ, but the interior columns were removed, perhaps to accommodate colossal statues of the imperial family. The columns in antis were removed in late antiquity, during a major transformation of the building.¹

INTRODUCTION

The Sanctuary of Artemis, the most important surviving sanctuary at Sardis, has been the subject of several studies since its excavation by Howard Crosby Butler a century ago (figs. 1–5). The temple is a colossal pseudodipteral structure, the fourth-largest Ionic temple after Ephesus, Samos, and Didyma. Its long cella originally faced west and featured two rows of interior columns and a roughly square sandstone “basis” in its center. In a later phase, the cella was divided by a cross-wall; the original wall between the naos and cella was removed and a new wall constructed to its west, and a door was cut in the east

¹ At his unexpected death in May 2012, Crawford H. Greenewalt, jr., left several important manuscripts unfinished, including preliminary reports from 1999–2007. Rather than publish yearly summaries, I have reorganized these and subsequent results into a series of thematic articles, of which this is the first. Greenewalt’s report included the Lydian Altar, sondages in the western image base and southeast anta, and the foundation in the Pactolus. Other portions were written by Cahill. We both profited greatly from discussions with Fikret Yegül, and with Phil Stinson, Felipe Rojas, Frances Gallart-Marqués, William Aylward, Ulf Weber, Christopher Ratté, Christopher Roosevelt, Bahadır Yıldırım, and other scholars. It should be noted that Yegül does not agree with all the interpretations offered here and will present his own conclusions in his forthcoming Sardis Report. Of the many staff members whose skilled work and dedication contributed to this research, particular mention should be made of Catherine Alexander, Brianna Bricker, Ferhat Can, Güzin Eren, Frances Gallart-Marqués, Pınar Özgüner, Felipe Rojas, and Alessandra Sulzer. I am grateful to Shari Kenfield of the Princeton University Department of Art and Archaeology, Archive of Research Photographs (henceforth, Princeton Archive) for sharing the photographs taken by the Butler Expedition.

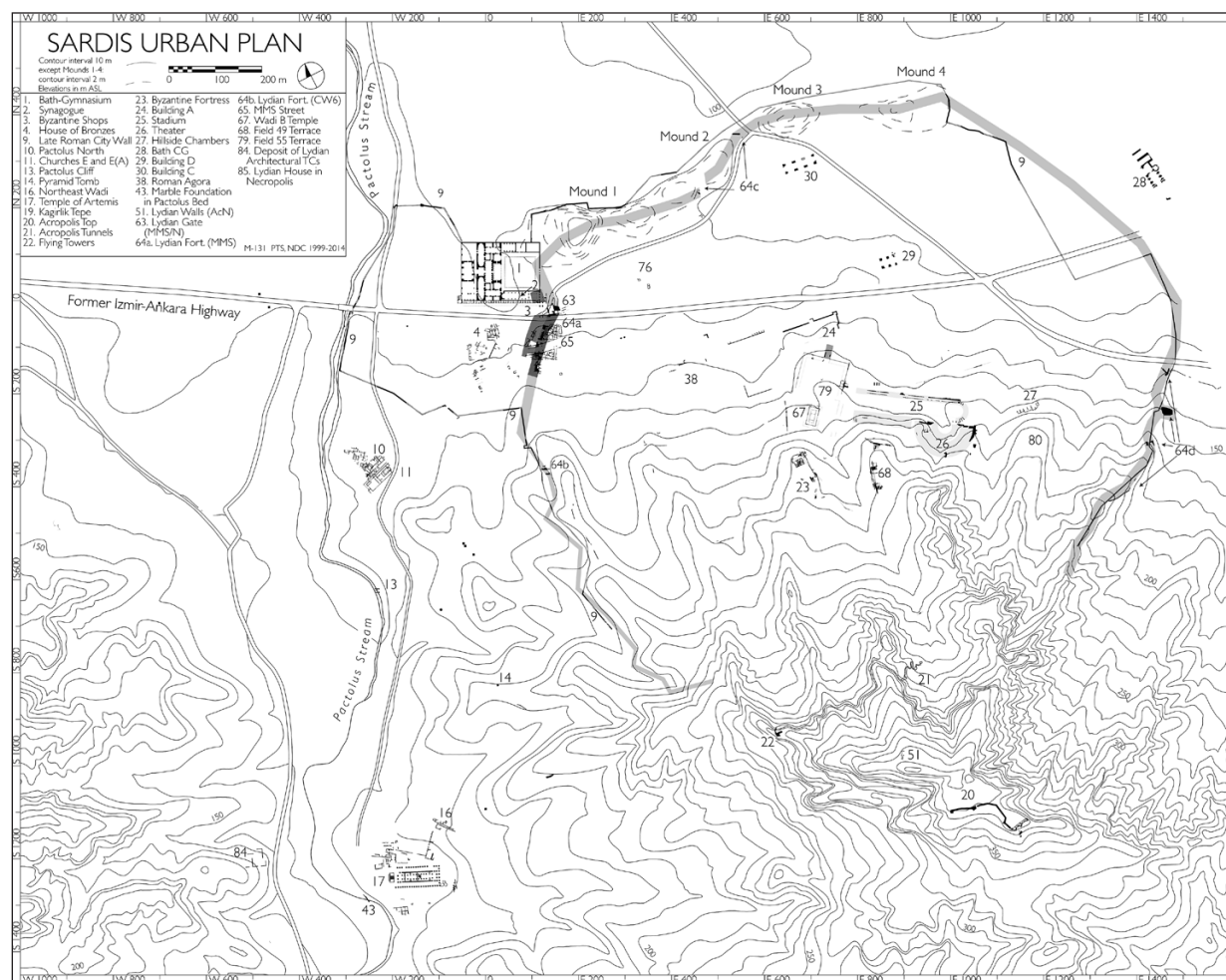


FIG. 1. Plan of Sardis (© Archaeological Exploration of Sardis).

wall, converting the temple into two back-to-back cellas. Unusual deep porches were built on both the east and west fronts of the temple. The two central columns of these porches were raised on pedestals, and, unlike the peristyle columns, they were fluted. The peristyle of 8 x 20 columns was begun on the east, and columns were erected on the east facade, but the peristyle was never completed; indeed, on the west the foundations were never laid. A set of stairs was built against the north side of the west porch, between the peristyle and the porch foundations; a few stairs were also built outside the southern peristyle. Directly adjoining the west front of the temple is a complex structure that Butler called the "Lydian Building" but is now understood as a two-phase altar (LA 1 and LA 2). Recent studies of the temple have agreed that the cella was built no earlier than the Hellenistic period and that in that phase there

were no peristyle columns. The cella was divided and the peristyle begun during the Roman period. In the Late Roman era, a small chapel (Church M) was constructed in the southeast corner of the temple.²

EXCAVATIONS OF 2002–2012

In 1987, Fikret Yegül began a new program to record all in situ remains of the temple at a scale of 1:20, and he is currently preparing a new monograph with complete documentation.³ In conjunction with Yegül's research, selected areas were investigated between 2002

² See, in particular, Butler 1922, 1925; Gruben 1961; Hanfmann and Waldbaum 1975, 53–117; Howe 1999; Yegül 2010, 2012.

³ Yegül (forthcoming).



FIG. 2. Plan of the Sanctuary of Artemis (© Archaeological Exploration of Sardis).

and 2012. Sondages and study projects in the temple were intended to clarify aspects of the building's history and design, including phases predating the Hellenistic temple, the architectural relationship between the temple and the altar, the west porch and stairs, the relationship between the cella walls and eastern porch columns, and the columns in antis on the east end of the temple.

Investigations in the North Pteroma and Pronaos

Sondages in the pteroma and pronaos were intended to explore earlier phases of the temple. One was dug in the north pteroma of the temple, between the Hellenistic cella wall and the Roman peristyle foundations (see fig. 3, trench AT 10.3). The goals were to recover dating evidence from both these phases, to understand the stra-

tigraphy and particularly the fills on which the temple was built, and to explore earlier levels under the temple.

Important excavated contexts included construction fills associated with the Roman colonnade, the foundation trench for the Hellenistic cella wall, and a fill(?) predating the cella (figs. 6, 7). A single body sherd of Çandarlı Ware, probably dating between the mid second and the mid third century C.E., was the only closely datable artifact from Roman construction fills in this trench.⁴ Other ceramics were scarce but consistent with this date.

⁴P10.71:12672. Inventory numbers referred to in this study are the find numbers assigned by the Archaeological Exploration of Sardis, unless otherwise noted.

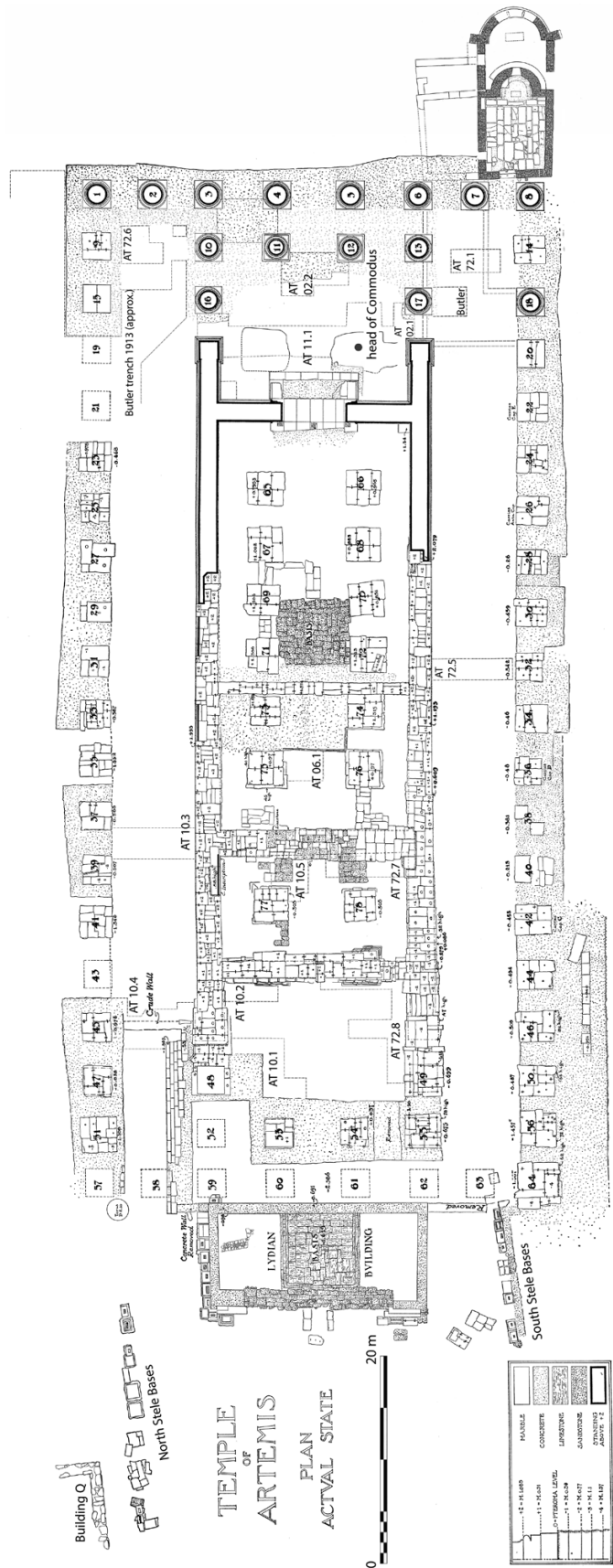


FIG. 3. Plan of the Temple and Altar of Artemis, showing sondages dug below the temple floor (adapted from Butler 1925, Atlas pl. 1 and subsequent drawings; © Archaeological Exploration of Sardis).



FIG. 4. View of the Temple of Artemis (partly cleaned, 2015) (© Archaeological Exploration of Sardis).



FIG. 5. Orthophotograph of the Temple of Artemis (partly cleaned, 2015) (© Archaeological Exploration of Sardis).

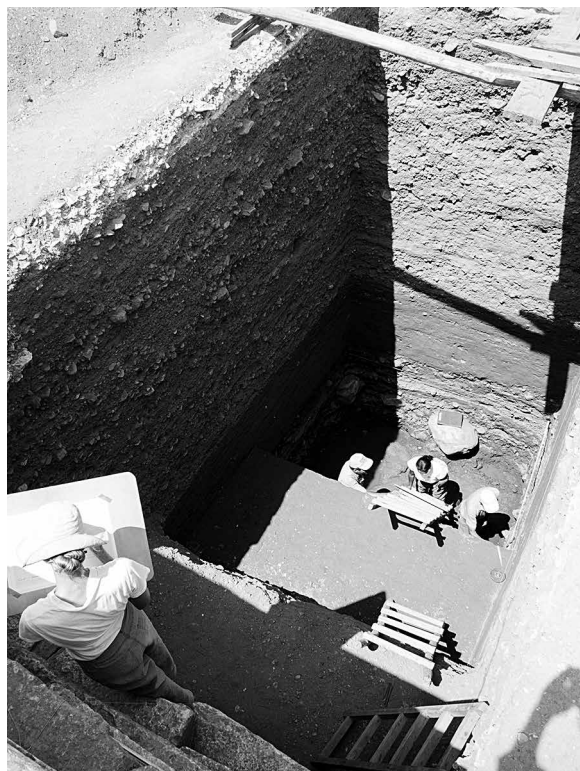


FIG. 6. View of the trench in the north pteroma (trench AT 10.3) (© Archaeological Exploration of Sardis).

Two Hellenistic coins were found in or associated with the foundation trench of the cella wall: one is an illegible Hellenistic issue, perhaps Seleucid or of Lysimachus; the other is a coin of Lysimachus, of the late fourth or early third century B.C.E. These coins generally corroborate but do not significantly refine the generally accepted third-century date of the construction of the Hellenistic temple. Pottery from the foundation trench included local Hellenistic plain and coarse wares but was not closely datable.⁵

A relatively thin (0.5–0.6 m) layer of artificial fill into which the foundation trench was dug included pottery of the fourth century B.C.E. at the latest. Notable is a cup base of that date inscribed “Hera,” whose

cult is otherwise unattested in this area (fig. 8e).⁶ A large proportion of the pottery from strata predating the temple consisted of residual Lydian pottery from the seventh and first half of the sixth century B.C.E., suggesting a significant degree of occupation here during the period of the independent Lydian kingdom (see fig. 8a–d, f, h).

However, excavation beneath the artificial fill revealed only a deposit of naturally laid sand and gravel, almost 5 m thick (see fig. 7). The upper 2.5 m or so consisted of relatively well-sorted, horizontally bedded lenses of sand and gravel. The lower 2.5 m included thicker layers of very coarse gravels, finer silts, and a layer of iron-stained gravel. This deposit rested directly on the solid, compacted clay that represents the natural undisturbed geology of this area, 6 m below the pteroma floor. These deposits are too high above the Pactolus to have been deposited by that stream and must have been washed down from the acropolis, which is made of loosely cemented conglomerate.⁷ Indeed, the strata are very similar to the sand and gravel deposits that buried the temple itself, still visible in Butler’s scarps.

The pottery from these layers was entirely local, and most could date to either the first or the second half of the sixth century or perhaps somewhat later, but small amounts of material throughout, including Achaemenid bowls, late varieties of column kraters, and roof tiles, date to the “Late Lydian” period, after the Persian capture of Sardis in the middle of the sixth century B.C.E. (see fig. 8g, i). No architecture, traces of occupation, or even accumulated earth or cultural deposits were found. It is clear that no earlier architectural remains are preserved in this trench, but the absence of even noncultural deposits, such as developed soil horizons dating to earlier than ca. 550 B.C.E., is notable.

Another trench was located in the west pronaos, against the face of the western cella wall (see fig. 3, trench AT 10.2; fig. 9). A pair of Hellenistic foundations here (unnumbered on fig. 3) supported the pronaos columns; these were built over in the Roman

⁵ The illegible Hellenistic coin (2010.26) comes from a secure context in the foundation trench; the coin of Lysimachus (2010.19) comes from an area of the foundation trench that had been disturbed by Roman water pipes. On the date of the Hellenistic phase of the temple, see, among many discussions, Franke 1961; Gruben 1961, 179–81; Hanfmann and Waldbaum 1975, 175–76; Le Rider 1991; Yegül 2012, 100.

⁶ P10.68:12665. The cult of Zeus was thought by Hanfmann and others to be housed within the Temple of Artemis based on epigraphic evidence such as Buckler and Robinson 1932, no. 8. See, for instance, Hanfmann and Waldbaum 1975, 75–6, 87; Hanfmann and Mierse 1983, 119–20.

⁷ Thanks are due to Ben Marsh, who examined related deposits in 2006 and 2007; cf. Warfield 1922, 176–80; see also below, “The Altar of Artemis” and “Discussion.”

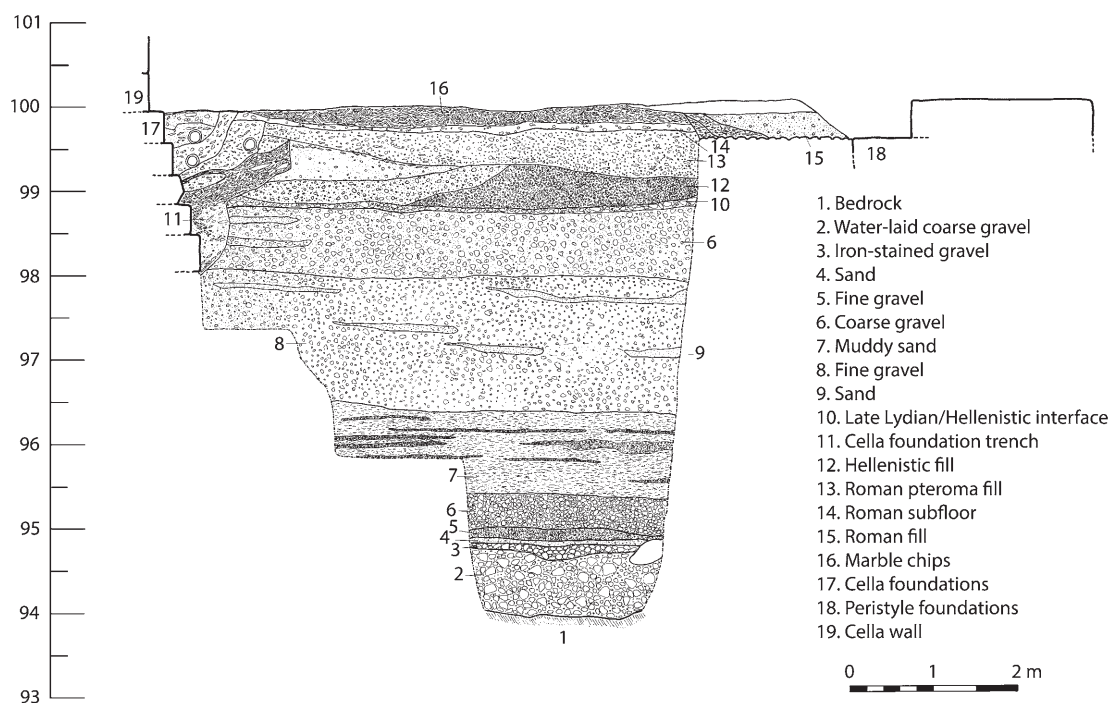


FIG. 7. Drawing of the west scarp of the trench in the north pteroma (trench AT 10.3) (© Archaeological Exploration of Sardis).

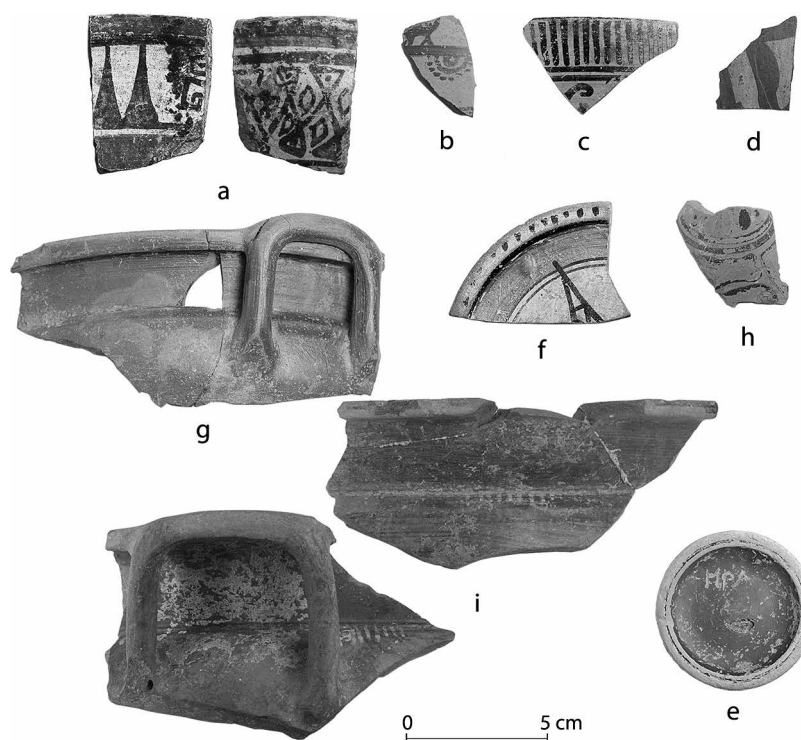


FIG. 8. Archaic, Late Archaic, and fourth-century B.C.E. pottery from a sondage in the north pteroma (AT 10.3). From Roman bedding: *a*, Lydian dish rim (P10.20:12567); *b*, Lydian skyphos fragment (P10.21:12568); *c*, Corinthian skyphos rim (P10.19:12566). From fill predating the temple (Hellenistic or fourth century): *d*, fragment of open vessel with figural decoration (P10.67:12664); *e*, Atticizing cup foot with inscription "Hera" (P10.68:12665); *f*, Lydian dish fragment (P13.3:13337); *g*, "Late Lydian" column krater fragments (P13.5:13339). From the interface between this fill and the alluvial deposit: *h*, Corinthian aryballos fragment (P10.77:12680); *i*, "Late Lydian" column krater fragments (P10.78:12681) (© Archaeological Exploration of Sardis).

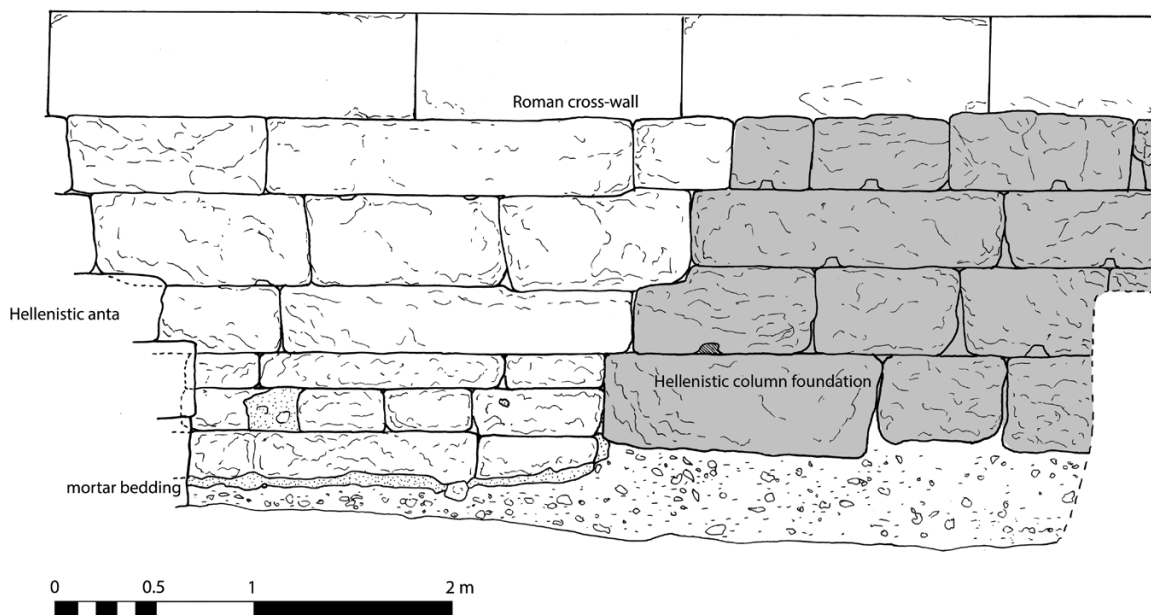


FIG. 9. Drawing of the western pronaos wall, showing Hellenistic column foundation (shaded) and Roman cross-wall with mortar bedding (© Archaeological Exploration of Sardis).

period by a new western wall for the now-divided cella. Butler noted two courses of limestone blocks under this wall and drew them in 1911 as a separate feature running under the foundations of the Hellenistic pronaos column, leading to the suspicion that they might represent a phase predating the Hellenistic temple.⁸ Reexcavation of this area, however, revealed that these blocks do not run under the Hellenistic column foundation but were set against it, although at a lower level, on a bed of mortar. It was also revealed that Butler did not expose the full extent of this masonry, which continues up to and abuts the north wall of the cella. These limestone blocks do not, therefore, belong to a separate, early feature but instead to the Roman cross-wall, which was founded even more deeply than the Hellenistic column foundation.

Cleaning in the Hellenistic pronaos—part of which was later converted to part of the western Roman cella (the area Butler named the “Treasury”)—was intended to investigate a pair of sandstone foundations that Butler identified as belonging to interior columns of a pre-Hellenistic temple. Gruben, however, inter-

preted these as foundations of stairs leading from the pronaos to the cella (see fig. 3, trench AT 10.5).⁹ The blocks, unfortunately, have disappeared since Butler’s excavation. But the shallowness of these foundations suggests that Gruben’s interpretation is to be preferred.

The West Porch and Northwest Stairs

Another area of investigation was the architecturally complex northwest corner of the temple. The Hellenistic anta is the earliest phase here. A deep porch, four columns wide and three deep, was begun in the Roman period, its foundations mostly set in mortared rubble. A large gap in these foundations was left where one column of this porch (Column 52) should have been located. A staircase built from reused marble blocks on a mortared rubble bedding was constructed against the north side of the porch, extending from the northwest anta toward the northeast corner of the Lydian Altar. Misaligned and nonjoining clamp cuttings show that these stair blocks were moved from another location; other cuttings on the blocks show that they

⁸ Butler 1922, 28, fig. 19. On the phasing of the wall and preceding Hellenistic foundations, see Gruben 1961, 161–64.

⁹ Butler 1922, 148; 1925, 23; Gruben 1961, 164–65. Princeton Archive photographs B.537, B.538, B.562, and B.563 show the deep excavations here.

were already reused in that prior staircase (see below, “An Archaic Artemision”). The stairs were connected to the altar by a mortared rubble wall, which was mostly removed by Butler (see fig. 3, “Concrete Wall Removed”). Built against the porch, these must all be Roman constructions. Finally, the north peristyle of the temple is located about 2.5 m from the foot of the stairs. Three column foundations are preserved, but the blocks of the westernmost preserved foundation (Column 51) were never trimmed or clamped, and the final base (Column 57) was never begun.

What does not come across in the plan is the differences in level between these various features (fig. 10). Ground level around the later phase of the altar was at *96.8.¹⁰ The base of the stairs is about 1.4 m above this, and the stairs led to the pronaos and porch floor, about 3.2 m above the ground level to the west (ca. *100.0). The cella floor is 1.54 m higher still, almost 5 m above the ground around the altar. In addition, the missing Column 52 today leaves a void down to altar ground level. These oddities of plan and differences in level have perplexed scholars since Butler; Hanfmann was forced to arrive at “the peculiar result that a person going up the western end of these steps would only do so to precipitate himself some five feet into the empty corridor separating structure LA 2 from the present western edge of the temple platform!”¹¹

One operation to help resolve this enigma was to clean the mortared rubble wall between the Northwest Stairs and the foundation of Column 45 (see fig. 3, “Crude Wall”; trench AT 10.4). This wall has an unfinished east face and served to retain the fill of the pteroma to the east. Cleaning revealed that the wall is bonded to the stairs but had been cut by the mortared rubble construction of the peristyle.¹² The peristyle must therefore postdate the wall and stairs, and these features were never in use together: when the stairs were in use, the peristyle foundations had not been laid here; when they were laid, the space between peristyle and stairs must have been filled, burying the wall and stairs. This situation helps explain the phasing of this area, which is discussed later in this article. A later pipe

running northeast–southwest crosses the northern end of Butler’s “Crude Wall” and seems to pass between the bases for Columns 45 and 46, cutting the “Crude Wall” and the mortared rubble of the peristyle.¹³

A second operation within the porch aimed to determine whether there was an intermediate phase (not necessarily completed) with a four-column prostyle porch like those of the temples at Aizanoi and Ankara, or the Wadi B temple at Sardis, prior to its six-column design.¹⁴ Such a phase is suggested by the construction of the foundations of Columns 48 and 49, which are set on a continuous series of marble blocks clamped to the anta foundations, without mortared rubble.¹⁵ This construction is different from all other Roman column foundations, which are built with individual ashlar piers surrounded by mortared rubble. There is no obvious structural reason for this difference in technique. One possible explanation is that the west porch was built in two stages: an earlier stage on marble foundations, and a later extension in the more common pier-and-infill construction. The final porch was never finished, and an earlier stage may have been left incomplete as well, or partly dismantled. Another possible hint is the large mass of mortared rubble adjacent to Column 48, which looks in plan as if it had been laid against a stone foundation, now missing, south of Column 48 and east of Column 53—that is, in the right place for the second column of a four-column porch. Since the foundations of the nearby columns in *antis* were completely removed at a late date (see below, “Late Antiquity”), the absence of a stone foundation here does not necessarily imply that it never existed. If this foundation had existed but was later removed, it may have left impressions in the mortared rubble, as did the foundations of the east stairs, and this could be checked.

The area had been excavated by Butler, and reexcavation exposed the faces of the mass of mortar (see fig. 3, trench AT 10.1). These are vertical, with a protruding lip at the top, showing that the block was built against a smooth, vertical surface, similar to the block

¹⁰ Levels in this report are based on the Temple of Artemis datum; see Hanfmann and Waldbaum 1975, 11.

¹¹ Butler 1925, 85; Hanfmann and Waldbaum 1975, 101–2.

¹² Much of the mortared rubble inside the peristyle foundations was removed by Butler, leaving a misleading impression today.

¹³ Cf. Butler 1922, plan 3.

¹⁴ Such a porch is suggested by Hoepfner (1990, 3–7), but he also reconstructs a similar porch on the east front of the building, where the bedrock shows that no such porch could have existed (Greenewalt and Rautman 2000, 674–75).

¹⁵ Butterfly clamps and lewis cuttings mark these as Roman construction (Gruben 1961; Howe 1999, 208–9; Yegül 2012).

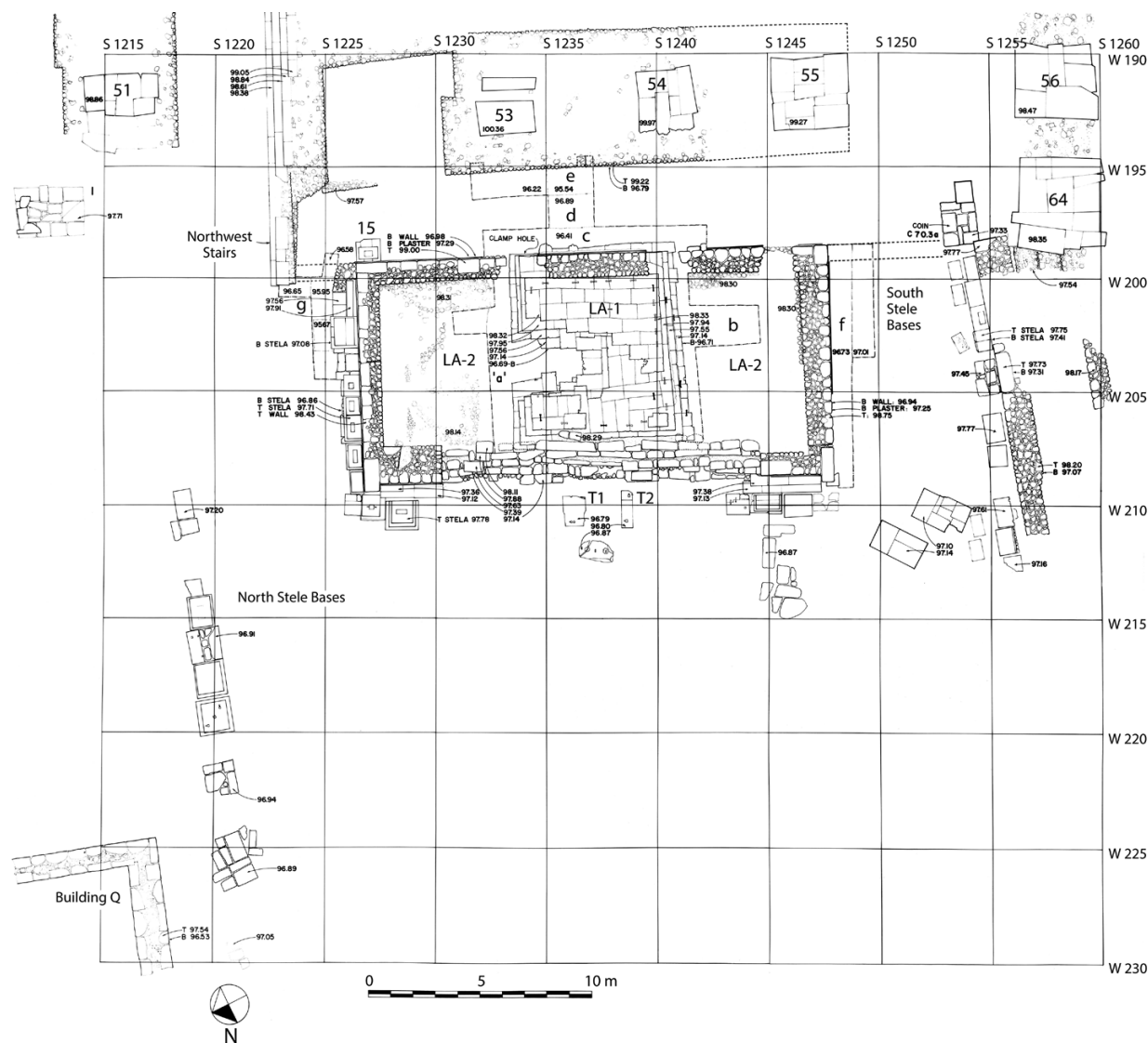


FIG. 10. Plan of Lydian Altar and surrounding monuments (© Archaeological Exploration of Sardis).

foundations of the Roman peristyle columns and unlike those of the Hellenistic columns, which step out at each course, with a step back at the top. The results were inconclusive but did not rule out the possibility of an intermediate phase with a four-columned porch.

Cleaning the Northwest Stairs revealed that these finely finished stairs, with delicate rounded projections on the vertical joints and subtle rustication on the risers, were largely made from reused blocks. One 2.78 m long block retains the last vestiges of a molding on its present upper surface; this molding may be identi-

fied as an egg-and-dart molding with eggs 10 cm wide spaced at 14 cm intervals. Four of the blocks, including the block with the egg-and-dart molding, bear drilled holes 2 cm in diameter, some filled with lead. These may be drilled pour channels for dowels.¹⁶ Another

¹⁶ The project to remove a century's accumulation of biological growth from the temple was begun by conservators Michael Morris and Hiroko Kariya in 2013 and supported by the J.M. Kaplan Fund. The stairs were cleaned in 2014, revealing fea-

block bears a simple cyma reversa molding. In all, 13 of the 45 preserved stair blocks show signs of reuse. Since the stairs were probably first set up in the Hellenistic period and then moved in the Roman phase, these spolia must have originally belonged to buildings predating the Hellenistic temple.

Investigations in the East Porch

As originally laid out, the east end of the temple was an opisthodomos. In the Roman period, this was developed as a new front for the building, with a monumental door leading into a divided cella, a pseudodipteral facade, and a deep porch similar to that on the west. Sondages here investigated the relationship between the Hellenistic anta walls and the Roman columns of the east porch, the missing columns in antis, and other features (see figs. 3, 11, 12). Survey in 2010 showed that both the Hellenistic east cella wall and the Roman peristyle columns of the east front exhibit convex curvature, the Hellenistic wall rising by about 5.65 cm over 17.97 m, the Roman column plinths rising by about 5.50 cm over 41.9 m.¹⁷

A single pad of mortared rubble about 1.5 m thick envelops the foundations of the porch columns (Columns 16, 17, and 10–13) and the peristyle facade (Columns 1–8) and continues on the north and south pteromas. However, Columns 16 and 17 are not bonded to the cella walls, nor to the north or south peristyle columns.¹⁸ To investigate the relationships between the

Roman porch columns and Hellenistic antae, the spaces between the antae and the columns directly before them (Columns 16 and 17) were excavated.

The columns are both set on independent foundations of ashlar blocks embedded in mortared rubble. A narrow cut through the mortared rubble “envelope” around the foundations of Column 17 revealed four courses of marble blocks (total ht. 2.24 m) beneath the plinth. It also showed that the mortar was laid in layers corresponding to the ashlar courses, at the same time as the marble foundations. The foundation trench for Column 17 cut the foundation trench for the cella walls but did not extend as far as the face of the anta itself. There was no pottery associated with the Roman column, while the pottery associated with the anta was Hellenistic and earlier, but not closely datable.

In the northeast, however, excavation revealed that the foundation trench of Column 16 had been dug all the way to the anta, and a rich deposit of pottery and building debris was discovered in the fill of the foundation trench, some still cemented to the mortared rubble of the column foundation and deposited on the anta foundations (fig. 13). The deposit is therefore contemporary with the construction of this column foundation, dumped here before the mortar envelope had completely solidified. The assemblage includes a very large lamp of Broneer Type 21 and three other partly restorable vessels, all of which can be dated fairly closely to the first half of the first century C.E. or slightly later (figs. 14, 15).

Mendable vessels include the lamp (L11.22:12992), which is probably Tiberian or Claudian; a local one-handled jug or pitcher (P12.182:13266) and a thin-walled basin or krater with interior slip (P12.185:13269), both of which Outschar dates to earlier than the mid first century C.E.; and portions of a pseudo-Koan amphora (P12.180:13264) typical of the late first century B.C.E. to the first century C.E. Might these vessels, apparently discarded while more or less complete, have formed a set of some type, perhaps one associated with the construction of this column? The 13 kg of sherd material (1,333 fragments after removing the mendable vessels) includes about 1% residual Lydian and 4% residual Hellenistic material; the vast majority of diagnostic sherds dates to the first half of the first century C.E. and includes fragments of Eastern Sigillata B and local sigillata shapes (some stamped), Western Sigillata, thin-walled wares, and normal-sized lamps of Broneer Type 21. The deposit also contained bricks and mortared brick

tures previously hidden by lichen. Similar pour channels are found in the klinai of the fifth-century B.C.E. tumulus at Lale Tepe (Baughan 2008, 74, fig. 13; Stinson 2008, 34) and on the anta blocks of the Metroon (Greenewalt 1991, 20–1). Bahadır Yıldırım (pers. comm. 2014) identified the traces of molding as an egg-and-dart. Not enough is preserved to say anything about its style.

¹⁷Howe (1999) apparently did not survey the east front, although it is more stably founded and less subject to settling than the long sides of the building. It is worth noting that the temple is founded here on much more stable, solid clay bedrock rather than the deep loose gravel in which the western portion of the temple is founded. The Hellenistic wall was measured along the top of the foundation; the Roman column plinths were measured on the small finished areas in the center of each side.

¹⁸This is shown by the 1972 trenches 1 and 6, which encountered only clayey bedrock in the pteroma between Columns 13 and 14 (Hanfmann and Waldbaum 1975, 82) and by a deep trench dug in 1913 in the north pteroma, documented as far as I know only in two photographs in the Princeton Archive, A.205 and A.205a. The trench is sketched here on fig. 3.

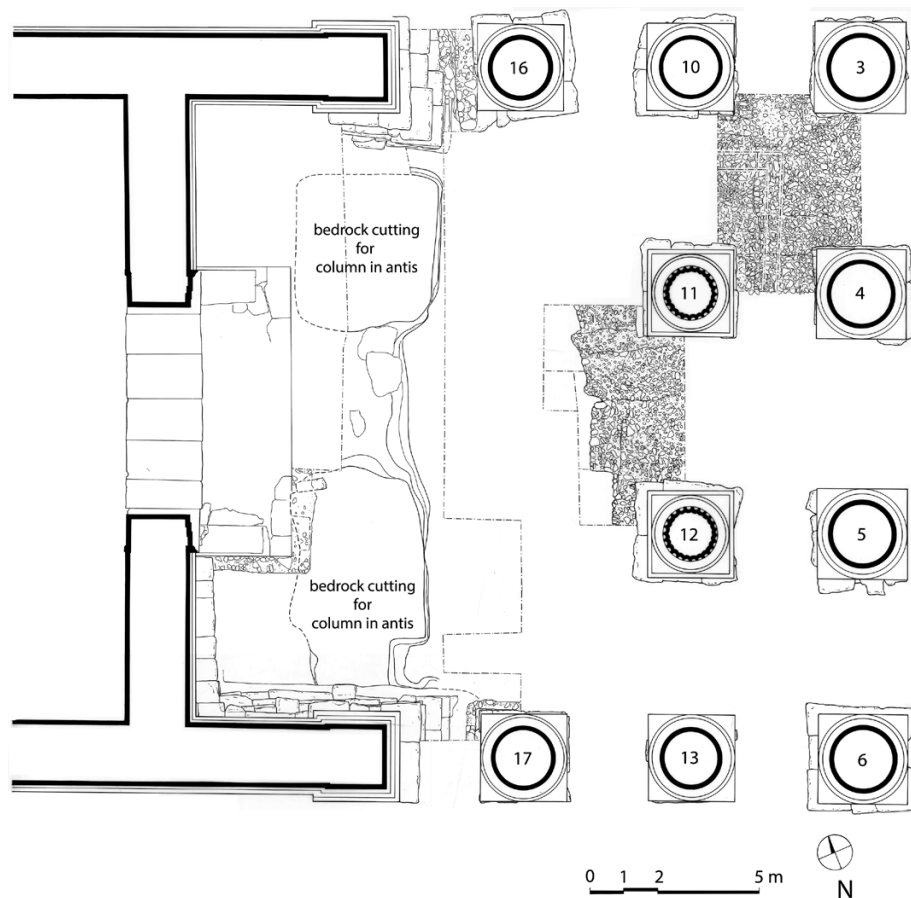


FIG. 11. Plan of the east end of the temple, showing sondages, 2002–2012 (© Archaeological Exploration of Sardis).



FIG. 12. Excavations in the east porch, 2011, looking northeast (© Archaeological Exploration of Sardis).



FIG. 13. Northeast anta and Column 16, with construction deposit of Column 16 in situ (© Archaeological Exploration of Sardis).



FIG. 14. Mendable vessels from construction deposit of Column 16 (© Archaeological Exploration of Sardis).

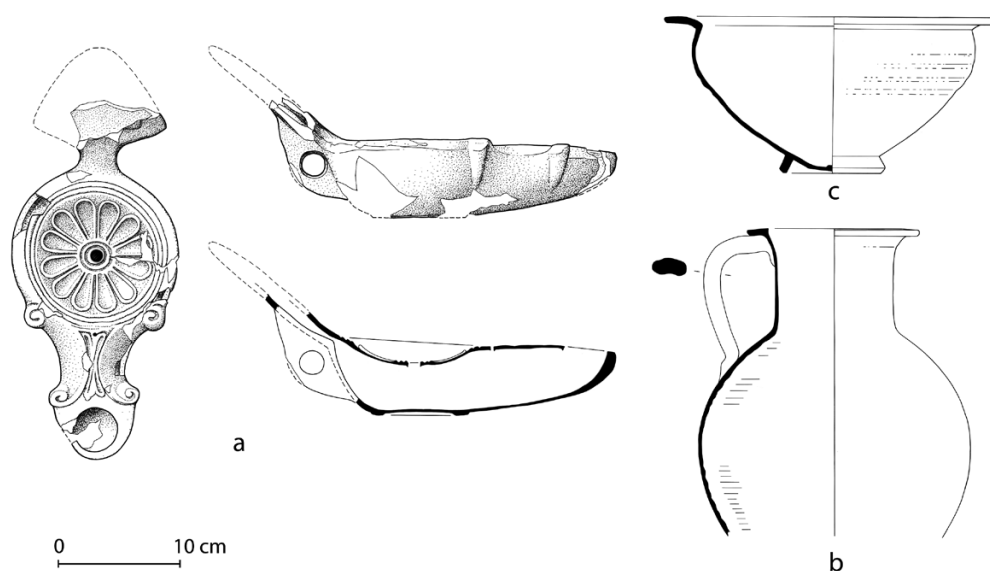


FIG. 15. Vessels from construction deposit of Column 16: *a*, lamp (L11.22:12992); *b*, one-handed jug (P12.182:132661); *c*, basin or krater with interior slip (P12.185:13269) (© Archaeological Exploration of Sardis).

masonry, curved brick fragments, ceramic pipe and roof-tile fragments, and pieces of mortared rubble.¹⁹

¹⁹ Deep gratitude is owed to Andrea Berlin, Elizabeth De-Ridder, John Hayes, Ulrike Outschar, Marcus Rautman, and Susan Rotroff, all of whom studied the pottery in 2012; their verbal identifications are listed here. Only three possibly later sherds were identified, and they may be intrusive: a fragment of an Eastern Sigillata B (or local variant) flat-based dish and two small fragments of Ionian red-on-white lamps. The bricks are relatively small and thick (17 cm and 10 cm long, 5–7 cm thick). The curved bricks have a diameter of ca. 0.3–0.5 m and perhaps belong to brick columns; some have holes (finger holes?) that almost pierce the thickness of the brick. It is worth noting that this is an unusually early date for fired brick in Roman Asia Mi-

nor. Many scholars have noted the absence of columns in *antis* at both ends of the temple. Although any normal temple would have such columns, no traces had been discovered. Gruben suggested that the columns in *antis* had been reused as the pedestaled columns of the porch. Excavations were undertaken in the east

nor. Similar unusually thick bricks are used in private construction at Ephesus during the Late Hellenistic and Augustan eras (Thür 2009), and almost identical round bricks are found at Sardis at sector Field 49 in securely dated contexts of the first half of the first century C.E., while square fired bricks are found in situ even earlier, used as floor tiles in a Late Hellenistic room. Yegül (2012, 96) refers to this deposit.

porch in 1972 and 1996 to resolve this question; they uncovered no foundations in situ but instead encountered a fill containing broken fragments of column flutes, fragments of one or more Ionic capitals and other architectural fragments, marble roof tiles, Late Roman pottery and coins, and, in 1996, part of a colossal head of Commodus or Lucius Verus (fig. 16). It was concluded that Late Roman pitting had destroyed all earlier evidence.²⁰

In 2011, these excavations were reopened and expanded across the entire east porch (see figs. 3, 11, 12). This revealed an ancient cutting into the clay bedrock, about 3 m wide and dug down to the level of the foundation of the cella wall. Undisturbed fill, in places continuous with the foundation trench of the cella walls, contained no pottery later than Hellenistic, showing that the cut was Hellenistic. The pottery could not be more closely dated, however.

Two wider cuttings in the bedrock measuring about 4.0 x 4.8 m were found within this Hellenistic trench at locations appropriate for the foundations of columns in *antis*, and a single sandstone block remained in situ, set against the bedrock cut. The dimensions and placement of the cuttings are compatible with the spacing of the west *pronaos* columns (8.40 m, the same as the missing western columns in *antis*) and incompatible with the more narrowly spaced Roman pedestaled porch columns (7.06 m) or the more widely spaced cella columns (9.40 m). Impressions of the (now missing) Hellenistic stepped foundations of the columns in *antis* are preserved in the mortared rubble foundations of the Roman stairs leading to the east door. After the columns were removed, the stair sagged into the resulting void (fig. 17). These “shadows” of the column foundations and the single block in situ confirm that the Hellenistic temple had columns in *antis* and that the foundations, at least, remained into the Roman period; but except for one block, they and their foundations have been entirely removed.

Aside from the few remaining areas of original Hellenistic fill, the ancient trench was filled with a massive deposit containing fragments of fluted columns and capitals, roof tiles, and other architectural fragments, as well as mortar and other debris—the same fill dug in 1972 and 1996. The deposit is somewhat heterogeneous but forms a single fill dumped from various points (fig. 18). Among the finds was a fragment of



FIG. 16. Restoration drawing of statue of Commodus from the Temple of Artemis, with artist for scale (drawing by C. Alexander; © Archaeological Exploration of Sardis).



FIG. 17. View of the Roman stairs, which slumped into the void left by the removal of the column in *antis* (© Archaeological Exploration of Sardis).

Ionic capital that joins the fragmentary Hellenistic Capital H found by Hanfmann in this same context in 1972.²¹ Pottery from the deposit was predominantly

²⁰ Hanfmann and Waldbaum 1975, 82; Greenewalt and Rautman 2000, 674–76; Burrell 2004, 103–8.

²¹ Hanfmann and Waldbaum 1975, 85.

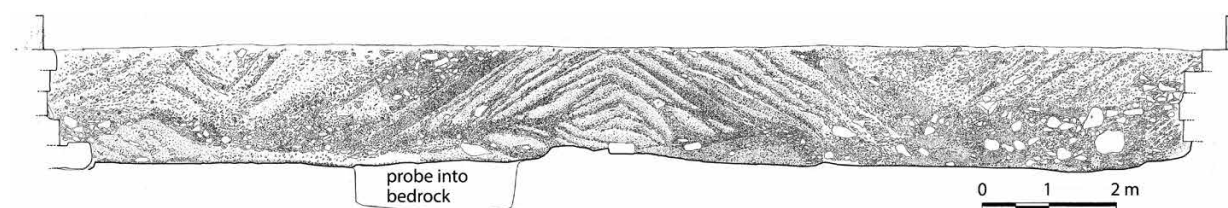


FIG. 18. Scarp drawing, showing the Late Roman fill of the trench in the east porch, looking east (© Archaeological Exploration of Sardis).

Late Roman but with a significant number of earlier residuals. The latest pottery includes African Red Slip Forms 59 and 67, Çandarlı Ware Forms 2 and 4, and amphora and lamp fragments, dating the fill to the late fourth or early fifth century C.E. A coin of Constantius II Caesar was found in 1972 in this pit.²² No deposits were found in the cutting other than the Hellenistic and Late Roman fills. We conclude that a single large pit was dug in the late fourth or early fifth century C.E., following the lines of the earlier Hellenistic foundation trench. This pit must have removed the Hellenistic columns in *antis*, together with their foundations.

Cleaning the north cella wall in 2015 revealed that a thin sheet of lead separates the first orthostate course from the molding below. The lead is visible only at the northeast anta, but this course has a gap about 1 mm wide across the whole exterior of the north face, unlike every other joint in the wall. This suggests that the lead at the anta is not simply an overflowed clamp or dowel but is a sheet separating these two courses, which has been scraped out elsewhere.

West Cella Statue Foundation

Excavation here aimed to clarify the date and the purpose of a mortared fieldstone construction located at the back of the west cella, identified as a foundation for a cult statue (see fig. 3). Much of the construction is consistent with a cult statue base: it is located at the back of the west cella, between the interior column foundations, and has a front (west) side that is paral-

lel to the back wall of the cella. However, the mortar and fieldstone construction extended all the way to the north wall of the cella, and similar construction also exists at the back of the east cella—that is, on the other side of the dividing wall. These features are not expected in a statue base but do not preclude that identification.²³ Excavation in front of the construction showed that it has a preserved height of 1.10 m and that it rests on the thick stratum of sand and gravel that underlies the temple and altar.²⁴ The precise date of this Roman feature is uncertain.

Architraves

Study by Cahill and B. Bricker of the architrave fragments around the temple identified two blocks from the east peristyle (one of them in three fragments), one block (also in three fragments) that spanned the interval between the northeast anta and Column 16, one possible wall architrave block, one possible interior architrave block, and a reused fragment that may have been cut from a Hellenistic architrave. One block from the peristyle is still intact and originally rested on the two standing peristyle columns (Columns 6 and 7) near which it was found. Another, now in three fragments, is reconstructed to a length of approximately 7.05 m, almost exactly the length of the central intercolumniation (7.06 m). Since it is a half-width architrave-like complete block, it probably belonged

²² Coin 1972.1001 (Buttrey et al. 1981, no. 297). Among the other artifacts from this fill was a roughly cubical lead object, 14–15 cm on a side, weighing ca. 17 kg (M11.17:12861). It would fit the large square cuttings in the centers of unfluted and fluted column drums; I nevertheless prefer to interpret those as sockets for wooden axles for transporting these drums. I again thank John Hayes, Marcus Rautman, Andrea Berlin, Susan Rotroff, Ulrike Outschar, and Elizabeth DeRidder for their analysis of the ceramics from this deposit.

²³ Uncovered in excavations of 1911, it was identified as a statue base by the Butler expedition partly because a colossal head of Faustina had been discovered in that part of the temple, in earlier excavations by G. Dennis (Butler 1922, 64; 1925, 91). For the discovery of the head, see Butler 1922, 7–8. A pit was apparently excavated by Butler in the northeast corner of the chamber through this mortared rubble.

²⁴ Excavation also exposed modest architectural features (a single course of mortared fieldstone in front of the “base,” a pile of broken sandstone blocks) and a shallow earthy stratum containing pottery fragments of Lydian shapes and painted decoration.

to the central intercolumniation of the peristyle rather than Columns 11 and 12 of the porch, whose Hellenistic capitals were smaller and whose architrave was a single block with two finished faces. The upper surfaces of all these architraves are much rougher than the tops of the capitals they rested on; they were probably never trimmed to carry a frieze or pediment. The central and anta architraves were reinforced in antiquity with large face clamps, attesting significant damage to the temple at some point.

In addition to repair clamps, the full-width architrave spanning the interval between the anta and Column 16 has shallow, slightly inclined cuttings on the resting surface over the anta, with six slightly oblique dowel cuttings to fix it to the course beneath (fig. 19). These cannot be repairs or signs of reuse, as the block was in situ until 1750 and had fallen by ca. 1815. Rather, they suggest that the course beneath was not regular.²⁵ The oblique cuttings and dowels may have served to lock the new Roman architrave more firmly to the existing Hellenistic anta. The molding between the fascias on the inner face of the architrave is finished only up to the edge of these cuttings, presumably because the face beyond was hidden by some other feature that extended south from the anta at this point. The arrangement is unusual and difficult to reconstruct, but it seems that this Roman beam rested above the Hellenistic architrave spanning the opisthodomos, which remained in situ until late antiquity, and blocked the view of the unfinished molding.

Roof Tiles and Sardian Tribes

A chance find of an inscribed roof tile prompted study (by G. Petzl) of the inscribed marble roof tiles of the temple. Petzl identifies two newly documented tribes among the dedicators of the marble roof: "Syl[leis]" or "Syl[eis]," and "Kai[sareios]." The names, "Sullan" and "Caesarean," attest a new Sardian tribe and show that the marble roof is Roman in date, rather than Hellenistic as previously suggested.²⁶

²⁵ Drawings by Borra and Peyssonnel made in 1750 show two architrave blocks still in place from the anta to Columns 16 and 10 (Butler 1925, 5; Howe 1999, 204–5, fig. 11.4; Greenewalt et al. 2003, 28, fig. 13; 32–3, no. 4). A watercolor painted by Michel-François Préalx ca. 1815 shows only a fragment of one porch architrave block still in place on one of five surviving columns (at Galerie Terrades, Paris, in 2013).

²⁶ The tribe "Syl[leis]" was read by Buckler and Robinson as a "non-Greek name" (Buckler and Robinson 1932, nos. 186.9,

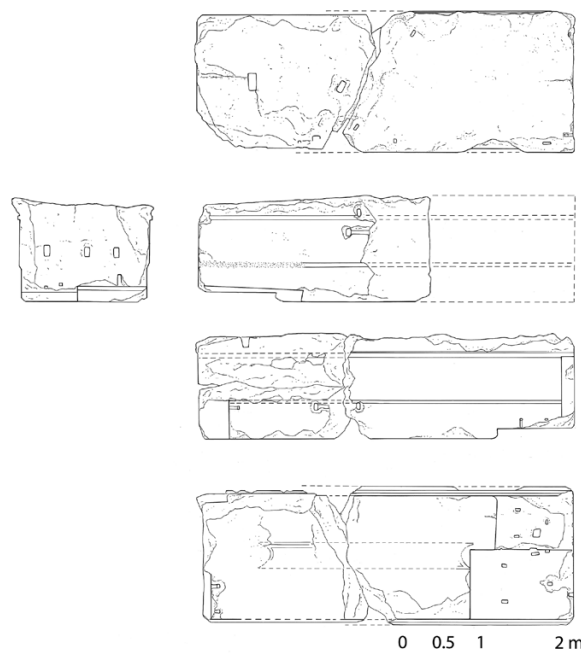


FIG. 19. Drawing of architrave block between the northeast anta and Column 16 (© Archaeological Exploration of Sardis).

The Altar of Artemis

The Altar of Artemis, or Lydian Altar, discovered in 1910 by the Butler expedition, consists of two major phases, called LA 1 and LA 2 (see figs. 3, "Lydian Building" and "Basis"; 10; 20; 21).²⁷ LA 1 is a nearly square stepped structure of calcareous tufa blocks, with four courses and as many steps on three sides.²⁸ The east side, facing the temple, appears to have been cut back in antiquity and may originally have been stepped like

186.10; cf. Jones 1987). Petzl (forthcoming), however, recognizes the reading "Sullan" from two ostotheke from Sardis in the Manisa Museum, where the name is spelled out, "Syllēidos" and "Syllēidos" (SEG 41 1027; 41 1030). The new roof tile fragment (S10.14:12666; IN10.4) reads "ΦΥ ΚΑΙ[...]" Petzl compares the name of the population of Sardis itself in the Julio-Claudian era, "Kaisareis Sardianoī" (Buckler and Robinson 1932, nos. 38, 39), and the tribe "phylē Kaisarēos" at Nysa and suggests that the name and tribe were adopted in recognition of Tiberius' support after the earthquake of 17 C.E. On the earlier date for the marble roof, see Gruben 1961, 174. There is no reason to suspect that the surviving roof tiles belong to two different phases.

²⁷ Both features are discussed in Hanfmann and Waldbaum 1975, 88–103.

²⁸ Ratté 2011, 123–25 (with previous bibliography).



FIG. 20. Plan of the Lydian Altar, showing restoration of LA 1 in 2010 (© Archaeological Exploration of Sardis).

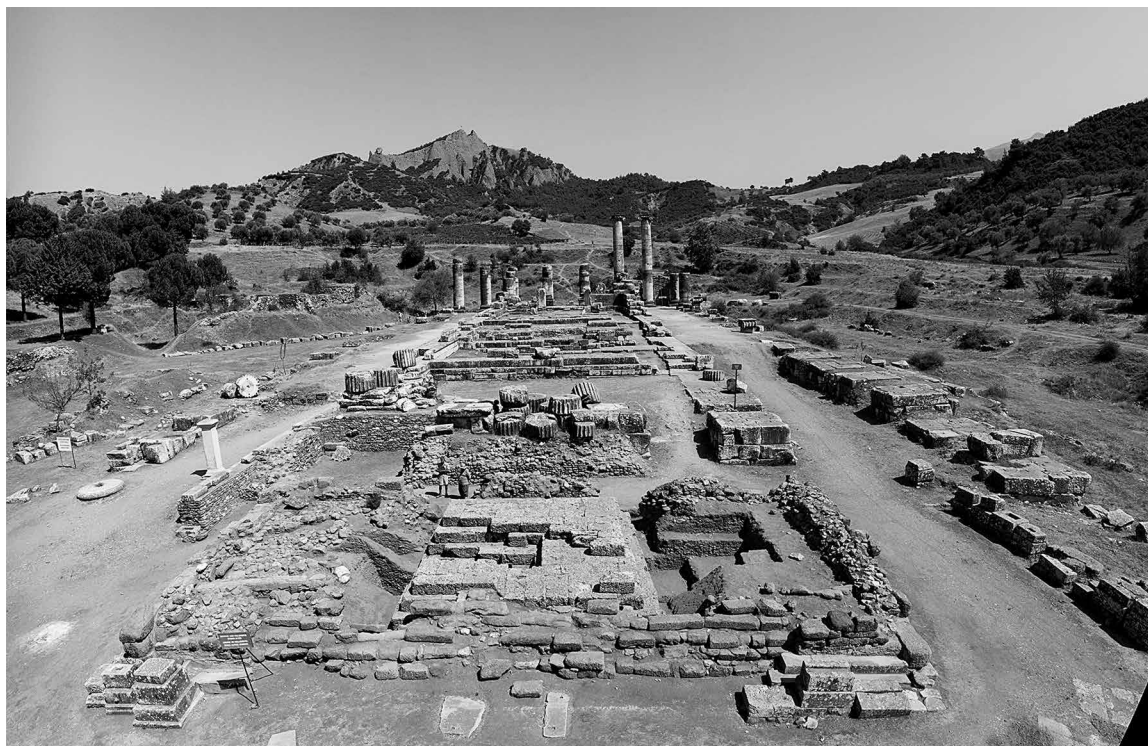


FIG. 21. Lydian Altar and Temple of Artemis, view after excavation in 2007 (© Archaeological Exploration of Sardis).

the other sides. At some time between 1914 and 1958, most likely in 1922 and by the Butler expedition, stone blocks of the center and north side were removed.²⁹ LA 2 is a later, rectangular structure that encloses LA 1 at its center, extending some 7.0–7.5 m beyond it to the north and south, closely framing it to the east and west. Its walls were built of sandstone and tufa blocks, some probably reused from LA 1 and other earlier structures; the upper portions were made from smaller fieldstones, probably belonging to later repairs. In the middle of the west side is a 14.5 m wide flight of steps; the steps are attested primarily by sandstone supports, but marble step blocks survive at the north and south ends of the staircase. Within LA 2 and surrounding LA 1 is a fill of horizontally stratified sand and gravel. Both LA 1 and LA 2 are approximately aligned with the temple axis. Foundations for a structure, perhaps a table, stand in

front of the stairs; when excavated it bore two iron rings, perhaps for tying sacrificial animals.³⁰

Cleaning and excavation of the altar in 2006 and 2007 came about from the wish to record features of the altar in more precise drawings and to clarify aspects of altar design and chronology.³¹ Excavation took place beneath LA 1 where blocks had been removed, and within the frame of LA 2, widening and deepening trenches of 1970. The forms of LA 1 and 2 were not significantly clarified. However, cleaning in the north part of LA 2 exposed two features that previously had not been recognized: an L-shaped corner of a building, made of unmortared fieldstone, and a narrow “step” of mortared stones (see figs. 20, 21). Those features have the same orientation, which differs from that of the altar and the temple but is close to that of the two rows

²⁹ Stoeber (1922, 8) cites “the uncovering of the foundation in the Altar.” The altar is not mentioned in the published report on the 1922 season (Shear 1922). For the irregular locations of removed blocks, on top of LA 1, in 1970, see Hanfmann and Waldbaum 1975, fig. 184.

³⁰ Princeton Archive photographs B.176, B.182.

³¹ For the publication of temple architecture by Yegül (forthcoming), Sardis Expedition publications committee members believed that the altar should be graphically recorded in the same degree of detail as temple walls and columns; see also Ratté 2011, appx. 3, figs. 266–72.

of stele bases in front of the temple, and to Building Q, a building constructed from marble blocks and located to the northwest of the temple (see fig. 2).

The L-shaped wall consists of a north–south segment with two preserved faces, and an east–west return at its south end, of which only the north face survives. The north–south segment is 0.85 m thick, three courses high, and preserved to a length of 2.50 m; the east–west return is preserved to a length of 1.30 m. Evidently contemporaneous with the L-shaped building is a purplish stony layer within the corner of the building and level with the bottom of its middle course of stones.

The “step,” located west of the L-shaped building, is 0.35 m broad, 3.40 m in preserved length, and one course thick. It has white mortar on its sides and pink mortar on its horizontal surface. The white mortar has a very fine surface finish; on the east side it rises above the horizontal surface, and on the west side it extends downward. The exposed surface of pink mortar is more granular than that of the white and seems to bear faint traces of tiles or slabs that were once set in it.

Some chronological relationships between the L-shaped building, the mortar “step,” and LA 1 and 2 are unclear. No pottery or other material was found that would help date either of the newly discovered features, and indeed, artifacts that help date LA 1 and LA 2 are scarce. The L-shaped building seems to be cut by LA 2 and so antedates that structure. Unfortunately, the southward continuations of both the step and the L-shaped building were cut away in the exposure of LA 1 by earlier excavations, and the stratigraphic relationships between these features no longer survive. On the one hand, the difference in orientation between the L-shaped building and LA 1 suggests that they belong to separate phases, and the construction of the L-shaped building suggests that it may indeed be older than LA 1. On the other hand, the unique orientation shared by the L-shaped building and “step” seems to relate the two, and the construction of the step, of white and pink mortar, seems later than LA 1 and LA 2. It was unclear whether the north wall of LA 2 cut the step or whether the step postdates LA 2; the latter seems more probable, but this would suggest that the L-shaped building and the “step” belong to very different phases, the one predating LA 1, the other postdating LA 2.

Excavation within LA 2 clarified the nature of the gravelly fill within the enclosure. Hanfmann had entertained the idea that this fill was naturally water-laid, but he eventually concluded that it was deposited as a deliberately layered fill because the Lydians would

not have allowed their altar to become buried. According to geographer D.P. Marsh, however, those strata are not flood deposits from the Pactolus Stream or artificial fills but are natural erosional deposits from the acropolis—the same erosional deposits excavated under the temple and elsewhere in the sanctuary (see sections “Investigations in the North Pteroma and Pronaos,” above and “Discussion” below).³² This natural deposit is preserved up to about the level of the third course from the bottom of LA 1, well above the ground level around LA 2, and there are no traces of compacted earth surfaces or discontinuities within the sandy fill.

Two conclusions seem to follow. First, at least the lower two or three courses of LA 1 (and probably the whole structure as preserved) were foundation courses always intended to be below ground. This would explain the very coarse stone with exposed clamps, the irregular shape and nonparallel faces of the structure, the unfinished risers of some courses, and the lack of any evidence for a marble facing or plaster.³³ The stepped foundations are paralleled in the Hellenistic column foundations of the temple itself, and the unusual design may have been intended to provide the greatest stability in the bedding of loose gravel. Second, the ground level must have been lowered by about 1 m when LA 2 was built, leaving an “island” of this earlier alluvial deposit and features retained by the perimeter walls. This is borne out by the construction of LA 2, whose foundations follow the rising contour of this island of earlier fill within.

New ceramic evidence for the date of LA 1, all from water-laid strata under the building, includes Achaemenid bowls and later forms of column kraters,

³² Hanfmann and Waldbaum 1975, 98–9. According to Marsh (2006), the sand and gravel deposit under the altar (1) is less finely sorted than Pactolus deposit, includes many stones that are exceptionally large for typical Pactolus deposit, rests at levels too high to be credible for ancient Pactolus deposit, and contains lithologies that are absent in Pactolus deposit; but (2) matches the content of alluvial fans on the west side of the acropolis with respect to composition, including coarser and finer sandy lenses, larger stone inclusions, and lithologies.

³³ Frazer (in Hanfmann and Waldbaum 1975, 92, 94) argued that it was a stepped altar like that at Cape Monodendri and that its very coarse stone had been faced with another material, such as marble slabs. Ratté (2011, 123–24) accepts the interpretation of the building as a stepped structure, but in the absence of any trace of cuttings or other means of bedding or attaching a facing, he suggests that the stones as preserved are probably the original face but were perhaps originally plastered over.

consistent with the evidence previously discovered and published and similar to the finds from these water-laid strata elsewhere in the sanctuary. These provide a terminus post quem, although not a very precise one, of no earlier than the second half of the sixth century.³⁴ Nothing need be later than the late sixth century, but these finds may predate LA 1 by some time.

In 2010–2012, the altar was conserved and restored. The blocks displaced from LA 1 were studied and reset in their original locations, and the walls of LA 2 were consolidated and restored to the state in which they were found in 1910, using original material where possible. To protect the original sandstone stair foundations of LA 2, which had weathered badly since they were first exposed, new travertine blocks were laid to replicate the original marble stairs (fig. 22).³⁵

Retaining Wall in the Pactolus Streambed

Part of a long retaining wall, substantially built of large marble blocks and located in the present Pactolus streambed, approximately 70 m west-southwest of the Altar of Artemis, was reexcavated in 2007 (see figs. 2, 23).³⁶ Excavation exposed a segment 21 m long (at both ends extending beyond excavation limits), which approximately contours the present east bank of the Pactolus streambed and faces west—that is, toward the streambed; it stands to a maximum height of four courses.³⁷

³⁴ For this pottery, see Ratté 2011, 124–25, figs. 271, 272.

³⁵ This project was supported by a generous grant from the J.M. Kaplan Fund. The original proposal was drawn up by conservator Kent Severson and carried out by conservators Hiroko Kariya and Catherine Williams, architect Brianna Bricker, and engineer Teoman Yalçinkaya.

³⁶ Part of the wall had been exposed by stream action in 1971; the exposed part was drawn and photographed in 1972 (Vann 1989, 70). Between 1972 and 2007, it became buried under stream-deposited earth. Excavation in 2007 was prompted by questions concerning the stream level in antiquity—specifically, whether it was high enough to have deposited the water-laid sand and gravel on which the Altar of Artemis rests; the top of that sand and gravel deposit is some 6–7 m higher than the present streambed.

³⁷ Each course consists of a line of large or relatively large marble blocks (the largest 2.4 m long) that make up the face of the wall, and a backing of smaller stones of marble and sandstone or conglomerate. Several blocks have what resemble pry holes on their top surfaces, and a block of the third course from the top has a dowel hole containing lead. No clamp holes are visible; however, two adjoining blocks exposed in 1971 (and shown in the drawing made that season) but absent in the exposure of

Monumental construction, form, and location suggest that the wall served as an embankment for the Pactolus Stream or as a retaining wall for the Sanctuary of Artemis, and perhaps both. Monumental construction and absence of mortar, together with monumental temple construction in the sanctuary during the Hellenistic era, suggest that the retaining wall was built during that era or later.³⁸ In any case, the retaining wall documents the approximate elevation of the Pactolus streambed during the time that the sanctuary was in use, roughly 9–10 m below the pteroma of the temple and not far in level from its present bed. It shows that the Pactolus bed could never have been as high as the temple and so could not be the source of the massive alluvial deposits that underlie all preserved remains.

DISCUSSION

The Temple of Artemis was never finished. Centuries passed between the initial construction of the cella and the raising of its first peristyle column, and even then, columns were never erected much beyond the east front, and not even their foundations were laid on the west. Whatever the intentions of its various designers over the ages, few were ever realized. As an alternative to dividing the building history into distinct, carefully planned building phases, one might consider it as a long-term process full of starts and stops, with compromises made to accommodate earlier constructions, and periodic modifications in design due to changing circumstances, limited resources, delays, damage from natural disasters, and the like. The resulting building was never a canonical Ionic temple but was rather a palimpsest of this long and complicated

2007 shared a clamp hole. The bottom course is built of smaller stones. The wall face contains a slight bend, and the south end differs from the rest in consisting of a single course of four smaller stones laid lengthwise to the foundation width. None of the blocks shows obvious signs of reuse.

³⁸ No sealed deposits were found associated with the retaining wall; all had been mixed by the Pactolus Stream. Of the 22 coins from the sector, six are Hellenistic (two of Lysimachus [early third century B.C.E.], one of Antiochus III [215–213 B.C.E.], three Pergamene [second century B.C.E.]). Four coins are Greek imperial (first century B.C.E. to third century C.E.), and nine are Roman or Late Roman (fourth to fifth centuries C.E.). The high proportion of Hellenistic coins is suggestive but cannot be securely associated with the construction of the building. Greenewalt was inclined to believe the structure was Hellenistic; Cahill is less certain, believing a Roman date is also possible.



FIG. 22. Lydian Altar, view after restoration in 2010–2012 (© Archaeological Exploration of Sardis).

evolution. Its irregularities in design and construction reveal fascinating clues to these processes of adaptation and compromise.

An Archaic Artemision?

Although Butler argued that the preserved marble portions of the temple at Sardis were built in later centuries, he believed that the Temple of Artemis was begun in the time of Croesus, a major benefactor of the Temple of Artemis at Ephesus and other Greek sanctuaries. He identified certain structures in the temple as belonging to this early phase—for instance, three sandstone foundations in the “Treasury,” the marble foundations for the peristyle columns, and parts of the foundations of the walls. He also mentioned other features that he did not have an opportunity to fully explore because of the outbreak of World War I and his untimely death. Subsequent scholars have argued that these features belong to the Hellenistic and Roman building and that the temple proper was not begun before the Hellenistic era.³⁹ Our excavations intended to



FIG. 23. Foundation in the Pactolus streambed (© Archaeological Exploration of Sardis).

test Butler’s identifications showed that indeed, all belong to later phases. Nonetheless, Lydian pottery and other artifacts from later contexts attest use of this area during the seventh and first half of the sixth centuries B.C.E., the period of the independent Lydian empire.

By the middle of the sixth century, occupation had spread outside the fortifications up both banks of the

³⁹ Butler 1922, 148–49; 1925, 27–9, 81–3, 140–43; Hanfmann and Mierse 1983, 49–52.

Pactolus as far as the later temple, and this region probably already included sanctuaries or other nondomestic structures (see fig. 1). Lydian buildings dating to the seventh and the first half of the sixth century have been found in the "Northeast Wadi" about 120 m north of the temple, and in the later necropolis about 300 m southwest of the temple (see fig. 1[16, 85]). Both these buildings contained deposits of well-preserved Lydian ceramics and other materials dating to the mid sixth century B.C.E., perhaps debris from the Persian capture of Sardis in ca. 547 B.C.E. After that, there was a significant gap in occupation.⁴⁰ A terrace wall of the Lydian period at Kagirlik Tepe (see fig. 1[19]) was interpreted by Greenewalt as perhaps part of the triple fortifications admired by Alexander, but the masonry and associated architectural terracottas are more compatible, in Cahill's view, with a sanctuary or other nondefensive and nondomestic building.⁴¹ This area likewise does not seem to have been occupied after the Lydian period. Finally, another building or complex of buildings was excavated by Butler in 1911 about 250 m west of the temple (see fig. 1[84]). A rich collection of molded and painted terracotta revetments and roof tiles identifies these, too, as nondomestic structures, perhaps a sanctuary dating to the first half of the sixth century B.C.E.⁴² A small sanctuary to Artemis may

have perched on a ridge of the acropolis, dating back to the seventh century B.C.E. and destroyed by the fifth.⁴³

We may reconstruct scattered but not insignificant settlement spreading up both banks of the Pactolus beyond the Sanctuary of Artemis during the Lydian period and note greatly diminished occupation during the subsequent Persian and Hellenistic eras.⁴⁴ The Sanctuary of Artemis reveals the opposite pattern. Lydian buildings or occupation strata dating before ca. 550 B.C.E. have not been encountered in the sanctuary. In all excavations, the earliest known stratum is the massive deposit of natural water-laid gravel and sand under the temple and altar, apparently washed down from the acropolis. This stratum was explored by Butler, by the very first trench excavated by the Harvard-Cornell expedition in 1958 (see fig. 2, trench S), as well as in sondages under LA 1, under the basis in the cella, and in the north pteroma in 2010. All these trenches produced similar results. The 1958 and 2010 trenches reached virgin soil or bedrock 5–6 m below the level of the temple floor, with no intervening cultural horizons, and although all trenches produced artifacts of the seventh and sixth centuries B.C.E., the latest diagnostic pottery from each dates the deposition of the sand and gravel to the Persian era at Sardis. A more precise date is difficult to estimate, since the local ceramics of this period are not closely datable, but there is nothing obviously later than the later sixth or earlier fifth century B.C.E.⁴⁵

The coarse, poorly sorted, almost sterile gravel and boulders under the temple and Lydian Altar suggest a short period (in geologic terms) of high-energy alluvial

⁴⁰ On the Northeast Wadi, see Hanfmann and Waldbaum 1975, 118–25; Greenewalt 1979, 19–21. On the Lydian house southeast of temple (among later, Persian-period burials), see Cahill 2012, 214; this region was a necropolis in the Persian period but seems to have been a habitation area during the Lydian era.

⁴¹ Greenewalt 2007, 746.

⁴² Butler 1922, 76–8; Shear 1926, 1–7; Åkerström 1966, 67–96. I know of no plan of the area except the very sketchy indication by Butler (1922, fig. 18), on which our fig. 1 is based. The walls are shown in Princeton Archive photographs A.176–A.178. Unpublished letters from W.H. Buckler to his wife Georgina describe the roof tiles and revetments as fallen and broken in situ, suggesting a primary deposit. He believed, plausibly, that they belonged to a shrine of some sort. (The letters are in the William Hepburn Buckler papers of the Manuscripts and Archives Repository, Sterling Memorial Library, Yale University, and include letter 47, of 17 May 1911, through letter 52, of 3 June 1911.) Butler (1922, 76–8) and Shear (1926, 2) assumed that the fieldstone walls could not have supported these heavy roofs, but this is unwarranted; cf. Ramage 1978; Hostetter 1994. The architectural terracottas are of types attested at Sardis in the first half of the sixth century (Ratté 1994), and that date is consistent with a column krater found here (Shear 1926, 5, pl. 1). Similar tiles from Gordion are likewise dated to the first half of the sixth century (Glendinning 1996).

⁴³ Cahill 2010, 66–7; 2011, 360–61; Cahill et al. (forthcoming).

⁴⁴ Greenewalt 2006a; Cahill 2008.

⁴⁵ Butler 1922, 129–33. For trench S, see Hanfmann and Waldbaum 1975, 54, 86, 104–7 (levels IIB and III). The lamp fragment from level IIB (LS8.3:185; Hanfmann and Waldbaum 1975, 107, fig. 240) is a type now known to be found at Sardis only after the Persian destruction of 547 B.C.E. (e.g., Greenewalt et al. 1988, 26, fig. 10), while the oinochoe fragment from level III (PS9.199:309; Hanfmann and Waldbaum 1975, 107, fig. 244) is more typical of the sixth and fifth centuries than of the eighth or seventh century. Butler dug under the "basis" in the center of the cella to a depth of more than 3 m in 1911, and Hanfmann repeated this in 1960–1961, to a depth of 4 m, without reaching virgin soil (Butler 1922, 76; Hanfmann and Waldbaum 1975, 54, 81). The latest datable pottery from this latter excavation are "Late Lydian" thin-walled column krater fragments similar to those from the 2010 trench and from under LA 1.

or colluvial deposition between the mid sixth century B.C.E and the construction of the earliest preserved buildings in the sanctuary, during which gravel and stones were washed from the slopes of the acropolis into this valley and filled it to a depth of 5 m or more. Conceivably, such an event could have washed away earlier strata and even structures. Similar deposits of water-laid gravel dating to the later sixth or the early fifth century covered an early phase of the Altar of Cybele at sector PN and have been found in sectors HoB and elsewhere, although these need not all be contemporary.⁴⁶

Following this period of intense geologic deposition, several structures predating the Hellenistic temple can be identified *in situ* (fig. 24). LA 1, the first phase of the Lydian Altar, is the most obvious. Since the preserved portions of this building are shown to be subterranean foundations, we now have little understanding of its original form. The building to which the L-shaped wall belonged probably predates LA 1, and so represents another early construction. A third pre-Hellenistic structure is the sandstone foundation in the center of the cella of the temple (see fig. 3, “Basis”). Butler believed this was an early feature predating the temple. Based on the Hellenistic coins found between the stones, however, Hanfmann and others considered this to be a Hellenistic feature built from reused blocks.⁴⁷ But Butler’s initial identification of the foundation as an early feature is to be preferred. The sandstone masonry, cut with a flat chisel and clamped with butterfly and staple clamps, is typical of Lydian masonry dating to the Persian era, rather than Hellenistic construction.⁴⁸ The foundations of four

of the cella columns (Columns 69–72) were shifted slightly to the north and south of the axes established by the other cella columns to accommodate the earlier structure.⁴⁹ The Hellenistic coins Hanfmann used to date the structure were all found by Butler “in the vertical joints between the stones of the upper course of sandstone . . . as if at the foot of the pedestal of the statue” and were probably inserted after the structure was built. The only coin found between horizontal courses, and so definitely associated with its construction, was a silver croeseid half-stater that probably dates to the second half of the sixth century or the early fifth century B.C.E. It is probably the most diagnostic find from any of these pre-Hellenistic structures.⁵⁰ Unfortunately, the basis was dismantled soon after its discovery in an effort to locate earlier structures beneath, like the then recently discovered Basis from the Artemision at Ephesus, and it is unclear when the drawings in Butler’s publications were made or how accurate they are. I know of no photographs of the basis before it was dismantled.

A fourth possibly pre-Hellenistic structure is Building Q, at the northwest corner of the sanctuary (see figs. 2, 25). The exterior of this structure is built largely from marble blocks, which Hanfmann describes as “a fair approximation to ashlar masonry by recutting marble spoils”; he dates the building as “perhaps Late Roman (A.D. 280–400) rather than Early Byzantine.” But the masonry of the south and parts of the east walls is quite consistent. The marble blocks are

that the stones were clamped *in situ*. On Lydian ashlar masonry and techniques, see Ratté 2011.

⁴⁹Noted by Butler (1925, 29) and pointed out to me by Philip Stinson; the divergence is visible in drawings such as Hanfmann and Waldbaum’s (1975) fig. 133 and in the orthophotograph (fig. 5 herein).

⁵⁰Quotation from Butler 1922, 74–6; cf. Butler 1925, 108; see also Bell 1916, v–vi. A slightly different account is given in the second preliminary report (Butler 1911, 453–54). In either case, the Hellenistic coins seem to have been introduced to the basis after its construction, while the croeseid is original. The account is corroborated by the letters from W.H. Buckler to his wife mentioned above, especially of 30 May 1911 (*supra* n. 42). For the croeseid, see Bell 1916, no. 223. For the type and its dating, see Nimchuk 2000; Cahill and Kroll 2005, 609–14. These silver coins could remain in circulation at Sardis and elsewhere for a significant length of time. A twelfth-stater was found at sector PN in a context of ca. 470–450 B.C.E. (Buttrey et al. 1981, no. GR0133, found with Schaeffer et al. 1997, Attic 305); another, full stater was found on the acropolis in a context of about the same date (Cahill 2011, 360–61).

⁴⁶ Hanfmann and Mierse 1983, 26–33; Ramage and Craddock 2000, 74.

⁴⁷ Butler 1911, 450–51; 1922, 65; 1925, 29; Hanfmann and Waldbaum 1975, 78–81, fig. 140. Hanfmann also dated the cross-wall to the Hellenistic phase.

⁴⁸ Hanfmann and Waldbaum 1975, 78–9, fig. 140; Hanfmann and Mierse 1983, 50. The omission of clamps on Butler’s (1925, Atlas pl. 1) drawing is not significant, as the drawing omits many features and may have been done after the basis was dismantled. None of the blocks left *in situ* after Butler’s excavations bears clamp cuttings, and it is likely that many of the cuttings on these very soft stones were destroyed in removal. By 1961, Hanfmann found “only a half-dozen clamp cuttings . . . among ca. one hundred stones” and remarked that the clamps were in “non-functional positions” (Hanfmann and Waldbaum 1975, 78–9). But the blocks he refers to were reset in modern times, not necessarily correctly; the natural reading of Butler’s account is

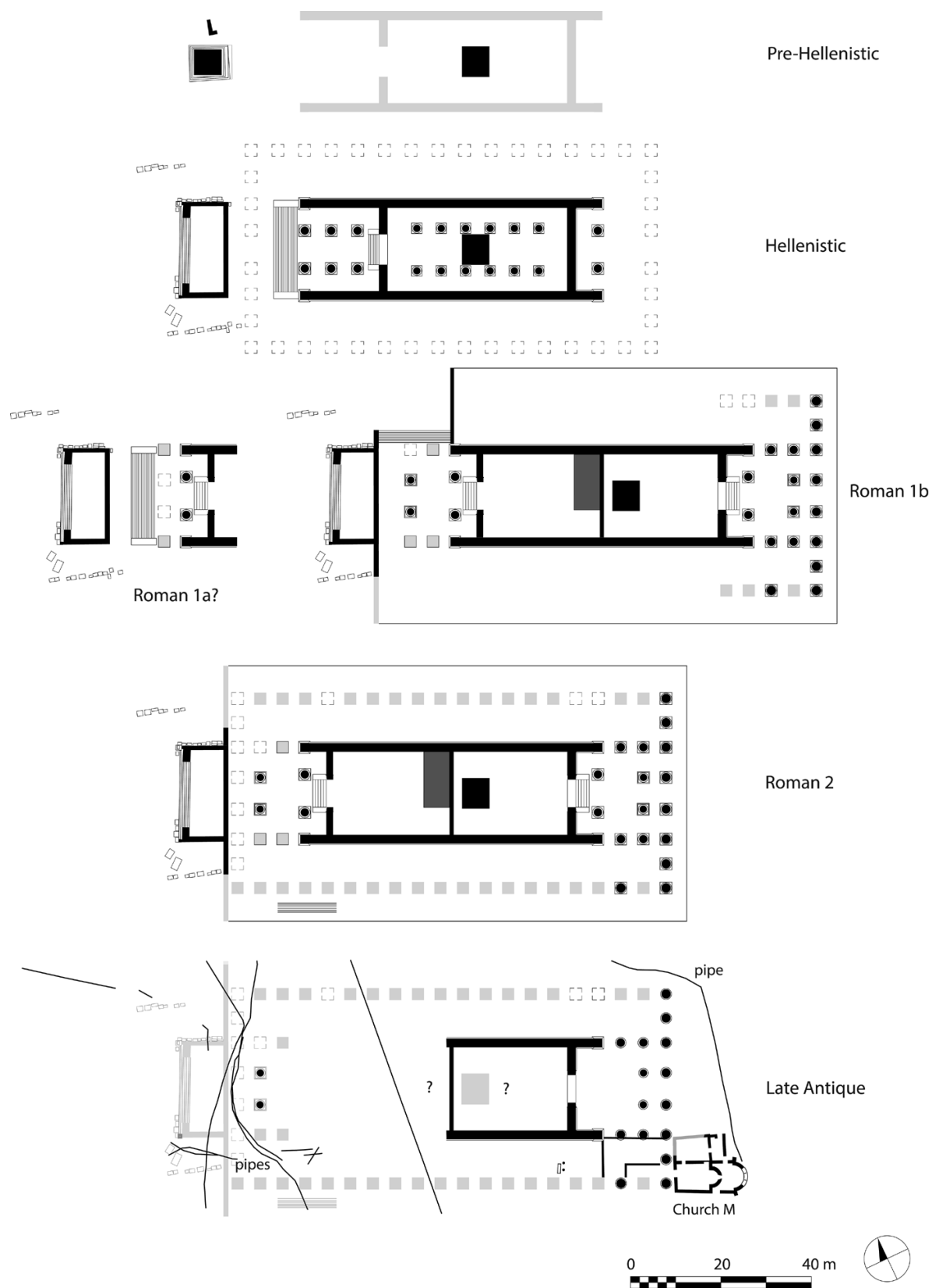


FIG. 24. Phase plans of Temple of Artemis (© Archaeological Exploration of Sardis).



FIG. 25. Building Q; the isolated block in the upper course was placed there in modern times (© Archaeological Exploration of Sardis).

roughly worked without drafting or anathyrosis and were originally closely set without clamps or dowels. One block bears a Lydian inscription, “tiv,” in the elongated letters that may be characteristic of earlier rather than later inscriptions.⁵¹ Building Q is not aligned with the temple but rather with the L-shaped wall within LA 2, which probably predates that structure, and with the two rows of stele bases. The masonry is unlike any Hellenistic or Roman monuments at Sardis, but without cleaning and excavation it is impossible to say whether this represents a later building made of carefully reused early spolia, or an early building that has been extensively remodeled. The latter alternative seems preferable.

A number of pre-Hellenistic blocks are found reused in later buildings or as loose finds throughout the sanctuary. At least one early building must have provided blocks for the Hellenistic phase of the Northwest Stairs. The 2.78 m long block with egg-and-dart molding suggests that this early structure was substan-

tial and lavishly decorated. The drilled pour channels are attested in Lydian architecture of the fifth century B.C.E. Another group of early marble blocks has carefully picked raised panels and protective lips on the rising joints (see fig. 25), similar to masonry of the Pyramid Tomb and the Tall-i Takht at Pasargadae. They are worked with a flat chisel, bear anathyrosis, and were clamped with swallowtail clamps with round iron pins and doweled with square dowels. One of these blocks was reused in the north wall of the Temple of Artemis, confirming the group’s pre-Hellenistic date; two more are found in Building Q, although they may have been placed there in modern times, as at least one does not appear in Butler’s photographs; and at least one more is found among the loose blocks in the precinct. Analysis of marble from the block rebuilt in the north cella wall shows that it is distinct from quarries in the Mağara Deresi, the source of marble for the Hellenistic and Roman portions of the Temple of Artemis, but probably originates from the same quarry as marble from the Tumulus of Alyattes, Lydian buildings at sector Byz-Fort, and other Lydian marble elements.⁵² Limestone

⁵¹ Building Q: Butler 1922, 127; quotation from Hanfmann and Waldbaum 1975, 61. Inscription: Buckler 1924, no. 39; Gusmani 1964, no. 39 (with incorrect provenience).

⁵² Cahill and Lazzarini 2014.

blocks worked with a flat chisel and bearing cuttings for small lead clamps without iron pins, very similar to clamp cuttings on blocks already reused in the early sixth-century B.C.E. gate at sector MMS/N, are reused in two foundations just west of the foundations for Columns 73 and 76.⁵³ Other early blocks, identifiable by their flat-chisel tooling and other features, are built into the foundations of the temple or are found in later contexts in the sanctuary.⁵⁴ It is probably futile to speculate about the number of buildings, the relationships between preserved foundations and spolia, or the nature of those buildings, but even these sparse remains suggest that the Sanctuary of Artemis was an important one well before the Hellenistic temple was built.

Three inscriptions in Lydian found in the sanctuary relate to dedications and property owned by Artemis and Qλdāns, and one mentions a “temenos” (*sirma-*) to the two deities. The dates of these inscriptions cannot be fixed with certainty, however. Two of them were erected by the same man, Mitridastas the son of Mitratas, and presumably date to the Achaemenid period, although such Persian names certainly remained in use later.⁵⁵

There is no secure evidence for a temple before the Hellenistic pseudodipteros, nor for any remains in situ earlier than the Persian period. But the evidence does not preclude the existence of Lydian buildings here, perhaps even relatively monumental ones, which may have been completely washed away in the high-energy geologic event that filled the valley with gravel washed from the Acropolis.

Hellenistic Phase

Identifying the sandstone foundation in the center of the temple cella as a pre-Hellenistic rather than a Hellenistic feature, as Butler did from the outset, helps explain important features of the design of the later temple.⁵⁶ A fundamental problem of the Temple

of Artemis at Sardis is the relationship between temple and altar. When the Hellenistic temple was built, it was set not at a comfortable distance from the earlier altar but so close to it that a normal dipteral or pseudodipteral colonnade along the front of the building would never have been possible: the space was too narrow for both a colonnade and the necessary stairs from ground level to the pronaos floor. Instead, the colonnade was eventually extended farther, and the temple and altar were joined in a unique but awkward arrangement. Rather than the usual relationship, in which the altar faced away from the temple, here the stairs faced toward the temple and in the Roman phase may even have continued up to the porch of the temple. These problems would have been alleviated if the Hellenistic builders had simply set the temple farther back from the earlier altar.⁵⁷

The reason the builders set their temple so close to the altar must be that the Temple of Artemis at Sardis, like other great Ionic temples, was built around earlier structures: the tufa altar LA 1 and the sandstone basis. The Hellenistic architects had to fit their temple around these two structures, if they did not want to destroy either. Had they moved the temple farther away from the altar, the basis would have been left awkwardly at the front of the cella. The solution they arrived at, centering the cella on the earlier basis and bringing its planned front colonnade all the way to the altar, created the largest temple possible while respecting the existing monuments, but it did so at the cost of a regular facade. This also helps explain other unusual features of the temple, such as its elongated cella, whose proportions were partly conditioned by these earlier buildings. The design of the front of the temple must have confounded architects for centuries and was never satisfactorily resolved.

Coins and pottery from the foundation trenches in the north pteroma and east porch support the generally accepted date in the third century B.C.E. for the construction of the Hellenistic temple. The two groups of coins deposited within the archaic image basis between ca. 240 and 220 B.C.E. still offer the best date for an end of this phase of construction, if one assumes that the coins were deposited around the time

⁵³ MMS/N: Ratté 2011, 110.

⁵⁴ Other early blocks include Hanfmann and Waldbaum 1975, 83, figs. 167, 168; 94, figs. 210, 211. A large but peculiar lion's-head spout found high in fill near the northeast corner of the temple is also worked with a flat chisel, and it seems to me more likely to be pre-Hellenistic than Roman (Butler 1922, 96–7; 1925, 52; Hanfmann and Ramage 1978, no. 237). On such masonry at Sardis in general, see Ratté 2011.

⁵⁵ Gusmani 1964, nos. 22–4.

⁵⁶ On the form of the Hellenistic cult statue, see Christof 2013.

⁵⁷ There is no reason to postulate, with Dinsmoor, Frazer, and others, that the altar was destroyed or that the builders planned to destroy it and rebuild further back (Dinsmoor 1950, 227 n. 1; Frazer in Hanfmann and Waldbaum 1975, 100–1).

the new temple was dedicated.⁵⁸ Two Hellenistic texts apparently mentioning earlier third-century rulers, Antigonos and Stratonike (presumably Antigonos Monophthalmos, and Stratonike, daughter of Demetrius Poliorcetes and wife of both Seleucus I and his son Antiochus I), are associated with the temple; however, the inscriptions themselves are later copies of the originals and do not date the construction of the temple itself but only document the existence of the sanctuary.⁵⁹ Two inscriptions in Lydian on the Hellenistic columns record the names of donors to the temple but do not help date the building.⁶⁰

Excavations in the east porch prove that, not unexpectedly, the Hellenistic temple had columns in antis on the east and, presumably, west ends. But although the temple must have been conceived as a dipteros or pseudodipteros, all recent studies conclude that no part of the peristyle was constructed before the Roman period.⁶¹ The Hellenistic columns in antis and interior columns were fluted and their capitals completed; these elements can be identified by the “Carian” lewis holes on the capitals and the round dowel holes on capitals and drums.⁶² Other parts of the building remained unfinished, however; the opisthodomos walls, for instance, were left unfinished until this side of the building became a new focus of the temple in the Roman period.⁶³

⁵⁸ Le Rider 1991.

⁵⁹ The Mnesimachos inscription (Buckler and Robinson 1932, no. 1) and the ball dedicated by Stratonike (Buckler and Robinson 1932, no. 86; cf. Bumke 2011).

⁶⁰ Gusmani 1964, no. 21; 1980–1981.

⁶¹ Howe 1999, 205; Yegül 2012.

⁶² On the Carian lewis, see Demirtaş 2006; Pedersen 2011. They are closely similar to those on the antae of the Late Classical or Early Hellenistic Metroon at Sardis, which bear inscriptions of 213 B.C.E. (Greenewalt 1991, 20–1). William Aylward is preparing a study of the lewis of these and other buildings at Sardis. The dowels are paralleled at Ephesus, Halikarnassos, Priene, Magnesia, and other fourth-century and Early Hellenistic buildings of Asia Minor (Bammer 1972, 17–28; Hellström and Thieme 1982, 20; Koenigs 1982; Jeppesen 2002, 137–47; Demirtaş 2006, 36–7, 42–5; Bingöl 2012, 224–33). The dowel holes on the upper surfaces of most surviving drums at Sardis were cut away by Roman lewis when the columns were dismantled, but traces of the earlier round holes are often still visible.

⁶³ Such, at least, is the most likely explanation for the unfinished state of the east wall under its door, where it was hidden by the Roman stairs. The continuous foundation shows that a door was not part of the original design. Frazer (in Hanfmann

The expanded altar, LA 2, was probably built at about the same time as the temple. Although there is little direct evidence for the date of this second phase, the trimming of the east side of LA 1 during the construction of LA 2 is best understood in the context of the pressure for space between the old altar and the new temple. LA 2 was originally a freestanding structure, and its marble stairs and finely polished stucco walls, well preserved even in Butler’s time, would have given the structure a much more elegant appearance than it has today. The ground level around the altar was apparently lowered by about 1 m at this time, perhaps to elevate the temple relative to the surrounding terrain. A set of stairs must have spanned the west front of the temple; this must be the original location of the blocks later reused as the Northwest Stairs.⁶⁴

Stelae and other monuments, many of them composed of reused elements, were set up against the altar and in two rows leading up to the temple. Hanfmann argued that these belonged to a Roman reordering of the precinct in the second or third century C.E., but the only real evidence for this is a coin of Claudius Gothicus (ca. 270 C.E.) found in the “leading channel” of South Stele Base 35—that is, on top of the base (see fig. 10). Since it was not found under a base, it cannot provide a date for construction; it may have been placed in the channel long after the base was set up. The Roman expansion buried a number of these bases, notably Base 15, which was set against the east face of LA 2 and buried when the west porch was built; Base 1, which was (or would have been) destroyed by the north colonnade; and Bases 34 and 35, which were buried by the south colonnade. It is likely that the stelae were erected already in the Hellenistic period, and

and Waldbaum 1975, 82, 87) suggested that the original wall had been dismantled down to the foundations during the installation of the east door (which he dated, incorrectly, to the Hellenistic period) and then rebuilt with unfinished masonry. But there are no traces of such dismantling; the clamps and dowels are still in their original positions. The blocks under the door must therefore be original Hellenistic construction, and their unfinished state preserves the condition before the Roman phase.

⁶⁴ Hanfmann and Waldbaum 1975, 102. There was no Hellenistic predecessor to the Northwest Stairs, as proposed by Gruben (1961) and others, since ground level between LA 2 and the temple, attested by stucco and Base 15, was too low. The 3.2 m difference in elevation between the altar and the pronaos floor required a stair with a run of ca. 5.3 m.

some might be even earlier, if their orientation to the (presumably pre-LA 1) "L-shaped wall" and Building Q is significant.⁶⁵ Bearing ancient stelae, at least some in Lydian, these rows of bases and monuments were probably remnants of an earlier sanctuary, reworked by the Hellenistic and Roman builders to attest to an antiquity and depth of history that the sanctuary may or may not have possessed.⁶⁶

Roman Phases

Multiple Roman building phases are visible at both the east and the west ends of the Temple of Artemis. On the west, building seems to have proceeded in a series of stages. Perhaps the earliest is the hypothetical four-columned porch, included here as a possibility rather than a certainty.

A six-columned porch was begun but never completed. Since the space between the front porch columns and the altar was now too narrow for a stairway down to ground level, the porch was continued all the way to the altar, and the Hellenistic staircase was re-used on the north side of the porch on new concrete foundations.⁶⁷ The entire space between temple and altar must have been filled to the level of the porch floor, burying Stele Base 15 and the plastered east wall of the altar. This earth fill was retained by walls extending to the north and south of LA 2 (see fig. 3, "Concrete Wall Removed" and "Removed"). A small part of the northern wall still stands; the southern wall

was completely removed in the early days of the excavation, but both apparently stood some 2 m high.⁶⁸ Another wall ("Crude Wall" in fig. 3) formed the eastern limit of the staircase and retained the fill of the north pteroma, where pre-Hellenistic and Hellenistic fill already rose higher than the bottom of the stairs. These concrete walls may have been revetted with marble blocks that were later robbed out. One block perhaps supporting such a facing is still in situ on the east face of the "Crude Wall" where it joins the north wall of the temple.⁶⁹ This might be one original location of the series of inscribed orthostates of the second century C.E. honoring priestesses of Artemis.⁷⁰

One column of this porch, Column 52, was omitted completely, leaving a neatly finished gap in the mortared rubble where a foundation could eventually be set. The column was probably omitted temporarily to allow easier access into the porch until construction was finished; until then, the gap must have been temporarily filled with earth and paved.⁷¹ The Northwest

⁶⁸ Butler 1922, 42: "When the work along the flanks of the building [LA 2] had progressed about 10 m. on either side, we came across rough walls of rubble concrete projecting to north and south. I am now inclined to regret that they were not spared; but they were very crudely constructed and were difficult to keep intact, and, since they completely barred further progress, I had them removed after they had been surveyed." A photograph in the Princeton Archive, A.28, shows the southern wall standing about as tall as the workmen.

⁶⁹ Not drawn in Butler's (1925, fig. 29) plan (added here in fig. 3) but seemingly in situ, although below the original floor level. The preserved blocks do not allow the reconstruction proposed by Butler with the stair turning a corner here.

⁷⁰ Butler 1922, 67; 1925, 106–8; Buckler and Robinson 1932, nos. 51–3 (and uninventoried blocks). Inscribed and uninscribed orthostates were found laid carefully side by side at the base of the Northwest Stairs, together with a stele also honoring a priestess of Artemis with its capital and base. Their arrangement suggests that they were buried here deliberately, although the date of burial is uncertain. The blocks carry letters in their upper corners so that they could be reset in the correct order in a secondary use, so they have been set up at least twice.

⁷¹ Butler (1922, 49; 1925, 19) proposed that a column foundation had been robbed from this location, claiming that he could distinguish the impressions of blocks in the mortared rubble sides of the recess. Early photographs, however, show the gap with the same neatly constructed sloping walls visible today. There are no impressions of blocks visible then or now, and if a normal foundation had ever been built here and then removed, the resulting gap would have been much smaller. Hanfmann (in Hanfmann and Waldbaum 1975, 102) speculated that a gap left by the removal of a column here might have been refaced as a separate chamber. There is no evidence of an earlier column or a separate construction phase in the concrete.

⁶⁵ Butler 1922, 127; Hanfmann and Waldbaum 1975, 68, 72–3, 89, 101; Buttrey et al. 1981, no. 93. Hanfmann's proposal that the sanctuary was largely reordered in the third century C.E. is also perhaps based on Warfield's (1922, 175–80, esp. 179) claim that the temple was buried up to 1.2 m deep by the third century. There is little to recommend this claim, however. Base 15 is omitted in Butler's plan and our fig. 3, but it is in situ today and is shown in photographs from 1910. Ritual deposits consisting of an egg, a coin, and metal implements in a small bowl were found "at the base of walls, and usually outside of buildings; several of them behind the row of stele-bases on the north side of the Lydian Building" (Butler 1922, 127–28). Only three coins were legible: Bell's (1916) no. 208, a coin of Smyrna of the second and first centuries B.C.E.; no. 228, a coin of Trajan; and no. 242, a coin of Sardis dating to before 133 B.C.E. These suggest that some bases were already in place by the second century B.C.E. Two very similar ritual deposits were found during excavations in 2013, under the floor of a building in central Sardis (sector Field 49) dating to the first century C.E.; the two coins date to the reign of Nero.

⁶⁶ On memory in Roman Sardis, see Rojas 2010, 2014.

⁶⁷ As proposed by Frazer in Hanfmann and Waldbaum 1975, 102.

Stairs are significantly more worn in front of the missing column than they are to the east, attesting traffic through this space. Two pedestaled columns mirroring those in the east porch were constructed, and their reused fluted drums and blocks from their pedestals were found scattered here.⁷² No Roman unfluted drums were found in this area, however, leading to the conclusion that the other columns of the porch were never begun. Without the corner column (Column 52), no pediment or roof would have been possible.

The stairs must have been considered a temporary arrangement, however. The north peristyle foundation was eventually continued to this end of the building, cutting through the “Crude Wall,” and the space between the stairs and peristyle was filled with earth, burying the stairs. The peristyle, however, was never completed; some foundations were never trimmed or clamped, while others were never begun. With the Northwest Stairs buried, the entrance must have been elsewhere: on the south, where a short run of stairs was constructed against the south peristyle; via a ramp on the north; or perhaps via a raised LA 2.

The major change in the Roman period, however, was the transfer of emphasis from the west end of the Temple of Artemis to the east, with the division of the cella, the new east door, and the construction of the porch and peristyle beginning on the east. The continuous concrete pad around both peristyle and porch columns shows that these foundations were laid together. The rich deposit of ceramics and building materials from the foundation trench of Column 16, some still mortared into the concrete, must have been dumped here when the concrete was still wet. Its almost complete, well-dated vessels, abundant and consistent sherd material, and lack of identifiably later material firmly date this deposit, and so the column foundation, to no later than the Julio-Claudian period.

This is significantly earlier, however, than the generally accepted date for the Roman phase, usually placed in the second century. The evidence for this latter date includes the style of the moldings and consoles of the east door, the Antonine colossi that were presumably set up in the new east cella (although not necessarily

when it was first built), and the inscription around the base of Column 4, proclaiming that “I am the first of all to rise.”⁷³ While there is naturally some flexibility in the dating of both the pottery deposit and of the moldings and other architectural features, it seems to me impossible to move either far enough to bring them into harmony. A chronological gap between the foundations dated by ceramics and the superstructure dated by its architectural features seems unavoidable.

The best solution, I believe, is to conclude that the initial construction of the foundations dates to the mid first century C.E., perhaps a generation or two after the devastating earthquake of 17 C.E., but that it took some generations before any of the superstructure was erected. Work may have proceeded so slowly that the datable features, such as moldings, were not carved until much later, or the building may have been begun and then abandoned for some time. Indeed, the mortared rubble foundations of the north and south peristyles were almost fully laid, but no columns were ever erected on those foundations over the next four centuries; the Sardians had greater pretensions than pocketbooks. A major surge of construction in the second century may well be associated with Sardis’ second neocorate, as suggested by Gruben and others, but this need not be the earliest Roman phase.

Construction on the east porch—previously the rear of the temple—makes sense only if this end of the temple were to become a new focus of cult. In the second century, this new cella was entered through a door cut in its east wall, and probably housed roughly half a dozen colossal statues of the Antonine family, fragments of which were found in and around the temple, presumably as a focus of imperial cult (see fig. 16).⁷⁴ While it is possible that neither door nor dividing wall was begun in the first century, the new focus

⁷² Frazer (in Hanfmann and Waldbaum 1975, 76, fig. 126) identified the pedestals. Butler (1922, 50) recorded more than 20 fluted drums here; see also Butler 1925, 65–6. The drums bear letters for reerection (Weber 2013, 267–71), and the original Hellenistic circular dowel holes are often still visible despite the cutting of later lewises.

⁷³ Opinions differ, with Yegül (2012, 108–9) preferring an earlier, Hadrianic date for the Roman conversion, and others a later date in the Antonine period (e.g., Gruben 1961, 191–96; Burrell 2004, 103–12). On the door moldings, see Gruben 1961, 165, 172; Yegül 2012, 105. The inscription (Buckler and Robinson 1932, no. 181) is difficult to date, but some epigraphers have suggested a date in the second century (Yegül 2014).

⁷⁴ Gruben 1961, 195–96; Hanfmann and Waldbaum 1975, 79, figs. 129, 130, 133; Hanfmann and Ramage 1978, nos. 79–88, 102–5, 251–52; Burrell 2004, 103–10; Steuernagel 2010. I am assuming, along with most scholars, that the imperial statues were housed in the new east cella, while Artemis retained her traditional westward orientation on the new mortared rubble base in the west cella.

at that time on the eastern part of the temple suggests that they must have at least been planned then. We may hypothesize that already in the first century, the Sardians intended to dedicate this part of the building to the imperial cult, for which they had competed in 26 C.E. This is a period when ties with Rome seem to be especially strong: Tiberius was hailed as Founder of the City; the Sardians described themselves as the “Kaisareis Sardianoī”; and the other major temple at Sardis, the “Wadi B” temple, was begun. That temple, too, is likely to be a temple of the imperial cult, and very probably a neocorate temple.⁷⁵

The evidence at present does not allow us to reconstruct the history of these two sanctuaries in detail, but a few observations are pertinent. While work on the Temple of Artemis seems not to have progressed very far at this stage, the Wadi B temple seems to have been completed rather quickly. In addition to its smaller (but still impressive) scale, perhaps this was because the Wadi B temple was a neocorate dedication and so may have received funds from the *koinon* of Asia, while the Temple of Artemis had to rely on civic funds, private donations, and the sanctuary’s own resources.⁷⁶ Could the delay between the laying of the foundations and the construction of the superstructure be due to a lack of funds, and could this lie behind the emphasis in the inscription on Column 4? The inscription points out that the column was “the first of all to rise” and claims that it was not built using stones “wrought by the people” (οὐ δημοτεύκτων) but was made from “our own stones” (ἀπ’ οἰκείων λίθων). Could “our own stones” refer to quarries belonging to the sanctuary as opposed to the civic sources that had perhaps failed to materialize? Further, could the emphasis on the local source of marble be a deliberate contrast to the Wadi B temple, some of whose marble seems to have been imported?⁷⁷

Another conclusion from excavations in the east porch is that the columns in antis not only existed but remained in situ until the late fourth or early fifth century C.E., when they were removed together with their foundations. The column foundations were certainly not removed before that time since they supported the stairs to the east door, and Late Roman pottery and coins from the pit decisively date the removal of the foundations. The many fragments of fluted columns, Ionic capital(s), and other Hellenistic architectural fragments in that same pit fill show that the columns, too, were destroyed at this time.

The fluted pedestaled columns of the east and west porches therefore cannot be the Hellenistic columns in antis moved to these new positions by the Romans in the second century, as Gruben proposed.⁷⁸ They must rather have come from the cella. In contrast to the east and west ends of the temple, no drums or other fragments of columns were found in either cella or pronaos; this in itself suggests that the columns had been removed by the Roman period, as many fallen column drums were found in the east and west porches. The floor of the Hellenistic cella was 1.54 m higher than the porch; this difference in height explains the need for pedestals. These pedestals were built from dismantled columns: the rough upper projecting courses of the pedestals were cut from fluted drums (traces of whose flutes remain), while the three courses below probably consist of two reused Hellenistic column plinths standing on a new, unfinished Roman plinth. It therefore took three Hellenistic columns (one complete, plus two plinths and a few fluted drums) to build one pedestaled column. At least the four pedestaled columns must have come from the cella; the spolia could have come from either the cella or pronaos columns, which must have also been removed at this time. On the basis of the forms of the letters carved into the fluted drums for their reerection, Weber dates the moving of these columns to the second century C.E.⁷⁹ At least 12 other

⁷⁵ Herrmann 1995; Rautman 2011, 5–8. On the Wadi B temple, see Ratté et al. 1986; Burrell 2004, 100–3; Greenewalt 2006b, 176; 2007, 744–45. Renewed excavation in 2013 suggested a date for this temple in the Julio-Claudian period and recovered inscriptions honoring priests and priestesses of Asia and of the “thirteen cities,” consistent with a neocorate temple.

⁷⁶ Burrell 2004, 312–14.

⁷⁷ Marble from both Hellenistic and Roman phases of the Temple of Artemis was brought from the quarries in the Mağara Deresi, ca. 3 km south of the temple (Ramage and Tykot 2011; Cahill and Lazzarini 2014; Lazzarini and Marconi 2014). On the inscription, see Buckler and Robinson 1932, no. 181; Yegül 2014. Analysis of marble from the Wadi B temple will be pre-

sented in a future publication.

⁷⁸ Gruben 1961, 166, 181; cf. Hoepfner 1990, 3.

⁷⁹ Weber 2013, 267–69. Bahadır Yıldırım (pers. comm. 2014) noted that the lower courses of the pedestals are Hellenistic plinths, quite distinct from the Roman plinths beneath. Yıldırım also distinguished curved setting marks on the lowest (Roman) plinth of Column 11, as if a normal torus had been set there prior to the pedestaled column. On the columns and pedestals, see Butler 1925, 65–6; Hanfmann and Waldbaum 1975, 76.

fluted drums from the Temple of Artemis were reused as voussoirs in a monumental arch at the western entrance to the city, at the southeast corner of the Bath-Gymnasium complex and more than 1,200 m from the temple. Only a tiny fraction (2.5%?) of the blocks from this building survive, and many more drums must have been reused in it but are now lost. The date of this structure is likely to be in the first or second century C.E. This arch would account for the majority of the cella and pronaos column drums, but not their capitals or bases.⁸⁰

Since no peristyle columns were erected before the Roman period, all the Hellenistic capitals, identifiable by their round dowels and Carian lewises, must come from the interior colonnades. These include six of the eight more or less whole capitals: Capitals C–G, found by Butler, all of which bear Carian lewises, and Capital H, the letter assigned to fragments of one or more capitals found in trenches in the east porch, belonging to the columns in *antis*.⁸¹ Of these, Capitals C, D, and G are smaller than E and F and probably belonged to the shorter cella columns, while E and F probably came from the pronaos, whose columns must have been about 1.5 m taller. Those two capitals, E and F, seem to have been reused in the east porch, as they were found fallen in the south and north ends of the porch. Both are badly damaged and bear cuttings on their upper surfaces for dowels, probably for architraves in their Roman reuse, and face clamps from ancient repairs, similar to the repair clamps on the architraves and capitals in situ. In addition to the Hellenistic circular dowel, the underside of Capital F bears two square dowel holes like the dowels on unfluted Roman drums.⁸² Capital G was found to the northwest of the temple, near the end of the North Stele Bases. It may have been reused in the west porch, where many

fluted drums were found. Capitals C and D, in contrast, were found on the south edge of the temple podium (Capital C near the unfinished foundation of Column 42, Capital D near the foundation of Column 36), far from any standing columns and without any column drums or other elements nearby. Unlike the other capitals, these capitals bear no repair clamps and are less broken (particularly Capital C, the most ornate of the Hellenistic capitals, now in the Metropolitan Museum of Art). Where preserved, every other fluted drum and Hellenistic capital bears traces of two dowel systems: the original Hellenistic round dowel in the center and two (occasionally four) square dowels to the sides, identical to the dowels on unfluted Roman columns and so belonging with the Roman reerection. Capital C, however, bears only the round dowel, without evidence for Roman reuse. The underside of Capital D was not drawn and is currently inaccessible, but photograph B.295 in the Princeton Archive seems to show only the round dowel as well. Capital C, therefore, and probably Capital D as well seem not to have been reset in Roman times, unlike all other Hellenistic column elements.⁸³ These capitals must have been left over after the interior colonnade was removed; rather than discarding them, the builders may have set them up near the temple as monuments of the building's history, much as they are set up today.

With the removal of the interior colonnade, a new concrete floor or subfloor was probably installed. This is the floor that Butler interpreted as a late cistern.⁸⁴

⁸⁰ The arch was discovered in 2014. The northern part is visible in Hanfmann and Thomas 1971, 15, fig. 9; see Yıldırım and Bricker 2016; Cahill (forthcoming).

⁸¹ Butler 1925, 63–72; Hanfmann and Waldbaum 1975, 85. These cuttings are different from the Roman capitals still in place on Columns 6 and 7, which use normal Roman lewises and square dowels. Roman lewises are also found on all the Hellenistic capitals; presumably they were cut when the columns were dismantled or reused. Fragments of other, Roman capitals fallen from the east peristyle lie partly buried and unnumbered on the east side of the temple.

⁸² Butler 1925, Atlas pls. 11, 16. Note that these larger capitals were placed on shorter columns, presumably to better fit the new, wider porch architrave; the result must have been awkward.

⁸³ Butler 1922, fig. 46a; 1925, 66, 68. I am grateful to Kiki Karoglou and the staff at the Metropolitan Museum of Art in New York for providing photographs taken in 1958 of the bottom of the capital (photograph MM 29419).

⁸⁴ Butler's (1925, 10–14) observations were keen, but his conclusions are surely mistaken. The interpretation of the cement floor as a cistern (Butler 1922, 52, 62–5; 1925, 13–14) was first offered before the east door was revealed, and Butler maintained it despite the mounting evidence to the contrary. Had the cella been converted to a cistern, however, the east door would have been walled up and sealed, which it was not; and had the foundations of the cella columns projected through the floor or been exposed in gaps in the floor, Butler would have noticed them and not identified the paved chamber as a cistern. His method of excavation, to remove mortared rubble features such as walls and floors to reach marble blocks, prevented him from understanding this and other phases of the temple, a fact he himself recognized. Some of the column foundations in the cella show signs of repair or dismantling; these must predate the Roman construction. On the basis of letterforms, Weber (2013, 265–67) dates these repairs to the Hellenistic period.

Since it was entirely removed by Butler, the date and extent of this floor is uncertain. It could not belong to a cistern, however, as the east cella door was never blocked. Butler writes that “the cement floor was found to be continuous on one level through the treasury and the cultus chamber.”⁸⁵ Photographs taken during excavation show a smooth layer of mortared rubble about half a meter thick, presumably this floor, seemingly extending unbroken across the cella and covering the earlier column foundations. Were this not the case, Butler would not have interpreted this as a cistern floor.⁸⁶

The floor of the Hellenistic pronaos was at the level of the peristyle, 1.5 m lower than the cella; a small area is still preserved along the north wall. When part of this pronaos was walled off and added to the western cella (forming Butler’s “Treasury”), it was filled with about 1.5–2.0 m of rubble to bring the new floor level up to that of the cella. This fill included “fragments of sculpture of the Roman period and pieces of late inscriptions in Greek.”⁸⁷ This fill buried and thus preserved the lower part of the Mnesimachos inscription on the pronaos wall; the upper part was probably chiseled away during this remodeling. Columns 77 and 78 of the Hellenistic pronaos must have been dismantled and their foundations (just below the original Hellenistic floor level and so more than 1.5 m below the Roman floor level) buried under the rubble. Two pronaos columns were overbuilt by the new Roman west wall. This would also have been an appropriate occasion for the new marble roof, if it did not date to the earlier Roman modifications to the building.

This transformation of the Temple of Artemis by dividing its cella, dismantling and reusing its interior colonnade, and perhaps setting up parts of the early building on display in the sanctuary is strikingly paralleled in the Early Roman phase of the Temple of Apollo at Corinth. The interior columns of this ancient temple were removed in the first half of the first century C.E. and reerected near the South Stoa. Frey argues persuasively that the division of the cella into two

back-to-back chambers dates to this Roman remodeling, not to the original design as usually proposed.⁸⁸ One need not look only to Hadrian’s Temple of Venus and Rome or other Italian temples for parallels to the back-to-back design; the parallel at Corinth is unusually close in both scope and date.⁸⁹

The deep porches are among the most distinctive features of the Temple of Artemis at Sardis. But although Butler ultimately restored them as fully hypaethral because he considered the span too wide to roof, even he found the reconstruction hard to credit.⁹⁰ The new archaeological results suggest that this reconstruction is indeed unlikely. Since the columns in antis apparently stood until late antiquity, the porch cannot be reconstructed as fully open. The Hellenistic columns in antis must have still carried their architraves. This would have made roofing the former opisthodomos a simple matter; indeed, with these columns and architraves in place, it is difficult to imagine the space as open to the sky. However, the roof could have spanned only the cella, since the flank colonnades were never erected, and the top surfaces of the Roman architraves are unfinished. Thus, the Hellenistic cella with its columns in antis was given a new roof in the Roman period, but now without an internal colonnade, while the newly erected Roman peristyle and porch columns carried architraves but probably no further superstructure or roof.

Late Antiquity

The architectural modifications made to the temple in the late fourth or early fifth century C.E., including the removal of the columns in antis with their foundations, the burial of at least one of the colossal imperial portraits, and the construction of a chapel in the southeast corner of the building, suggest that we should reevaluate the life of the Temple of Artemis in late antiquity. Targeting these columns and foundations while leaving other elements standing can hardly be simple stone robbing of an abandoned structure; it

⁸⁵ Butler 1922, 52, 63.

⁸⁶ Princeton Archive, photographs B.256–B.259. Traces of the mortared floor were revealed on the north and east walls of the cella when it was cleaned in 2014.

⁸⁷ Butler 1922, 52–3. These included, among other items, “a lifesize, headless, draped male statue of a very common Roman type” almost completely preserved in three fragments. Part of it might be Hanfmann and Ramage’s (1978) no. 69, or possibly no. 68.

⁸⁸ Frey 2015; cf. Pfaff 2003, 112–15.

⁸⁹ On comparisons to the Temple of Venus and Rome, see Butler 1925, 91; Gruben 1961; Howe 1999, 204; Yegül 2012, 107–9.

⁹⁰ Butler 1925, 92–3. Howe (1999, 205) analyzes the “spectacular contrast of two oblong and two cubical spaces,” relating this to different Hellenistic and Roman approaches to architectural spaces. Yegül’s (2012, 105, fig. 8) reconstruction drawing vividly illustrates the effect.

should rather be seen as a deliberate remodeling and rearrangement of a building that was still in use. A full discussion is well beyond the scope of this report, but the sanctuary in the Late Antique period, from the late fourth until the early seventh century, seems to have been lively and active, hardly a site like the one Foss described: “apparently abandoned in the troubles of the third century to be covered with alluvium from the neighboring streams by the middle of the next century—the clearest indication of the demise of paganism in the archaeological record.”⁹¹

During much of this period Sardis was still a flourishing city, reshaping not only its largest temple but also other major sanctuaries of the city.⁹² The “Wadi B” temple of the imperial cult was destroyed (perhaps for a second time) roughly at the same time, in the late fourth or early fifth century. Parts of the building were razed to the stubs of its foundations, and perhaps at this time its spolia were reused to construct a monumental building on the east side of the earlier sanctuary terrace, while houses or other buildings seem to have been built within the precinct.⁹³ Spolia from the Sanctuary of Cybele, including blocks from the Late Classical or Hellenistic temple to the Mother and dedications dating back to the Archaic period, were reused in the Late Roman synagogue, suggesting that the sanctuary of Sardis’ most important native goddess had been demolished at this time. The date of the synagogue, and hence of the destruction of the earlier sanctuary, has been controversial but now is shown to belong to this era.⁹⁴

In this light, the Sanctuary of Artemis fared relatively well. Many buildings in the Sanctuary of Artemis belong to this Late Antique phase rather than to earlier eras, documenting a flurry of activity during this

time. On the north side is Building U, an impressive two-room building on a podium, reached by a flight of marble stairs leading to a porch displaying reused stelae and built over a painted, vaulted hypogeum. The hypogeum may be dated to the fifth century C.E., offering a date for the building as a whole.⁹⁵ Its position and construction may identify it as a martyrion, as suggested by Hanfmann. Four other, similar tombs were built on the south side of the sanctuary. The dates of other buildings on the north side of the sanctuary are uncertain, but they were at least in use into late antiquity. On the south side, Building L, an earlier Roman building, was repaired ca. 400 C.E. and remained in use through the fifth and sixth centuries.⁹⁶

Church M, the most obvious Christian monument of the Late Antique sanctuary, probably dates to the late fourth or early fifth century and so is roughly contemporary with the transformation of the porch and cella (see figs. 2, 24).⁹⁷ It formed part of a larger complex that took up the southeast corner of the building, consisting of a two-columned entrance leading into a walled space within the south and east porticoes, all of which was removed by Butler. Rather than being the sole focus of Christian activity here, though, this might be seen as an adjunct to the ancient cella, part of the general rearrangement of the east end. The removal of the columns in *antis* may have been part of this transformation of the building into something less similar to a pagan temple.⁹⁸

There is no direct evidence that the Temple of Artemis was converted to a church, but evidence for its late use is very scarce thanks to Butler’s removal of late features. Butler suggested that the temple was converted to a cistern, but as suggested above, this must be mistaken. Rather, the eastern portion of the temple probably stood at least until the early seventh century,

⁹¹ Foss 1976, 28.

⁹² Rautman 2011.

⁹³ Greenewalt 2006b, 176; 2007, 743–45; Rautman 2008, 155; Cahill 2015, (forthcoming). Excavation at this sector is ongoing (2015). The Late Antique date is provided by coins and pottery from the fills over the demolished podium of the temple; the dates of the spolia building and the houses built on the terrace are currently uncertain but are within the Late Roman era. The temple was apparently destroyed earlier as well, perhaps in the second or third century C.E. (Ratté et al. 1986, 48).

⁹⁴ Greenewalt 1991, 20–1; Mitten and Scorziello 2008. On the date, see Magness’ (2005) article, which is reevaluated in Rautman 2011, 15–17. Research in progress by A. Seager, M. Rautman, J. Evans, and others suggests a date in the second half of the fourth century for the initial construction, with later repairs during the fifth and sixth centuries.

⁹⁵ Hanfmann and Waldbaum (1975, 58–60) dated the tomb to the early first century C.E. based on pottery from under its floor, although this gives only a *terminus post quem*. Rousseau (2010, cat. no. T10) considers it among the latest examples of this type of tomb at Sardis, dating it to the fifth century.

⁹⁶ Hanfmann and Waldbaum 1975, 109.

⁹⁷ A coin hoard of ca. 400 C.E. found near the church offers a rough date for the building (Bell 1916, viii).

⁹⁸ One might compare the Temple of Augustus and Roma in Ankara, whose peristyle columns were removed together with their foundations. Görkay (2012, 212) suggests this was done in late antiquity during the process of converting this temple to a church; see also Kadioğlu et al. 2011, 79–98.

although some portions must have been dismantled earlier. In addition to removing the columns in *antis* in the late fourth or early fifth century, the *cella* must have been rearranged: the head of Commodus was deliberately buried with the remains of the columns, while the mutilated head of Marcus Aurelius was found south of the temple. But the colossal heads of Antoninus Pius and Faustina the Elder—the latter still intact—were found in the *cella*.⁹⁹ Architraves still stood on both east porch and *pteroma* columns, and crosses and inscriptions with Christian significance—“Light” and “Life”—carved on the east door demonstrate traffic in and out of the building.

The west end of the temple, in contrast, had suffered damage in late antiquity. As on the east porch, both the columns in *antis* and their foundations were missing; the two fluted columns of the west porch, however, apparently stood at least to part of their height until at least 1837. The altar and parts of the west front of the temple were buried, and this part of the temple was crisscrossed by water pipes associated with coins of the fourth through sixth centuries. Pipes on the east end, however, respected Church M, showing that this chapel and the east *cella* were still in use. The many well-built pipes, moreover, themselves attest to a degree of prosperity and urban infrastructure during this period. The reconstruction offered in figure 24 is very conjectural, but we should not discount the evidence for late use of the building.¹⁰⁰

Masses of column drums, capitals, architraves, and other blocks from the peristyle and east porch, and wall blocks from the *cella*, were found fallen at about ancient ground level. A hoard of coins, the latest of which dates to 615 C.E., was found under fallen blocks in the north *pteroma*, suggesting that the collapse occurred in the earlier seventh century. Thick layers of marble chips, tools, and lime kilns attest the subsequent breakup and burning of these fallen blocks for lime. The situation is strikingly paralleled in the northwest part of the city, where standing buildings

including the Bath-Gymnasium complex, the synagogue, the recently discovered monumental arch, street colonnades, and other structures collapsed, leaving fallen but partly articulated blocks, walls, vaults, and other elements. Marble blocks were then broken up and burned for lime. As at the temple, the latest coins from under these collapses are of the first and second decades of the seventh century, ca. 616 C.E. One or more earthquakes may have struck Sardis in the early seventh century, causing extensive damage to buildings in various parts of the site. The temple was then rather quickly buried by layers of sand and gravel washed from the acropolis, very similar to those that underlie the building. Some columns of the temple remained standing into the 17th, 18th, and 19th centuries, when early travelers documented their gradual collapse; by Butler's time, only the iconic two columns remained. Much of the story has been lost, but there is certainly much still to be learned about the later life of the sanctuary.¹⁰¹

Finally abandoned unfinished despite centuries of continuous use and perhaps nearly continuous construction, the Temple of Artemis at Sardis has always been of great interest for its unique design, its diversity of technical details, clamps, dowels, masons' marks, and other features belonging to different phases of its long history, its good preservation, and for its romantic, pastoral setting. A close investigation of the stratigraphy in and around the temple reveals new and previously unsuspected phases. Some of these results reaffirm the arguments of earlier scholars. Others introduce new and unexpected complications, such as the ambiguous but important pre-Hellenistic phase, a previously unrecognized Early Roman period of construction, and the deliberate if incompletely understood modifications to the building in late antiquity. Important questions naturally remain unanswered. Despite many attempts, a satisfying understanding of

⁹⁹ Butler (1922, 64) writes that coins of the ninth century were found in and above the *cella* (“cistern”) floor, together with the heads of Antoninus Pius and Faustina the Elder. But Bell (1916, ix) points out that “the period of 199 years between the death of Constantine III (A.D. 668) and the accession of Basil I (A.D. 867) is, up to the present, represented by no coins whatsoever.”

¹⁰⁰ On the columns, see Butler 1925, 14. On the water pipes, see Butler 1922, 43–4, plan 3; 1925, 10–14.

¹⁰¹ On the fallen blocks in the temple, see Bell 1916, viii; Butler 1922, 68–9, figs. 63–8, 93; 1925, 12–13, 49–50. On the collapse in the northwest part of the city, cf. the synagogue (Hanfmann 1966, figs. 38–42), street portico (Greenewalt et al. 1993, 6), and monumental arch (Yıldırım and Bricker 2016). This or another earthquake after 585 C.E. also destroyed the Late Antique structure built from the spolia from the Wadi B temple, fissuring the artificial terrace belonging to that temple to a depth of more than 9 m (Greenewalt 2004, 482; 2007, 744–45; Cahill 2015; cf. Foss 1976, 15). On early travelers' accounts, see Butler 1925, 4–14; Greenewalt et al. 2003, 25–41.

the Lydian phase of the sanctuary remains elusive, perhaps swept away by cataclysmic geological events. The long history of the sanctuary was certainly much more complicated than we can comprehend in our present state of knowledge. But a greater understanding of its rich texture and continuous adaptation to new circumstances can only heighten our appreciation of this most beautiful monument of Sardis.

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Works Cited

- Åkerström, Å. 1966. *Die architektonischen Terrakotten Kleinasiens*. Svenska Institutet i Athen 4°, 11. Lund: Paul Åströms Förlag.
- Bammer, A. 1972. *Die Architektur des jüngeren Artemision von Ephesos*. Wiesbaden: Franz Steiner.
- Baughan, E.P. 2008. "Lale Tepe: A Late Lydian Tumulus near Sardis. Part 3, The Klinai." In *Love for Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, jr.*, edited by N.D. Cahill, 49–78. *SardisRep* 4. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Bell, H.W. 1916. *Coins*. Pt. 1, 1910–1914. Sardis 11. Leiden: Brill.
- Bingöl, O. 2012. *Bu Koca Taşları Nasıl İşlediler, Nasıl Kalırdılar*. Ankara: Bilgin Kültür Sanat Yayınları.
- Buckler, W.H. 1924. *Lydian Inscriptions*. Pt. 2. Sardis 6. Leiden: Brill.
- Buckler, W.H., and D.M. Robinson. 1932. *Greek and Latin Inscriptions*. Pt. 1. Sardis 7. Leiden: Brill.
- Bumke, H. 2011. "Marmorkugeln für Artemis: Überlegungen zu einem außergewöhnlichen Votivtypus aus dem Artemision von Sardeis." In *Keraunia: Beiträge zur Mythos, Kult und Heiligtum in der Antike*, edited by O. Pilz and M. Vonderstein, 61–76. *Beiträge zur Altertumskunde* 298. Berlin: Walter de Gruyter.
- Burrell, B. 2004. *Neokoroi: Greek Cities and Roman Emperors*. Boston: Brill.
- Butler, H.C. 1911. "Second Preliminary Report on the American Excavations at Sardes in Asia Minor." *AJA* 15(4): 445–58.
- . 1922. *The Excavations*. Pt. 1, 1910–1914. Sardis 1. Leiden: Brill.
- . 1925. *Architecture*. Pt. 1, *The Temple of Artemis*. Sardis 2. Leiden: Brill.
- Buttrey, T.V., A. Johnston, K.M. MacKenzie, and M.L. Bates. 1981. *Greek, Roman and Islamic Coins from Sardis*. *SardisMon* 7. Cambridge, Mass.: Harvard University Press.
- Cahill, N.D. 2008. "Mapping Sardis." In *Love For Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, jr.*, edited by N.D. Cahill, 111–24. *SardisRep* 4. Cambridge, Mass.: Archaeological Exploration of Sardis.
- . 2010. "Sardis, 2008." *Kazı Sonuçları Toplantısı* 31: 63–78.
- . 2011. "Sardis, 2009." *Kazı Sonuçları Toplantısı* 32: 358–67.
- . 2012. "Sardis, 2010." *Kazı Sonuçları Toplantısı* 33: 209–29.
- . 2015. "Sardis, 2013." *Kazı Sonuçları Toplantısı* 36: 413–30.
- . Forthcoming. "Sardis, 2014." *Kazı Sonuçları Toplantısı* 37.
- Cahill, N.D., and J.H. Kroll. 2005. "New Archaic Coin Finds at Sardis." *AJA* 109(4):589–617.
- Cahill, N.D., and L. Lazzarini. 2014. "The Quarries of Mağara Deresi and the Marble of the Temple of Artemis at Sardis." *Marmora* 10:27–44.
- Cahill, N.D., J. Hari, B. Önay, and E. Dokumacı. Forthcoming. "Depletion-Gilding of Lydian Electrum Coins and the Sources of Lydian Gold." *INJ*.
- Christof, E. 2013. "Neufund aus Istanbul/Byzantion: Eine hellenistische Grabstele einer Priesterin der Artemis von Sardis." *IstMitt* 63:129–56.
- Demirtaş, M.B. 2006. "Magnesia Artemis Tapınağı'nın Teknik ve İşçilik Özelliği." Ph.D. diss., Ankara University.
- Dinsmoor, W.B. 1950. *The Architecture of Ancient Greece*. 3rd ed. New York: W.W. Norton.
- Foss, C. 1976. *Byzantine and Turkish Sardis*. *SardisMon* 4. Cambridge, Mass.: Harvard University Press.
- Franke, P.R. 1961. "Inscriptliche und numismatische Zeugnisse für die Chronologie des Artemis-Tempels zu Sardis." *AM* 76:197–208.
- Frey, J.M. 2015. "The Archaic Colonnade at Ancient Corinth: A Case of Early Roman Spolia." *AJA* 119(2):147–75.
- Glendinning, M.R. 1996. "Phrygian Architectural Terracottas at Gordion." Ph.D. diss., University of North Carolina at Chapel Hill.
- Görkay, K. 2012. "The Temple of Augustus and Roma in An-cyra: A Reassessment." In *Dipteros und Pseudodipteros*, edited by T. Schulz, 203–18. *Byzas* 12. Istanbul: Ege Yayınları.
- Greenewalt, C.H., jr. 1979. "The Sardis Campaign of 1977." *BASOR* 233:1–32.
- . 1991. "The Sardis Campaign of 1987." *BASOR* Suppl. 27:1–28.
- . 2004. "Sardis: Archaeological Research and Conservation Projects in 2002." *Kazı Sonuçları Toplantısı* 25: 481–90.
- . 2006a. "Sardis." In *Stadtgrabung und Stadtforschung im westlichen Kleinasien: Geplantes und Erreichtes*, edited by W. Radt, 359–72. *Byzas* 3. Istanbul: Ege Yayınları.
- . 2006b. "Sardis: Archaeological Research and Conservation Projects in 2004." *Kazı Sonuçları Toplantısı* 27:175–86.
- . 2007. "Sardis: Archaeological Research and Conservation Projects in 2005." *Kazı Sonuçları Toplantısı* 28:743–56.
- Greenewalt, C.H., jr., and M.L. Rautman. 2000. "The Sardis Campaigns of 1996, 1997, and 1998." *AJA* 104(4):643–81.
- Greenewalt, C.H., jr., N.D. Cahill, and M.L. Rautman. 1988.

- "The Sardis Campaign of 1984." In *Preliminary Reports of ASOR-Sponsored Excavations, 1982–85*, edited by W.E. Rast, 13–54. BASOR Suppl. 25. Baltimore, Md.: Johns Hopkins University Press for the American Schools of Oriental Research.
- Greenewalt, C.H., jr., C. Ratté, and M.L. Rautman. 1993. "The Sardis Campaigns of 1988 and 1989." BASOR 51:1–43.
- Greenewalt, C.H., jr., N.D. Cahill, P.T. Stinson, and F.K. Yegül. 2003. *The City of Sardis: Approaches in Graphic Recording*. Cambridge, Mass.: Harvard University Art Museums.
- Gruben, G. 1961. "Beobachtungen zum Artemis-Tempel von Sardis." AM 76:155–96.
- Gusmani, R. 1964. *Lydisches Wörterbuch, mit grammatischer Skizze und Inschriftensammlung*. Heidelberg: C. Winter.
- . 1980–1981. "Note d'Antroponomastica Lidia." *Incontri Linguistici* 6:21–7.
- Hanfmann, G.M.A. 1966. "The Eighth Campaign at Sardis (1965)." BASOR 182:2–54.
- Hanfmann, G.M.A., and W.E. Mierse. 1983. *Sardis from Pre-historic to Roman Times: Results of the Archaeological Exploration of Sardis 1958–1975*. Cambridge, Mass.: Harvard University Press.
- Hanfmann, G.M.A., and N.H. Ramage. 1978. *Sculpture from Sardis: The Finds Through 1975*. SardisRep 2. Cambridge, Mass.: Harvard University Press.
- Hanfmann, G.M.A., and R.S. Thomas. 1971. "The Thirteenth Campaign at Sardis (1970)." BASOR 203:5–22.
- Hanfmann, G.M.A., and J.C. Waldbaum. 1975. *A Survey of Sardis and the Major Monuments Outside the City Walls*. SardisRep 1. Cambridge, Mass.: Harvard University Press.
- Hellström, P., and T. Thieme. 1982. *The Temple of Zeus. Labraunda 1* (3). Stockholm: Svenska Forskningsinstitutet i Istanbul.
- Herrmann, P. 1995. "Sardeis zur Zeit der iulisch-claudischen Kaiser." In *Forschungen in Lydien*, edited by E. Schwertheim, 21–36. Asia Minor Studien 17. Bonn: Rudolf Habelt.
- Hoepfner, W. 1990. "Bauten und Bedeutung des Hermogenes." In *Hermogenes und die hochhellenistische Architektur*, edited by W. Hoepfner and E.-L. Schwandner, 1–34. Mainz: Philipp von Zabern.
- Hostetter, E. 1994. *Lydian Architectural Terracottas: A Study in Tile Replication, Display and Technique. The Archaeological Exploration of Sardis*. Atlanta: Scholars Press.
- Howe, T.N. 1999. "The Toichobate Curvature of the Artemis Temple at Sardis and the End of the Late Hellenistic Tradition of Temple Design." In *Appearance and Essence: Refinements of Classical Architecture. Curvature. Proceedings of the Second Williams Symposium on Classical Architecture Held at the University of Pennsylvania, Philadelphia, April 2–4, 1993*, edited by L. Haselberger, 199–210. Philadelphia: University Museum, University of Pennsylvania.
- Jeppesen, K. 2002. *The Maussolleion at Halikarnassos: Reports of the Danish Archaeological Expedition to Bodrum*. Vol. 5, *The Superstructure*. Jutland Archaeological Society Publications 15. Aarhus: Jutland Archaeological Society and Aarhus University Press.
- Jones, N.F. 1987. *Public Organization in Ancient Greece*. Philadelphia: American Philosophical Society.
- Kadioğlu, M., K. Gökay, and S. Mitchell. 2011. *Roman Anticyra*. Istanbul: Yapı Kredi Yayınları.
- Koenigs, W. 1982. "Der Athenatempel von Priene: Bericht über die 1977–1982 durchgeführten Untersuchungen." *IstMitt* 33:134–76.
- Lazzarini, L., and C. Marconi. 2014. "A New Analysis of Major Greek Sculptures in the Metropolitan Museum: Petrological and Stylistic." *Metropolitan Museum Journal* 49(1):117–40.
- Le Rider, G. 1991. "Les trouvailles monétaires dans le temple d'Artémis à Sardes (IGCH 1299 et 1300)." RN 33:71–88.
- Magness, J. 2005. "The Date of the Sardis Synagogue in Light of the Numismatic Evidence." AJA 109(3):443–75.
- Marsh, B. 2006. "Brief & Preliminary Report on Observations, July 29 & 30, 2006." Unpublished field report. Cambridge: Sardis Expedition, Harvard University Art Museums.
- Mitten, D.G., and A.F. Scorziello. 2008. "Reappropriating Antiquity: Some Spolia from the Synagogue at Sardis." In *Love for Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, jr.*, edited by N.D. Cahill, 135–46. SardisRep 4. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Nimchuk, C. 2000. "The Lion-and-Bull Coinage of Croesus." *The Journal of the Classical and Medieval Numismatic Society*, ser. 2, vol. 1:5–44.
- Pedersen, P. 2011. "The Ionian Renaissance and Alexandria Seen from the Perspective of a Karian-Ionian Lewis Hole." In *Labraunda and Karia: Proceedings of the International Symposium Commemorating Sixty Years of Swedish Archaeological Work in Labraunda*, edited by L. Karlsson and S. Carlson, 365–86. Boreas 32. Uppsala: Uppsala University.
- Petzl, G. Forthcoming. *Greek and Latin Inscriptions from Sardis*. SardisRep. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Pfaff, C. 2003. "Archaic Corinthian Architecture, ca. 600 to 480 B.C." In *Corinth: The Centenary, 1896–1996*, edited by C.K. Williams and N. Bookidis, 95–140. Corinth 20. Princeton: American School of Classical Studies at Athens.
- Ramage, A. 1978. *Lydian Houses and Architectural Terracottas*. SardisMon 5. Cambridge, Mass.: Harvard University Press.
- Ramage, A., and P. Craddock. 2000. *King Croesus' Gold: Excavations at Sardis and the History of Gold Refining*. SardisMon 11. Cambridge, Mass.: Harvard University Press and British Museum Press.
- Ramage, M.H., and R.H. Tykot. 2011. "Appendix 4: Geological Analysis of Lydian Building Stones and Their Quarry Sources." In *Lydian Architecture: Ashlar Masonry Structures at Sardis*, by C. Ratté, 127–32. SardisRep 5. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Ratté, C. 1994. "Archaic Architectural Terracottas from Sector ByzFort at Sardis." *Hesperia* 63:361–90.
- . 2011. *Lydian Architecture: Ashlar Masonry Structures at Sardis*. SardisRep 5. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Ratté, C., T.N. Howe, and C. Foss. 1986. "An Early Imperial Pseudodipteral Temple at Sardis." AJA 90(1):45–68.
- Rautman, M.L. 2008. "The Aura of Affluence: Domestic

- Scenery in Late Roman Sardis." In *Love For Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, jr.*, edited by N.D. Cahill, 147–58. *SardisRep* 4. Cambridge, Mass.: Archaeological Exploration of Sardis.
- . 2011. "Sardis in Late Antiquity." In *Archaeology and the Cities of Asia Minor in Late Antiquity*, edited by O. Dally and C. Ratté, 1–26. Kelsey Museum Publication 6. Ann Arbor: Kelsey Museum of Archaeology, University of Michigan.
- Rojas, F. 2010. "Empire of Memories: Anatolian Material Culture and the Imagined Past in Hellenistic and Roman Lydia." Ph.D. diss., University of California, Berkeley.
- . 2014. "Antiquarianism in Roman Sardis." In *World Antiquarianism: Comparative Perspectives*, edited by A. Schnapp, 176–200. Los Angeles: Getty Publications.
- Rousseau, V. 2010. "Late Roman Wall Painting at Sardis." Ph.D. diss., University of Wisconsin–Madison.
- Schaeffer, J.S., N.H. Ramage, and C.H. Greenewalt, jr. 1997. *The Corinthian, Attic and Lakonian Pottery from Sardis. SardisMon* 10. Cambridge, Mass.: Harvard University Press.
- Shear, T.L. 1922. "Sixth Preliminary Report on the American Excavations at Sardes in Asia Minor." *AJA* 26(4):389–409.
- . 1926. *Terra-Cottas*. Pt. 1, *Architectural Terra-Cottas*. Sardis 10. Cambridge: Cambridge University Press and the American Society for the Excavation of Sardis.
- Steuernagel, D. 2010. "Synnaos Theos: Images of Roman Emperors in Greek Temples." In *Divine Images and Human Imaginations in Ancient Greece and Rome*, edited by J. Mylonopoulos, 241–55. Religions in the Graeco-Roman World 170. Leiden and Boston: Brill.
- Stinson, P.T. 2008. "Lale Tepe: A Late Lydian Tumulus near Sardis. Part 2, Architecture and Painting." In *Love for Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, jr.*, edited by N.D. Cahill, 25–47. *SardisRep* 4. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Stoeber, E.R. 1922. "Report on the Excavations at Sardis, Season of 1922." Unpublished field report. Cambridge: Harvard University.
- Thür, H. 2009. "Ziegelmauerwerk in Ephesos." In *Bautechnik im antiken und vorantiken Kleinasien: Internationale Konferenz 13.–16. Juni 2007 in Istanbul*, edited by M. Bachmann, 483–96. *Byzas* 9. Istanbul: Ege Yayınları.
- Vann, R.L. 1989. *The Unexcavated Buildings of Sardis. BAR-IS* 538. Oxford: British Archaeological Reports.
- Warfield, W. 1922. "Appendix I: Report on the Geology of Sardis." In *Sardis I: The Excavations*. Pt. 1, 1910–1914, by H.C. Butler. Leiden: Brill.
- Weber, U. 2013. *Versatzmarken im antiken griechischen Bauwesen*. Philippika 58. Wiesbaden: Harrassowitz.
- Yegül, F.K. 2010. "The Temple of Artemis at Sardis/Sardeis Artemis Tapınağı." In *Lidyahılar ve Dünyaları/The Lydians and Their World*, edited by N.D. Cahill, 362–88. Istanbul: Yapı Kredi Yayınları.
- . 2012. "The Temple of Artemis at Sardis." In *Dipteros und Pseudodipteros*, edited by T. Schulz, 95–111. *Byzas* 12. Istanbul: Ege Yayınları.
- . 2014. "A Victor's Message: The Talking Column of the Temple of Artemis at Sardis." *JSAH* 73:204–25.
- . Forthcoming. *The Temple of Artemis at Sardis. SardisRep*. Cambridge, Mass.: Archaeological Exploration of Sardis.
- Yıldırım, B.H., and B. Bricker. 2016. "Possibly the Largest Roman Monumental Arch (Sardis, Western Anatolia)." Paper read at the 117th Annual Meeting of the Archaeological Institute of America, 6–9 January, San Francisco.