THE TEMPLE OF ARTEMIS AT SARDIS
ARCHAEOLOGICAL EXPLORATION OF SARDIS

Sponsored by
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Report 7
THE TEMPLE OF ARTEMIS AT SARDIS

by Fikret K. Yegül

Archaeological Exploration of Sardis

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For

George M. A. Hanfmann

and

Diane Favro
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EDITOR’S PREFACE

Nestled in its tranquil valley between the Acropolis and Necropolis hills alongside the gurgling Pactolus stream, the Temple of Artemis is without doubt the most beautiful monument of Sardis, and one of the most delightful ancient buildings in all of Turkey. The temple has been a major focus of archaeological work at Sardis since the earliest researchers came to the site. Clearing this enormous structure, buried under more than twelve meters of alluvium, was a heroic undertaking of Howard Crosby Butler. He accomplished the task in four long excavation seasons, with workforces of up to 250 men. Naturally, such a rapid pace of excavation could not be carried out with the precision or care of modern archaeology; and Butler’s practice of removing late features he considered of lesser interest, such as the mortared floors and walls of the Roman phase of the building, have made it difficult to answer a number of important questions.

The outbreak of World War I brought an unexpected end to Butler’s campaign, and although a brief season in 1922 allowed the team to fill gaps in their records, the excavation remained unfinished. Nonetheless, Butler’s two-volume report is in many ways an exemplary publication. He presents the history of exploration, careful descriptions of the surviving elements of the temple, analysis of the architectural elements and styles, and attempts at reconstructions of the building’s problematic superstructure, particularly the east and west ends. Gorgeous illustrations not achievable even with today’s technologies were created under difficult circumstances. Butler presents a historical narrative which, although incorrect in many respects, took the best account he could of the literary, epigraphic, numismatic, and other evidence available to him. He made every effort to fit the building’s history into the general history of the site from the Lydian through the Byzantine periods; but in doing so, he brought his own expectations to the building’s complex and unpredictable history. He assumed that, as at Ephesus and Samos, there must have been an Archaic temple of the time of Croesus beneath the later building, and therefore interpreted sandstone foundations of the Hellenistic building as having belonged to such an Archaic temple. He also believed that the marble foundations were laid after the destruction of the city at the beginning of the Ionian Revolt in 499 B.C., during the Classical period. In his zeal to find remains from these prestigious periods of Greek architecture, Butler dismissed unmistakable signs of Roman construction—such as the mortared rubble of the peristyle—as mere later reinforcements.

When Prof. Hanfmann restarted research at Sardis in 1958, he continued to investigate the temple and sanctuary, in collaboration with architect Ken Frazer and others. They documented buildings and monuments of the sanctuary excavated but left unpublished by Butler as well as the two-phase “Lydian Altar,” which had mystified earlier exca-

\[1\] Sardis II.

\[2\] For instance, Lansing C. Holden measured and sketched the capitals of the temple, including the two \textit{in situ}, by throwing a stone with a string attached over a standing column and hoisting up a bosun’s chair to ascend to its top: see Greenewalt et al. 2003, no. 22.
Gruben's phasing through further close examination of the student at Harvard and the Expedition architect, refined a Hellenistic phase that did not in fact exist, Gruben's the temple on a rigorous, scientific basis. Although he postulated proposals, and his reliance on what he saw, rather than what he expected or wished to see, allowed him to place the study of the temple on a rigorous, scientific basis. Although he postulated a Hellenistic phase that did not in fact exist, Gruben's observations have, for the most part, stood the test of time.

In the early 1980s Thomas Howe, then a graduate student at Harvard and the Expedition architect, refined Gruben's phasing through further close examination of the techniques of construction. Moreover, while Gruben was not able to take precise measurements without a permit or the official support of the Expedition, Howe's careful survey allowed him to document, for the first time, the building's subtle curvature. Howe's article on the curvature of the building contains many other observations.6

Gruben's and Howe's focus on architectural technologies of the temple, such as clamps, dowels, and lewises, solved many of the questions of the building's history, and highlighted the fundamental advantages of such technical studies over stylistic analysis. The temple's capitals, for instance, are very diverse stylistically, and Butler and others even assigned different dates to the two adjacent capitals on the standing columns; but technical aspects such as lewis holes and dowels clearly date both to the Roman period, and the five fallen, equally diverse capitals to the Hellenistic era. Further work, however, was hampered by the lack of adequate documentation. Butler's 1:200 plan and other drawings remain essential records and, along with his extensive photographic documentation, are of extraordinary value to our understanding of the incompletely documented excavation; but these were not at a scale sufficient to distinguish critical technical details.

In 1987, therefore, at the invitation of Prof. Crawford H. Greenewalt, jr., director of the Sardis Expedition, Prof. Fikret Yegül initiated a new phase of the study of the temple of Artemis. An experienced architectural historian, Yegül has been a member of the expedition since 1963, and published one of the other great buildings of Sardis, the Bath-Gymnasium Complex.7 The goal of the project was to document the marble architecture of the temple at a scale (1:20) that would capture technical details of the masonry which were so important in unraveling the building's tangled history. The scope of the project included representing the in situ marble masonry of the building in plan, sections, and elevation, with details of construction and ornament.8 A full study of all the fallen blocks from the superstructure was not envisioned or carried out. The drawings were to be accompanied by an explanatory text of 80–100 pages, and no excavation was planned.

The author's elegant, precise, and detailed state drawings provide a record that must be among the most comprehensive graphic documentation of any ancient building. Recording the textures of different levels of finish of this incomplete structure, cuttings for clamps, dowels, lewises, and other technical features, even the cracks and flaws in the marble, the drawings are of inestimable value in furthering research on the temple and its controversial history, and as critical permanent records for the future. This effort

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1 Sardis R1, pp. 53–117.
2 Sardis R2, no. 102 (inv. S61.27.14).
3 Gruben 1961.
5 Howe 1999.
6 Sardis R3.
7 The mortared rubble of the peristyle was drawn separately at 1:20 by Brianna Bricker in 2011; that drawing will be made available digitally.
occupied almost fifteen years, and Yegül’s devotion to the building is nowhere more evident than in the exquisite care he put into rendering every clean line of its marble blocks.

As the plan and elevation drawings moved toward completion in the early 2000s, it became clear that the Lydian Altar could not reasonably be omitted from the project. In 2005–2006, therefore, archaeologists cleaned and Felipe Rojas drew the Altar in plan and elevation at the same scale as the temple. The new excavations of this building, first uncovered in 1910 and re-excavated in 1970, produced significant new insights into its complex and confusing history.

In 2006–2008 Yegül drew a new series of reconstruction drawings of the building, including figs. 4.13–14, 4.17–18, and Plates V–VII. These drawings forced the expedition to confront issues which were not yet sufficiently resolved, such as the history of the west end and the northwest stairs, the mysterious gap where one of the columns of the west porch should be, the complete absence within the cela of fragments of the interior colonnade, and the problematic lack of columns in antis, which had forced Butler to reluctantly conclude that the porches were hypaethral. These questions were the catalyst for two seasons of excavation, in 2010 and 2011. These excavations confirmed some conclusions already proposed in unpublished reports through analysis of previous research, such as the two-phase history of the northwest stairs and north peristyle, and that the cast columns in antis had stood through most of the history of the building, and were only removed in the fourth or fifth century A.D. Other results, however, were completely unexpected, such as a rich deposit of mid-first-century pottery from the foundations of a column of the east porch, leading archaeologists to conclude that this column foundation was laid in the Julio-Claudian period rather than in the second century, as Gruben and others had proposed.

An extensively published and award-winning architectural historian, Yegül brings years of experience and the most recent scholarship to his study of the temple. There are a few questions, such as the date of deposition of this temple from a blotchy, blackened ruin to a gleaming, glowing wonder, and revealed previously unsuspected details of the building. Where possible we have used photographs of the temple’s current state; comparison with earlier photos will dramatically illustrate the metamorphosis, and will, we hope, preserve this magnificent monument for the future.

Like any archaeological project, research and publica-
tion of the temple would not have been possible without the efforts of many talented and dedicated members of the Sardis team. Expedition Editors Katherine Kiefer, from 1996 to 2016, and Kerri Sullivan, since 2019, contributed in more ways than can be enumerated here, working closely with the author to realize his vision for the publication. The manuscript was copy edited by Theresa Huntsman and proofread by Kerri Sullivan. Special mention must be made of Brianna Bricker, who, wearing many different hats as Senior Architect, Publications Coordinator, and Editor, played essential roles in many stages of research, documentation, and preparation of the volume. We are grateful to the anonymous reader for numerous helpful and constructive comments, and to other readers who commented on specific sections. Over the years Yegül was aided in his work on the field drawings by a number of architects and draftsmen, who are listed in the illustration credits; particular mention should be made of Catherine Alexander, Brianna Bricker, Felipe Rojas, and Philip Stinson. Philip Stinson was also responsible for the total station surveys, which brought new precision to the documentation of the building. He digitally stitched the individual 1:20 hand drawings into plans and elevations, making complex adjustments to correct for scanning and other distortions. Many photographers contributed their skills to the documentation of the temple, including Elizabeth Gombosi, Maria Daniels, Eliza Proctor, Ricky Taylor, Karen Heredia, Jessica Salley, Sara Champlin, Ellie Jordan, and Jivan Güner. Andrew Ramage, Series Editor of the Sardis Reports and Monographs series for twenty-three years, contributed in many ways to the development of this publication, and his wise and humorous voice is always present. And throughout the years, Sardis Expedition Administrators Elizabeth Gombosi and Bahadir Yıldırım, Associate Director Laura Gadbery, Sardis Coordinator Robin Woodman, George M. A. Hanfmann Curator of Ancient Art Susanne Ebbinghaus, and Teoman Yağcı, representative of the Expedition in Izmir, have kept operations running in Cambridge and in Turkey, and each has been an indispensable
source of wise advice and counsel. It is a privilege to work with such a talented group of scholars and friends.

Excavation and research at Sardis is conducted each year with the generous support and permission of the Republic of Turkey, particularly its Ministry of Foreign Affairs, Ministry of Culture and Tourism, and General Directorate of Cultural Heritage and Museums; as always we are grateful for the privilege of working at this fascinating and important ancient city.

In thanking the current Minister of Foreign Affairs Mevlüt Çavuşoğlu, Minister of Culture and Tourism Mehmet Nuri Ersoy, and Director General of Cultural Heritage and Museums Gökhan Yağcı for their support, we wish to also extend our thanks to the many dedicated Turkish civil servants whose professionalism and thoughtful care have facilitated work at the site for more than sixty years. Former Excavations Department Director Melik Ayaz and current director Umut Görgülü have offered friendly guidance for many years, and we are particularly indebted to him and his staff. Eren Sülek, director of the Archaeological and Ethnographic Museum in Manisa, and his predecessors Lütfi Ekinci, Harun Güllü, Sevgi Soyaker, Mıyesser Tonsuğun, Hasan Dedeoğlu, and Kübâlây Nayın, have given their constant support to research at Sardis over the decades, and it has been a pleasure working with them all.

The Sardis Expedition is sponsored by Harvard Art Museums and Cornell University, and has had its headquarters at the Harvard Art Museums since its inception. We are very grateful to the Director of the Museums, Martha Tedeschi, for her generous interest in and support of the project, and for providing a welcoming home for research, publication, and documentation. Harvard’s Faculty Oversight Committee for the Sardis Expedition, and particularly Vice Provost for International Affairs Mark C. Elliott and Prof. Adrian Stähli, are strong supporters of the research and education missions of the Expedition, and we are very grateful for their counsel.

Archaeological fieldwork and research at Sardis is made possible by the generous sponsorship of many individuals and institutions. Research, conservation, and publication have been supported by numerous grants from the U.S. Department of State and the National Endowment for the Humanities.10

Among the private donors are Dr. Alexandre Balkanski, Mr. and Mrs. Max Barus, the Bollingen Foundation, the Ruth Covo Family Foundation, the J. Stephens Crawford Trust, the Ford Foundation, Mr. and Mrs. William Frederick, Mrs. Margaretha Frederick, Dr. and Mrs. David Greenewalt and the David Greenewalt Charitable Trust, Dr. Richard Hamilton, Mr. Patrick J. Healy, Hydeinth Foundation, the Institute for Aegean Prehistory, the J.M. Kaplan Fund, Nanette Kelekian, the John M. Kohler Foundation, the estate of William Kohler, Dr. Edwin H. Land and Mrs. Land, Mr. Thomas B. Lemann, the Lucius N. Littauer Foundation, the Loeb Classical Library Foundation of Harvard University, Rosemary Lonergan, Mr. Scott Malkin, Mr. Osman Mardin and his talented family, the Charles E. Merrill Trust, the Old Foundation, Mr. Donald I. Perry, the John and Emma Quint Memorial Fund, Mr. John J. Roche, the Billy Rose Foundation, the Rowland Foundation, Mr. Andrew Seager, Mrs. Valerie Smallwood, the Susan G. Soderquist Trust, the Eleanor Ransom Swift Trust, Edward Teppo, Richard and Genevieve Tucker, the Vila B. Webber Charitable Trust, the estate of W. C. Burress Young, and the Zemurray Foundation, as well as several anonymous donors.

And finally we are grateful, as always, to the loyal Supporters of Sardis and to the many members of the expedition, whose interest in this project over the past sixty-two years is continually expressed in so many ways. It is a privilege to be a part of such a broad and devoted community.

Nicholas Cahill
Madison, WI

He who knows only his own side of the case, knows little of that.
—John Stuart Mill, On Liberty, 1859

Archie . . . as usual you are so engrossed in the fact that you are oblivious to its environment.
—Rex Stout, Fer-de-Lance, 1934

The story of my architectural documentation and publication of the Temple of Artemis at Sardis begins one late afternoon in 1986 when I was taking a pleasure walk among the impressive ruins of the building, a common, relaxing thing for the members of the Harvard expedition to do after a hard day’s work in the trenches. An architect and architectural historian, I had been at Sardis already for decades and had just published the imperial bath-gymnasium as Report 3 in the Sardis publication series, but I had only a limited knowledge of the colossal temple, except what I could see and what I could glean at the end of the routine site tours. These did little to elucidate the confusing and conflicting theories expounded by scholars from the expedition or outside—such as Howard Crosby Butler, the director of the first Sardis expedition and the original excavator of the temple (1910–1914); George M. A. Hanfmann, the first director of the Harvard-Cornell Expedition (1958–1976); and Gottfried Gruben and Wolfram Hoepfner, two eminent German architectural historians. Even for someone without the advantages of a clear understanding of its apparent complexities, the temple—with the shadow of its tall columns and white marble walls lengthening in the afternoon light, the ruins rising defiant and robust against the dramatic backdrop of craggy hills and proud mountains—was a good place to be. As I stood there musing, out of the lengthening shadows, notebook in hand, appeared Crawford H. Greenewalt, jr. (Greenie to his friends), then Director of the expedition. We chatted. Noting the precision of the architectural lines, and the clarity of the details and surfaces—an architect’s dream—I remarked incautiously that it would be a great thing to draw this structure. Greenie responded by asking me if I would like to do it. That is the genesis of this project—drawing, later writing and publishing—which took thirty-three years to complete and is now in your hands to peruse.

The balance of 1986 was spent in planning and establishing the parameters of the measured drawing project, a work we knew was going to be a long one, though never as long as it turned out to be. The simple idea was a full architectural documentation of this giant building in plan, section, and elevations at a scale large enough for us to see every detail and to be able to measure directly from the drawing. The best plan from the Butler expedition was drawn at 1:200 scale, but it was not accompanied by a full set of sections or elevations; the early team might have intended to do them, but the unexpected termination of the work in 1914—due to war—thwarted the project. Butler’s team, however, left us a good architectural record of details, especially the profiles of the fifteen column bases of the east end and their comparisons to those from a selected group of temples from Asia Minor. Particularly useful and beautiful among those are the large-scale drawings of ornament
such as the temple’s superb Ionic capitals, a few representing a tour de force of architectural rendering we have no hope or desire to emulate (Sardis II.1 and atlas).

We decided to do a full plan and many long and short section-elevations of the temple “as preserved” (in state) at 1:20 scale; several state as well as partially or fully restored plans and section-elevations at 1:100 scale; and several plans representing the different chronological and design phases of the structure at 1:200 scale. In addition to these, I would undertake to record many selected individual features and details at 1:20, 1:10, and 1:5 scales as well as by perspectives, cutaways, and axonometrics as judged useful or necessary over the duration of the project. Given the 97.60 m length and 44.60 m width of the temple, the plan at 1:20 scale would be 5 × 2.50 m (ca. 16 × 8 ft.). Following the standard studio drafting board size, which accommodates a sheet of ca. 1.30 × 0.65–0.70 m, the plan would require sixteen sheets while the section-elevations, of comparable size, would fill an additional twenty-three (sixteen long sections and seven short). Many of these drawings, naturally, would overlap (to cover the full length of the building) and need to be spliced with precision. Practical considerations have guided us to reduce the drawings to one-half size in print so that they could be manageable; an original 1:20 scale drawing in print would thus become 1:40 scale, still making it easy to measure directly (one centimeter on the printed drawing equals forty centimeters on the real building). The complex and finicky splicing (or “stitching,” as we call it) was done digitally by Philip Stinson, whose expertise is admired by all and to whom I owe gratitude. All major 1:20- and 1:100-scale drawings plus a large-scale restored perspective and one perspective-analytique are included among the boxed plates; the rest of the 1:200 scale plans and dozens of drawings of individual features, details, perspectives, cutaways, and axonometrics are incorporated in the text volume.

The finished drawings, made on mylar in ink, were based on originals made in the field also on mylar in hard graphite mechanical pencil (typically 4H–5H). Mylar field sheets ca. 70 × 50 cm were mounted on a tripod table (“plane table”) of the same size; thus it took some thirty-five sheets to cover the full 1:20-scale plan. Considering all section-elevations and other plans, a total of ca. 140–150 field sheets in pencil were completed for this project. These field
drawings were combined and spliced in the drafting room as necessary, to form the basis of final sheets in ink. Over the course of 13–16 years (1987 to 2000, but some were also done in 2006–2008, 2015, 2016), I completed a total of 94–96 original inked drawings, which were reduced in size into a lesser number of plates. All field drawings were done by me except the foundations of the north and south peristyle colonnades, which were done expertly by Cathy Alexander (a huge help!). An additional 8–10 sheets of drawings in pencil of architraves in the field were done by Brianna Bricker, but all of these pencil originals were redrawn and finished in ink by me (which ensured consistency in drafting style, or “hand”). These pencil originals and most of the inked final drawings are kept in the Sardis Expedition office in Cambridge, Massachusetts.

When we started this project, digital technology for site applications and drawing was in its infancy. Therefore, the recording was done entirely by traditional methods, the architectural elements hand-drawn and hand-measured using a steel, well-stretched tape, or by using optical surveying instruments (transit and dumpy level) as needed, although from the 1990s onward digital surveying using total station became possible. The orthogonal, precise lines and edges of the temple (the long side walls are parallel, with no more than 2–3 cm of deviation from one another), and a true east–west (long) building axis traversing exactly the middle of the east door threshold, made direct measurements reliable and easy. The accuracy of the sums of shorter measurements was verified against the long-distance measurements by triangulation, resulting in discrepancies of no more than 10–15 cm over the nearly one-hundred-meter length of the temple (representing a ca. 1–1.5 percent error). These errors, distributed across large distances, match the industry standard of dealing with such.

A major undertaking in 1992 was the raising of metal-tubular scaffolding around the two fully standing columns, 6 and 7, enabling, for the first time since they were erected, a direct measurement of their height—17.87 m, including base and capital—which was verified in 2019 when a less shaky scaffold was put up (although Lansing “Denny” C. Holden, one of Butler’s brave architecture students, had hoisted himself up to the top of column 7 in 1922 using rope and tackle and bosun’s chair and took some basic measurements of capital B). The scaffolding also allowed a close study and subsequent drawings, sketches, and construction details of in situ capitals A and B. In the same year, the scaffold was moved to columns 4 and 5 and in 1994 to columns 1, 2, 3, 8, and 16, allowing accurate measurements of their heights, and permitting detailed studies and elevations of most of the east end columns and their tops as preserved. Although we had archaeological recordings of many individual small excavations at the temple by Hanfmann between 1960 and 1970, and by our team between 2002 and 2012, it was agreed not to incorporate most of them into the 1:20-scale drawings; some are included separately in the text volume.

The continuation and transformation of the temple project from architectural, graphic recording to research and writing occurred slowly and almost naturally. In 1987, when we started the project, we had only a vague idea about transmuting the field recording (and its factual description) into a broader scholarly study aimed at elucidating the architecture and history of the temple and culminating in a “final” Sardis volume. The process was gradual and natural in the sense that long and slow periods of scrutiny spent doing the stone-by-stone, crack-by-crack drawings clarified construction principles, features, processes, and sequences in ways that had not been imagined before. Drawing was itself research. A clearer picture of the architecture, design, and history of the building and its phases began to emerge—though still with many unknowns and still open to some alternative explanations—that partly supported earlier theories, but mainly replaced them with new, more convincing ones. In this the expository role of our numerous trenches was paramount. In 1987, faced with the task of recording a very large building with many unknowns, we had hoped that our long-term fieldwork “might be able to present an orderly record of the physical features of the building to the scholarly world and provide evidence in support of some [existing] theories . . . and point to new solutions in others” (Yegül, “Artemis Temple Report, 1987,” 1). Thirty-three years later, I trust that my attempt at presenting a new and cogent narrative for the Temple of Artemis at Sardis has been largely achieved. Nonetheless, the more modest goal of creating an accurate and orderly physical record of the temple as preserved in our day—making it probably one of the most thoroughly recorded of all classical temples—for future generations remains central to the project.

The long-term work that went into this publication was largely a team effort. Apart from the late Crawford H. Greenewalt, jr., who helped to instigate, inspire, and instruct the early stages of this work, the largest gratitude is owed to Nicholas D. Cahill, the present director, whose interest in the project and love of this temple—and knowledge of its history—match mine. An experienced field archaeologist, he spearheaded many of the new exploratory excavations in the temple that shed significant light on its design and history. It is true, however, as often acknowledged in my text, that Nick and I have not always seen eye-to-eye concerning the reading and interpretation of some of the evidence—though only a minority of the overall data. Thus, in a few cases, we have arrived at different conclusions which might suggest different views of the temple’s design and history. In dealing with the past, archaeology is capable of producing clinching and unequivocal evidence, although, when confronted with countless and often randomly preserved variables, often it does not—unfortunately. Therefore, different readings of what the past has chosen to reveal to us are normal, even salutary. What is important, I believe, is an open-minded approach to differences, willingness to represent these different views, and readiness to consider and discuss.
alternatives. These, I trust, we have been able to do, and offer a diverse and enriched discourse. Deeper down, these tendencies can be traced to our different disciplines and training. Nick Cahill is an archaeologist, and I am an architect and architectural historian. Inevitably (and proudly) we follow the viewpoints, dictates, and methods of our primary fields. That he entrusted the “final” publication of this very important monument to me, a well-entrenched architectural historian, is a credit to him—for which I am thankful. There were special moments in the discussion and deliberation of some thorny issue or the other, where we would stop, and with amused grins, recognize that the “truth” was probably something that neither of us could know or predict.

Now to some sincere thanks. I thank Brianna Bricker, my own student, who expertly took on many tasks in this volume’s preparation: as field researcher, drafts person, organizer, and designer of the typography. Thanks to Catherine Alexander, for her excellent and substantial field drawings and other graphic studies. Phil Stinson, as mentioned earlier, was the skill and spirit behind the complicated business of digital instantiation of our large drawings and plates, and we spent many a morning surveying the temple with a total station. Felipe Rojas undertook the recording of the great altar in a remarkably precise plan. Bahadir Yıldırım’s sharp eye caught many a significant (and fun) carved detail on marble none of us had seen before—he is a sculpture expert, after all. The excellent recording of the building by Sardis photographers past and current deserves acknowledgement; Elizabeth Gombosi and Eliza Proctor can be their best representatives. Recently, Nick Cahill took over the business of aerial drone photography, as can be seen in the many excellent frames in these pages, and contributed some of the fine stills (most are by me). Always positive, always on-the-job, Teoman Yalçınkaya, our expert engineer, erected our first and successive daring scaffolds around the nineteen-meter-high columns; he moved our 25-ton marble architraves and the delicate Ionic capitals, of world-class beauty (and rarity) without a tremble—all the while encouraging his workmen, and us, cheerfully, gustily, and always competently; we thank you. Then there were these small teams of humble, local workmen who helped me in the field in many ways small and large; I cannot name you all here, but I remember you each with pleasure and respect.

Many colleagues from Sardis and from outside the team helped me with their advice and provided me with explanations, examples, ideas, and also “don’t go there” caution. I will not name all here; they are separately named and thanked in my text, but I single out a few: Thomas Howe, the expedition architect (1986–1982), whose early understanding of the temple is commendable, and who, by all rights, should have been doing this volume instead of me, but for fortune; Orhan Bingöl, Musa Kadioğlu, Mustafa Hamdi Sayar, Angeles Chaniotis, Brian Rose, Ulrike Out schar, Aenne Ohnesorg, Lothar Haselberger, and not the least my niece Emel Erten, for their special advice, expert knowledge, and generous support of the project. The anonymous or named readers of the manuscript, whose suggestions and criticism I heeded gratefully, helped to make this study better and explained how I could better take advantage of archaeology.

I also thank the Department of Archaeology of Ankara University, and all my Turkish colleagues there, who many times provided me a platform to present my developing research on the temple and honored me with their generous input. I am grateful to my own institution, the University of California at Santa Barbara, which provided me research time and multiple research grants that allowed me to travel far and wide—every single comparative example in this volume is the result of my being on the site. And to my departmental colleagues, who judged me worthy of the rare university rank of “distinguished professor”—you believed in my research and it is a privilege to repay your trust with this publication.

The end success of a publication is invested in its linguistic and literary quality, in which the role of its editors is invaluable. I was lucky to have Theresa Huntsman in the beginning and Kerri Sullivan later and for the longer part. Thank you both for curbing my mistakes and improving the integrity of the text in all beneficial ways.

This book is dedicated to the memory of George M. A. Hanfmann, my teacher, a professor of classics and archaeology at Harvard University, and Diane Favro, my companion, a professor of architectural history at UCLA. There is quite a bit that I disagree with in my teacher’s interpretation of the temple and its architecture. The passage of time and new research may justify our separate directions, but looking beyond the limits of the valley in which our temple sits, into the horizon, he is the one who trained me in doing research, showing me how to search for what is unique in each challenging example of art and architecture; how to evaluate the significance of the context and environment of evidence; and the rigor imbedded in espousing diverse, tolerant views. Sardians of earlier years (generations, really) would remember the exquisite learning he brought to the tea table at Sardis at our informal afternoon seminars in building an argument and then, just as we were ready to break into applause, with a glint in his eye, he would take up the opposite view with the same evidence and expertly show how the alternative view could also be cogently defended—memorable performances they were. Never an official member of the expedition, Diane was there as guest many seasons. She accomplished the digital reconstruction and rendering of almost all of the comparative architectural material I used for this volume and, an expert in digital technology for architecture, like Phil, “enhanced” almost every photograph (some from my Kodachrome slide files from the 1970s) with her darkroom magic. But more than that, she was with me through the entire duration of this work, supporting my instincts or curbing them into constructive channels. Thank you.
Ultimately, I am grateful that I have had the great good luck of being so closely associated with this temple through being entrusted to draw, study, and publish it—arguably the premier monument of Sardis, and one of the top examples of classical architecture in all of Anatolia. The long, intimate process of drawing and coming to know this beautiful building, knowing every stone, every molding, every unfinished detail the master left for his apprentice to follow and finish—a building rosy during the ascent of the morning sun from behind the acropolis and purple during its descent in the afternoon behind the necropolis—has been a rare privilege. The work was in bad days a catharsis, and in good days a celebration. A complex, multifaceted monument such as the Temple of Artemis of Sardis will elude and elicit multiple interpretations and evaluations—and leave many questions unanswered even after thirty-odd years of familiarity backed by the advantages offered by a very resourceful archaeological expedition. Along the way, the remarkable richness of the temple inspired me to take side journeys of exploration into a wide range of kindred subjects: to mention one, the case of the talking column (column 4), for the last two thousand years accosting the passerby in the first-person singular with its proud, boastful victory message. Regardless of how successful in reaching its multiple and optimistic goals this effort has been, I am happy to leave behind for the future areas of interest to be further explored, further questions to be answered, errors to be corrected, and issues to be pondered and wondered over. The team that worked on this large project can, with luck, offer a mansion with many open doors, and I hope that we can nudge you to enter through some of these.

When I planned this quest decades ago with Greenie’s encouragement, I had just finished my other long-term Sardis project, the Bath-Gymnasium Complex, as I mentioned above. So, one Sardis project replaced another without a hitch, and allowed me to be busy at Sardis for many more decades. I have worked at the site for a record total of fifty-seven years, never missing a season between 1963—when I was met at the Sart Mahmut train station by George Hanfmann in the old “Pinkie” Land Rover (still in service)—and now. Perhaps time for me to retire and start writing another book . . . Roman Anatolia?

Thank you, Sardis.

Fikret K. Yegül
Santa Barbara, CA
SUMMARY

INTRODUCTION

The Temple of Artemis at Sardis, an unorthodox pseudo-dipteros, is the fourth-largest Ionic temple in the classical world and one of the most impressive in its natural setting. Located on the western slopes of the Acropolis, in a broad valley opening into the gold-bearing Pactolus River and the Hermus Plain beyond, the land evoked poetic associations within the city’s plethora of ancestral cults and overlapping, syncretic beliefs. The sanctuary, which predated the temple, as attested by an Archaic altar, was sacred to Artemis, the preeminent goddess of Sardis.

It is widely believed that the temple was begun during the Seleucid rule soon after the Battle of Koroupedion in 281 B.C., which gave Seleucus I Nicator control of much of Asia Minor. After centuries of Persian domination, only a powerful and stable dynasty, which assumed the mantle of a new Hellenic cultural legacy, could have undertaken such a colossal construction. Because Seleucus died at the end of 281, soon after his great victory, the project can be directly associated with Antiochus I and his queen (one-time stepmother) Stratonike, who had established Sardis as an administrative center for the Seleucid reign, and an official residence for its monarchs. Support for associating Stratonike directly with the Sardis temple is provided by a dedication on a marble ball which bears the inscription, “[Gift] of Stratonike, daughter of Demetrius, the son of Antigonus.” Although the present ball is probably a later copy, the original must have been made during the queen’s reign and residence as basilissa in Sardis.

Facing west like the other great Artemisia in Asia Minor at Ephesus and Magnesia, the original temple with its elongated cella might have been intended as a dipteros, like the other great archaic dipteroi of Ionia. However, Hellenic construction did not progress beyond the sole cella; none of the surrounding columns were put in place. The pre-temple archaic altar seems to have been enlarged during this period and physically linked to the west-facing pronaos by a flight of steps or ramps. The next major building activity can be associated with Hadrian’s almost certain visit to Sardis in A.D. 123/124, and his granting the city its second neokorate, the privilege to establish and maintain an official temple of the imperial cult. The rearrangement of the temple as a pseudodipteros and the incorporation of the new cult of the emperors by dividing the cella into two nearly equal parts were the primary architectural challenges of the Roman phase. Of the sixty-four columns designed for this phase, it seems very few were actually erected, and these concentrated mainly on the new east front, dedicated to the imperial masters.

Construction toward the completion of the temple must have slowed down and ceased through the third and early fourth centuries, as the appeal of Artemis’s cult waned. By A.D. 400, a small church (Church M) was built on the southeast corner of the temple, using the east end of the south pteroma as a kind of entryway. In the following centuries, successions of landslides of gravel, silt, and mud from the heights of Acropolis buried the temple except for some of the columns of the east end. Through the eighth and ninth centuries extensive destruction of the temple was in
progress and human occupation had ceased. When Howard Crosby Butler, the director of the first Sardis Excavations, and his team arrived on the site in 1909, two half-buried columns standing in a barley field were all they could see.

As preserved the Temple of Artemis at Sardis appears to have had eight columns at the ends and twenty along the sides. There were six columns in two rows in antis in front (west) and in the back (east), but this arrangement was changed during the Roman rebuilding, when both ends received spacious prostyle porches with four columns in front and two in the returns. The central two columns of these porches, raised on tall, rusticated (or unfinished) pedestals which carry finished bases and fluted shafts, display an unusual, even unique (some said bizarre) appearance with no known historic parallels in the ancient world; they are Roman constructs composed of reused elements from the original building. The eight-column east front was completed, although researchers do not know if these columns ever carried a pediment. The side pteromas are two intercolumnar distances wide but the ends are three; consequently, the sides do not wrap around the ends uniformly as is normal for pseudodipteral temples. The spans between the columns of the east peristyle display what is known as “complex contractions,” increasing progressively from the ends (5.32 m) to the middle (7.05 m), a rather rare archaic system applied to temple fronts only. Here at Sardis it is used anachronistically to the middle (7.05 m), a rather rare archaic system applied to temple fronts only. Here at Sardis it is used anachronistically to designate the new front for the temple fronts only. Here at Sardis it is used anachronistically to the middle (7.05 m), a rather rare archaic system applied to temple fronts only. Here at Sardis it is used anachronistically.

The overall dimensions of the Roman era peristyle are 44.60 × 97.60 m, not counting any sets of steps, or crepidoma, for which there is scant evidence. The cella is 23.0 × 67.51 m (in a ratio of 1:2.92). The original cella walls are 2.13 m thick at the bottom and 1.93 m at the upper, orthostat level. The base for a cult image (ca. 6 × 6 m), preserved in sandstone foundation blocks, was placed centrally inside the original cella; however, it can be shown that, along with the archaic altar, this base (“basis”) was an existing feature of the earlier sanctuary and might have been influential in determining the positioning of the later temple. The cella floor is ca. 1.60–1.70 m higher than the surrounding ambulatories and must have been reached by a flight of steps (the markings for the stair structure for the Roman era east door are visible). The interior of the original cella had a double row of twelve columns, preserved in their foundations, that reduced the central span to 6.70 m (center-to-center span is 9.30–9.40 m); this is significantly wider than the spacing for the columns inside the west and east pronaos porches, which was ca. 8.40 m. The side ambulatories (from wall to column plinth) are 8.23 m wide (their full width is ca. 10.87 m). Thanks to the two fully preserved columns of the east end (columns 6 and 7), we can establish the column height of the Roman era peristyle at 17.87 m, including their capitals. Careful measurements made at foundation and plinth levels reveal a distinct curvature of the north and south walls and the east colonnade.

The ruins of the temple, especially its majestic columns against the Acropolis and the Tmolos range, were a popular and picturesque subject for generations of travelers, artists, and scholars. Starting with Cyriacus of Ancona in 1444 (who did no drawings at Sardis), the visitors included Robert Wood and his party (his draftsman Giovanni Battista Borra left us the first graphic representation of the building) in 1756; Richard Chandler in the company of William Pars, a talented young artist (though he left no drawings) in 1765; Charles R. Cockerell, the distinguished Neoclassical architect in 1812, who left several fine pencil drawings; Charles Texier, the French antiquarian, in 1830s; and Harald Jerichau, a Danish Orientalist painter whose dramatic panorama of the temple against the snow-covered Tmolos (1878) is in the State Art Museum in Copenhagen. A smaller, more realistic view of the temple (1873) by Jerichau featuring the two iconic columns standing among camels and spring poppies, highlighted against the acropolis, appears on the dust jacket of the book.

Systematic archaeological excavations in the temple were undertaken from 1910 to 1914 by the American Society for the Excavation of Sardis under the directorship of Butler, and the results were published in 1922 and 1925, the first two volumes of a planned series. George M. A. Hanfmann resumed the archaeological exploration of Sardis in 1958 under the aegis of Harvard University. Between 1966 and 1970, some ten small trenches were opened to study the temple and its precinct. Further small-scale excavations in the temple between 1996 and 2010 undertaken by N. D. Cahill, the present director of Sardis, helped to clarify aspects of the building’s history and design. A comprehensive investigation and architectural recording of the temple, which have resulted in this two-volume final publication, was begun by the author in 1987 under the directorship of C. H. Greenewalt, Jr.

DESCRIPTION OF THE BUILDING

Chapter 2, the longest chapter in this study, is devoted to a physical description of the temple and its construction principles. The discussion starts with a consideration of commonly used construction features and methods, principally the lewis for lifting and clamps for horizontal and dowels for vertical joining. For lifting heavy blocks as well as column drums the usual method was the standard lewis, featuring a rectangular cutting with double-sloped ends. The lifting capacity for an average size lewis (ca. 12–16 cm long, 10–12 cm deep), empirically calculated, was 4–6 tons. Larger blocks required two or three lewis. Of particular interest is an earlier lewis type known as the Carian lewis, which consists of a small narrow socket with slanting sides next to a larger, square hole intended to hold a wooden block to prevent the lifting iron key in the small cutting from slipping out. This type is used for all capitals except...
the two largest ones, in situ on the standing columns 6 and 7, which have standard Roman lewises. Since the earliest use of the Carian lewis is the fourth century B.C. and the type goes out of use in the second, the smaller capitals must belong to the original Hellenistic building and can be assigned to the interior of the cella and the pronaos porches.

The primary method for joining blocks horizontally was the metal clamp, which appears in two types: the bar type consists of an iron bar whose ends were bent down (like a "hook") into depressions in the socket; the second type, "butterfly" clamps are wing-shaped, flat with no end depressions and typically larger. Hellenistic construction is characterized by bar clamps at or above the foundation level, but rarely below, as their use in the foundation blocks of the cella interior columns. Roman construction utilized butterfly clamps below foundation level and regular bar clamps above.

The most common type of dowel in Roman construction in the Artemis temple is a small, square pin or peg (almost always metal) with one, less commonly two, pour channels for lead. Widely used in Hellenistic construction, such as the main walls and the foundation blocks of the columns inside the cella, the "edge dowel," which has a regular square cutting on the bottom block, is paired with a matching three-sided cutting on the upper one. Another Hellenistic type dowel is the simple, round pin used to connect the fluted drums of columns; unfluted (unfinished) Roman column drums are connected by a pair of small, square dowels, placed typically on either side of a central square cutting.

Although considerable variance occurs in construction methods over time, there are enough similarities and consistencies that allow us to identify major building phases as Hellenistic and Roman. Hellenistic phase construction (cella main walls and interior columns) display bigger, carefully shaped and fitted blocks. Construction cuttings are employed sparingly. No lewis holes are used except Carian lewises. Courses below foundation have no use for clamps at all; courses above are typically joined by rows of bar clamps. Edge dowels are common. Roman construction is limited to the east and west crosswalls of the cella (built to divide the cella into two), the foundations of the exterior peristyle columns, and the partially finished columns of the east and west ends. Roman walls are made of smaller blocks; core construction is shoddier, and details are coarser. There is a consistent and copious use of lewis holes and bar clamps; the latter, when below foundations, are of the butterfly type. Dowel holes are of the small, square type and often have one or rarely two pouring channels. The outside column foundations are in individual, large blocks, ca. 2.00–2.30 m deep. They are always connected by mortared rubble (a local variant of opus caementicium) encasing the block foundations on two, three, or all four sides—no doubt to provide additional stability against earthquakes.

The Hellenistic period cella, including its all-marble roof, seems to have been sufficiently completed to be functional by the middle or third quarter of the third century B.C., but much of the detailing of the moldings of the walls and some of the finer finish of marble surfaces and joints were still unfinished. The same is true for the Roman period work as seen in the different stages of completion of the cast end columns, such as their Asiatic-Ionic bases and unfluted, roughed out shafts. These unfinished stages of marble work provide us with an excellent demonstration of the working methods of ancient masons and the sequence in which the decorative finishes were undertaken. The bases of the columns, especially their elegantly profiled toruses, display an eye-catching array of ornament, horizontal and vertical laurel leaves, guilloche (or "basket weave") patterns, plain unfinished ones, and one fully finished example of oak leaves among which small critters—lizards, salamanders, scorpions—play and hide.

Perhaps the most distinctive elements of the temple are its Ionic capitals. Five of these (designated A through G), plus several large fragments, are securely identified as Hellenistic originals based on their use of the Carian lewis and the refinement of their style. Many of these were recarved with standard lewises and dowel cuttings in their Roman reuse. The best-preserved and the most elegant of these, a smaller capital (C), was probably used for display for public admiration and professional emulation, as it also is now, on display in the classical gallery of the Metropolitan Museum of Art in New York. These beautiful capitals must have served as aesthetic models for the larger Roman capitals, as capitals A and B (in situ on columns 6 and 7) indicate: they are close copies of the Hellenistic originals in style and quality. The continuing artistic influence of the temple's exquisite ornamental style upon its Roman followers can be observed also in the well-preserved jamb ornament of the east door. Dated to the Hadrianic period, the plasticity of the deeply carved eggs and beads and the delicately modeled Lesbian cymation reveals the persistent influence of Hellenistic models with specific reference to the anta capitals of the original cella.

BUILDING HISTORY AND CHRONOLOGY

In Chapter 3 I look into the contribution of a variety of evidence—historical, archaeological, architectural, technical, epigraphic—in illuminating the building history of the temple. Some of these factors, such as the primary differences between Hellenistic and Roman era construction techniques and ornamental styles are discussed earlier in the book.

In the archaeological and numismatic category are the 126 coins datable to ca. 240–220 B.C. recovered from the vertical joints of the sandstone base inside the cella. Since they probably slipped in during the close of construction, they offer a terminal date for the time by which the build-
ing was operational. In the epigraphic category, an inscription in Greek carved on the interior face of the northwest anta of the temple records in detail the mortgage obligations that had been imposed upon one Mnesimachos by Antigonus, probably Antigonus I (ca. 382–301 B.C.), the founder of the Antigonid dynasty. The text on the temple wall is a later copy whose letter forms suggest a date between 250–200 B.C. Thus, like the date of the coins from the sandstone base, the Mnesimachos inscription indicates that the cela was complete and in use by the third quarter of the third century. Other critical evidence for the completion of the temple around the middle of the third century comes from a stele found in Didyma that records a deed of land sale by Antiochus II in 254/253 B.C. to his queen Laodice. The text stipulates that the original document was placed in the “royal archives” in Sardis but four copies were displayed in four important sanctuaries, Ephesus, Ilium, Samothrace, and Didyma. It is unlikely that the Sardis sanctuary would have been selected as a royal archival center if it did not have a functioning temple at that time.

Some of the five colossal heads (and many other fragmentary ones) found inside the cela or close to the temple, identified as members of the Antonine family (Antoninus Pius, Faustina the Elder, Marcus Aurelius, Lucilla, and Commodus), provide material evidence for the Roman reorganization of the temple as a cult center. For a closer dating of the Roman phase—particularly the construction of the exterior columns—evidence is provided by an inscription in Greek verse carved on the bottom fillet of column 4 of the east peristyle, north of the middle axis of the temple. The inscription, speaking in the first-person singular, accosts the passerby, “My torus and foundation block are carved from a single stone, furnished not by the people (demos) but given by the house (oikos) [of the temple],” and proudly declares, “of all the columns, I am the first to rise.” The celebratory nature of this inscription—presenting the column as a victor in a building competition—is confirmed by the fact that the torus of the base is decorated by laurel leaves, gathered and tied by a ribbon with fluttering ends. Based on letter forms and archaizing, literary context, most epigraphists point to a date in the Trajanic-Hadrianic period.

The association of Hadrian with Sardis and its temple is strengthened by recent research which shows that Hadrian and Sabina almost certainly visited Sardis in a.d. 123/124, during their Grand Tour of Asia Minor. The royal visit was celebrated by a statue of Hadrian (whose inscribed base was found in 2000) dedicated by the city. This must have been the logical occasion for the granting to Sardis of its second neokorate honors as generously awarded to other cities visited by Hadrian. The existence of a grand but unfinished temple on the site would have justified the political and economic decision to finish and adjust the structure for imperial purposes. In the newly designed pseudodipteros with back-to-back cellas, the west-facing cela was retained by Artemis while the east-facing one, entered by a new door and stairs on the east wall, was given to the imperial cult, housing, over time a swelling number of gigantic cult images, including possibly Hadrian and Sabina.

**ARCHITECTURAL ANALYSIS AND COMPARISONS**

In the final chapter, I review the architecture of the temple as an unorthodox pseudodipteros and analyze the mixed sources for its design. I have attempted to highlight its unique and experimental design and to evaluate its artistic and cultural links to the distant Hermogenean legacy of Anatolia.

For centuries the Hellenistic temple remained a simple, stark marble box with pedimented ends and gabled roof but no peripheral columns. The cela was probably raised on a low embankment, but without a proper crepidoma; it faced a monumental altar in front and was connected to it by a system of stairs. To soften the stark geometry of the lone cela there must have been trees and plantings but also rows of inscribed stelae and dedications, some dating back to the Lydian and Persian periods. One enigmatic dedication in Lydian refers to one Qûdûns, an enigmatic figure, once thought to be Apollo, but possibly the moon god (Mên), sharing the sanctuary with Artemis. The memories of these distant cults and religious traditions of Lydia, assimilated with Greek and Anatolian beliefs, appear to have been included in the sanctuary and honored by generations of Sardians. The unfinished temple, the marble box in its glorious setting, was the shape of the sacred.

For the unknown architect of the Roman pseudodipteros, the main lines of his design were already embedded in the shape created by his Hellenistic predecessor. The elongated cela was too narrow to accommodate a facade with ten columns, unlike its colossal mate at Didyma or its Hadrianic contemporary in Rome, the Temple of Venus and Roma. An octastyle dipteros, as in Ephesus and Samos, could have worked but given the ruinous cost of creating some 128 columns, a pseudodipteros—an admired system which had been introduced by Hermogenes in Magnesia nearly three centuries earlier—was the logical choice. Yet, as already mentioned, with its unequal ambulatories along the sides and spatially deep pronaos porches at ends, this was no traditional, Hermogenean, rule-bound pseudodipteros. These wide and lofty side ambulatories (over 10 m wide, 18 m, tall and 90 m long), defined by a stark, shining marble wall on one side and the repeating rhythm of the shadows of columns on the other, were connected at their ends to deep, spacious, six-column pronaos porches set within the east and west peristyles. Possibly open to the sky like cubic towers of light, these porches were the distinctive and dramatic design elements, creative and disruptive, that made the Roman temple at Sardis unusual, special, even unique among the pseudodipteroi of Anatolia, past and future.
A simple comparison of the plans and volumes of the Sardis pseudodipteros to Hermogenes’s masterpiece at Magnesia, and its Hellenistic followers at Alabanda, Lagina, and the Sminthision at Chryse, or its Roman followers at Ankyra and Aezane, illustrates the fundamental architectonic difference between the traditional pseudodipteroi and their interpretation (re-creation) at Sardis. For the origins and development of the Sardis model we must turn to Italy, where deep pronaoi porches were and remained the historic model. Even after Vitruvius’s clearly admiring discussion of the advantages of Hermogenes’s new system (3.3, esp. 3.3.8), Italy expressed little interest in the pseudodipteral temple. The sense of overwhelming frontal space attendant to the deep porches was typical and routine in late Republican temple architecture, such as the temple crowning the Samnite sanctuary at Pietrabbondante, the Temple of Portunus by the Tiber in Rome, and, the culmination of the type, the Temple of Mars Ultor in the Forum of Augustus in Rome.

The design legacy behind the Sardis temple is complex and varied: the rich patrimony of cultural resources and hybrid borrowings blur the “origins” of all historical architecture of Asia Minor. I am not suggesting that the unknown architect at Sardis was a “follower” of Rome and Italy. If one seeks a specific meaning to the “Italian connection” at Sardis, we should look into the special relation of Hadrian to Sardis, an emperor who visited the city, honored it with an imperial cult privileges—and considering his artistic inclinations—probably had a say about the hybrid design of its foremost temple. His great Temple of Venus and Roma in Rome, with its back-to-back divided cella, might have provided the closest parallel the cella design at Sardis. Not in opposition but in addition to this relationship, the architect at Sardis, as a part of the cosmopolitan world of second-century Asia Minor, must have known what was what in Rome—he would have been familiar with the Column of Trajan and the Pantheon. Inheriting an existing long, narrow, austere, archaizing cella between a river and a mountain, his choice would have been daunting as well as unique. The resulting design, reshaping an extant building into an idiosyncratic and broadly conceived variant of a pseudodipteros (if a pseudodipteros at all) benefited from sources rooted in local Anatolian practice as well as distant foreign traditions close to the heart of an architect-emperor, reflecting a creative historical trajectory from Hermogenes to Hadrian.

In conclusion, the Temple of Artemis at Sardis is an experimental and eclectic building that is not so much an “end” to the popular pseudodipteral system as a re-creation of it. Set in the magical landscape of the sacred Tmolos, “in the land of a thousand gods,” it had no equal nor a clear follower.
ÖZET

Klasik dünyanın dördüncü büyük İyonik tapınağı olan Sardes Artemis Tapınağı, pseudodipteros plan tipinin sırada bir örneğidir. Akropol'un batı yamaçlarında, altın-yükli Paktolos Irmağına, oradan da geniş Gediz (Hermos) Ovasına açılan vadide yer alan Arkaik devirin baş tanrıçası Artemis'ine aittir.

Tapınağın yapımına, m.ö. 281'de I. Seleukos Nikator'a Anadolu hakimiyetini veren Koroupedion savaşından sonra başlandığını düşünmektediriz. Asırlar süren Pers egemenliğinden sonra, böyle devasa bir yapıyı ancak Helenistik kültürün mirasçılığına soyunmuş, kuvvetli ve istikrarlı bir idare ve hanedan üstlenebilmiştir. I. Seleukos, Sardes Artemis Tapınağını Kutsal Alan olarak, batıda yer alan Arkaik sunak güneşine, tapınaktan çok daha eskidir ve zaman içinde birçok kült ve inançlara ev sahipliği yapmış olsa da Sardes'in baş tanrıçası Artemis'e aittir.

Ephesos ve Magnesia'daki diğer büyük Artemion larda olduğu gibi batıya bakan Sardes Artemision'ı'nun çok uzun cellsa'sına bakarak, Artemis Tapınağının batı cephesine merdiven veya rampalarla bağlanmıştır. Yapı asırlarca Böyle tek cella olarak kaldıktan sonra, tapınağın bundan sonraki ilk önemli yapı evresini, m.s. 123/124'te Sardes'i ziyaret eden Hadrianus'un kente neokoros ayrıcalığı bağışlamasıyla başlar. Roma evresinde gerçekleştirilen en zorlu iş, yarı yapılmış tapınağın bir pseudodipteros olarak yeniden yapılandırılması ve cella'yi duvarlarla sert-sırtta iki eşit mekana bölmek, İmparatorluk Kültü'ü tapınağın yapma ve idare etme onurunu tanımıştır.

Roma evresinde gerçekleştirilen en zorlu iş, yarı yapılmış tapınağın bir pseudodipteros olarak yeniden yapılandırılması ve cella'yi duvarlarla sert-sırtta iki eşit mekana bölmek, İmparatorluk Kültü'ü tapınağın yapma ve idare etme onurunu tanımıştır.

M.S. dördüncü asırdan başlayarak, pagan inançlarının ve Artemis kültünün çekiciliği azaldığı için, yapının tamamlanması yavaşlar ve tapınak hiçbir zaman bitirilememiştir.
Özet


Tapınağın göz önüne alınmamıştır. Orijinal Hellenistik cella 67.51 kanıt olmadığı için bu ölçülerde merdivenli bir crepidoma düşünülmektedir. Tapınanın pteryonunun içi ve çevresinde mermer blokları ve alüvyon tabakaları altında gömülü kalmıştır. Sekiz ve dokuzun üstü, batı ve doğu peristil sütun diplerinde, ortostat seviyelerinde alınan hassas ölçülerle kuzey ve güney cella duvarları ve doğru peristil sütun diplerinin, belirli ve ortaya doğru yükselme bir eğim olduğunu ("complex contraction"), bir tek dokuzun üstü, batı ve doğu peristil sütun diplerinde, ortostat seviyelerinde alınan hassas ölçülerle kuzey ve güney cella duvarları ve doğru peristil sütun diplerinin, belirli ve ortaya doğru yükselme bir eğim olduğunu ("curvature") kanıtlanan durumdadır.

Tapınanın kumtaşı temellerinden, arkasında yukarıya yükselen Akropol'ün eteklerinden inen heyelanlar sonucu çakıl, çamur küçük bir kilise yapılır (M kilisesi). Sonraki asırlarda tapınağın, doğa ve insan eliyle imhası devam eder ve alüvyon tabakaları altında gömülü kalmıştır. Sekiz ve dokuzun üstü, batı ve doğu peristil sütun diplerinde, ortostat seviyelerinde alınan hassas ölçülerle kuzey ve güney cella duvarları ve doğru peristil sütun diplerinin, belirli ve ortaya doğru yükselme bir eğim olduğunu ("curvature") kanıtlanan durumdadır.

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Özet

araştırılması ve mimari olarak belgelenmesine 1987 yılında
Profesör Crawford H. Greenewalt, Jr.’ın kazı başkanlığında
tarafımdan başlanmış ve 33 yıl sonra elimizdeki bu iki ciltlik
yayın ile sonuçlanmıştır.

BİNANIN BETİMLENMESİ
Bu yayının en uzun kısmı olan İkinci bölüm, tapınağın fiziksel betimlenmesine ve yapı esaslarının aydınlatılmasına
ayrılmıştır. Burada öncelik binada devamlı olarak kullanılan
yapı detay ve metotlarının incelenmesine ve tartışılmasına
verilmiştir. Özellikle kaldırmak için kullanılan kurtağzı
kavraçlar (lewis), yatay bağlantılar için kullanılan kenetler
(clamp) ve dikey bağlantılar için kullanılan zıvanalar (dowel) ele alınmıştır. Ağır taş blokları ve sütun tamburlarını
kaldırmakta kullanılan en yaygın metot, dikdörtgen yuvalı,
iki kısa ucu eğimli standart kurtağzı kavraçlardır. Orta
boy bir kurtağzının (yaklaşık 12–16 cm uzunluk, 10–12
cm derinlik) kaldırma kapasitesi, saha deneyimlerine dayanarak, 4–6 ton kadardır. Daha ağır bloklar için iki veya üç
kurtağzı gerekmektedir. Özellikle üzerinde durduğumuz ve
tapınağın tarihlenmesinde bize yardımcı olan, İyonya-Karia
kavracı denilen bir tipte, küçük bir kurtağzı yuvası yanında
ondan daha büyük, yanları eğimsiz, kare bir yuva daha
vardır. Kare yuvaya oturan ahşap takoz, kurtağzı yuvasındaki
metal parçaların (anahtar) kayarak yerinden çıkmamalarını
sağlar. Karia tipi kavraçlar, tapınakta ayakta kalan iki sütunun taşıdığı başlıklar dışında, bütün diğer İyonik başlıklarda
kullanılmıştır. İlk örneklerini m.ö. dördüncü yüzyılda Karia
bölgesinde gördüğümüz bu özel kavraçların kullanımı m.ö.
ikinci yüzyıl sonlarında azaldığı için, tapınak başlıklarının
orijinal Hellenistik yapıya ait olduğunu veya cella içinde ya
da pronaos’daki in antis sütunlarında kullanıldığını söyleyebiliriz. Ayakta kalan iki Roma devri sütununun taşıdığı
başlıklarda ise, sadece Roma devrinde rastladığımız normal
kurtağzı yuvaları görüyoruz.
Tapınakta, mermer blokları yatay olarak bağlamak
için en yaygın olarak iki tip kenet kullanılmıştır: U-tipi
kenetlerde demir kenet lamasının iki ucu kanca gibi aşağıya
kıvrılmış ve yuvaya oturmuştur. İkinci tip olan ve genellikle daha büyük olan “kırlangıç yuvası” kenetlerde kanca
bulunmamakta, kenet (bazen ahşap olabiliyor) yuvasına
düz olarak oturmaktadır. U-tipi kenetler Hellenistik
yapının temel seviyesinde veya temel üstü pozisyonlarında
kullanılmıştır; ancak, istisna olarak, cella içindeki sütunların
temel altı seviyesinde de (mermer döşeme seviyesinin
altında) kullanıldıklarını görüyoruz. Roma devri temel
altı kullanımında kırlangıç kuyruğu kenetleri, temel
üstündeyse, normal U-kenetleri tercih edilmiştir. Tapınağın
Roma evresinde en çok kullanılan zıvana tipi, küçük kare
yuvaya oturan demir veya bronz kare zıvana pimi ve zıvana
yuvasına bağlanan bir, bazen iki kurşun kanallı olandır.
Bazı Hellenistik ve Roma devirleri uygulamalarında, kare
yuvanın içine dikkatle yerleştirilmiş ve boyutları zıvanası ile

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milimetrik uyum içinde olan, bronz zarflı bir tip de görülmektedir; zıvana bu bronz zarfa, kurşun olmadan, sıkı bir
şekilde oturur. Sadece Hellenistik yapıda görülen başka bir
zıvana tipi de ana duvarlarda ve bütün temellerde kullanılan
“köşe zıvanası” veya “bir tarafı açık zıvana”dır. Bu tipte,
alt blok zıvana yuvası, “bir tarafı açık” üst blok yuvası ile
birleştirilir; zıvana pimi yerleşip, açık yandan kurşun döküldükten sonra, üst bloğun hemen yanındaki blok itilerek veya
küsküler yardımıyla kanırtılarak sıkıca yerleştirilir ve böylece yan veya köşe zıvanası tamamen kapanmış olur. Hellenistik sütun tamburlarının dikey bağlantıları, tamburun
ortasına oyulmuş küçük yuvarlak bir yuvaya (yaklaşık 3–5
cm çapında) oturan yuvarlak bir metal pimden oluşur. Roma
sütunlarının tamburlarında kullanılan dikey bağlantılar
tamburun merkezine simetrik olarak yerleştirilmiş bir çift
küçük kare zıvana ile gerçekleştirilmiştir.
Her ne kadar kullanılan yapı sistemlerinde zaman
içinde büyük farklılıklar ve yerine göre taşçı ustalarının
inisiyatifiyle, yaratıcı değişim görülse de genelde ve bazı
detaylarda görülen benzerlik, devamlılık ve tutarlılıklar,
bunları Hellenistik veya Roma devrine tarihlendirmemize
imkan verir. Hellenistik yapı evresi (cella’nın ana duvarları,
pronaos’un in antis sütunlarının blok temelleri—sadece
batıda kalmıştır) genellikle daha büyük, düzgün ve birbirlerine çok yakın olarak, kenet gerekmeden birleştirilmiş
bloklardan oluşur. Yapı detayları (yuvalar, kesmeler, kanallar, vs.) daha az kullanılmıştır. Örneğin, sadece sütun
başlıklarında kullanılan Karia tipi kurtağzı kavraçlar dışında,
hiçbir kaldırma gereci kullanılmamıştır. Temel altı yapıda
hiç kenet yoktur; temel üstündeki bloklar tipik olarak bir
sıra U-kenetle birleştirilmiştir. Roma devri yapısında ise,
cella’yı bölen duvarlar daha küçük ve daha dikkatsiz işlenmiş
bloklardan yapılmıştır; duvar ortaları daha küçük taşlarla
kaba olarak doldurulmuştur. Kurtağzı kavraçlar, U- veya
kırlangıç kuyruğu kenetler, kurşun akıtma kanallı küçük
kare zıvanalar, devamlı ve çok sayıda kullanılmıştır. Peristasis sütunlarının münferit temelleri 2.0–2.20 m derinliğe
inen, çok büyük, kaba bloklardan oluşur. Bu münferit blok
temelleri—kuşkusuz depreme karşı bir önlem olarak—her
zaman iki, üç, bazen de dört tarafı “harçlı moloz” (“Malta harcı” veya bir nevi yerel opus caementicium) duvarlarla
örülmüş ve kapatılmıştır.
Hellenistik cella’nın, mermer kiremitli çatısıyla, m.ö.
üçüncü asrın üçüncü çeyreğinde (m.ö. 250–220) bitirildiğini
ve kullanıma hazır olduğunu sanıyoruz. Fakat, mermer
duvarların profil ve pervazları, blokların derz detayları ve
geniş mermer duvar yüzeylerinin perdahlaması gibi işlerin
daha bitmemiş olduğunu düşünebiliriz. Aslında bu tip
ince mermer isçiliğinin bir kısmı hiçbir zaman tam olarak
bitirilememiştir. Bu yarım kalmışlığı, Roma devri yapılarında
da örneğin doğu peristili’nin yivleri yapılmamış, kaba
yüzeyli sütunlarında ve Anadolu-İyonik sütun kaidelerinin
yarım bırakılmış bezemelerinde de görüyoruz. Mermer
isçiliğinin bu bitirilmemiş aşamaları, bizim Antik çağ taşçı
ustalarının çalışma yöntemlerini ve dekoratif işlerdeki


BİNA YAPIM TARIHI
VE KRONOLOJİSİ

Üçüncü bölümden, tapının doğu peristili’nin sütun kaidelerinde görüldüğü zarif torus profilleri ve değişik bezemeler önümüzde göz alcanır bir şölen sergiler: düz, bezemesiz torus lar; yatay ve dikey define yapıkları; guilloche (sepet örtüsü) desenler; meye yapıkları, ve bu meç yapıkları arasında gizlenmiş, oyna yan, koşan ve bilden akranın kıcık yaratları—kerten keleler, semenderler, örümcekler ve akrepler bu sütünün birer parçasıdır.

bir kısmını bulduğumuz devasa heykellerle, cella’yi oldukça kalabalık bir hale getirmiştir. Her ne kadar bu nedenle devasa başlar arasında Hadrianus ve Sabina tanımlanamadığı da, büyük bir kadın baş parçasını, idealize edilmiş Sabina olduğuna kuvvetle inanmaktadır.

**MİMARİ ANALİZ VE KARŞILAŞTIRMALAR**

Son bölümde, tapınak mimarisi incelenerek, tapınanın srasındaki bir pseudodipteros olduğu öne sürülmek ve bu değişik tasarım kaynakları açıklanmaya çalışmaktadır. Tasarımın, bersiz ve deneysimi yonellerini vurgulayarak, uzakta kalmış olsa da, Anadolu mimari Hermogenes’i yaratın akıcısı, mimari ve kültürel miras ile bağlar kurulmaktadır.


Klasik mimarlık kalıpları içinde, Sardes Artemis Tapınğını, deneyisel ve eklektik bir yapı olarak tanımlayabiliriz. Tapınak, Anadolu’daki popüler olan bir pseudodipteros geleneğinin “sonucusu” değil, o geleneğin yeniden yapılanması ve yaratılmasıdır. Kutusal Tmollos’ların büyüleyici coğrafyasında, “bin tanrının ülkesinde” konuşlanan güzel tapınakın ne bir benzeri, ne de bariz bir takipçisi vardır.
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- Columns in place
- Foundations that had columns
- Roman crosswalls
- Columns and foundations later removed
- Unfinished foundations that could not support column
- Foundations and columns never put in place

Legend:

Columns in place
Foundations that could support columns
Roman crosswalls
Columns and foundations later removed
Unfinished foundations that could not support column
Foundations and columns never put in place
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Chapter 1

INTRODUCTION

The Temple of Artemis at Sardis is the fourth-largest Ionic temple of the classical world and one of the most impressive in its natural setting (Fig. 1.1). It is situated outside the city in an extramural sanctuary on the western slope of the Acropolis, below the mass of the Tmolos Mountains, in a broad valley opening onto the Pactolus riverbed and beyond, toward the Hermus River plain to the north and northwest (Plan 1).

It is widely believed that construction of the colossal temple started soon after the Seleucid occupation of western Asia Minor began in the early third century B.C. The temple was functional at least by ca. 250–240 B.C., but it was not completed beyond the marble cella. The next major building activity commenced during the Roman Imperial period, probably around the time of Hadrian in the mid-second century A.D.; work on the peripteral colonnades continued over a long period of time, but it was never finished. It was during this Roman phase that the cella was divided into two chambers in order to incorporate the imperial cult. Although this preeminent religious center of Sardis was rooted in the worship of Artemis, the sanctuary, which long predated the temple, was the repository of many ancestral cults, overlapping protean beliefs, and sacred traditions throughout its pagan life (Plan 2).

Like the other two Artemis of Asia Minor—the great Archaic/Hellenistic temple at Ephesus and the Temple of Artemis Leucophryene at Magnesia on the Meander—the principal facade of the Sardis temple faced west (Plan 6). Although extensive investigations revealed no earlier temple on the site, the area was sacred to Artemis (and probably to Cybele/Kybebe, too) from its earliest days, as attested by a Lydian altar (LA 1) datable on ceramic evidence to no earlier than the late sixth, but possibly the late fifth or even the early fourth century B.C. (Fig. 1.2). Yet this structure, located at the west end of the temple, was replaced by a much larger Hellenistic altar (LA 2), to which the temple might have been intended to be physically connected (Plan 3; see below).

The temple is relatively well preserved in its overall structure (Figs. 1.3–1.4; Pls. vii–viii). Of particular significance are the clear construction details and masons’ marks that illuminate the building process and changing construction characteristics over time. The unfinished details alongside the finished ones are particularly useful in illustrating the stages of construction. Although not entirely consistent, the recording and study of these details not only benefit the study of this temple but also offer a laboratory for the study of Greek and Roman architecture in general. Yet certain portions—such as the west end, the north and south peristyle colonnades, and the roof structure—were entirely gone, were altered, or were never finished. There is a single, intact architrave and two fragmentary ones, but none of the frieze, cornice, or the hypothetical pediment. Finely made roof tiles in marble of both flat and imbrex cover types found in large quantities indicate that the building was wholly or partially covered by a fine roof, whose valuable tiles were undoubtedly repaired and replaced many times.

1 It is hard to date LA 1 based on architectural evidence; ceramic evidence gives only a terminus post quem. See Sardis R5, pp. 123–25.
times (see Figs. 1.14, 1.15). These repairs and renovations, some more substantial and involving partial overhauling of the wooden roof and marble roof tiles, must have been occasioned by the earthquake of A.D. 17, which caused extensive damage at Sardis and throughout the rest of western Asia Minor (see pp. 229–231).

Changes and renovations over the course of the building’s long history make an understanding of the original design and its successive renovations very difficult. Even in its last phase of construction, the Sardis Artemision, like the near-contemporary Temple of Apollo at Didyma, was largely an unfinished building but a functioning temple—an impressive marble cela with a concentration of peripteral columns at its east end, some on the west, and a few at a stretch along

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\[Sardis\ II.1,\ p. 52.\] Flat tiles measure 85.6 × 72 × 4–5 cm, with upturned projections on both sides; cover tiles are 85.6 cm long and 20 cm wide. For a reconstruction of their precise fit, see Sardis II.1, atlas, pl. v. A group of these tiles from the Butler excavation has been reconstructed and is on display in the Metropolitan Museum of Art, New York (Fig. 1.14).
the long sides. Furthermore, it appears that the architecture of the Temple of Artemis of Sardis, commonly thought of as a pseudodipteros, was highly unorthodox compared to the typical late Hellenistic and Roman pseudodipteroi of Asia Minor, such as the Temple of Apollo Smintheus in Chryse-Gülpınar and the Temple of Augustus and Roma in Ankara. It is therefore hard to place in traditional categories of Greek temple design.

We do not know the name(s) of an architect or engineer behind this unusual Roman pseudodipteros. However, one “Dionysius, an architect from vine-rich Tmolos,” who was active in the mid-second century A.D., is known from the epigraphic record; he was admired for his technical skills and honored in Patara with a statue (see Fig. 4.19).3 The possibility of linking a name to our temple is exciting, though not provable, and lingers in the mind (see pp. 246–247).

CIG 4286 = Tituli Asiae Minoris 2.417; Kaibel, Epigr. Gr. 412. See p. 246, note 61 below.
ARCHEOLOGICAL INVESTIGATIONS AT THE TEMPLE

The earliest attempt to excavate the building was made by Robert “Palmyra” Wood, who visited the site in 1750 and uncovered column 16 in front of the northeast anta pier, which was then standing. In 1850, George Dennis, the British Consul in Smyrna (Izmir), made several trenches in the cela and discovered a colossal marble head, which has been identified as Faustina the Elder, wife of the emperor Antoninus Pius (r. A.D. 138–61), and is now in the British Museum (see pp. 193–199). In 1904, Gustave Mendel, representing the Ottoman Imperial Museum in Istanbul, dug two trenches, one down to the bases between the east front columns 5 and 6, and another on the south side of column 1, but he could not continue due to lack of funds.4

Proper, systematic archaeological excavations in the temple were undertaken from 1910 to 1914 by Howard Crosby Butler, a professor of architecture at Princeton University and director of the first Sardis expedition, which was funded by a private group of supporters called the American Society for the Excavation of Sardis. The results were published in 1922 and 1925 in the first two volumes of a planned series of publications by the Society (Sardis I.1, Sardis II.1, and a supplemental atlas of plates). Excavations at the temple started on March 29, 1910, and were essentially completed by the end of 1914; further work had been planned, but it was not realized due to the start of the Greco-Turkish War.5

George M. A. Hanfmann resumed the excavations at Sardis in 1958 under the aegis of the Harvard-Cornell Archaeological Exploration of Sardis. Between 1960 and 1970, Hanfmann undertook a partial study of the temple and its precinct, and some ten trenches were opened.6 Further small-scale excavations and sondages in the temple between 2002 and 2012 helped to clarify aspects of the building’s history and design; these were supervised by Nicholas D. Cahill, the director of the Sardis Expedition since 2008, and the author.7 Between 2010 and 2012, LA 1 and LA 2 were consolidated and restored to the condition in which they were first excavated, thanks to a grant from the J. M. Kaplan Fund. In 2014–2018, another project removed the damaging black biofilm from the entire temple, again funded by a grant from the J. M. Kaplan Fund. This returned the marble blocks of the temple to their original color and texture, and additionally revealed many details which had been obscured by the lichen and cyanobacteria.

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4 Mendel 1905.1, Mendel 1905.2. Dennis published no account of his disorderly excavations in the temple (see below).
5 With the exception of a partial season in 1922, during the Greco-Turkish War in western Anatolia, the American Society for the Excavation of Sardis never returned to the site and had been quietly dissolved by the end of the 1920s. The disagreement between this group and the Turkish Department of Antiquities of the Ministry of Education upon the removal of fifty-eight crates of antiquities under war conditions to the Metropolitan Museum of Art, New York, was the main cause of the dissolution. After long and careful negotiations, most of this material was amicably returned to Turkey; some objects, such as the superb capital from the temple (capital C), which has become a much-loved, iconic holding of the Met, were offered by Turkish authorities to the museum as a gift in memory of Howard Crosby Butler (but were not a gift to the museum by the American Society for the Excavation of Sardis, as the current label of the museum declares). See Yegül 2010b; Yegül 2013; Collins 1923, esp. p. 85.
6 Sardis R1, pp. 53–117, 153–56, esp. fig. 170; Yegül 2010c; Yegül 2012.
7 Cahill and Greenewalt 2016.
The majority of the photos in this book show the elements of the building after treatment, with the stones restored to their cream color. Outside the work of the Harvard-Cornell Expedition, the Temple of Artemis has been the subject of several scholarly studies, notably by Gottfried Gruben in 1961 and more recently by Wolfram Hoepfner and Thomas Howe (see p. 158).  

In 1987, the author began a comprehensive investigation of the temple under the directorship of Crawford H. Greenewalt, jr. (1937–2012), which continued under Cahill. Among the primary goals of this project was the complete architectural documentation of the building and its construction details (plan, sections, and elevations at 1:20 scale; and details at 1:10 and 1:5 scales), and partial or full reconstruction studies aided by aerial photography and digital technology. The close observation and recording of the building has resulted in new information to illuminate the complex and occasionally controversial construction history and architecture of the temple, confirming some existing theories, but in general, it has revealed a picture in certain ways different than previous hypotheses.

The following is a condensed account of some of the recent investigations undertaken at altars LA 1 and LA 2 in 2006 and 2007, following Cahill’s interpretation of the archaeological evidence (Pls. i, viii, xi). Past investigations, as well as our more focused work, especially in the north pteroma trench of 2010 (see below), did not produce any evidence for an earlier temple, but they did establish that the precinct was occupied at least as early as the late Lydian period (sixth century B.C.; Figs. 1.2, 1.12, 2.76, 3.31; Plan 6; Pls.viii, xi).

Striving to take advantage of available contemporary technologies in the recording and partial reconstruction of the temple, we are currently engaged in digital scanning and using UAVs (drones) to create a mosaic of orthorectified aerial images to produce aerial views and reconstructions. This work will continue throughout and long after the publication of this study.

LA 1 and LA 2

The aim of the north pteroma trench was to explore the setting and earlier levels of the temple and its subsequent Hellenistic and Roman phases; it extended from the Hellenistic cella wall to the Roman peristyle between foundation blocks 17 and 19. Two Hellenistic coins—a Seleucid (?) issue and one of Lysimachus—corroborated the early third-century B.C. construction of the cella without providing a closer date. A thin occupational level below the Hellenistic foundation trench yielded Lydian pottery of the seventh and sixth centuries B.C., but the latest datable material was of the fourth century B.C. (“that must have been washed down from the acropolis over time” [Cahill and Greenewalt 2016, p. 478]). Below this was a layer (nearly five meters deep) of water-laden sand and gravel over the hard clay bedrock that must have also come down from the Acropolis. This is the same kind of natural deposit encountered in 1972 in the deep trench inside the cella. These composite layers contain pot...
The precinct of Artemis must have assumed its specific religious character as a sanctuary by the sixth century B.C. and continued through the fifth, as attested by the Lydian Altar (and the purple sandstone “basis,” as it was called in earlier publications, inside the cella; see Fig. 1.6 and below). The altar (LA 1, fifth or fourth century B.C.) is a square, stepped structure of tufa/poros (at euthynteria level ca. 8.82 × 8.14 m; at top level 6.80 × 6.10 m; top as preserved ca. *98.30). The orientation of LA 1 is virtually the same as the temple, its mid axis deviating only six centimeters south of the temple axis.

Later, perhaps in connection with the construction of the Hellenistic cella, LA 1 was encased within a larger rectangular structure (designated LA 2) and like the earlier altar, approximately aligned with the temple axis. It is built of purple sandstone and limestone blocks, some of them reused, and measures 10.74 × 21.22 m. LA 2 appears to have been repaired many times during the Roman period, probably explaining the mortared rubble patches and the thick stucco coating of its walls. It was approached from the west by a monumental, marble-clad flight of stairs facing the Acropolis, 14.50 m wide (top at *98.30, ca. 1.70 m below the level of the pronaos and pteroma; Figs. 1.2, 1.12; Plans 2, 3). The foundation of a table-like structure in front of the stairs with iron rings, perhaps for tying sacrificial animals, strengthens the identification of LA 1 and LA 2 as altars.

Erosional deposits of sand and gravel into which the lower courses of these altars were set appear to be the same kind found under the temple that washed down from the Acropolis. Cahill describes two important conclusions from the earlier and recent investigations at the altars:

First, at least the lower two or three courses of LA 1 (and probably the whole structure as preserved) were probably foundation courses always intended to be below ground. . . . This would explain the very coarse

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14 Ratté, Sardis R5, appendix 3.

15 We do not know the exact construction date of this second altar, which has been judged loosely to be coeval with the Hellenistic temple. Stratigraphic records preclude a date earlier than the fourth century B.C. and favor, imprecisely, a time “before the advanced Hellenistic period.” Sardis R1, pp. 95–103.

16 Cahill and Greenewalt 2016, p. 490.
stone(work) . . . the irregular shape of the structure . . . and the lack of any evidence for a marble facing or plaster. . . . Second, the ground level [which had been naturally raised by erosional deposits] must have been artificially lowered about 1 m when LA 2 was built . . . leaving an “island” of this alluvial deposit.17

A full, detailed, and systematic archaeological description of the physical remains of the temple is the subject of Chapter 2. However, a summary description of the building and the measurements of its main parts are provided below for easy reference, followed by a short review of the history of the temple and its afterlife.

A SUMMARY DESCRIPTION OF THE BUILDING AND ITS HISTORY

The Temple of Artemis, as preserved, is a pseudodipteros with eight columns at the ends and twenty along the sides. The western pronaos and the original opisthodomos (facing east) display prostyle porches with four columns in front and two in the returns (Figs. 1.8, 1.9, 1.12; Plans 6, 7). Consequently, the side pteromas, as uninterrupted ambulatories, do not wrap around the ends uniformly, as is normal in pseudodipteral temples.18 The sides are the usual two, but the ends are (technically) three interaxial distances wide.

The columnar spacing of the flanks, uniform at 4.99 m, is considerably narrower than that of the east- and west-end colonnades, where interaxial spacing increases progressively from 5.31 (5.32) m at the corners to 5.45 (5.46) m, 6.64 (6.66) m, and 7.06 m at the center—a total axis-to-axis distance of 41.88 (41.91) m (Fig. 1.10, Plans 4, 5).19 The columns of the Roman peristyle are 17.87 m high, including their bases and capitals, the height probably determined by that of the existing cella. Column sizes vary according to their positions, but the average bottom diameters are ca. 1.96–2.0 m. The overall dimensions of the peristyle are 44.58 (44.61) × 97.60 (97.62) m, or roughly 151 × 330 Roman feet (adopting a Roman foot of ca. 0.295–0.296 m). The cella, measured from anta pier to anta pier, is exceptionally elongated at 23.0 × 67.51 m, a ratio of 1:2.9, which is an Archaic characteristic. The original cella interior (before it was divided by the later Roman wall) was 18.36 (18.40 at top) × 39.60 m; the divided east cella interior is 25.16 m long; the west cella is ca. 26.74 m long.20 The walls are 2.13 m thick at the bottom and 1.93–1.94 m thick at the orthostat level. With these impressive statistics, the Sardis temple is not only the fourth-largest Ionic temple but arguably the largest pseudodipteros of the classical world.21

19 Here and elsewhere in this volume, different but close figures given for a measurement (e.g., second figure given in parenthesis) denote slight variations that exist between two points due to original imprecision or to erosion of the physical fabric. Reconstructed values are specially noted.
20 The interior walls are recessed by 2 cm above the orthostat level, hence interior width measurements taken at the top are ca. 4 cm larger.
21 There are several very large pseudodipteral or nearly pseudodipt-
The base for the cult image, now preserved in sandstone foundation blocks, was placed centrally inside the cela (roughly 6.0 × 6.0 m and ca. 16.20 m from the Hellenistic west door; see Figs. 1.11, 2.79, 3.5; Pls. ix, xii). Cahill's lateral temples that could challenge Sardis’s claim as the largest pseudo-dipteral temple in the world. The earliest of these is the gigantic, Archaic–Classical unfinished Temple GT (of Apollo?) at Selinunte, Sicily (overall ca. 110 × 50 m; 17 × 8 columns). The Selinunte temple, properly evaluated, is however a "proto-pseudodipteros," or a peripteros with very wide ambulatories (ca. 11 m). With its heavy Doric columns, ca. 14.45 m high (i.e., ca. 3.45 m shorter than the Ionic order of Sardis), in three-dimensional volume it is not much bigger than the Sardis temple. The Temple of Jupiter-Baal at Baalbek, a massive Corinthian pseudodipteros, is actually smaller than the Sardis temple in its overall dimensions (88 × 48 m), the length of its cela walls (58.5 m vs. 67.52 m at Sardis), and the width of its pteroma (6.20 m vs. 8 m at Sardis); but with columns 19.90 m high, it is taller. The Temple of Bel at Palmyra, another large pseudodipteros of locally inspired plan, at 55 × 30 m and with Corinthian columns 15.81 m high, is much smaller. The Temple of Venus and Roma in Rome, at 111 × 54 m, is significantly larger than our temple; once thought to be a pseudodipteros, it has been shown firmly to be a proper dipteros (see p. 253, note 87). Also in Rome, and also Hadrianic in date, is the Temple of Serapis on the Quirinal Hill. Its plan is known only from the drawings of Renaissance architects, but it has an idiosyncratic, Italic-influenced plan with double-aisle-wide sides terminating against the high wall of the temenos, no columns at the back (sine postico), but backed by a massive stair structure. Its broad twelve-column front, high podium, and columns ca. 20 m high elicit awe and respect, but its truncated peristyle (70 m in length) is 23.60 m shorter than the Sardis temple. Another Hadrianic behemoth in Asia Minor, the Temple of Zeus (and Hadrian) in Cyzicus, is reconstructed at 92 × 47 m; the distance between the centers of the end columns and the cela end walls (west or east) is ca. 6.30 m. The reconstructed axial distance between the columns inside the west pronaos porch (columns 77–78 and 79–80) is ca. 4.85–4.87 m (the same distance to the inner faces of the anta piers, which project inward by ca. 0.20 m, and is then only ca. 4.60–4.65 m). The center-to-center distance (north–south) between these interior column rows of the cela is 9.30–9.40 m, which gives a clear span of about 6.70 m, probably roofed by a wooden truss though double solid-section beams which could have done the job. The distance between their centers and side walls (aisles) is ca. 4.50 m. The center-to-center spacing between columns (east–west) is uniformly 5.40 m; the distance between the centers of the end columns and the cela end walls (west or east) is ca. 6.30 m. The reconstructed axial distance between the columns inside the west pronaos porch (columns 77–78 and 79–80) is ca. 4.50 m; the same distance is interpolated and reconstructed for the two hypothetical in antis columns of the east end. The distance from their centers to the face of the anta walls is ca. 4.85–4.87 m (the same distance to the inner faces of the anta piers, which project inward by ca. 0.20 m, and is then only ca. 4.60–4.65 m).

The cela floor, originally paved in marble blocks, was ca. 1.60–1.70 m higher than the surrounding ambulatories and porches. The middle part of the floor between the rows of columns was 0.16 m lower than the sides. The original front pronaos (west) between the antae is ca. 17.98–18.0 m wide.

\footnote{The figures for the cela interior columns and the in antis columns of the west pronaos are based on their foundations and the markings of the column base plinth on foundations, as preserved.}
Figure 1.12. Temple of Artemis, orthophotograph. Labels above the temple (italicized) refer to architectural components of the Hellenistic design; labels below refer to those of the Roman design.
(north–south) by 17.70 m deep (east–west); the opisthodomos (east) is 18.0 m (north–south; measured inside the anta walls, it is 17.60 m, between the anta piers, which project in by ca. 0.20 m) by 6.01 m (east–west). The east pronaos porch (Roman era), defined by six columns, occupies an area of 23.01 m (north–south) by 21.05 m (east–west), creating very large spans of ca. 18.50 m (north–south) and 18.85 m (east–west). The side ambulatories, or pteromas, measured from wall to column base plinth, are 8.23 m wide (ca. 10.87 m, including the colonnade); the ends, measured east–west from anta to plinth base of exterior columns, are 12.40 m (15.05 m, including the colonnade or measured to the exterior of the plinth). Careful measurements made at foundation and plinth levels reveal a distinct curvature of the north, south, and east walls of the cella, although the full extent and consistency of these curvatures have been compromised by the settling of the foundations (Fig. 1.13; see pp. 55–57).

The original Hellenistic structure was limited to the all-marble cella covered by marble roof tiles (Figs. 1.14, 1.15); none of the columns of the peripteros were raised. In the Roman Imperial era, probably during the late Hadrianic or early Antonine period, the cella was divided into two equal chambers by the construction of a 0.90 m–thick wall to accommodate the imperial cult in one (east cella) and the goddess in the other (west cella). A new door, 6.08 m wide, was cut in the blank east wall that separated the cella from the opisthodomos, and stairs were built to provide access to the cella, whose floor was ca. 1.60–1.70 m higher than the floor of the porches (see Fig. 1.8; Plan 6; Pls. X, XIII, XX).

During this period, major construction was undertaken to lay out some of the columns and column foundations of the peristyle colonnade. It appears that only the well-preserved columns of the east end, the east pronaos porch, and some or all of the columns of the west pronaos porch were completed. Only a few of the base foundations of the north and south flanks of the peristyle might have received columns, which are now gone, although the rough foundations of most of the columns were put in place. This represents the completion of 15 or 16 columns out of a total of 64 required by the pseudodipteral plan. Of the six columns of the west porch, the three columns of the southern half are preserved up to their finished upper foundation courses (columns 49, 53, and 54), so they could have supported columns above; columns 54 and 48 retain their base plinths.

The northwest corner column (57) is entirely missing—perhaps never built, or demolished and removed in later times. If this column was never built, the west front of the temple, nominally its principal facade, could not have had a proper facade during its Roman phase, even one without a pediment (unless the pediment was only over the cella, leaving the porch columns free-standing). However, these and the large numbers of fluted column drums found in this area suggest that the west pronaos porch had been, like its eastern counterpart, at least partially completed following the same design of the east pronaos porch.

With the exception of the southwest corner column (64), none of the exterior columns of the west peristyle were laid in, even as foundations. In contrast, the spectacular row of eight columns of the east peristyle (columns 1–8, of which columns 6 and 7 are preserved intact at 17.87 m)
and seven more (six columns of the pronaos porch, 10, 11, 12, 13, 16, 17; and column 18 of the south peristyle) are preserved at different heights (see Figs. 1.7, 1.11, 1.16, 2.203). Celebrated in romantic images for centuries, these columns acted as beacons to early travelers and scholars and firmly mark the position of the temple and the city.

THE LIFE AND AFTERLIFE OF THE TEMPLE

It is believed that the construction of the temple started around 281 B.C., within a century after the death of Alexander the Great, and achieved no more than the marble cella with its east- and west-end columns in antis until the early to mid second century A.D., when major construction in the temple recommenced and followed a pseudodipteral arrangement. Starting with its unbuilt peribolos, and the east and west prostyle porches, two nearly equal chambers were created by dividing the Hellenistic cella and the eastern part of the west pronaos to accommodate the imperial cult in the east one and the venerable goddess in the west (Fig. 1.12; Plans 6, 7; Pls. 1, 11). The gigantic structure was still unfinished at the end of the fourth century A.D. Yet, the continuing process and progress, though slow and messy, must have served as visual confirmation of the continued life of the temple and the community’s devotion to its principal religious icon. The ultimate (but unrealistic) goal of finishing a project of this size and complexity was mitigated by the visible and movable goal of continuing its progress, ever closer.

The cult of Artemis at Sardis appears to have its Archaic origins in Ephesus (see pp. 205–206). In ca. 360 B.C., Croesus famously dedicated several columns in the Temple of Artemis of Ephesus, distinguished by their sculpted reliefs on tall, cylindrical pedestals. There are numerous references to the Ephesian Artemis at Sardis in Lydian inscriptions (Gusmani 1980, nos. 2, 23–24, 54). There is even mention of a golden figure of Artemis brought to Sardis from Ephesus for a least celebration, although this appears to be a reference to an unknown Artemis sanctuary on the Gygean Lake (Lake Coloe). More specific is a late fourth-century B.C. inscription from Ephesus (inv. no. 1631, the “Sacrilege Inscription”) which records the death penalty for forty or more Sardians for attacking a sacred embassy (“sacred objects they profaned and sacred messengers they assaulted”) which was in procession according to ancestral custom (κατὰ τὸν νόμον τὸν πάτριον) from the Artemision of Ephesus to that of Sardis, which “was founded by the Ephesians.” Whether this means that the temple at Sardis was a “branch of the Ephesian cult . . . (of the) ‘Mother Church’ of Artemis Ephesia,” as Hanfmann claimed, should be viewed with caution, although connections between the two Artemisia, at least in their earlier stages, are certain. As E. Dusinberre commented, “we see the export of a cult” from one site to another, though Artemis at Ephesus and Artemis at Sardis unquestionably represented different aspects of the same goddess and different modes of worship. The question might be asked, then, if these forty-odd transgressing Sardians, coming from very different ethnic and socioeconomic backgrounds, were simply close-minded religious conservatives who were jealous of the presence of a “foreign” cult in their Artemis sanctuary and represented a sentiment of broad intolerance, continuing and extending the life of the temple and the city.
which Saint Paul, who was chased out of the theater while preaching Christianity there, must have known about. The Sardian cult of Artemis was certainly the primary religious belief at the sanctuary, lasting through the period when the great temple was shared by the Roman imperial cult upon the awarding of the city its second neokorate in the second century A.D. However, the sanctuary continued to be a sacred ground that welcomed a variety of ancestral beliefs, though none was more important than the overlapping cults of the goddesses Cybele/Kybebe and Artemis with their subtly protean, inclusive, and changing identities. I propose a revision of the view that privileges the sole presence of Artemis in the temple and sanctuary and hope to introduce a more inclusive understanding of the syncretic relationship between Artemis and Cybele, as supported by wide-ranging contextual evidence from Sardis and Asia Minor (for fuller discussion, see pp. 207–212).

For centuries, between the completion of the Hellenistic cella sometime in the early third century B.C. and the major Roman rebuilding in the second century A.D., Artemis’s temple existed as a precious marble box lightly raised on a podium; there was no peripteral colonnade, and possibly no paved pteroma. Yet it might seem contrary to our contemporary sensibilities that the marble box of the cella was perceived to be sufficiently “complete” to make it a proper templum. The continuing work (however intermittent) underscored the community’s piety. But, most importantly, the power of a Greek temple, even an unfinished one, resided in the grandeur and sanctity of its setting, the irreducible quality of the land it was a part of. The power of this geography, its timeless, hallowed nature, is one of the most notable aspects of the Temple of Artemis of Sardis, one that invests modern visitors to the site with a sense of awe. The Sardian landscape, with its craggy mountains, corrugated heights, and crumbling vales, evokes distant memories of Kybebe, and of Artemis, daughter of Zeus, Lady of Wild Things and “the goddess of the pointed hills.”

Construction must have slowed down through the third century A.D. and been reduced to the addition of a column foundation or two along the long peristyles while pagan worship continued. Although the pseudodipteral scheme adapted by the Roman builders represents a creative interpretation of this system, the overall design (including the peripteral column height at 17.87 m) was based on recognition of the original Hellenistic building. The appeal and function of Artemis’s cult and temple must have diminished and ceased over the course of the fourth century A.D., though the history of anti-pagan policies of the late Roman emperors, with periods of severity followed by tolerance, is too complex to relate here. Some of the temples were closed and pagan images plundered late in Constantine’s reign, while others enjoyed some measure of acceptance; intolerance and destruction continued with greater force...
ness under his son Constantius. Anti-pagan policies and sentiments gained greater momentum and universality under Theodosius I with the Theodosian Decree of A.D. 391. Given this variable history of acceptance and rejection, it is logical to expect that some ad hoc form of pagan worship might have continued at the temple over the course of the fourth century; perhaps even the imperial images were tolerated, if not worshipped as divine objects.

Dated by numismatic evidence to ca. A.D. 400, a small church (Church M) was built on the southeast corner of the temple. By that time, the imperial cult altar, which we hypothetically place somewhere at the new east front of the temple, would have been dismantled (see pp. 216–217). The main door of the church opened directly into the south pteroma of the temple between columns 7 and 8, its marble threshold at 1.01–3.0, ca. 1.30 m above the pteroma level. At a distance of 25–26 m from the temple’s east front, a pair of small, monolithic limestone columns (ca. 2.60–2.70 m high) standing on simple bases might have served as a kind of entryway (Figs. 1.3, 1.4, 1.12; Plan 2). Judging by the many Christian crosses carved upon the interior walls of the south anta and on the thick marble jambs of the east door, it is likely that the whole east porch of the temple might have also functioned as a kind of “atrium” for Church M (Figs. 2.41, 2.42).

Beyond this it is hard to document accurately the topography around the temple and the burial of the building by successive floods and landslides of gravel and silt down from the Acropolis, many of these probably associated with major events like the earthquakes of the early seventh century A.D. Several geologists who have studied the topography around and under the temple agree that much of the east end was covered by the ninth century, which must have also marked the end of Church M. Butler remarked that by the end of the sixth century “soil had risen from 30 to 40 centimeters at the northeast angle and all along the north side of the temple,” and by this time extensive destruction of the temple had begun. Beside the broken blocks of the cela wall “lay some chisel-like tools of iron . . . and under a large block . . . was a sack of 216 coins dating between the years 569 and 614.” The temple was being used to a large extent as a quarry for good stone, with looters even digging out the foundations of columns not encased in rubble, although mortared rubble deposits were also coveted as cas-

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13 Theodosian Code 16.10.3; 9.17.2.
16 The foundations of the new church were laid in this deposit of earth, ca. 1.20–1.40 m in depth, which must have accumulated over the course of the fifth century A.D. Sardis I.1, p. 76, ill. 63.
17 Sardis R1, pp. 54–55.
18 Sardis II.1, pp. 10–13, esp. 12–13.
19 The main repository of material from the American Society for the Excavation of Sardis is the Princeton University Department of Art and Archaeology Archaeological Archives: https://research photographs.princeton.edu/sardis/. The collection contains a full set of Sardis field photographs, letters, memos, and reports, correspondence with the members of the American Society for the Excavation of Sardis, other correspondence between excavation members, and some press clippings and magazine articles about Sardis. Very little of this material comes directly from the field (no excavation logs, measurements, or survey data, etc., though a single fieldbook did survive). These presumably were kept at the excavation house in Sardis and destroyed along with the other records (and some antiquities) during the Greco-Turkish War. Archival material on Butler and other expedition members can be also found in the Princeton University Firestone Library Rare Books and Manuscripts Collection (“HCB Correspondence”) and the Seeley G. Mudd Manuscript Library of Princeton University. Similar material relating to Butler’s and other Expedition members’ correspondence (none archaeological, and some not relating to Sardis at all) can be found in various university collections and archives.
20 An interesting study of salvage in antiquity supports the economic viability of orderly demolition and reuse, suggesting that the “cost of second-hand ashlar blocks could be roughly 85% lower than the cost of newly produced blocks;” see Barker 2010. However, Barker’s study is focused on the city of Rome; the demand for second-hand building materials in the megapolis would have been quite different than in a relatively small city like Sardis, with its limited hinterland and market opportunities for major construction. Geography was also important in creating demand and determining market economics. Any salvage material from Sardis, however valuable, if not used on the site, had to be carried some 100–150 km overland to the closest potential venues at Smyrna or Ephesus—hence they tended to be left in place or broken up for the humble needs of local building, such as the fourth-century Church M. The reuse market potential for the larger Temple of Apollo in Didyma, directly on the sea, was significantly different.
ity and symbolism—it’s multivalent nature subsuming the physical and the symbolic, undoubtedly contributing to its cogency. The fine ashlar fabric of the temple and its many columns provided an economic opportunity for reuse and recovery. The Roman building probably provided resources for future buildings in and around Sardis, just as many fine ashlar blocks from earlier structures at Sardis had found a second life in the walls and foundations of the Hellenistic cella. Most of the walls and columns that were dismantled and broken, if not used as material in other buildings, were simply fed to lime kilns from the fourth through the seventh centuries, as the discovery of masses of marble chips, iron tools, and Byzantine coins indicate. There was also copious evidence for lime kiln activity in the upper levels belonging to later periods, some as late as the nineteenth century.

During the late antique and Byzantine era (fifth to thirteenth centuries) the land around the temple, especially to the northwest, became a residential area (Figs. 1.2, 1.4; Plan 2).

For a useful, though spotty architectural description of the temple from the fifteenth to the nineteenth centuries, we are lucky to have the descriptions and drawings of a number of early Western travelers, from Cyrus of Ancona to Francis Bacon of the Assos excavations.

**DESCRIPTION OF THE TEMPLE OF ARTEMIS BY EARLY TRAVELERS**

From the fifteenth to the beginning of the twentieth century—when the temple was systematically excavated by the American Society for the Excavation of Sardis under the directorship of Howard Crosby Butler of Princeton University—some ten or twelve travelers from western Europe are known to have visited Sardis and left an exceptionally valuable record of their observations in the form of narrative descriptions as well as sketches, watercolors, and measured drawings of major architectural features of the site. Since the Temple of Artemis was the preeminent classical monument of Sardis, and arguably the most impressive, with many of its well-preserved columns soaring 10–14 m above the ground, it was invariably included as a centerpiece in their descriptions and graphic recording of the ancient city.

Many visitors commented on the extraordinary beauty of the temple and its marble ornament, especially its elegantly carved Ionic capitals; none questioned that this was anything but the finest Greek work. Some of the travelers, such as Robert Wood (1750), were eminent classicists, antiquarians, or archaeologists; others, such as Charles Robert Cockerell (1812), were important architects or architectural historians whose later work preserved echoes of their careful study of the temple. Among picturesque sketches and watercolors, were drawings that included measured plans, sections, and construction details. Robert Wood (1750), George Dennis, the British Consul in Smyrna (1882), and Gustave Mendel of the Ottoman Imperial Museum in Istanbul (1904) conducted limited excavations mainly to uncover the floor plan of the temple or determine the height of its columns. A careful study of these early drawings and descriptions thus is valuable because they not only illuminate the later history and destruction of the massive structure but also provide critical information about its overall design and construction details before destructive events, both natural and human, made their archaeological recovery impossible.

It should also be noted that the accounts presented below represent, on the whole, the views of a scholarly and artistic cadre who displayed exceptional motivation to report and record the site. Among many other sites, Sardis thrilled some and disappointed others, but this group is balanced by other individuals who had an unrealistic idea of what to look for and find in a ruined ancient site and thus were disappointed by what they saw, spending scant time there. In 1840, the French historian Baptistin Poujoulat spent only a little time at Sardis, although he admired the two standing columns of the temple and described the architectural elements (including cornices) strewn about the site. This is a surprising attitude given that many of these travelers, even educated ones, spent many days or weeks on the road and overcame considerable hardships to reach their destination. For Enoch C. Wines, an American clergyman and prison reformist who visited Sardis shortly in 1832, the an-

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44 For short, informative accounts of some of the early travelers who described and recorded the temple in words or sketches see Greenshaw et al. 2003, pp. 2–22, 25–29, 33–35. More complete coverage can be found in Sardis II.1, pp. 4–14 while the most comprehensive account is given here.

45 “[D]eux colonnes ioniques sont encore debout; autour de ces colonnes gisent des tronçons, des fûts, des entablaments, des corniches, de grands chapiteaux . . . L’architecture grecque n’a peut-être rien enfanté de plus parfait” (Poujoulat 1840, p. 25).

41 On some of the re-creative and theoretical approaches inspired by the concept of spolia, where the value of “meaningful reuse” is emphasized (and where, in some instances, a rather artificial and pedantic categorizing of the subject in undertaken), see Frey 2015, pp. 169–71; Liverani 2011; and Greenhalgh 2011. For a varied, modern treatment of the subject containing many essays, see Brilliant and Kinney 2011. For broader historical considerations, see Kinney 1997 and Kinney 2001.

42 Sardis I.1, p. 28; Sardis II.1, pp. 12–13. As Cahill observes, the Byzantine activity of breaking up marbles in the temple would correspond to what we see at the Bath-Gymnasium Complex and the Monumental Arch at the complex’s southeast corner, where marble pieces were also being broken up in the early seventh century. On the destruction and spoliation of antiquities in Sardis in the late nineteenth century, especially through the operation of lime kilns and easy transportation of large marble blocks from the theater and the temple after the building of the railroad (Salihli station was inaugurated in 1873), see Greenhalgh 2013, pp. 319–20; Sardis II.1, p. 82; on spolia in general, pillaged or salvaged, see Barker 2010.

43 For an up-to-date summary of the Byzantine occupation of the temple and environs, see Cahill and Greenewalt 2016, pp. 504–7.
cient site consisted of “principally undistinguishable masses of rubbish.” M. Greenhalgh’s comments on the subject are well taken: “[a] possible reason for some of the rushing on the part of the more educated travellers was that the aesthetics of the mostly Roman sites sometimes jarr[ed], because they had been schooled to find Greek architecture pure, and Roman architecture decadent and inflated.” This is very much the direction Butler leaned toward and a sentiment, to a certain extent, still alive and well.

Cyriacus of Ancona

Cyriacus of Ancona visited Sardis in April 1444—nine years before Constantinople was conquered by the Ottoman Turks—which he recounted in a letter in Latin written from Foglia Nuova (in Genovese usage; the modern Yeni Foça on the western coast of Turkey) to Andreolo Giustiniani in Chios. Having seen the ancient remains of the royal city of Croesus, he singled out the Temple of Artemis as an exceptionally striking monument and described it as “an extraordinarily elegant wall belonging to the impressive temple of Sardian Jove, and surviving to our own day, twelve round, huge columns 45 feet tall and 13 feet in circumference, standing in their [original] positions.”

Cyriacus’s assumption that the temple was dedicated to Zeus was quite logical, since he had found and copied an important dedicatory inscription at the site honoring a priest of Zeus Polieus, dated ca. A.D. 150. Another stele found in 1914, some 35 m northwest of the temple and dated ca. 100 B.C., mentions the “worshippers of Zeus” and the sanctuary again. These inscriptions supported the early opinion that Zeus and Artemis were jointly worshipped at Sardis (and in the temple), predating the Roman imperial reorganization and reconstruction of the temple.

Although we do not know exactly which walls and columns of the temple Cyriacus saw (we have no surviving drawings of Sardis by him), it is natural to assume that he was referring to the better-preserved east end and the northeast and southeast anta walls, standing up nearly or certainly (in the case of the northeast anta) to their full height (for the numbered column designations described by travelers, see Plans 6, 7). These are also the walls reported and recorded by many of the travelers who succeeded him. The twelve columns in their original positions (suo ordine intactus) probably had their capitals, and many had their architraves in place. This is twice as many standing columns as recorded by Thomas Smith in 1670, Edmund Chishull in 1699, and Robert Wood in 1750.

Since Cyriacus did not specify which columns he saw nor describe the order of their arrangement, we have no way of knowing where these six extra columns were. He probably saw intact the great majority of the columns of the east end that were ever built. We should not expect accuracy in Cyriacus’s assessment that the true height of the columns was 45 feet (13.7 m) and their circumference 15 (4.6 m; this was the height visible above ground; the total height of columns is 48 feet and 7 inches [14.6 m] and the circumference is close to 20–21 feet [6.1–6.4 m]). Therefore, the columns must have been buried approximately 14–15 feet (4.3–4.6 m), revealing three-quarters of their height. When Wood visited Sardis some three hundred years later, the ground had risen 30 feet (ca. 9 m), almost certainly the result of landslides from the high ground to the east burying the columns up to nearly one-half of their total height. We can also guess that Cyriacus saw the temple almost half intact on the eve of its wholesale destruction by lime kiln operations and the alleged (not verified, but logical) use of its marble blocks in the construction of Manisa’s fine Ottoman monuments, especially the mosque built by Murad II around 1443.

Thomas Smith (1670) and Edmund Chishull (1699)

Thomas Smith, chaplain to the British Embassy in Constantinople, came to Sardis in 1670 and found only six columns fully standing; thus, the temple had lost six columns over the two centuries since the visit of Cyriacus.

These were clearly the six columns seen and described by Robert Wood and his party in 1750 and also identified as the “east portico” columns by Edmund Chishull, another British chaplain in Smyrna (Izmir), who visited the site in 1699. From the evidence of his later drawings of these columns, Chishull must have seen three columns from the east colonnade: columns 6, 7 (today fully standing), and 1, the extreme north column; and two in front of the northeast anta pier, columns 16 and 15; and column 17, in front of the southeast anta. The capital of column 6 was already displaced. Chishull also mentioned the two intact anta piers...
and the great portal, an impressive sight with its lintel still in place, “a vast stone which occasioned wonder by what art or power it could be raised.”

Aegidius van Egmont and John Heyman  
(ca. 1725–50)

In the second quarter of the eighteenth century two Dutch travelers, Aegidius van Egmont and John Heyman, visited Sardis, among other sites in the Mediterranean, and they published their travel accounts in 1759. They saw the six columns still standing to about 20 feet above ground (ca. 6 m), intact with their capitals except for one, whose capital had fallen (column 1); the displaced capital of column 6 was referred to as “mutilated.” Their description of the state of preservation of the pronaos porch is significant: “On two of these pillars, and the remainder of a frontispiece, was a transverse stone, of such enormous weight, that it is difficult to conceive how it was possible to be placed at such a height.”

The “frontispiece” must have been the northeast anta pier, and the “transverse stone” the two lengths of architrave in place spanning the spaces between column 16, column 10, and the northeast anta. There is no mention of the portal, which must have fallen by the early 1700s. The Dutch travelers saw columns 6, 7, 1, 17, 10, and 16. They do not mention an architrave between columns 6 and 7.

Robert Wood and His Team (1750)

The well-known English classicist and traveler Robert “Palmyra” Wood and his party of four visited Sardis between May 27 and June 3, 1750, on the way to Palmyra and Baalbek in Syria. Besides Wood, there were John Bouverie (an archaeologist) and James “Jamaica” Dawkins, both Oxford graduates; the fourth member was Italian draughtsman Giovanni Battista Borra, whose sketchbooks, with many overall views and details of the temple, contain the first known graphic representation of the building. Other members also kept diaries or notebooks: Wood on topography, antiquities, and inscriptions; Bouverie on the monuments and archaeology; Dawkins mainly on anthropological subjects, flora, and fauna. These records, and their later transcriptions, are preserved in the Joint Library of the Hellenic and Roman Societies at the Institute of Classical Studies in London.

Bouverie’s account of the temple’s east porch is detailed and informative: “Six pillars [columns] remain upright, all save one with capitals [which are] wonderfully sharp and well preserved. . . . Two of those are joined by the architrave to a Pilaster [anta pier] and a bit of wall which serves to show the way the body of the temple [its cella] ran.” This description agrees with Borra’s ink and wash drawing of the temple, now in the Yale Center for British Art (Fig. 1.19), which was based on a pencil sketch probably made on site in his sketchbook (Fig. 1.18). The drawing shows the east porch from the northeast as it appeared at the end of May 1750. The columns shown are numbers 1, 6, and 7 on the east front (the first three columns on the left); numbers 10 (designated “B” in Fig. 1.20) and 16 (designated “A”) carry two lengths of the architrave spanning between them and the fully intact northeast anta pier; and number 17, the column directly in front of the southeast anta, is shown in the distance between the latter two. The ordering of the eight columns of the east front in the Borra plan (Fig. 1.20) corresponds to their positions indicated later in Butler’s plans (Plan 6). The capital of column 1, the only one not in place, is shown upended at the foot of the column; the capital of number 6 is askew, as it is today (see Figs. 2.203, 2.245).

The columns in the drawing are uniformly preserved for nine or ten courses (drums) above ground level, or about half their total height. When Butler started the excavation of the temple in 1910, the ground was 1.5 m lower, perhaps the result of erosion but more likely from illicit digging for the temple’s coveted marble (Fig. 1.17). It is also interesting that the top drums of all columns (and the top two drums of column 10) are fluted, not just those of columns 6 and 7. No-
ticing this and other details, Bouverie had rightly concluded that the temple was unfinished: "Under the capitals which are of the finest taste and most excellent workmanship the shafts are channeled [fluted] about a foot downwards. . . . One of them nearly 3 feet [fluted on top] and left plain in the form of a pillar [an unfluted shaft] but rough chiseled which would be quite irregular if intended to remain and has a disagreeable effect."59

Although Borra's drawing is remarkably accurate, he took some liberties, varying his vantage point in order to provide a "maximum view" and reveal more features of the temple (Fig. 1.19). One such inconsistency, visible because Borra shifted his vantage point eastward, is of invaluable help to us: the east face of the architrave carried by column 10 (labeled "B") reveals a profile molding of two fasciae and a simple crown molding, albeit at a very narrow perspective. This detail confirms that the projecting inner porch ended with column number 10—its northeast corner column—and therefore, the outside corners of the projecting porch were carried by regular Ionic capitals facing east–west like the rest of the capitals of the east porch, not special corner Ionic capitals as one would have expected.

A sketch plan made on site, where the surviving columns are shown as dark, cross-hatched circles (Fig. 1.20), and the written account, both in Bouverie's diary, corroborate Borra's drawing and indicate that Wood's party had worked out the basic architectural arrangement of the porch quite accurately as an octastyle temple, though it is not certain that they had figured out that the plan was pseudodipteral. The sketch shows only the features they were able to ascertain (visible on the surface of the ground or verified by minor excavating); this included the six fully preserved columns (dark cross-hatched), the location of the east door, and the alignment of the east wall (dark lines). The measurements, given in feet, are incorrect. Columns barely above the ground (which do not appear in this view) are shown in a light hatching; and the hypothetical positions of the rest of the columns are delineated very lightly (some, like the two columns of the inner porch raised on high pedestals, numbers 11 and 12, are crossed out).60 It is interesting that neither the plan nor the drawing shows the southeast anta at all, though its existence was verified by a minor excavation around its presumed location.61 Clearly, in the half-century since Chishull had admired it in 1699, the great lintel of the east door had fallen and was probably buried—along with whatever was then visible of the southeast anta—since neither Bouverie nor Wood mention it (but Chandler saw and commented on its having fallen fifteen years later; see below).

It appears that the remains of the temple impressed and fascinated the group ("undoubtedly very ancient and of a good age . . . [and] the exquisite Taste of the Capsules and most excellent Workmanship induced Us to resolve [by

59 Bouverie's Journal, no. 9, 6.
60 For a gray ink wash version of this plan in the Yale Center for British Art see Greenewalt et al. 2003, p. 26, cat. no. 1B.
61 "Digging round it we found a piece of the other Pilaster [southeast anta pier and its capital] fallen but a little out of the place where it regularly ought to stand. Digging likewise where we imagined the front wall of the temple might be we light upon one side (?) of the door handsomely ornamented somewhat like that of the Pantheon." Wood's Diary, May 30, 1750; Bouverie's Journal, no. 8. It is interesting that both Wood and Bouverie made the connection between the east door jamb ornament of the temple and that of the Pantheon in Rome. Considering that modern scholars uniformly agree on dating the Sardis jamb to the Hadrianic period on stylistic grounds, their art-historical judgment was remarkable.
digging] to get at the Members &ca"). They stayed an extra day in order to dig all the way down to the bottom of column 16 (east of the northeast anta pier, labeled “A” in the sketch elevation and “E” in the plan) and sketched what appeared to them to be the unusual Ionic-Attic profile of the base and the vertical leaf decoration of its torus. They measured the column correctly at a height of 58 feet 7 inches, which is what the current Expedition found by direct measurement of columns 6 and 7 in 1992 and 2019. This appears to be the first historically recorded excavation at the temple: “We dug down about 22 feet to discover the Base of a Pillar [column 16] which formed a good deal different from the regular Ionic Base, consisting of More Members and less Projection most likely to disencumber the spaces as much as possible. The upper Toro [torus] was adorned with scales pointed upwards.”

Claude-Charles de Peyssonnel (1750)

Claude-Charles de Peyssonnel, a French diplomat in Smyrna, visited Sardis only a few months after Robert Wood, and he made a pencil sketch of the east porch of the temple from roughly the same angle as the Borra drawings (Fig. 1.21). The sketch, a more Romantic set piece with figures in toga walking the ruins and sketching (entitled “Vue d’un ancien Temple de Sardes”), shows only five columns (but both of the anta piers fully standing) and is generally consistent with Peyssonnel’s description: “There still remains of this temple five columns of the Ionic order… They are about thirty feet high. The two middle columns support a cornice and architrave, which abuts upon a pier of an order approaching Doric [meaning the anta capital with its wreath and rosette decoration]. Towards the south are two other similar columns… and a pier exactly like the first [the southeast anta; my emphasis].” He further adds, “I observed a hole excavated in the earth at the foot of one of the columns which support the cornice [of column 16]. My guide told me that this hole had been made by an English traveler [Wood, of course], who had desired to find the depth of the column.”

Wood’s Diary, May 28, 1750.

Bouverie’s Journal, no. 9; Wood’s Diary, May 30, 1750. See also Hutton 1977, pp. 187–9, pl. 19. The fact that it took their workmen just one day to dig down 22 feet (ca. 6.70 m) to reach the column bottom—something it would take a modern excavation a whole season to complete—deserves exclamation. Wood or Bouverie give no sense of the stratigraphy or mention any objects found; perhaps that is how the digging feat could be achieved!

Peyssonnel 1765, pp. 136–37, pl. III; Sardis II.1, pp. 5–6. The re-
Peyssonnel’s sketch and description represent column 1 (with its capital fallen directly below, as in the Borra drawing), columns 6 and 7 (with their capitals but no architrave), and columns 10 and 16 carrying two lengths of architrave spanning to the northeast anta and a short stretch of the north wall. There is no “cornice” in situ; Peyssonnel might have confused the unusually heavy crown molding of the architrave for a cornice, and many nonspecialists referred to architraves and cornices indiscriminately, as Peyssonnel does in his second reference to a “cornice” on column 16. Disregarding some proportional inaccuracies in the Peyssonnel sketch, there are two important differences between his and Borra’s views; apparently in the two short months between the two visits, column 17, in front of the southeast anta pier, had been razed to the ground, except for what appears to be the top of its uppermost-preserved drum, seen barely above the ground upon which stand two figures. The second difference is more problematic; the southeast anta is shown fully preserved behind the northeast one including its pier capital and is described as “a pier exactly like the first”—i.e., like the northeast anta pier. How is it possible that Peyssonnel saw and recorded the southeast anta fully standing but Wood did not? Only Wood dug for it and ascertained its existence (“found a piece of the other pilaster fallen”). Are we to believe that the villagers of Sart reconstructed it after Wood and his party had left? One possibility is that Peyssonnel saw the position and well-preserved remains of the southeast anta (its anta capital still exists) that had been partially uncovered by Wood, and, knowing that it would be a mirror-image of the other, he made his sketch with the southeast anta restored.

Richard Chandler (1765)

Richard Chandler was authorized by the Society of Dilettanti to lead an expedition to Greece and Asia Minor from 1764 to 1766 in order collect information about antiquities and record as many as were available. Other members of his team were architect Nicholas Revett (of Stuart and Revett fame) and William Pars, a talented young artist and draftsman. After spending some time in Athens, the party arrived in Smyrna in September 1764; using that city as a base of operations, they took several long trips inland and made many excellent drawings. They came to Sardis by way of Philadelphia (Alaşehir) sometime in late April or May 1765 and stayed no more than a day. They saw five columns of the temple (“five columns are standing, one without the capi-
tal; and one with the capital awry to the south"), the same as Peyssonnel but one less than seen by Wood. Chandler also mentioned Chishull’s account (1699) of the east door ("that fair and magnificent portal, as it is styled by the relater [meaning Edward Chishull]") and added that the great lintel had fallen on a heap of debris and that "part of one of the antae is seen about four feet high." Chandler then described an architrave: "The architrave was of two stones. A piece remains on one column, but moved southward; the other part, with the column, which contributed to its support, has fallen since the year 1699." This must have been a fragment of the architrave that spanned from column 16 to the northeast anta pier seen and recorded by Wood and Peyssonnel. Obviously, in the fifteen years since Wood’s and Peyssonnel’s visits, column 10 and the northeast anta were demolished almost completely (though it was still some 10–11 m above the original pavement, of course). Since it had lost its supports on either side, this also means that the architraves spanning columns 10 to 16 (as shown in the Borra drawing; see Figs. 1.18, 1.19) and from 16 to the northeast anta pier would have fallen. By referring to the architrave as “two stones,” Chandler must have meant that it was broken into two pieces, and only the fragment remained on "one column." Since both the northeast anta and column 10 were no longer fully standing, we must imagine that a mere stub of an architrave end was left sitting on the capital of column 16 when Chandler saw it.

It is a pity that this important mission’s interest in the Temple of Artemis at Sardis was reserved for only a few hours, that they did no drawings (while they had spent days at Didyma studying, measuring, and drawing), and that their observations were restricted to a somewhat ambiguous textual description by Chandler. To our knowledge, of the 16–18 excellent watercolors Pars executed in Asia Minor (now in the collection of the British Museum, London), none represented Sardis; this is surprising because the Sardis temple in its exquisite setting became a very popular subject for many less-talented artists in the nineteenth century.

We are lucky to have a fine but undated and unsigned watercolor representing the temple more or less as Chandler’s Ionic mission must have seen it. The view, with a caravan of camels in the foreground (comparable to the “numerous caravans” Chandler had seen near Sardis), shows five columns, all but one with capitals, dominated by the Acropolis in the background and the distant Tmolos range to the right (Fig. 1.22). Compared to typical “Sardeis views,” there is little to no dramatization of the landscape (which is dramatic enough as it is). Specific features such as the so-called “flying towers” salient of the Acropolis, or the prominent hill just behind the temple where Butler later constructed an expedition house, are correctly rendered (see Figs. 1.1, 1.2). To the right (south) is a group of three columns: 6, 7, and 17 in front of them; on the left are two columns: 1, identified because it is the only column without a capital,

66 Chandler 1971, p. 203; for the full account of the trip to Sardis, see pp. 199–204.
67 For an assessment of William Pars’s artistic work, travels, and a list of his Asia Minor illustrations, see Wilton 1971, pp. 21–45.
68 I am grateful to Karen Taylor of Karen Taylor Fine Art, London, who attributes this work to William Page. She brought this piece to my attention and shared her views and research on it.
François-Michel Préaulx (active 1796–1827), Vue du temple d’Artemis à Sardes (Turquie), ca. 1820. Watercolor with ink on paper, 52.3 × 31 cm. Private collection (courtesy Galerie Terrades)

and 16 in the foreground (the column in front of the demolished northeast anta pier) carrying a single, chunky architrave piece, closely matching Chandler’s description. This is a part of the architrave found later by Butler in three pieces, E, F, and G (see Fig. 2.312).

A similar recording of five columns, all with capitals except one, and one carrying a chunky architrave fragment (on column 16), is the subject of a fine watercolor by the French architect François-Michel Préaulx, who was active in Constantinople and Turkey between 1796 and 1815, entitled Vue du temple d’Artémis à Sardes (Fig. 1.23). These two watercolors must have been done sometime between Chandler’s visit to the site in 1765 and C. R. Cockerell’s visit in 1812, because Cockerell saw and recorded and described only three standing columns on the site (6, 7, and 16, see below).

Outstanding among these popular views of Sardis and the temple is a grand panorama of the temple painted by Danish landscape artist Harald Jerichau in 1878 (Fig. 1.24). The view shows the two columns of the temple, ruins, and a camel caravan, looking south to the exaggerated rise of the Acropolis and the snowy Tmolos Mountains. The artist has shifted the temple to the Hermus plain north of the city next to a small, swampy brook. Such composite collages of landscape for effect were not uncommon, as evident in English painter Harry John Johnson’s Sardis (1840s; not illustrated): another view of the temple from more or less the same location on the plain, looking south toward palm groves (which never existed) and mountains. Three columns of the temple are shown; there are fallen drums and one modillionated cornice in the middle of a swamp, with foxes hunting birds.

C. R. Cockerell (1812)

Charles Robert Cockerell (1788–1863), a distinguished British Neoclassical architect admired for his “bold deployment of the orders and the beauty of his [classical] detail,” visited Sardis for two days in March 1812. He was twenty-four years old and on a Grand Tour of Italy, Greece, and Turkey from 1811 to 1817. His description of the temple (identified as “The Temple of Cybebe”) is known only from a letter he wrote to W. M. Leake, which appeared as an extended footnote in the latter’s Journal of a Tour in Asia Minor (1824). This publication also reproduces a sketch plan of 38.5 × 51.8 cm (Yegül collection; illustrated on the dust jacket of this volume).

Karen Taylor kindly brought to my attention a third watercolor with five standing columns depicting an almost identical view by François-Michel Préaulx, including a be-turbaned local group under columns 6 and 7. Taylor suggests that the two watercolors from her gallery (Fig. 1.22, and one not illustrated here) were works by William Page, a British landscape painter who traveled in Greece and Turkey in 1818–21; yet, by that time only three columns remained. If they are indeed Page’s works, he must have copied an earlier drawing, probably one by Préaulx.

Jerichau painted a smaller, very fine, more realistic view of the temple with two standing columns and the acropolis behind: Camels among the Ruins of the Temple of Artemis in Sardis, 1873, oil on canvas, 38.5 × 51.8 cm (Yegül collection; illustrated on the dust jacket of this volume).
of the east porch (including some measurements in feet) and a partially restored elevation of the east facade of the temple made by Cockerell (Fig. 1.25). In addition, a handsome pencil sketch (now at the Yale Center for British Art, Fig. 1.26) shows the three columns of the temple preserved in 1812, down from the six recorded by Wood and Borra in 1750, the five recorded by Peyssonnel in the same year, and then by Richard Chandler in 1764.74 Cockerell's drawing, a view of the east end of the temple looking southwest, clearly shows columns 7, 6, and a third column to the right (or north) of these, probably number 16 (the column in front of the northeast anta). Considering the angle and proportion, one would have imagined the third column to be number 17 (the column in front of the southeast anta); however, since this column did not stand after 1750 (it is shown as a stub on the Peyssonnel drawing) we are left to assume that it was number 16. It appears that Cockerell made his sketch from a spot on the rising Acropolis slopes east of the temple; he had a wide field of vision toward the south-southwest and he focused on the three eminent columns, much like looking through the telescopic lens of a modern camera. The inscription at upper right comments that the columns resemble those he saw in Athens in terms of color, white but with blue streaks in them, but that the capitals are “highly colored”—perhaps alluding to the strikingly yellow-ochre hue of the capitals resulting from the peculiar weathering conditions.

The Cockerell drawing, however, is inconsistent with his later published description of the temple quoted in a footnote in Leake's Journal: “Two columns of the exterior order of the east front [columns 7 and 6], and one column of the portico of the pronaos [column 16], are still standing, with their capitals: the two former still support the stone of the architrave, which stretched from the centre of one column to the centre of the other.”75 In the sketch elevation of the temple's east front, published by Leake (see Fig. 1.25), this architrave (labeled as “A”) is shown in situ tentatively, as if restored (much like the rest of the east front of the temple with a pediment; the nonexistent architrave in the middle intercolumniation is shown the same way, labeled as “B”).76 The Yale drawing (Fig. 1.26) has no

74 Greenewalt et al. 2003, pp. 34–35. Quoting from the journal young Cockerell kept during this trip, edited and published by his son Samuel P. Cockerell: “I spent my first day in examining [the temple] and making a drawing of it. Only three of the five columns still standing in Chandler's time remain erect; the other two were blown up three years ago by a Greek who thought he might find gold in them.” Cockerell employed a Cretan to dig down to see the base of one of the columns, but “had to give it up after we got down ten feet without reaching it” (Cockerell 1903, pp. 143–45). Cockerell's notebooks (C. R. Cockerell-Bedford Album: letter from C. R. Cockerell to Francis Bedford, Aug. 4, 1821), Victoria and Albert Museum, London.

75 Leake 1814, pp. 342, 345.
76 Leake 1814, p. 345. This sketch plan and elevation are scaled in English feet, with the measurements written on the drawing. It was published in simplified form in Sardis R2, p. 9, fig. 6.
architrave carried by any of the columns. Furthermore, none of the travelers who were in Sardis before Cockerell mention an architrave carried by the columns of the front row, or include it in their drawings; for example, neither of the Borra drawings, each of which has remarkable detail and includes an architrave supported by the porch columns 10 and 16, shows an architrave on columns 6 and 7 in the background (see Figs. 1.18, 1.19). Cockerell probably did see this architrave on the ground close to columns 6 and 7 (it was found intact in this location by Butler, described as architrave “A”), measured it, estimated its weight to be twenty-five tons, identified its position correctly as having spanned the columns, and then included it in his “restored elevation.” But, in the note he wrote to Leake ten or twelve years after his visit to the temple, he described it as if the architrave was in position. His fine drawing, always a better representative of an architect’s ideas than his words, is characteristically correct. 77

Cockerell also observed that “besides the three standing columns, there are truncated portions of four others belonging to the eastern front, and of one belonging to the portico of the pronaos; together with a part of the wall of the cella.”78 Cockerell’s sketch plan and restored elevation (Fig. 1.25) show the “truncated columns” of the east front (numbers 2–5, cross-hatched); column number 1, which had been the best-preserved column of the east front for a long time, had completely disappeared by 1812 (Fig. 1.26). Since these truncated columns were barely at surface level in 1750, the ground must have dropped considerably to reveal at least small portions of their tops in the fifty to sixty years since the Borra and Peyssonnel drawings, likely due to feverish digging to obtain the temple’s marbles to cart them elsewhere or burn them for lime.

Did the massive columns and handsome capitals of the Temple of Artemis serve as models, directly or indirectly, for Cockerell’s later work? There is little question that the grand scale and exuberant decoration of the Ionic monuments of Asia Minor impressed the young architect and influenced his early work in a way that the more austere and small-scale examples from Greece did not. The Ionic order of the pedimented portico of the Hanover Chapel in London, 1821 (now demolished), was directly inspired by a mixture of Anatolian models, such as the Temple of Athena at Priene and the Temple of Apollo at Didyma; but more specifically Sardis is singled out by Cockerell himself as the outstanding example in his diary entry for April 29, 1821: “Upon the chapel New Street [Hanover Chapel, London] . . . hit upon the double pilaster to carry tower & Portico . . . chose Asiatic Ionic not yet seen—the cap[tall]s of Sardis.”79

Anton von Prokesch (1824)

Anton von Prokesch reports that only two columns were standing when he was at Sardis; obviously, during the twelve years since Cockerell’s visit, column 16 had been largely de-

77 Yegül 2003, p. 34.
78 Leake 1834, p. 141.
79 Watkin 1974, p. 139. See also Bordeleau 2014, pp. 139–52.
moliished, leaving only the two famous columns, numbers 6 and 7. As noted by Butler, Prokesch’s local host (Turkish or Greek) had a lime-making concession in the temple, explaining the major part played by humans in the destruction of the temple from the earliest days and the copious evidence for lime kilns in and around the building found by Butler’s excavations.80

Clarkson F. Stanfield (1830s)

Clarkson F. Stanfield (1793–1867), an English commercial artist and scene painter, never went to Turkey; therefore, technically he should not be considered in this section devoted to early travelers to Sardis. Nonetheless, he was instrumental in producing one of the most detailed and interesting drawings of the temple around 1830, which appears to have been based on another competent drawing or sketch which was made on the spot by another yet unknown traveler or artist. Stanfield’s watercolor presents a view of the temple from the east, featuring the two standing columns on a stormy day and a frightened horse and fallen rider (Fig 1.27). Littered in the foreground are many unfluted drums, whose construction details are correctly delineated, and one massive cornice with modillions. Everything appears to be as Butler saw it seventy to eighty years later in 1910;

80 von Prokesch 1831, p. 138; Sardis II.1, p. 10. John Fuller, “an enlightened English gentleman” who was in Sardis in 1829, five years after von Prokesch, also counted two standing columns at the temple; Fuller 1830, p. 53.

the two standing columns are intact but carry no architrave. Column shafts are preserved with twelve drums above the ground, so the ground must have been some 1.50–2.0 m lower than it was in 1730, when Borra could see only nine drums. Besides these two, the top of a column (next to column 6) appears above ground, probably number 5. The drawing, which Butler praised for its accurate details, is important because it shows in the distance a few truncated columns, probably fluted, not mentioned by any of the travelers except Bouverie, who, however, thought that they belonged to a different building because they were so far away (“toward the River ye several broken pieces of fluted Pillar but not enough to import that the Temple extended so far”). Indeed, these must have belonged to the columns of the west pronaos porch since Butler found many fluted drums in this location. But, even more importantly, in the foreground among the fallen column drums of the east colonnade there is a clearly delineated cornice with modillions, unmistakably of the Roman type. This represents the only possible evidence of a cornice belonging to the temple, and one, it seems, also noted by Poujoulet in 1840 among the temple’s fallen architectural detritus (see above).

Crawford H. Greenewalt, jr. observed that the Stanfield drawing was made, as were a number of other nineteenth-century views of Sardis and the temple, “for picture books aimed at readers primarily interested in historic or religious aspects of the site—for example, Sardis as one of the Seven Churches of Asia.”81 Stanfield’s engaging view appears to

81 Greenewalt et al. 2003, pp. 25–26, fig. 11; Sardis II.1, pp. 10–11, ill. 3.
have been commissioned as an illustration for a two-volume publication called *Landscape Illustrations of the Bible*, with text by Reverend Thomas H. Horne, published in London in 1836; it was reproduced as an etching by the engraver William Finden as plate 45. However, its popularity ensured reproduction in a number of variant etchings and engravings.\(^8\) A watercolor at the Victoria and Albert Museum, which shows the same scene, has been tentatively identified as the original, made by one “Mr. Maude” (Fig. 1.28), from which Stanfield had copied and “improved” (or “jazzed-up”) his watercolor. As observed by C. Newton, a prints and drawings specialist from the Victoria and Albert, “Stanfield was a famous and highly-skilled resident scene-painter at the Drury Lane theater, so dramatizing the landscape [of the original Sardis drawing] came naturally to him.”\(^8\) That may be so. However, Stanfield’s illustration not only creates an appropriately apocalyptic image for the purpose, but it is also archaeologically accurate with many details specific to this temple, such as the fact that the tops of the column shafts are fluted; and the abacus of capital B is correctly shown terminated by a fillet (the only example at the temple), whereas that of capital A is not, none of which are shown in Mr. Maude’s rather humdrum and erroneous illustration (see Fig. 2.232). Therefore, even if Stanfield never saw the temple, he must have been working from a very accurate drawing made by someone who had been on site and who was skillful, knowledgeable, and observant of the temple’s unique details.

### Charles Texier (1830s–40s)

The illustrious French archaeologist and antiquarian Charles Texier, author of the influential *Description de la Asie Mineure* (Paris, 1838–48), traveled in the provinces of the Ottoman Empire under the aegis of the French Ministry of Culture in the 1830s. His visit to Sardis occasioned his deep regret for the exceptional destruction of a beautiful site by human agency: “Aucune ville, à l’exception de Babylone, ne peut offrir un plus triste tableau de l’anéantissement de toute puissance humaine.”\(^8\) He identified the building as a temple of Cybele but wrote a fairly detailed and otherwise knowledgeable description, admiring the remaining two columns, the beautiful capitals, and the quality of its marble, and lamenting its ongoing destruction. Regrettably, he left behind no example of his skill in elegant (though not always accurate) drawings of historic architecture.

### Francis H. Bacon (1882)

Francis H. Bacon, one of the leading members of the American team excavating in Assos (with J.T. Clarke and R. Koldewey), visited Sardis in April of 1882. In a letter dated Sep-

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\(^8\) One of the best of these reproductions is a hand-tinted lithograph made ca. 1850 now in the collection of the Kunstanstalt des Bibliographischen Institut in Hildburghausen (no. 11431), identified as “Sardis” and accompanied by the biblical quotation from John: “Du hast den Namen dass du lebest und bist todt: John iii.1.5.” It is interesting that the frightened horse and its fallen rider have been removed in this version, but the rest is identical to the Stanfield watercolor.

\(^8\) Charles Newton, personal correspondence with author, March 2, 2016. I am grateful to Mr. Newton for generously sharing his knowledge with me.

\(^8\) Texier 1862, pp. 252–57, esp. 253.
T e m b e r 1 8, 1 8 8 2, Bacon wrote to Professor Charles Eliot Norton of Harvard University that he had visited Sardis, where George Dennis, the British Consul at Smyrna, was then excavating three of the smaller tumuli at Bin Tepe and planning to start excavations at the temple.55 Bacon saw the temple for a few hours during this hurried trip and admired the two fully preserved columns with their beautiful capitals and the truncated top of a third, standing on a smooth slope of green grass with nothing else around them, looking "very inviting to the excavator." He did some sketches of what appears to be column 6 with its capital. Indeed, in his second visit to Smyrna during the same summer he saw Dennis haphazardly at work in the temple. Bacon described his second visit to the temple as an addendum to his letter to Norton: "Mr. Dennis has not begun to clear off the temple plan in a systematic manner; that would be an expensive affair. So far he has only dug pits and trenches, and the only thing he has found … is a beautiful colossal head, supposed to have belonged to a statue of Cybele [the head, identified as Faustina the Elder, is now in the British Museum; see Fig. 1.53]. He measured from the columns at the East, to where he supposed the West end to be, and ran a trench from there eastward, into the nass [sic; naos]. He found a terra cotta Roman pavement, and very few architectural fragments (but perhaps these may lie outside his trench). Just beyond the centre of the nass [sic], lying upon about a metre of debris, he found the colossal marble head lying face down … it is almost in perfect condition…. I did not see the head … only a photograph. It is entirely different from any Greek or Roman head that I have ever seen."56 Bacon did not go back to Sardis to see more of Dennis's excavations at the temple, and there is not much information about the architecture of the temple uncovered by what might be considered its first major but not methodical excavation. As far as we can judge, Dennis's digging was rather a treasure hunt, and he probably kept no record of his fast excavations, nor did he publish anything. The exact find location of the Faustina head is also unknown; it was clearly "in the center of the naos," though it was not specified whether it was the east or west cella. As Butler informs us, Dennis's long trench and two pits were still visible when he began work in 1910.87

55 An explorer with no formal training, George Dennis is mainly known for his magnum opus, The Cities and Cemeteries of Etruria (London: British Museum, 1883), a two-volume work which gained recognition only after his death. He joined the British Colonial Service ca. 1864 and received a position as Vice-Consul in Sicily with the help of his friend Austen Henry Layard (archaeologist, part-time diplomat, and a friend of Sir Stratford Canning, the British Ambassador to the Ottoman Porte), and he later became Consul in Smyrna.

56 Bacon to Norton, Sept. 18, 1882, Butler Archives, Department of the History of Art and Archaeology, Princeton University. Parts of this letter, covering only Bacon's first visit to Sardis, were published by Charles E. Norton (with heavy editing) in "A Visit to Sardis," Harper's Magazine (April 1884), pp. 672–79.

57 Butler was aware of Bacon's letter and referred to it in detail in his study of the temple, publishing it in part; he seemed to have expended some effort to find information on Dennis's excavations to no avail: "Dennis published no account of his work, so far as I have been able to discover" (Sardis I.1, pp. 7–8). See also Sardus R1, p. 1.

58 See p. 4, note 4.

59 Gertrude Bell Archive, Newcastle University, "Sardis: Letters," March 7, 1902. Three years later Bell met Butler and his American team at work in Syria several times, and she met him in Istanbul in 1907, but she never came to Sardis during Butler's excavation years.

60 Starting with John Russell Pope in 1884–85, the first Fellow of the American Academy in Rome, the creation of "measured drawings" and "full size details" of historical architecture became widely practiced as an educational exercise by the Rome Prize Fellows of the Academy before the Second World War. Tegul 1992, pp. 38, 224 n. 11.
Figure 1.29. View of the Temple of Artemis, Pactolus Valley and necropolis from acropolis peak (looking west)
Chapter 2

DESCRIPTION OF THE BUILDING

THE PHYSICAL REMAINS

SURVEYING AND RECORDING CONVENTIONS

The Temple of Artemis is assigned its own system of levels ("Artemis Temple datum"), independent of the B-datum adopted by the Harvard-Cornell Expedition in 1958 and widely used in Sardis since then. It also has its own location-reference conventions, which are independent of the official B-grid system. Each system can easily be converted to the other.

The top of the marble euthynteria at the southeast corner anta of the temple was given the reference datum *100.0, an arbitrary value. Thus, all elements of the superstructure are above this level, and all elements of substructure (mainly the foundations) are below (e.g., a wall top 60 cm above this level is *100.60; a foundation 30 cm below euthynteria grade is *99.70). A combination of curvature and soil settlements, affecting especially the long walls, have compromised this *100.0 datum at the euthynteria level as much as 5–7 cm (up or down), compelling us to indicate "heights" as directly measured from the euthynteria unless hard "elevation" values were established by independent survey (given in section-elevations with arrows, especially pls. xiv–xix and xx–xxiv; given the variance in the field, these values and their concordances in the text are accurate within ca. 1–4 cm).

This system was devised by Hanfmann and his co-director A. Henry Detweiler, working with architects Thomas H. Canfield and Stuart L. Carter; although he thought it had been devised by Butler, it was not.1 In 1958 the south pteroma euthynteria level of the temple was found to be 138.38 meters above sea level (masl). In the same year the expedition established the B-datum on a concrete marker placed in the north apse of “Building B” (Roman Bath-Gymnasium Complex) at an arbitrary elevation of *100 m (not to be confused with the same number of the temple euthynteria), which is 115.11 masl (see Plan 1).

For plans, the Harvard-Cornell Expedition decided to incorporate the temple into the B-grid system in which the sturdy and well-preserved southeast corner of “Building B” was designated as "grid zero." This system was used in the excavations, clearing, and recording operations inside and around the temple in 1969–73 and 2002–12. According to the B-grid, the temple platform is located between W100–197/S1215–1258; these values are approximate because the longitudinal axis of the temple does not align with the B-grid but rather veers some 2.2 degrees northeast/southwest. The anta-to-anta distances of the north and south walls run roughly 3 m askew from the B-grid alignment over their full lengths of 67.50 m. The grid value for the outer corner of the southeast anta pier is W112.9/S1248.3.

Influenced by the aesthetics of the temple’s impeccable orthogonal geometry, but mainly for reasons of measuring convenience, my study and drawings of the temple do not use the B-grid, and all my levels are based on the assumption of the northwest anta euthynteria as level *100.0. Instead, we used a simple grid based on the building’s main axes, taking our distances (wall lengths, etc.) to designated fixed points above the pteroma were designated as +1, +2, etc., and those below as −1, −2, etc. See Sardis II.1, atlas, pl. 1.

1 Butler assumed the temple pteroma to be level 0; the courses

1 For an explication of site grids and levels, see Sardis R1, pp. 7–11.
on the building, such as the well-preserved southeast and northeast anta pier corners (see Plans 4, 5, 6, 7).  

Although Butler’s excavation of the temple produced accurate drawings based on many original measurements, the most extensive measuring and surveying work was accomplished during our survey of the building (starting in 1987), undertaken in order to create a full program of architectural documentation. We produced a full plan, sections, and elevations of the temple at 1:20 scale, which allowed us to record even minor details (Plans vii–xxiv); we also undertook the creation of separate plans, sections, elevations, perspectives, axonometrics, detail drawings, and hypothetical (or “idealized”) restoration studies at 1:100, 1:200, 1:10, and 1:5 scales. These provide the measurements used in this publication. Our values on the whole are the same or close to Butler’s, but divergences are noted.

Having started the project before advancements in electronic and digital survey techniques, we used the optical transit and level (“dumpy level”) and the stretched tightly stretched steel tape, with many triangulations and backchecks in our measurements. In later years the main architectural features of the temple were resurveyed using a total station. We incurred discrepancies and errors in our drawings of around 0.10–0.15 m for the nearly one hundred meter length of the structure and distributed the error. This represents about 0.01–0.015 percent inaccuracy of recording over long distances (e.g., 1–1.5 cm over 10 m).

SOME COMMONLY USED CONSTRUCTION FEATURES AND METHODS

The temple incorporates a rich collection of construction methods, practices, and features. Most are known practices in use across the larger Greco-Roman world, while some are more specific to their time and place, and still others are novelties created at the site itself through the knowledge, flexibility, and creativity of masons and craftsmen. Above all there is great variance in these methods and features—field solutions interesting and ingenious. Despite the use of these methods and practices over a long period of time, it is nonetheless possible to arrive at least at a rudimentary understanding of their origins and chronology.

In our temple, notable differences in construction define the two major phases in the Hellenistic and the Roman Imperial periods. Before offering a summary account of the principles and characteristics of these phases, I present a general description of some of the commonly used construction features of the temple are also given by Gruben (1961). Thomas Howe undertook a series of close measurements in 1982 and 1987 in studying the curvature of the long north and south walls of the temple at the euthynteria and the toichobate levels (the latter for him signified the top of the torus profile that terminates the second bottom course of the wall); these field measurements are not preserved in the Sardis records. See Howe 1999, pp. 199–200.
Some Commonly Used Construction Features and Methods

Lifting: Standard and Carian Lewis Systems

One of the several lifting systems used in ancient construction is the lewis system.1 "Lewis" refers to a set of iron pieces (lifting irons/keys) that are wedged into and against the sloping surfaces of a socket (the "lewis hole") made for this purpose. The standard type of lewis hole is a rectangular cutting with one or both sides sloping down (double-sloping or double-sided lewises are sometimes referred to as "dovetail" lewises), with the opening at the top narrower than the bottom of the hole. Occasionally, to avoid clumsiness or pedantry, "lewises" and "lewis hole" are used interchangeably or to refer to the system itself; the context makes the meaning clear.

All lewises work on the principle of friction and gravity.2 As described by Hero of Alexandria (active ca. a.d. 60) and verified by archaeology, there are two main lewis types: the standard lewis with rectangular hole (as described above) and the so-called Carian-Ionian lewis (originating in Caria).3 With rare exceptions, all standard lewises in the Temple of Artemis at Sardis belong to the Roman period and are of the double-sloping type. The Carian-Ionian type, limited in its use to between the fourth and the second centuries b.c., is restricted to the Sardis capitals of the Hellenistic period.

The sloping, narrow sides of the lewis hole ("contact surface") essentially carry the load when lifting irons are wedged tightly against its surfaces; theoretically, larger contact surfaces are capable of carrying heavier loads. It is logical to expect a basic proportional correlation between weight and lewis size, and this is borne out in the field in a general way: larger blocks, such as the architraves, display two—even four—symmetrically arranged, large lewises. Based on empirical evidence, the average-sized lewises of the temple were designed to carry 4–6 tons each; we have found no failed (or recarved) lewises.4 Average Roman column drums, weighing ca. 4–8 tons, could have been lifted by a large central lewis or a pair of smaller side lewises. The largest drums could weigh 4–8 tons, could have been lifted by a large central lewis or a pair of smaller side lewises. The largest drums could weigh as much as 10–14 tons and would have required three lewises—a central one and one on each side. Yet, these figures are averages, with much flexibility and variance. As noted by Cahill, “Different crews could have different perceptions and comfort levels, or just different equipment.”5 These and other factors could explain the variance we find in the correlation between workload and lewis size/number; no scientific tests in the field have yet been made.

Less-common lewis arrangements used on some blocks consist of the crossing of a pair of lewis holes ("cross-lewis") or T-shaped lewis holes (ca. 16–26 × 6–8 × 19–24 cm; Figs. 2.241, 2.242). It is unclear if these were original variations in order to increase the lifting capacity of a single lewis, or if each hole was used for separate episodes of lifting and setting—probably the latter.6 To ensure a balanced lift, all lewises were carefully positioned at the gravity centers of their blocks, but occasionally this rule was ignored or a smaller, outside lewis was added, possibly to maintain a third line to help tilt the block for exact placement.7 The Roman practice of lifting favored the standard lewis system instead of rope slings; in many instances, the tops of fluted Hellenistic drums reused in Roman construction were recut, with two or three added lewis holes (see in this chapter pp. 118–120). There is, however, at least one unfluted drum in situ (column 2, top drum; Fig. 2.183) which has no lewis holes at all—only a pair of small, square dowel holes. How was that piece lifted into place?

As a general rule, Greek and specifically Hellenistic period lewises, as we clearly see on some of the column drums of the Temple of Apollo at Didyma, tend to be smaller and narrower in proportion, and they display more careful workmanship than the Imperial period examples (Fig. 2.1; compare to Figs. 2.3, 2.38, 2.40, 2.240). At Sardis, standard Roman lewises are large and somewhat coarsely made. In a sense, a coarsely carved socket is as effective as a precisely carved one with smoother surfaces. As observed by Aylward,8

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1 The origins of the term is uncertain; it is louvre in French, Wolffe in German, and kurtajis in Turkish. Another ubiquitously and indiscriminately used system was the simple rope sling, placed around a block or architectural element; yet another required a special projection in stone ("boss") around which a rope was secured. These bosses were intended to be removed later, but were not, as we see on some of the bases of the east end (see Figs. 2.172, 2.176, 2.177).


3 Hero of Alexandria, Mechanica 3.6.

4 The specific gravity of marble varies between 2.3 and 2.8 (granite is 2.9–3.0). For the local white marble used in the temple we decided to use 2.6 consistently as an average. No scientific analysis or formal experiment has been undertaken. See also Bingöl 2012a, pp. 224–32.

5 Nicholas D. Cahill, email message to author, May 1, 2017.

6 William Aylward kindly informed me that, based on his studies of different applications of lewises and shapes, he feels “there is no way to rule out that a mason somewhere at sometime could not have concocted a lewis for use in a cross-shaped hole for single lifting/set-

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11 One should also not ignore the field workers’ ability to lift a stone quite evenly by lengthening and shortening the ropes or chains running from a double lewis, even if the lewis holes were not centered perfectly with the stone’s center of gravity; such experts did not use rulebooks.
who undertook a special study of the Sardis lewises, “lewises sockets vary in size, shape, and method of carving across time and place,” especially during the Roman era, when lewises tended to display little consistency in design and workmanship, even in the same building.\footnote{12 Aylward 2009, pp. 311–12, 317. Aylward further observed that “sockets with wide openings allowed for easier carving” and easier operation of the multiple lifting irons, preventing them from being jammed inside. See also Aylward 2014. I am grateful to Aylward for generously sharing the early results of his study of lewises in the Greek and Roman world with me.}

There is little doubt that both carving and operating a lewises system required some amount of specialist knowledge and skill. However, this must have been a technical specialization subsumed in a general way under the skills and expertise of masonry, not one that required exclusive cadres of “lewises workers” offering their exclusive knowhow intra sites and regions. Each site and building would have had its own skilled masons to carve a variety of lewises types on demand, just as those responsible for other specialized details, such as dowels, anathyrosis, and drafted edges. Based on our observations of the Roman lewises used in the Temple of Artemis, we suggest that a lot of the rough (but functional) lewises sockets were carved by apprentices under the supervision of their masters.

The Hellenistic capitals of the temple (capitals C, D, E, F, and G) feature an earlier lewises type known as the Carian-Ionic lewises, a type far less common and restricted in use at Sardis to the Hellenistic period (Figs. 2.259, 2.265, 2.268). The typical Carian lewises system consists of a small, narrow rectangular socket with double-slanting sides next to a larger one—often square—with straight sides.\footnote{13 The slope of the lifting socket of the Carian lewises for the Sardis capitals, the nearly square straight socket is very long as the size difference was not extreme. In this collection, see esp. Reger 2010 and Rumscheid 2010. In this collection, see esp. Reger 2010 and Rumscheid 2010.} After the dovetail-shaped iron key was lowered and pushed into the slanted socket, a piece of wood was inserted in the depression of the straight socket to prevent the iron from sliding back out of its wedge hole. In the Carian system, the lewises key was a single piece specially made to fit the socket snugly, as opposed to the standard type, which used several iron keys together. The latter, obviously, had greater flexibility, since the same set of keys could be used in different lewises sockets as long as the size difference was not extreme. In the Sardis capitals, the nearly square straight socket is very large (ca. 26–29 cm) as compared to the small, rectangular slanting socket next to it (ca. 4.6 × 13–15 cm).

The earliest known use of the Carian lewises is in the Propylon of the Temple of Zeus at the Sanctuary of Zeus at Labraunda, and in an altered form (as a kind of a sideways dowel) at the Mausoleum at Halicarnassus, both productions of the Hekatomnid dynasty in Caria (hence the moniker “Carian”) and dating to the early to mid-fourth century b.c. Later examples from the third and early second centuries b.c. include buildings at Priene, Ephesus, Labraunda, Belevi, Miletus, Sardis, and possibly the Temple of Artemis at Magnesia. It was even used in Olympia for monuments dedicated by donors from Asia Minor. The type went out of use by the middle or end of the second century b.c. and was replaced by the more flexible and practical standard type; no known examples from the Roman Imperial period have been found.\footnote{14 A fairly comprehensive study of the Carian lewis hole with special attention to its presumed Carian homeland and its connection to the innovative Hellenistic architecture of Hekatomnid Caria is Pedersen 2011. See also Helleström and Thieme, Labraunda i-3, pp. 70 n. 12, 141, 151; Pedersen 1995; Hoepfner 1984; Demirtaş 2006, pp. 36–37; Demirtaş 2010; Demirtaş 2015.}

Among the scholars who view the period that started with the creation of the Mausoleum at Halicarnassus—and the slightly earlier monumental Hekatomnid tomb at Mylasa—as a distinct era for the flourishing of the arts, architecture, and letters in western Asia Minor, one singles out P. Pedersen as the most committed to and prolific on the subject. As Pedersen underlines, the fourth-century creative center of this movement, which he called the “Ionian Renaissance,” was Hekatomnid Caria; this could—perhaps more cogently conceived (as O. Bingöl kindly remarked in private conversation)—simply be called “the Carian Renaissance.”\footnote{15 Pedersen 2011, pp. 365–67. See also Pedersen 1994; Pedersen 2001–2002; Pedersen 2004. For the first use of the term “Die Ionische Renaissance,” see Noack 1910, ch. 4.} This is not the place to discuss the appropriateness of the name or the substance of such a “renaissance” or “revival,” as some prefer to call it. However, it is true—as Pedersen aptly demonstrates and archaeological discoveries verify—that Hekatomnid influence and patronage in the architecture of western Asia Minor during the fourth and third centuries b.c. was significant.\footnote{16 For new and comprehensive approaches to the study of Hellenistic Caria and its far-reaching influences, see various articles in van Bremen and Carbon 2010. In this collection, see esp. Reger 2010 and Rumscheid 2010.}
The type of lewis described above (and named “Carian-Ionian”) was probably initiated and developed by talented craftsmen working in Caria and spread from there to other sites, including Sardis, with minor variations in design. Not only was the Carian lewis used exclusively on the Hellenistic capitals of the Temple of Artemis, but it was employed also on some ten preserved blocks of the roughly contemporary Metroon in the same city (IN63.118–21). This may demonstrate the simple popularity of this type of lifting technology in Sardis by the beginning of the third century B.C. (hence, the inclusion of Lydia Sardis in the technological and cultural koine of Ionia), but it does not indicate that Carian architects and craftsmen of the “Ionian Renaissance” were at Sardis carving their lewises and spreading a new and specifically Carian-based architecture in Lydia.\(^\text{18}\)

**Horizontal Joining: Clamps**

Both of the primary methods of joining blocks horizontally are used copiously in the temple: the bar (or “hook”) and the butterfly- (or “dovetail-”) type clamps. Bar clamps consist of a plain metal bar (typically iron) with bent-down, bracket-like ends that “hook” into depressions in the stone. Lead poured over and around the clamp secures the bond between the clamp and the stone and protects the clamp from rusting. Butterfly clamps, wing-like in shape, are flat with no end hooks.\(^\text{19}\) They are commonly made of iron or bronze and set in poured lead, but they could be made of hardwood as well, especially in the larger sizes. (Average-sized butterfly clamps are ca. 12–15 cm long and 4–5 cm deep; larger sizes are ca. 26–30 cm long and 4–7 cm deep.) Although many iron bar clamps—with or without their lead settings—have been found in situ, none of the metal or wood elements of butterfly clamps have survived.

\(\text{17 AASOR 43 (1993): 12; Gauthier 1989, pp. 2, 15.}\)

\(\text{18 The Carian lewises on the Metroon blocks are of the same type as those on the temple capitals: a small, rectangular, double-slanted lifting socket next to a much larger, near-square depression. Their lewises are also somewhat smaller, averaging 8.2 \times 2.9 \text{ cm} for the lifting socket, 16 \times 11.5 \text{ cm} for the square socket, and 16.2 \text{ cm} in depth. The carving of the lewises appears crisper than does those of the capitals. The Metroon blocks are inscribed with letters and decrees of the city; they were reused in the synagogue (see p. 207, note 246). They are datable to 213 B.C. Hanfmann observed that by the late third century B.C. (Hellenistic) the Metroon must have become a major urban center in Sardis, “for in that year documents of vital importance for the city were inscribed on the Metroon, not on the temple of Artemis and Zeus” (Hanfmann, SPRT, p. 110, see also p. 117); the significance of this point, with its geographic, religious, and civic implications, is worth thinking about. Sardis RI, pp. 59, 80–81 n. 44. See also p. 218, note 251.}\)

\(\text{19 Some butterfly-type clamps from sites other than Sardis (outside the temple at Sardis) have short pegs at their ends that, like bar clamps, were intended to fit into depressions in the stone. There are actually two examples of this type of clamp among the reused blocks from the temple’s north wall.}\)

Hellenistic construction is characterized by bar clamps at or above the euthynteria level, but no clamps of any kind are used below the foundation levels of major walls. This general rule does not apply, however, to the column foundations inside the cella and the west pronaos porch, all of which are preserved below ground level and have small bar clamps. (Hellenistic bar clamps are typically ca. 10–13 cm long and 2–3 cm deep.) In contrast, Roman era construction utilizes butterfly clamps on foundation courses below the euthynteria level and regular bar clamps at courses at or above floor level. (Roman bar clamps are larger, averaging ca. 15–16 cm long and 4–5 cm deep.) Thus, butterfly clamps are used uniformly on the Roman east crosswall and the column foundations of the north and south peristyles (the latter in especially large sizes, ca. 22–28 cm long, 4–7 cm deep). The foundation blocks of columns 9, 15 (north peristyle), and 14 (south peristyle), which are at the pteroma level and prepared to support the column base plinth above them, have many bar clamps. This is also true for the above-ground level blocks of the west pronaos porch columns (53, 54, and 55). The blocks of the unfinished peristyle foundation courses have no clamps at all. The preserved top course of the west crosswall, a Roman construction, displays both butterfly clamps and bar clamps, sometimes on the same block. This might reflect the dual nature of this wall: the west face of its top course is above floor level and therefore finished, but the east face of the same course is unfinished because it was below the much higher floor of the cella. Although butterfly-type clamps are a feature of the Roman era construction of the temple, the use of this type goes back to the sixth and fifth centuries B.C.\(^\text{20}\) Butterfly clamps of the Classical and Hellenistic periods, as we see them on the Hekatomnion monuments of Caria (such as the unfinished “mausoleum” in Mylasa and the sanctuary of Zeus in Labraunda), sometimes with pegs in their ends, are among the most precisely crafted pieces of their kind.

**Vertical Joining: Dowels**

Several types of dowels, all well known in the classical world, were employed to secure vertical connections between courses at the Temple of Artemis. “Dowel” naturally refers to the connecting pin or peg, almost always of metal but sometimes hardwood, the latter especially in larger sizes. The dowel hole is the socket to receive the dowel, which is either circular (typically Hellenistic) or square in shape; some connections are secured by a peg with one square end and one round, although that type is not used in this temple. Here, circular dowels are commonly used in joining the fluted drums of columns, and they are located in the drum center; many were recut as central standard lewises in the Roman reuse of the drum.

\(\text{20 J.-P. Adam observed that the “dovetail clamp disappeared from the architecture of the [Italian] peninsula during the first century CE” (1994, p. 124)—not so in Asia Minor.}\)
Among the dowels employed between the ashlar courses of a wall or a foundation, a common type is the "edge dowel" (sometimes also known as the "side dowel"). The edge dowel is a Hellenistic feature used uniformly on the north, south, and east walls of the cella (clearly visible on the exposed west end foundations of the south wall); a few edge dowels also occur at the south and north ends of the middle crosswall (the original west wall) and on almost all of the foundation blocks of the cella’s interior columns (Figs. 2.2, 2.88, 2.90). The edge dowel hole is small and square (ca. 5 × 5 - 4 - 6 cm), on the top surface of a block, usually (but not always) paired with a slit-like cutting, or "leverage hole," indicating the position of the course above. The edge of the upper block has a matching hole shaped like a three-sided notch (with an open front, facing the workman) which fits directly over the bottom dowel hole. The workman would then maneuver the upper block exactly into position with the help of a crowbar pivoting in the leverage hole. A square iron dowel peg would be placed inside the lower hole and lead poured through the open end of the upper dowel hole at the block’s edge, and the next block would then be pushed into place, covering the dowel and the leverage slit. This system allowed several crews to work at the same time as long as they were at different levels of the wall, those laying the lower courses ahead of those who were above them. The only Roman uses of edge dowels are seen at three random examples on the north end of the west crosswall (which normally employs regular dowels with pour channels; see below). These may have been exceptions, suggesting the possibility that some Roman masons tried this dowel system they learned from the earlier work on the temple—or, simply, that those blocks came from an earlier construction.

The dowel type common to Roman construction is the standard small square dowel with one, rarely two diagonally cut "pour channels" (ca. 10 - 18 cm long), or shorter "overflow" channels—two different though interchangeable methods. Such dowels can be seen on the west crosswall (Figs. 2.64, 2.68) as well as on the topmost foundation blocks of the north and south peristyle columns (9 and 14), where they are located at the four corners of the finished top course, ready to receive the plinth of the column base above (Figs. 2.114, 2.131). None of the other column foundations of the north and south peristyles (none was preserved at the topmost course) had any use for dowels. The three preserved column foundations of the west pronaos porch, on the other hand, have many dowels with pour channels on their topmost course (foundations 53, 54, and 55; Figs. 2.157–2.159). Dowel holes with pour channels are also visible on the preserved tops of the Roman era east door jambs, both those in situ and those inside the east cella (Fig. 2.36).

Some Hellenistic era elements, such as several of the Ionic capitals or the preserved fragments of the southwest anta capital, have dowel holes with pour channels, which are believed to have been recarved during their Roman era reuse (see pp. 127–128, 136–138) (Figs. 2.296, 2.297). The location of these dowels, at a short distance from the edge of the block (ca. 12 – 18 cm), allowed lead to be poured into the channel after the dowel pin was placed inside the hole and the upper block, with its matching dowel hole, lowered into place. In this case the poured and solidified lead formed a tight seal around the iron peg, also protecting it from rust. Such dowel holes are occasionally visible now if the joint was exposed because of a break or intentional gouging of the marble in order to rob the metals. Some of the pour channels were designed not to reach the edge of the joint (producing a cleaner joint). In these cases, "pour channel" is a misnomer because lead could not be "poured" from outside; it was simply a run-off, or "overflow channel," for the expanding molten lead as the upper element was lowered onto the peg. When this kind of short channel was used to join the lowermost column drum with the top torus of a base, or in the joint between the torus and scotia of a base, a small lead lump can sometimes be seen (with difficulty)

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21 For good descriptions and illustrations of this process, see Martin 1966, pp. 235–37, fig. 10; Adam 1994, p. 123, fig. 119. For another good description and illustrations of dowel varieties, see Bingöl 2004, pp. 95 – 97, figs. 144, 146, 147, p. 99, fig. 150; Bingöl 2012a, p. 23, figs. 317, 318.

22 These two types of channels are understood to represent the two different methods of securing dowels in place. In the first, the metal dowel is put in place and the upper block lowered over it; lead then is poured through the channel. In the second, lead is first poured into the square dowel hole, then the metal pin is put in, and then the upper block is lowered; the channel receives the overflowing molten lead from the dowel hole.

At most sites, including Sardis, both of these methods are used together. This has also been shown by investigations of examples from Aphrodisias and experimental reconstruction of both methods. “Technically, both solutions are feasible and might have been employed during the Roman period alternatively” (Quatember and Paul 2017, p. 157). My qualitative addition to this observation is that the second method, the “overflow” channel with its shorter channel, has the advantage of not exposing the end of the channel at the edge of a joint, where such a joint (as in column drums) would have been visible. A pour channel needs to reach the edge of the joint; an overflow channel normally has no need for that. Quatember and Paul 2017. See also Müller-Wiener 2017, p. 8; Adam 1994, p. 58.
inside the deep cavities of the curving base moldings (Fig. 2.221). Dowels with pour channels must also have been used to join some but not all of the unfluted Roman era column drums, because in several places on the standing columns 6 and 7 the ends of the pour channels—and more dramatically, oozing lead—is still visible.

A third, less-common doweling method is known as the “dry dowel.” In this method the small, square dowel hole is lined by a bronze socket set in a very thin sheath of lead into which the bronze dowel peg fits tightly (“with no play”) without lead inside the casing. A tight-fitting square metal peg (probably bronze since no lead, normally to protect iron against rusting as well as to secure it, was involved) was inserted into the lower socket as the upper drum was lowered onto it, creating a tight fit without lead. Three Roman examples of this type of dowel can be observed on three unfluted drums (one south of Church M; another placed sideways on the south portion of the cella east wall; and the third a fragment preserving roughly one-quarter of the drum, now in the field southwest of the temple); a pair of square dowels with bronze sockets are placed symmetrically on either side of the drum’s center (Figs. 2.3, 2.4). This method does not use lead or pouring channels, avoiding any unsightly view of the channel between joints or lead spillage. However, the method required a very precise fitting of the upper and lower dowel elements since the slightest misalignment would not have been tolerated; the upper and lower dowel sockets and the iron peg must have been designed as a set. As seen on the drum next to Church M and the partial drum southwest of the temple, carefully drawn radial lines passing through the center of the drum and the dowel holes helped to ensure a precise match (Figs. 2.3, 2.4). Butler observed that the Sardis dowels on a lower drum and their matching sockets on the bottom surface of the upper drum were mated made for each other and “the pin and socket were mates . . . not easily [ever] interchangeable.” The process is no different than the precision design of bronze “astragals” (small feet or “bones”) for repurposed Egyptian obelisks which the Romans doweled into their bases, while the 400-ton obelisk was suspended on a lifting mechanism.26

The fluted drums of the Hellenistic temple re-cut and reused in the Roman building seem to have employed the same method; a pair of small square dowels without pour channels were cut on either side of the drum axis. None of these drums (now piled as a group at the west of the temple and elsewhere in the field), have metal casings—either they have been stolen or they never had them. Normally, the original fluted drums of the Hellenistic period were joined by circular bronze dowels or pins (none remains) set into single small, circular dowel holes in their centers (ca. 5 cm in diameter, 6–7 cm deep), a system also used in many Hellenistic temple drums in Asia Minor with bewildering variation, such as those of the Temple of Artemis in Magnesia on the Meander (single, central round dowel; single, central square dowel with one or two round dowels; or with a pair of standard, Roman-type lewises flanking a central, square or circular dowel); or the early to mid-third-century B.C. columns from the Belevi Tomb (single, round central dowel; central round dowel with two asymmetrical round side dowels; large, square central dowel with one round side dowel; large square central dowel only; Fig. 2.5).28

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24 So tight would have been the fit of metal against metal that, contrary to common sense and belief, disjoining the dowel and dismantling the drums of a column would have been no easier than if a normal leaded dowel had been used.
25 Among the hundreds of paired dowel holes we have on our unfluted drums, these are the only ones where such bronze casings are preserved. One wonders how widespread the use of this system was. Considering that none of the dowel holes of the unfluted (or fluted) column drums have pour channels (unnecessary for the “dry system” with no pouring of lead), one suspects that many more might have used this system but their casings have all been systematically robbed out.
26 Sardis II.1, p. 45; Favro 2018.
27 Some of the fluted drums from the temple were reshaped as arch voussoirs and reused in the Monumental Arch in Sardis; they have no such square dowels. This arch is located in the Roman area of city on the Marble Avenue at the southeast corner of the Synagogue. With a central span of thirteen meters, this is truly a monumental triple arch, now under study (see p. 207).
28 Located ca. 14 km northeast of Ephesus, the Belevi Tomb has an
Round dowels for what we believe to be Hellenistic construction have also been used in the Artemis temple to secure joints between capitals and architraves and perhaps, in a limited way, ashlar blocks of regular walls, the latter based on two examples found in the 1972 "trench 2" directly on the south side of the northeast anta pier. Of the five Hellenistic era capitals with sufficiently preserved tops, two (capitals E and F) display circular dowel holes with pouring channels at their corners (see below). We have no satisfactory explanation as to why this detail does not occur on the remaining three (capitals C, D, and G). It is possible that these small capitals from the cella interior carried wooden trusses due to the large central span across the cella (ca. 6.70 m clear, restored, ca. 9.30–9.40 m on axis, north–south; doubled wooden beams are another possibility) although the narrow lateral spans (ca. 5.40 m on axis, ca. 2.80–2.90 m clear) along the east–west length of the cella could have borne regular stone architraves (as shown in Fig. 4.14). Considering that none of the Roman era capitals (A and B, in situ on their standing columns 6 and 7), nor of the architraves—preserved whole or in pieces (all Roman)—display any dowel holes, we may assume that the circular corner dowels with pouring channels belong to the original features of the Hellenistic capitals. Roman era architraves of the temple relied on sheer weight for stability. Yet, the Roman builders were particular about additional vertical stability between column drums or between the top drum of a column and its capital, as they regularly introduced a pair of small, square dowels on either side of the original central round dowel of a fluted, Hellenistic drum (reused in Roman work), or on the bottom of a Hellenistic capital (as in capitals E and F).

An interesting feature shared by fluted and unfluted columns, but not fully explicable, is a large and relatively shallow square hole cut in the center of one or both ends of drums (ca. 12–16 cm square, 5–6 cm deep), as well displayed on the fluted drum sitting sideways on north peristyle foundation base 45 (Fig. 2.6; see also Figs. 2.192, 2.238). The type is familiar from a wide variety of column drums used in Hellenistic and Roman buildings (see example from the Belevi Tomb: Fig. 2.5). Having straight sides, they are obviously not lewis holes but probably housed large hardwood dowels. It is possible that a round hole in the middle of the wood could have held a round bronze pin and served as a...

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29 Of the nine ashlar block fragments found in this trench (along with other architectural pieces from the temple, fragments of capitals, marble roof tiles, terracotta tiles, and potsherds generally datable to the fourth and fifth centuries and one late fourth-/early fifth-century coin), three displayed corner dowels with four channels on their top surfaces, with one of the regular square type and two of the round type. Some of the ashlar pieces have finely finished faces and anathyrosis. Given the mixed nature of their context, it is not certain that they came from any of the cella walls, though they might have. There is no evidence for the use of a round dowel on any of the preserved portions of the Hellenistic cella walls. For recording and excellent sketches of these pieces, see Kenneth Frazer, Sardis fieldbook AT.1972, "Trench 2," pp. 50–53; Sardis R1, p. 82.

30 None of the comparably sized Roman architraves of the Temple of Apollo at Didyma have dowel holes. This is also true for the dozens of much smaller architraves from the Severan Marble Court of the Bath-Gymnasium Complex at Sardis.
central dowel. We have no clear evidence of this but similar arrangements are known; however, the square holes in these cases are invariably much smaller. A more interesting idea, which finds support from many colleagues and specialists, is that the wooden blocks could have served as a sort of axle to which a metal or wood pulling device could be attached for transporting column drums (like giant wheels) from the quarry to the jobsite. Vitruvius describes various versions of such arrangements for transporting column shafts or other large blocks—so-called Chersiphron’s machine—in book 10.12.11–12. Neither might be exclusive of the other.33

*What has been described here is a large pattern of commonly used, conventional construction methods in our temple; some of these can be chronological indicators of Hellenistic or Roman era work. There are, however, many exceptions to these conventions; variations and apparent inconsistencies of usage appear to be common rather than exceptional. For example, on the west crosswall, butterfly clamps constitute the majority (as expected for Roman construction) but there are also many bar clamps occurring side by side on the same block. On the same wall there are square dowel holes with pouring channels in association with leverage cuttings, but some without, and there are also some leverage cuttings independent of any dowel holes. These mixed methods and inconsistencies are occasionally the result of a reused block carrying construction features from an earlier use, later made nonfunctional, side by side with its newly carved construction features. However, they also reveal the flexibility available to the masons and work teams of the temple faced with daily field conditions. Wide ranges in the construction features of column drums, as detailed above with some examples, also support this observation. To summarize, some seven variants to the Roman reuse of the lewis on fluted, Hellenistic drum tops and seven on the unfluted drum tops have been documented, and not all can be explained by function. Showing flexibility and the ability to respond to different conditions, these variations may be more telling and interesting than the strict and mechanical adherence to rules.34

**An All-Marble Temple**

The temple is an all-marble building with few exceptional uses of limestone and sandstone. In its Roman phases, structural mortared rubble is also extensively used at foundation levels (see pp. 70–73). These lesser stones are used mainly under the floor in the original west wall that gave access to the original cela and the floor of the Roman era west cela in the late west wall. Substituting a weaker and cheaper material under thresholds of large openings was a fairly standard structural and economic expedience in ancient architecture (the wall under the Roman era east door in the original opisthodomos of the temple is, significantly, built in marble blocks). The foundations of the Hellenistic cela also incorporate some blocks of limestone and sandstone, although these are mainly reused blocks. The substructure of the image base located in the middle of the original cela (also referred to as the “basis”) is in purple sandstone; it is believed to be a feature predating the temple. In its use as the image base for the Hellenistic cela, no doubt it would have been faced in marble.

All-marble temples (walls, columns, and often most of the foundations) represent a great distinction or luxury associated with Greek architecture. The most prestigious of such temples, which reflect the wealth and pride of their communities, even boast all-marble roofs, such as the Parthenon in Athens, the touchstone for quality and luxury in Greek marble architecture. Although the Romans were more practical in their use of building materials and often substituted (effectively) marble veneer over cheaper stone and rubble construction, Roman temples in Greece and Asia

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33 For a similar detailing from the Mausoleum at Halicarnassus, see Jeppesen 2002, p. 145. Drums with similar large, shallow square cuttings can be observed in use in Hellenistic as well as Roman structures, such as some of the Temple of Artemis at Magnesia, the Temple of Apollo at Claros, the Temple of Apollo at Didyma, and the Belevi Tomb. See also Pliny, *Natural History* 7.125. The basic transport system of setting iron pivots in the centers of column shafts or drums that would freely turn on that axle (as oxen pulled the wooden or metal frame attached to the shafts) was used in the Temple of Artemis at Ephesus. The structural logic of the system is convincing, because the axes of a two- or four-wheeled cart drawn by oxen would be subject to immense strain when carrying loads of 4–5 tons or more. If the roughly shaped column drums were ingeniously used as “wheels” they would have been encased in some form of wooden armature to protect their surfaces. Vitruvius observes, however, that “none of this could have occurred” unless the distance from the quarry was no more than eight miles flat and, in the case of our temple, the Mağara Deresi quarries are a lot closer and downhill from the source, and they were probably accessible by a relatively smooth quarry road. Current uses of exactly the same system can be observed in the transport of the granite drums of traditional olive mills in Anatolia. See Rowland and Howe 1999, pp. 122 (with excellent illustrations), 299. For further discussion and other illustrations of the system applied to the transport of marble blocks, see Russo and Russo 2007, p. 151, figs. 158–59. See also Coulton 1977, pp. 141–43; Landels 1978, pp. 183–85; Bingöl 2004, pp. 44–49; Bingöl 2012a, pp. 118–19, fig 124. On Chersiphron’s scheme of transporting circular columns and drums (with central pivots cut into the center of the drums) and its variations, see Petroski 1991 and di Pasquale 2008, pp. 34–35, fig. 1.

34 As mentioned by a reader, a hardwood dowel or peg filling this hole in the center of the drum might also have been useful for marking the geometrically determined features of the drum accurately for “better centering of compasses in setting out the column circumference and trimming the joint face.”
Minor, lands renowned for the richness of their marbles, were also in marble. Thus, for the archaeologist and architectural historian, all-marble temple construction may appear less remarkable than it really should. We are somewhat inured to the expense and exceptionalism of solid marble construction. In a gigantic temple, such as we have in Sardis, the visual and intellectual impact of the sheer volume of marble that was quarried, transported, and shaped to create it is impressive (ca. 64,000 cubic meters for the Hellenistic cella; see pp. 201–204 and pp. 256–258).15

Based on simple visual comparisons of color, veins, and granular structure, it was long predicted that the marble for the temple might have come from local quarries known as Mağara Deresi, located in a deep ravine some 3 km south of the temple. The remains of an ancient road, extensive evidence of ancient quarrying, and the favorable higher altitude of the source (ca. 150–200 m higher than the temple) made this a likely proposition. These predictions were verified by the recent analysis of the quarry marble using minero-petrographic and isotopic analyses in comparison to marble taken from the temple as well as from other buildings at or near the sanctuary.36 Almost all of the marble used in the temple, in both its Hellenistic and Roman phases, falls within the same or very close ranges represented by the quarries, except for one reused block from the north wall of the temple, judged to be pre-Hellenistic by its construction features (extensive use of the flat chisel, butterfly clamp cuttings, and square dowels), which is petrographically “totally different” from the Mağara Deresi marble, “but similar to samples of Lydian architectural elements”—probably a piece from an earlier structure.37

The quality of Mağara Deresi marble is quite good. Judged by its granular structure (Maximum Granular Size [MGS]), it is comparable to Thasos and Marmara Island (Proconnesus) marble, significantly better than Naxos marble, but inferior to marble from Aphrodiasia, Paros, Carrara, and not surprisingly, Penteli.38 Based on a reading of the verse inscription encircling the base of column 4, declaring “I am the first to rise...” and referring to its base and torus composed of a single block of stone “furnished not by the people [demos] but by the ‘house’ (of the temple),” or made from “our own stones,” it is possible to suggest that at least some of the quarries were owned by the temple—facilitat-

15 A rough calculation (and educated estimate) reveals that the Hellenistic temple—consisting of the cella walls and the interior and porch columns (not counting the foundations and roof structure)—would have required ca. 61,000 m³ of marble as finished blocks (ca. 5,300–5,500 blocks for the walls). Some of these blocks were undoubtedly salvaged from other buildings (see p. 12, note 46). The Roman phase, with 64 peripteral columns (planned though not all built), would have hypothetically added another ca. 3,600 m³ of marble (of which, probably, some 1,300–1,400 m³ was used, which would represent 18–20 columns built).
16 Cahill and Lazzarini 2014. See also Monna and Pensabene 1977, pp. 177–83.
17 Cahill and Lazzarini 2014, p. 41. See also Ramage and Tykot 2011.
18 Cahill and Lazzarini 2014, pp. 39–40, table 2, fig. 10.

ing the boasting of the column (see pp. 190–193). Since we know that the temple could loan money and undertake a mortgage transaction like a modern bank (as in the Mnesmachos inscription; see p. 163), the idea that the sanctuary could own such major resources is quite credible.

AN OVERVIEW OF HELLENISTIC AND ROMAN CONSTRUCTION AND MAJOR PHASES

The original Hellenistic period construction displays carefully shaped and fitted blocks, and it uses bar clamps sparingly; for the main walls clamps are never used in courses below grade, where all blocks are tightly and intricately fitted without mechanical aid. Their use above grade (as in the foundations of the cella interior columns) favors the simple bar- or hook-type of clamps in smaller sizes (for a detailed discussion of major construction techniques and their chronological importance, see pp. 28–35 and pp. 165–174 above). It makes no use of lewis holes for lifting blocks except the capitals, which employ a different style of lifting hole, known as the Carian-Ionian lewis (see above). Dowels for the fluted column drums are small, circular, and placed on the drum center; square dowels positioned on the side or edge of the block (edge dowels) without pour channels are used for ashlars and foundations.

Roman period construction displays coarser blocks fitted with less care. Core construction is noticeably shoddier, filled with smaller, irregular blocks. Lewis holes are used commonly even for relatively small blocks. Clamps, which are copiously used (often joining blocks from all four sides), are both of the butterfly and the bar type, though the former is the norm for courses below the euthynteria level; bar clamps are reserved for courses at or above.

The Hellenistic phase of the temple consisted of only the cella, defined by its west front wall with a door (now the “middle crosswall”), the blank east back wall (opisthodomos), and the north and south long walls. Archaeological evidence indicates that the east pronaoi had pairs of columns in antis, later removed; this might well have been true for the west pronaoi as well. The cella interior (ca. 1.60–1.70 m higher than the pteroma) had two rows of twelve columns to help support the roof; these are preserved only in their foundations (see p. 12, note 46). The Roman phase displays the cella was divided into two nearly equal chambers by a wall 90 cm thick (“east crosswall”) in order to accommodate the imperial cult. A new door was cut in the east wall and stairs were built to provide access into the new east cella. The west cella was expanded by obliterating the original west wall of the temple and building a new west wall with a door (“the late west crosswall”) and stairs (or the original west door and its stairs were moved and reused). Since the
new west cella straddled the western end of the original cella and a part of the west pronaos, creating a major discrepancy in floor levels, the lower pronaos was filled up; the columns in this hybrid area (four from the cella and four from the pronaos) were obliterated and replaced by a new interior support system (see pp. 204–205). This operation must certainly have required the overhauling of the roof structure of the new west cella and perhaps the east cella as well; a number, or even the majority, of the fine original marble roof tiles might have been replaced (Figs. 1.14, 1.15). Over time, the Roman phase also saw the building of the well-preserved columns of the east end and the projecting east pronaos porch, some or all of the columns of the west pronaos porch, and most of the foundations of the south and north colonnades.

THE WALLS

South Wall

(Plans: Plan 6, Pls. i, xi–xiii; Elevations: Pls. iv, xvii–xix)

The south wall of the cella is 67.50 m long between the southwest and southeast antae; its proper thickness at the orthostat level is 1.93–1.94 m. The wall is preserved at its eastern end at a height of 4–5 m in six or seven courses (for a length of ca. 14 m starting at the southeast anta pier, highest at *104.66; Figs. 2.7, 2.8, 2.15, 2.17, 2.18); in the middle, it is preserved at 0.50–2.0 m high in one to three courses (14–44 m); and at its western end at euthynteria level at *100.0 or lower, at foundation courses ranging from 44 to 67.5 m (for the foundations of the south wall see pp. 57–58 below). All the main walls of the cella, interior and exterior, are finished by gradations of fine claw chisel mixed with flat chisel, or chisels, manipulated in different directions. These features are well preserved and visible on a long stretch of the eastern end of the north wall (Figs. 2.19, 2.26, 2.31). A remarkable construction feature on the south face of the south wall is the series of short, incised lines (ca. 1–1.5 cm long) appearing at intervals on the upper surface of the wall socle (or toichobate, just below the torus molding) and marking the locations of the peristyle columns. The distance between each line is ca. 4.98–5.02 m, accurately marking the center positions of each column (now preserved only in their foundations), for a length of 35.04 m measured from the corner of the southeast anta pier. Since the peristyle columns belonged to Roman construction, the Roman mason must have (very practically and cleverly) used the smooth face of the Hellenistic cella wall for an accurate measure of the column positions.

39 The claw-chisel marks on the marble cella walls are so fine that sometimes it appears as if a flat chisel was used. It is almost certain that the mason had three or four different grades of chisels available for use, both claw and flat, which were variously used across the surface. Sometimes their repeated and angled use obliterated the claw-chisel marks. Modern masons (who were interviewed on this technique by the author) use very similar tools, and they adopt a mode of lightly sliding the fine claw chisel diagonally and sinuously across the marble, resulting in an almost smooth surface, though clearly not achieving the sharp, “shaved” look provided by a flat chisel.

40 These elusive marks (not mentioned in Butler’s publications) were first detected by Bahadir Yıldırım, a sculpture specialist, who is famous for seeing such things. The seven intercolumniations marked (starting from the corner of the southeast anta pier) at: 0–1.20 m–5.10 m–10.09 m–15.11 m–20.11 m–25.10 m–30.08 m–35.04 m. We do not know if they would have continued beyond that since the south wall is not preserved above foundation level beyond this point.
2. Description of the Building: The Physical Remains

What follows is a detailed description, moving from west to east, of the construction features of each course.

Course −2: For a stretch of ca. 8 m from the southwest anta—which is preserved only as foundations—the wall is represented by two courses below pteroma level (ca. *99.30–99.35) and varies in width 3.0–3.40 m (Figs. 2.9–2.10). It is composed of very large blocks tightly fitted and smoothly finished with a fine pointed chisel. The blocks are quite uniform in size and distribution; they mainly consist of large, rectangular shapes, without small or irregularly shaped pieces as middle fill for the wall. This course reveals no lewis holes for lifting, nor clamp holes for joining the individual stones. Small, square dowel holes (6 × 6 or 6 × 7 cm, 3–4 cm deep) occur infrequently, and only along the outer edges of the blocks. At the western end, the outline of the foundation course supporting the southwest anta pier (course −1; Fig 2.11) is indicated by nine dowel holes—two along each side and five in front. This end also shows three incised mason’s marks roughly in the center and ends of the foundation course alignments below the anta proper. Lever-age holes (prying holes) occur occasionally along the sides or in the middle of this course, indicating the alignment of the blocks above them. Primarily, the stability of course −2 is provided by the well-shaped and tightly fitted construction, the whole foundation kept in place by the buttressing of the earth into which it was laid (Fig. 2.12).

Course −1: The top surface of the course below the pteroma level is visible for a length of 3.80–4.0 m (57.50–61.0 m measured from the southwest anta pier); it is 2.70–2.80 m wide, with its top at *99.67. Without lewis and clamp holes it has a similar construction to the course below it. Square dowel holes positioned ca. 0.10 m inside the outer edge of the wall are paired with the upper dowel holes carved on the bottom of the course above (“edge dowels”).

Course 0 (euthynteria course): The top surface of course 0 is visible for a stretch of about 16.0 m (44–60 m from the southeast anta pier). This top foundation course is 2.60–2.65 m in width, with its top at *100.00. Its south face, roughly at the ground level of the pteroma, is fairly smooth and regular and projects ca. 10–14 cm outside the face of the finished wall above. Well below the floor level of the cella, its face is left rough and irregular (Fig. 2.20). Construction is similar to the foundation courses below; the surface is even and uniform with smooth, point finish; blocks are large and tightly joined without a distinct middle zone construction. There are no lewis holes but rather clamp holes of the hook type 18–23 cm in length, positioned along the edge of the wall and joining the blocks laterally on the exterior side, rarely on the interior side. No clamps are used to tie the blocks internally, across the thickness of the wall. Clamps are placed along and 30–32 cm from the south face of the wall. This is also the course where square dowel holes are regularly paired with leverage holes, each pair located ca. 30 cm from the south edge, and more or less in the middle of the block (which indicates the exact position of the
course above, just at the edge of the leverage hole and covering the dowel hole). The leverage cuttings are on the west sides of the dowel holes, suggesting that construction of the course above moved from east to west.

**Course +1 (first course of the wall above the foundations):**
The upper surface of course +1 is visible for a length of about 6.0–7.0 m (37–44 m from the southeast anta pier), 2.30–2.35 m thick, and 0.50–0.51 m high, with a top elevation at *100.51. This lowest first course of the wall proper projects 2 cm beyond the face of the course above it, creating a decorative offset. Both courses display a smoothly finished outer face (different grades of fine claw chisel); their inner faces, left rough, are well below the cella floor level. Exterior vertical joints, where finished, are extremely tight because of the use of anathyrosis, but many have a rough, vertical band, left unfinished to protect the joint (Figs. 2.14, 2.15, 2.17). The thickness of the wall is composed of, essentially, two rows of blocks: an outer, southern row, tightly fitted against an inner one. Large clamps of bar type, 33–34 cm long, are used to secure only the outer row of blocks laterally, situated 22–24 cm from the edge. Also forming a row at about the same distance from the edge are pairs of square dowel holes and leverage holes; a few dowel holes also occur along the interior edge, though these are not paired with any leverage cuttings. The leverage cuttings of the outer row (only five examples are visible) are located on the eastern side of the dowel holes, indicating that construction moved from west to east (the opposite of course 0 below it). No lewis has been used.

**Course +2:** The second course above the euthynteria is 2.02–2.03 m wide and 0.58 m high, with its top at *101.10. The outer face has a handsome torus-shaped crown molding, which is finished (except for the southeast anta base; Figs. 2.8, 2.14); the inner face of the course, although still below the cella floor level, is finished with a point chisel. The top surface of the course, visible for a length of about 15 m (22–37 m from southeast anta pier), shows a departure from the construction style of the course below it. There is a clear inner and outer “facing” of the wall displaying roughly rectangular blocks laid lengthwise (east–west), with a middle area filled with smaller, irregularly shaped and sometimes broken and reused blocks. The top surface has a moderate to fine point-chisel finish (Fig. 2.16). The facing blocks, outside and inside, are joined together laterally by bar clamps (outside clamps are situated 22 cm from the edge; their lengths vary 23–30 cm). There are no lewis holes even though some of the blocks are quite large (1.20–1.60 m long). The exterior south face of course +2 shows excellent workmanship with a fine claw-chisel finish, and razor-tight vertical joints with anathyrosis (Fig. 2.15).

**Course +3:** With a height of 0.88 m, course +3 is the orthostat course on the outside; it is backed by two courses, each 0.44 m high, with a top, outside elevation at *101.99. The wall thickness is 1.94 m. The top course has a nearly smooth, fine claw-chisel finished interior face; this would have been the first course (dado) visible above the cella floor paving. The top surface of this course is visible for a stretch of only 5–6 m. Both the outer (orthostat) and inner blocks are laterally joined by bar clamps; where visible, the inner blocks show the pairing of dowel and leverage holes—the latter on the east side—indicating that construction moved from west to east (also true at the orthostat level of the north wall). There is little to no use of middle-fill blocks; there are no lewis holes. The outer face of this course has a bottom molding of a simple fillet and apophyge and a very fine claw-chisel finish. Vertical joints are smooth, polished, and extremely tight. Some of the orthostates are 2.80–3.0 m long, making them the largest ashlar blocks preserved anywhere in the cella construction.

**Course +4:** The second course above the cella interior paving (and the fourth above the exterior pteroma) is preserved for a length of 14.50–15.0 m from the southeast anta pier corner, with its top at *103.56–103.60. The top surface of only one interior block of course +4 is visible, revealing a con-
Construction of inner and outer blocks joined by a thin, middle fill, lateral clamps, and square dowel holes paired with leverage holes. There are no lewis holes. The exterior surface reveals a fine claw-chisel finish and tight, smooth vertical joints.

Courses +5 and +6: Both of these courses are preserved for a length of about 14.50 m from the southeast anta pier corner; they are 0.70 m and 0.60 m high, respectively. The top of course +6 is at *104.66, and only the top of the inner blocks of course +5 is visible, for a stretch of ca. 5 m; it shows only lateral clamps and paired dowel holes and leverage holes. Both have inner and outer ashlar facings with a middle core of irregular and smaller blocks (Fig. 2.18). The inner corner of the east wall of the cella is structurally bonded into course +6 of the south wall; corner blocks are also clamped together. The exterior of course +5 and course +6 (and presumably all other courses above these) display drafted edges: the periphery of each ashlar block is drafted smooth 1–2 cm wide; the center is finished with a very fine claw chisel and slightly raised. The third block from the west of course +6 is not in situ but rather was placed in this position by Butler (with a large lewis hole in the middle and three half-clamp holes of the butterfly type, it was probably an original block of the cella but reworked later to be used somewhere else in the building).

Course +7: This third course with drafted edges is preserved for a length of 4.40–4.60 m and mainly defines the southeast anta of the cella, with its top at *104.66. Standing ca. 4.66 m above the pteroma, this is the highest-preserved level of the south wall. The westernmost block, probably not original, has a “half interior” clamp. The top surface of course +7 displays the usual arrangement of lateral clamps of the bar type along the outer and inner sides of the wall, and paired square dowel hole and leverage hole combinations. Leverage holes are positioned on the west side of the dowel, indicating that construction moved from east to west, i.e., from the end of the anta toward the junction of south and east walls, a situation also observed in the north wall of the cella. There are no lewis holes.

The inner face of the eastern end of the south wall defines the inner face of the southeast anta and faces the east porch of the cella for a length of 5.60–6.0 m (Figs. 2.20, 2.29). Thus, courses +1 to +7 correspond to those seen from the outside and, like them, display very fine claw-chiseled surfaces with precise vertical joints. The bottom two courses (+1 and +2) constitute the dado and the course with the torus molding. The two courses above them (the orthostat/course 0 and course +4) have fine claw chisel-finished surfaces; the top three preserved courses (courses +5, +6, and +7) have drafted edges. The end of the southeast anta base, arranged as a giant pilaster-pier, projects beyond the wall surface and displays a partially finished base molding of the Attic-Ionic type (Figs. 2.15, 2.18).

As is consistent with other original Hellenistic construction, there are no lewis holes in the Hellenistic construction of the south wall, except for its western end extension for
a length of 7.50–7.60 m from the face of the southwest anta (preserved at two courses below euthynteria level); this is, of course, the Roman addition to the wall. These large Roman lewises are of the standard type (ca. 15 × 6.5 × 11.5 cm).

**North Wall**

(plans: Plan 6, Pls. i,viii–x; elevations: Pls. iv, xiv–xvi; Fig. 2.110)

Like its southern counterpart, the north wall is 67.50 m long between the northeast and northwest anta piers. While the northeast anta is preserved to three or four courses above ground (maximum height at its eastern end at 2.74 m, top at *102.74*) and intermittently at only two courses, the wall drops down to a single course 59 m west of the northeast anta, top at *100.51*. Only the euthynteria and the foundation courses below the pteroma level (courses −1 and −2) are preserved 64.5 m west of the same point. The interior connection of the northeast anta and northeast anta pier with the east wall is well preserved (Figs. 2.20, 2.31, 2.32). Nothing of the northwest anta remains above ground, though its northwest corner is clearly marked on the euthynteria. The north wall at orthostat level is 1.94 m thick.

The western end of the north wall directly under the missing northwest anta pier is exposed at euthynteria level (course 0) for a length of ca. 3.50 m (or, 64.0–67.50 m measured from the northeast anta pier) and has a foundation width of 3.45 m. The exposed part shows large blocks joined along their outside edge by three large hook clamps (29–30 × 8–9 cm) to the east end of the Roman era foundation block of column 48. These blocks also have edge dowels joining the first course of the northwest anta pier (13 × 7 × 4.5 cm). The top surface of this course displays a fine point-chiseled finish on which L-shaped incisions and faint setting lines mark the northwest and southwest corners of the anta pier. The southern (inner) face of this course and the two foundation courses below it (courses −1 and −2), are left rough and project out in steps.

The foundation course below the euthynteria (course −1) of the northwest anta juts out and extends west, making a continuous joint (or dividing line) between the Hellenistic and the Roman constructions (see pp. 87–88). It is connected by butterfly clamps to the foundations of column 48 but not bonded. The blocks on the Roman side of the construction are joined to one another with the same large butterfly clamps, and some display lewis holes; there are no lewises holes on the Hellenistic construction. This course, which is below the euthynteria, creates a space about two meters wide between the blocks that support the northwest anta and column 48; the distance between the reconstructed anta at the base and plinth of column 48 (in situ) is 2.38–2.40 m, exactly the anta-to-column-plinth distance for the fully preserved east side antae. This system of continuous or joining block foundations between an anta and the column before it, also true for the southwest anta and column 49, is different from the east-end system, where there is a void between the antae and the columns in front of them (columns 16 and 17; see below). The 2.68 × 3.50 m stretch of course −1, visible between the northwest anta and column 48 (see Figs. 2.107, 2.153), represents the physical joining of two period constructions: the eastern blocks are essentially a continuation of the foundations of the north wall and the western blocks represent the Roman addition. Leading up from the northwest steps and serving as the main passageway into the porch of the temple, the surface (top at *96.62*) has been worn smooth by pedestrian traffic.

**Course +1:** The top surface of the first course above the pteroma is visible for a length of about 5–6 m (59–64.5 m from the northeast anta pier). This is also the stretch where the west crosswall of the cella wall joins the north wall. The course is 0.51 m high, with a two-centimeter projection be-
Beyond the face of the course above it (top at *100.51–100.52). The north face of this course for the entire length of the wall is well preserved with a fine claw-chisel finish and tightly fitted, smooth vertical joints. The construction of this course is characterized by large and carefully fitted oblong blocks for the outer and inner faces of the wall, joined laterally by bar clamps on the exterior and interior sides. The middle of the wall (at this course) is filled with smaller, irregularly shaped blocks. The surface is smooth with a fine claw-chisel finish or, in some stretches, very fine point-chisel work to allow for a smooth contact surface with the course above it. As in the south wall (typical of Hellenistic construction), there are combinations of small, square dowel holes with leverage holes, situated more or less in the middle of each block (dowel holes measure ca. 6 × 6 or 7 × 7 cm, 5–6 cm deep). On this course, as well as the ones above it, leverage holes are placed east of the dowel holes, indicating that the blocks of the course above them were laid from west to east.

Course +2: This course, 0.58 m high and characterized by its exterior torus molding, is exposed fully or partially for a length of 25–26 m (34–39 m from the northeast anta pier), with the top at *101.08–101.10. The long exterior face is carefully finished by claw chisel and has razor-sharp vertical joints achieved through the use of anathyrosis (in a few places where the end of a block is exposed, the mirror-smooth polish of anathyrosis and edge-dowels can be seen; Fig. 2.21). However, the horizontal joint between courses +2 and +3 (above the bottom torus molding) along the north face of the wall is unusually wide (ca. 2–3 mm), as Cahill commented in conversations in 2018, “The lead sheet visible in the [same joint of the] northeast anta explains this otherwise unique feature.” We do not have parallels for such joint construction, except for the joint between the torus and scotia of column base 13, where the presence of a thin lead sheet is barely visible (see Fig. 2.222), and we know neither its details nor its purpose or the advantage it offers. The heavy but delicate blocks have not been lifted or tilted to explore the joint.

The second course is not visible inside the cella, as it is below the paving level. Like the course below it, the exterior and interior faces of the wall are composed of larger regular, rectangular blocks of 1.20–2.0 m length; the middle fill is made up of smaller, irregularly shaped stones laid in rows (Figs. 2.22, 2.23). Both the exterior and interior blocks are joined laterally by bar clamps, those of the outer face being slightly larger than those of the inner face (ca. 28 cm vs. ca. 24 cm in length). Commonly used are the pairs of small square dowel holes and leverage holes (Figs. 2.24, 2.25). A curious feature of this course is the existence of eight long, slit-like dowel holes (8–12 cm long, 3 cm wide, and ca. 1.20–1.30 m apart) at the west end. Sharply and precisely cut, one of them still preserves its bronze socket. This distinctive—and apparently earlier—dowel type seems to be independent of the usual square dowels (paired with leverage holes), not a substitute for them. This unusual feature has no obvious or rational connection to this Hellenistic phase of
wall building, except that they might have been a preexisting feature of these blocks.41

**Course +3**: The orthostat course, 0.87 m high, with its top at ca. *101.98 and varying in width (0.45–0.60 m), is preserved for nearly the entire eastern half of the cella north wall (0–26 m), then intermittently along its western half. The inner face of the orthostates, at the junction the wall makes with the original west wall of the cella (49–53 m), facing the Hellenistic pronaos area, carries the Mnesimachos (“mortgage”) inscription (see Figs. 2.53–2.56). The inner (southern) faces of the orthostates of the cella interior are backed up by double courses, 0.46 m high at bottom and 0.41 m high at top. The inner face of the bottom course, the foundation, is left rough and projects as a ledge 12–15 cm into the cella; the paving was laid on this ledge. Clear impressions of mortar bedding for paving blocks are still preserved on the inner face of the north wall in the northeast corner of the cella, a rare instance of direct evidence for the finished cella floor at *101.60–101.69 (Figs. 2.32, 2.33). The course above the “dado” course of the cella interior is finished smooth and makes a two-centimeter decorative projection beyond the face of the course above it (course +4). Both the orthostates and the large blocks backing them are joined laterally by bar clamps (26–28 cm long) and display the usual pairing of square edge dowels with leverage holes. There are no lewis holes. Along some of the stretches of the north wall, the irregular and small blocks of the middle fill can be seen, although for the most part the outer- and inner-facing blocks are very large and join the orthostates directly. The outer (orthostat) face of this course shows gradations of finish, from the work of a coarser claw chisel to that of a finely finished claw or flat chisel, and tight vertical joints (Fig. 2.26).

**Course +4**: This course is 0.76 m high and 0.60 m wide, and is preserved for a length of 8–9 m on the exterior of the eastern end of the cella (4.50–13.50 m from the northeast anta pier), and has a single large, L-shaped block comprising the east end of the northeast anta pier. The top of the course is 2.72 m above the floor of the pteroma euthynteria, with the highest preserved level on the north wall at *102.72–102.74. Like its counterpart on the south wall, the exterior blocks of course +4 are among the largest and finest in the temple, some reaching 2.50–2.75 m in length. The exterior face shows a smooth claw-chisel finish applied in successive combinations and stages (Fig. 2.26); vertical and horizontal joints are so fine as to be nearly invisible (an extremely well-polished section of anathyrosis is preserved under the course because of a slight outward shift of some blocks; Fig. 2.27).

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41 The use of precisely made, narrow, rectangular dowel holes (for similarly shaped metal dowels) predates square dowels and seems to be a characteristic of the Classical period, if not earlier. Among the earliest examples is the Temple of Athena Nike on the Athenian Acropolis. Similar dowels (lines with thin metal “sleeves”) were also used in joining column drums, as in the Temple of Apollo in Claros. See Martin 1965, pp. 226–27, 288, fig. 27.
The top, where visible, reveals well-shaped blocks joined laterally by a row of bar clamps (each clamp 26–27 cm long); the inner row of the blocks is less regular, but also they are joined to each other by lateral clamps (Figs. 2.22, 2.23). These blocks also show the usual square-dowel-and-leverage-hole combination, the latter placed on the east with work progressing from west to east, as observed for the lower courses of the north wall. However, this order changes east of the junction that the north wall makes with the east wall of the cella, where the leverage slits are positioned west of the dowel holes; hence, work must have moved from east to west, starting at the northeast anta and moving toward the junction of the two walls, where the two work parties met.

Laying the Courses

The specific detail of the pairing of edge dowels and leverage holes (the latter placed to one side and immediately to the east or west of a dowel hole) is standard for all courses of the north and south walls at or above the pteroma level (course 0). This detail indicates that the movement associated with the laying of blocks required the builder(s) to move backwards. The workman faced the block to be positioned and moved back, adding new stones to each course as he went. The end of the block to be placed in position (facing the workman) had a dowel hole carved at the bottom edge of the block, more like a three-sided corner notch rather than a proper square hole—an edge dowel. This three-sided hole would fit directly over the bottom hole on the block. After an iron (rarely hardwood) dowel was placed inside the lower hole, the end of the upper block was slightly raised and positioned over the lower course with the help of a crowbar resting in the leverage hole or slit; then lead was poured into the lower hole and around the dowel to seal it. The next stone laid in line covered both the dowel and the leverage slit. In this system, it was possible for several crews of workmen to be active at the same time, so long as they were situated at different levels of the wall, those laying the lower courses working ahead of those above them.42

East Wall

(plan: Plan 6, Pls. i, x, xiii; elevation: Pls. iii, xx)

The east wall of the cella separates the original opisthodomos from the cella and has a length of 18.40 m (at top; 18.36 m at bottom) and a width of 1.93 m, with a 6.08 m opening in the middle for the east door. Thus, the east door divides the total length of the east wall into three almost-equal parts (6.14 m–6.08 m–6.14 m). It is preserved on the north end (north of the east door) in four courses at a height of 2.74 m, with a top at *102.74; on the southern end it is preserved at a height of 3.46 and 4.07 m in five and six courses, tops at *103.46 and 104.07 (Fig. 2.29). The exterior (porch-facing) surface of the east wall displays a fine claw-chisel finish, but

42 The process of wedging blocks together with the help of a crowbar inserted into a specially placed leverage hole was common in Greek construction and adopted by the Romans when they used ashlars. For a good description and illustration of the process, see Martin 1996, pp. 235–37, fig. 110; Adam 1994, p. 53, fig. 119.
the bottom of the orthostat course, the apophyge and bottom fillet, and the torus curve of the course below it are partially finished. Only short stretches of the wall were completed as a means of providing intermittent finished profiles for apprentices to follow in order to complete the rest of the roughly sketched profile. The blocks, starting with the third course above the wall socle (preserved on the southern end of the wall), display drafted edges with raised middle panels, similar to the exterior finish of this course elsewhere in the temple (Fig. 2.29). The same course on the interior (facing the cella)—as all preserved courses of the interior—is plain and finished in fine-tooth chisel (Fig. 2.30).

There is a subtle but measurable curvature in the east wall (with a maximum rise of ca. 5–5.5 cm in the center) that is comparable to the curvature of the north and south walls (see pp. 55–56).

**Northern and Southern Ends of the East Wall**

(Pls. i, x, xiii)

The top surface of the northern end of the east wall is visible only in short stretches because of the large architrave blocks placed on top of the wall (Fig. 2.32; see Fig. 2.181). At orthostat level (course +3) the east wall makes a straight joint with the north wall on the cella side; two bar clamps join the corner blocks (9 cm apart, 8 cm long); on the porch side the blocks are cut at a 45 degree miter and joined by a single diagonal corner clamp (Fig. 2.31). Several square dowel holes (without accompanying leverage holes) are visible at this level. A smooth band 10 cm wide along the outer edge of the orthostat tops, finely finished with a claw chisel, represents a kind of horizontal anathyrosis to ensure tight horizontal joints. The interior (cella) face of this course is built in two separate levels, the lower blocks projecting below grade with roughly trimmed faces; the upper, designed to receive the floor paving against it, finished with a fine claw chisel. Traces of mortar for the paving—still preserved in very small patches against the face of the course—constitute the only, hence critical, evidence for the (presumably) marble-block paving and the level for the original cella (Figs. 2.32, 2.33).

**Course +4:** The course is 0.76 m high, top at *102.74, and is preserved in three blocks for a stretch of 2.80 m north of the east door. The single wall block, placed directly against the eastern and western halves of the north jamb, covers the full 1.93 m thickness of the wall (Fig. 2.34). The blocks are attached by bar clamps. Only two dowel-and-leverage-hole combinations are preserved (leverage hole on the south). No lewises were used. Based on the dowel/leverage holes...
immediately north of the door jamb, the top of the southern end of this course was prepared for a 0.38 m wide course above it. This suggests that the upper course was originally longer, extending southward, but was later cut in order to accommodate the door, thus leaving only the short end of its bedding impression.

The southern end of the east wall is preserved for a stretch of 3.50 m between the south jamb of the door and the junction of the south and east walls of the temple. It is 1.92 m thick. Two unfluted column drums, one on its curved side, were placed on this section of the east wall by Butler, severely limiting the visibility of its top surface (Fig. 2.35). The top course preserved is the fifth one up from the east porch floor (course +5), and consists of the dado, the course with torus molding, the orthostat, and two courses above it (top at *103.47). Course +6, with two blocks at the southern end of the east wall, is the highest course preserved, with its top at *104.07.

Construction follows the system of the main walls of the temple: larger rectangular blocks are on the inner and outer faces of the wall, and the middle is filled with smaller, irregular blocks. Bar-type clamps are used, but they are visible only along the interior (cella) side. Several dowel-and-leverage-hole combinations are placed along the edges of both the inner and the outer sides. Leverage holes are placed on the north, indicating that construction moved from south to north, or from the wall junction to the center of the wall. Two of the edge dowel-and-leverage-hole pairs are placed only 14 cm from the south jamb of the door, which would have made it impossible for a workman to manipulate the blocks of the course above; this again suggests that the large, upright jamb blocks were not original to this position but were placed after the main east wall was built. As in the northern end of the wall, no lewises are used. Furthermore, although dowel-and-leverage-hole combinations normally occur close to the center of the blocks to allow for the staggering arrangement of the joints, their location, only 14 cm from the edge of the lower block, would necessitate that the vertical joint fall almost directly above the one below it. This unusual situation provides further evidence that the door in the east wall was not an original feature.
Centered on the axis of the east wall (and the cela) is the east door, 6.08 m wide between tapering ornamental jambs preserved in situ to the top of their first vertical segments, 2.90 m high, with tops at ca. 104.61. The jambs are composed of two equal parts with a total depth of 1.80 m and a frame width (ornamental face) of 1.10 m. Framing the backs of the jamb blocks, as seen easily on the north jamb, is anathyrosis, uniform at 0.16 m except for the side facing outside, where it is 0.30 m wide (Figs. 2.34–2.36). The jamb blocks are joined at their tops by pairs of gigantic bar clamps (south jamb: ca. 36–38 cm long with 9–10 cm end depressions for clamp hooks; north jamb: ca. 38 cm long with 9–11 cm depression for hooks). Each block has one or two large lewis holes (south jamb: inner block cross-shaped lewis, 21 × 23 × 18 cm; outer block regular lewis, 20 × 8 × 16 cm, centered on block top). The cross-shaped lewis of the south jamb is centered on the block only in relation to its north–south cross arm (center to north and south faces is 55 cm; center to east edge is 30 cm; Fig. 2.36). The north jamb inner block has a central lewis (16 × 7 × 18–19 cm); the outer block has two centrally placed lewises (15 × 6 × 18–19 cm).

The threshold is composed of seven massive blocks of marble with a total width of 2.22 m, a thickness of 0.63 m, and its upper surface at 1.71–1.73 m above the porch floor (as preserved without paving); but on the inside, facing the cela, the threshold steps down by 5.5–6.0 cm. The “riser” face of this threshold indicates that it also stepped down an additional ca. 9 cm to the projected finished cela floor at the center (making a total difference in level of ca. 15 cm between the outer threshold and cela center; Fig. 2.36). Since the top of the paving along the sides of the east cela (along the north and south walls) can be reconstructed at the same elevation of the higher, outer east door threshold, the “aisles” would have been ca. 15 cm higher than the center. The outer threshold of the door (facing the east pronaos) is 1.71 m above the upper surface of the partially preserved marble platform that supported the steps located in front of the door. This platform, supported by its foundations, is 8.50 m wide and 2.70 m deep; the stairs can be reconstructed with six risers of 23 cm and treads of 40 cm each (Figs. 2.29, 2.37, 2.38, 3.43). The top course of the platform is constructed of regular marble blocks (rising 12–15 cm above the present, unfinished porch floor); the middle portion is filled in with mortared rubble. The position of the stairs and its marble parapets (parotids, as Butler...
2. Description of the Building: The Physical Remains

Figure 2.41. East door, north jamb, graffiti

The door was reconstructed on paper by Butler at a height of ca. 12 m, with slightly tapering jambs (Fig. 2.39). The jambs and the lintel are ornamented with triple fasciae divided by bead-and-reel, lesbian cyma, and an outer molding of bead-and-reel, an ovolo of egg-and-dart, and a cavetto row of palmettes framed by a thin fillet (see Figs. 2.45, 3.7–3.9) (see pp. 168–174). The interior has a plain, angular frame molding (Fig. 2.30). The cornice of the east door is preserved in several blocks and composed of two pieces: a lower dentil band (0.70 m high) and a strongly projecting corona (0.41 m high) flanked, or supported, by a pair of large consoles, traditionally designed with deeply carved volutes, partially preserved (Figs. 2.39, 3.27, 3.28). No frieze has been found, but a hypothetical one has been assigned in order to fill the space between the corona and the lintel.

The lintel is unorthodox, not supported by jambs directly, but rather by impost or corner blocks on top of the jambs. These pieces (one preserved) are cut back at a 45-degree miter at the back; the front (where the triple fasciae ornament continues) makes a vertical joint with only a four-centimeter lip, or bearing surface, on the jamb (Fig. 2.40). The lintel, probably a monolithic block spanning the full width of the door, must have had mitered ends also; it was actually shaped like and functioned like a voussoir or a giant keystone against the inclined surfaces of the corner blocks. The vertical joint visible in front is structurally a false joint.44

Large, square depressions (40 × 40 × 10 cm) on the interior extension of the threshold inside the portal (cella side) supported the metal hinges and pivots of the great door; the square sockets must have been filled with hardwood blocks framed in bronze (Figs. 2.30, 2.39). The door swung into the cella, as shown by the clear, curved grooves on the interior threshold. In the middle there are one square and three small rectangular cuttings, presumably for the vertical bolts to secure the doors. The surface of the threshold is worn smooth by long usage, especially in the middle. Several markings and scratches, one a large disc for a game board, suggest that this was a good place to sit and be idle. The interior surface of the great jambs, as well as the pronaos-facing surface of the south anta wall, have many crosses, large and small (Fig. 2.41, 2.42). They (and more on the interior anta walls) must have been scratched into the stone when the temple was abandoned for pagan use, regained and sanctified by the symbols of the new faith represented by Church M, conveniently close.45

43 The bottom width of the door opening is 6.10 m and the top width is 5.80 m. Using Butler’s restored height of 12 m, there is a ca. 0.15 m slope over the 12 m on either side (a slope of 1/80, or 1.25 cm per meter).
44 Sardis II.1, pp. 39–41.
45 On religious graffiti and crosses scratched on the walls of pagan monuments, see Jacobs 2013, pp. 615–17.
The Wall under the East Door

(Pls. iii, xx)

The east door breaks into the east wall for a length of ca. 8.30 m (including its jambs). The top of the east face of the threshold bears a smooth band (0.23 m high) showing the top riser of the now-missing stairs. The visible portion of the wall under the threshold is composed of two courses: the upper course in four blocks, ca. 0.57 m high, and the lower course in six blocks, ca. 0.51 m high. These two courses follow the height of the bottom courses of the cella walls (Figs. 2.43, 2.44). Four blocks of the top course (under the door) are rough and slightly misaligned. The two outermost blocks of the lower course are smooth and finished. They appear to be a continuation of the bottom course of the original east wall, while the four blocks between them were left partially rough, displaying a smooth horizontal upper band (8–9 cm wide); the two northern blocks also bear rough, unfinished vertical bands. Two of the middle blocks retain their lifting bosses. The two outermost blocks of the upper course (only partially under the door jambs) display fine claw-chisel finishing, except for their tops, which are rougher and show rudimentary preparation for the torus molding typical for this course as it extends north and south (Fig. 2.45). In terms of construction details and state of completion, the wall under the east door threshold is no different than the rest of the east wall and the anta walls with their mostly unfinished moldings; clearly it was a part of the original Hellenistic opisthodomos.46

East Crosswall

(elevation: Pl. xxi; plans: Pls. i, ix, xii)

Stretching between the north and south walls (18.36 m long, 0.93 m wide), the east crosswall divides the cella into two equal chambers (Fig. 2.86). Almost the full length of this wall, except for a 3.22 m stretch at its southern end, is preserved at *101.50. This level corresponds to the top of the foundation course inside the cella at *101.53 (with rough vertical faces), which is about 15–18 cm below the finished paving of the cella. The southern end of the wall is preserved one course lower, at *100.92. Course +3 is 0.53 m high and 1.06 m wide; below it, course +2 projects about 10–20 cm on either side. The width of the wall proper above these foundation courses can be calculated to be 0.93 m based on clear impressions of the setting bed—though no blocks of this course have been preserved. Neither end of the crosswall bonds into the long walls of the temple. At its better-preserved northern end a shallow notch (10 × 7 × 93 cm) carved into the north wall face provides a 10 cm overlap joint between the original north wall and the later crosswall keyed into it (Fig. 2.46).

For archaeological and stylistic considerations regarding the east door, its ornament, and the wall under it, see pp. 168–174.
The top surface of the east crosswall has a very different construction technique compared to the main north, south, and east walls of the cella—one that can be identified with the Roman phase of the temple (Figs. 2.47–2.49). The marble blocks that comprise the wall are much smaller and all, without exception, have medium-sized standard Lewis holes (see below). The blocks are joined to each other with a copious number of large butterfly clamps (22–28 cm long and 4–5 cm deep, with no end depressions for hooks).47 The clamps are positioned not only along the outside edges of the blocks, as is usually the case for the north and south walls, but also across the width of the wall; each block is joined to its neighbors by at least one and sometimes two clamps.

Another important difference is the elimination of the ubiquitous square dowel holes as a method of securing the lateral stability of the courses. The preserved top two courses of the east crosswall reveal no dowel holes. Yet, one should keep in mind that these are foundation courses, and there may have been dowels on above-grade courses. There is an abundance of leverage holes, sometimes several side by side.

47 Although butterfly clamps are an indication of Roman construction in the Artemis temple, their origin, going back to the sixth century B.C., is actually earlier than the simple bar (or hook) clamps, which are typical of fifth- and fourth-century construction in Greece and Asia Minor. Close early examples at Sardis are the all-lead Lydian butterfly clamps in the Tumulus of Alyattes and the ByzFort terrace, both sixth century B.C.; see Ratté, Sardis R5, pp. 32–34. Butterfly clamps of the fifth and fourth centuries (as we see at the Sanctuary of Zeus at Labraunda or at the Panionion) typically have deeper ends, and thus technically they take a bar clamp inside a butterfly hole. On the Hellenistic altar of the Temple of Zeus at Euromos they are large and probably took hardwood clamps. In the Artemis temple at Sardis most of the large butterfly clamps have no end depressions; they were probably simply filled with lead, or possibly hardwood in the larger ones. There are two isolated examples of butterfly clamps with neatly drilled, end depression holes among the reused blocks of the north wall; see Bingöl 2004, pp. 100–102.
side, positioned along the edge of what would have been the missing upper-course blocks. These leverage holes, and the impressions of setting beds, provide us with a good clue to the placement of the upper course. Although the surface of the top course (+3) is finished quite smoothly in a combination of claw and flat chisels, and the blocks are quite well fitted, the construction is uneven; clamp holes and lewis holes are coarsely and unevenly cut.

Visible for a stretch of 3.2 m, the southern end of the east crosswall, preserved one course lower, shows construction similar to the course above it: all blocks have lewis holes and are joined by large and coarsely made butterfly clamps with no dowels (Fig. 2.46). Mortared-rubble construction was packed against both east and west faces of the east crosswall and reaches down to its lower foundations. The west face is flush with the foundation blocks of bases 73 and 74.

**East Crosswall Lewis Holes**

(Pls. ix, xii)

Although the individual blocks comprising this thin, late wall are relatively small (larger sizes ca. 1.40 × 1.12 × 0.58 m, ca. 2.5 tons; smaller sizes ca. 0.90 × 0.41 × 0.58 m, ca. 0.5 tons), each displays a regular lewis hole, signifying that Roman construction routinely employed the lewis system, even for lifting small blocks weighing a mere one-fifth of the larger ones that could have been lifted by simple rope slings. The lewises from a random selection of 13–14 blocks preserved as the top foundation course of the wall (from a total of 22 blocks) were studied. The lewis lengths vary 8.0–14.5 cm, averaging 12.0 cm; widths vary 3.4–7 cm, averaging 5.2 cm; depths vary 4–18 cm, averaging 6.8 cm. One notes that these figures represent exceptionally wide widths and shallow depths (“contact surface,” which is the crucial lifting area) compared to earlier Roman and Hellenistic examples from other sites, even for blocks of comparable size.48

**Middle Crosswall**

*(Original/Hellenistic West Wall)*

(Pls. 1, ix, xii, xxi)

This is the original west wall of the cella (which appears as a “middle crosswall” between the “east crosswall” and the late “west crosswall”), preserved at the level of course +2 at its northern end, with a top at *101.07. It drops down to courses +1, at *100.48 and course 0 at *100.00 in the center, and to course −1 at *99.68 at its southern end. The blocks that comprise the junction between the main north wall

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48 Some of the late Hellenistic standard lewises at Pergamon studied by Aylward are consistently ca. 1.6 cm wide (at bottom) and ca. 8.5–13.5 cm deep; even the well-carved lewis holes from the pediment of the Temple of Trajan (early Hadrianic work) are 3.4/2.5 cm (top and bottom) wide and 16 cm deep. For these and other examples, see Aylward 2009, pp. 315–18.
2. Description of the Building: The Physical Remains

Several of them show square dowel holes paired with leverage holes, the latter positioned to the south of the dowel; these are edge dowels, typical of the Hellenistic construction of the north and south walls. The two courses above this (+1 and +2) that comprise the northern end of the wall include reused blocks with earlier clamp cuttings (Figs. 2.57, 2.58). There are also two square dowel holes, each with a deeper, neatly drilled circular hole inside (a special dowel type of the Hellenistic repertoire from a reused block). Since the blocks joining on their south sides are gone, it is possible to observe the fine anathyrosis bands, 9–12 cm wide, on their southern vertical ends (Fig. 2.59).

The southern end of the middle crosswall is preserved at course −1 level for a stretch of four meters, with the top at *99.68. It represents an all-marble foundation course (ca. 190 × 1.10 m) made up of large, well-shaped rectangular blocks superbly fitted together without any clamps (Fig. 2.60). There are no lewis holes, but there are four pairs of square dowel holes (with leverage cuttings) that align along the two faces of the foundation wall, ca. 2.60 m apart; these are clearly edge dowels that mark the positions of courses above them. The overall width of the wall at this level is ca. 3.10–3.20 m, and its construction technique is identical to that of the corresponding level of the south wall, making an original, seamless connection with it.

The central portion of the middle crosswall, a stretch of ca. 8.70 m (ca. 4.20 and 4.60 m from north and south ends of the wall, respectively) long and ca. 3.10 m wide, is built over coarse, red sandstone blocks (Figs. 2.61, 2.62). The top surface of the sandstone construction, visible at courses +1 and 0, is devoid of any cuttings, markings, clamp holes, lewis holes, or dowel holes. At only one level below this course (course −1, visible as a step along the west face of the wall) there are occasional square dowel holes placed 0.30–0.38 m from the edge. This coarser, cheaper-looking construction composed of red sandstone blocks represents the area under the threshold of the original west door of the temple—a typical, economical method of construction for the foundations of doorways. In Butler’s plan of the temple we see the foundation blocks for the parapets of the stairs leading up to the door on the west face of the wall flanking the reconstructed doorway (immediately to the west are the easternmost pair of the original west porch columns, 77 and 78). When the present author’s 1:20 scale plan was made (1988–90), these block constructions had entirely disappeared, except for possibly a single block east of the foundation of column 77, on the north side of the original cella door. During his 1960 study of the temple, Gruben identified two remaining foundation blocks of the north post of the door and the north parapet of the stairs in front, mostly buried.
Figure 2.57 (l, above)
Middle crosswall, northern end, detail of reused blocks with nonfunctioning half-bar clamp and round dowel hole set in square socket

Figure 2.58 (l, below)
Middle crosswall, northern end, detail of reused block with nonfunctioning half-bar clamps (top view)

Figure 2.59 (r)
Middle crosswall, northern end, detail of top two courses with anathyrosis and edge dowels (looking north)

Figure 2.60 (l, above)
Middle crosswall (right), connection to south wall, with column foundation 78 (middle) and Roman rough pier (right) (looking northwest)

Figure 2.61 (l, below)
Middle crosswall, with red sandstone blocks (looking southeast)

Figure 2.62 (r)
Middle crosswall top, with red sandstone blocks (looking south)
He reconstructed the rest following Butler’s plan. Identifying the area between the original middle crosswall and the west crosswall as the “treasury” (really the west pronaos porch between the antae), Butler erroneously believed that the coarse sandstone foundations, like other sandstone construction in the cella, were remnants of an earlier Lydian temple “of the time of Croesus or earlier.”

The full length of the west crosswall (the Roman phase west wall of the west cella) is preserved in four courses (course −2, course −1, course 0, and course +1) with the top at *100.49, except for a short stretch of 0.90–1.80 m at its southern end, where only the lower foundation (course −2) remains, with the top at *99.25. Neither the northern nor the southern end of the west crosswall bonded into the long walls of the temple; they simply butt against them (Figs. 2.63, 2.64, 2.67). The connection to the north wall, where the west wall is better preserved at +1 level, has been achieved with a pair of butterfly clamps. A test trench at the northeast corner revealed no structural bond at the lower foundation levels.

The two preserved top courses (−1 and −2) are constructed in marble blocks. Below this level the middle portion of the wall, for a length of ca. 5.20 m (ca. 6.30 m from the north wall and 5.80 m from the south wall), is constructed in rough mortared rubble, of a type seen in the temple typically between exterior column foundations (Figs. 2.65, 2.66, 2.67). As in the original west wall of the temple, the weaker foundation construction here signifies a door above. On either side of this construction one can observe the wall, but he does not mention any foundation blocks for parapets, nor does he illustrate them. Presumably, these largely disappeared (except the two on the north side) between Butler’s time and 1960; see Sardis II.1, p. 23, Hanfmann’s “trench 3” in 1960 uncovered the foundations of the southern half of the west face of the original west cella.

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10 Gruben 1961, pp. 161–64; pl. 6, esp. section D–D.
11 Sardis II.1, p. 23. Hanfmann’s “trench 3” in 1960 uncovered the foundations of the southern half of the west face of the original west cella.
foundation blocks of the two column bases that constituted the middle pair of the six original west porch columns between anta walls, later built over by the west crosswall.53

Only the west vertical face of the top course (+1), which would have been visible above the paving, displays a fine claw-chiseled finish (Fig. 2.67). The east face (cella side) blocks have a rough point finish at level of course +1 and rougher, uneven quarry-face finishes at levels 0 and −1, since this side of the wall was below the cella pavement.

The top surface of the west crosswall, especially on course +1, has a construction similar to that of the east crosswall (Fig. 2.68; cf. Fig. 2.48). Standard bar or hook clamps are used at or above the euthynteria level (courses +1 and 0), and butterfly clamps below (course −1 and 2; Figs. 2.63, 2.64, 2.68). Small, square dowel holes with pour channels occur regularly on the top two courses, visible especially on the southern end of the wall (Fig. 2.68). Blocks, without exception, are clamped to adjacent ones without adhering to any pattern of lateral rows. Most of the clamps are large and of the butterfly type (13–15 cm long, only 4–5 cm deep, and without end depressions), but there are also some bar-type clamps (13–25 cm long) occurring side by side on the same block (Figs. 2.68–2.70).

**West Crosswall Lewis Holes**

Some fifteen randomly chosen lewises were studied. All blocks of the west crosswall display single, centrally placed, standard lewis holes except three, which have large, cross-shaped “double lewises” (12 × 12 to 14 × 14 cm, 13–14 cm deep) and one loosely carved T-shaped lewis hole (13 × 13 × 12 cm; Fig. 2.69). The arms of these crossing pairs are unequal in length, one pair close to the customary elongated proportions of a standard lewis (with variations: 15.5 × 6.5 × 14 cm; 14.5 × 6.5 × 14.2 cm; and 16.5 × 5.8 × 16.5 cm). The crossing arm is much shorter but wider (with variations: 10.5 × 6.5 cm; 10.5 × 8.5 cm; and 10.5 × 9.0 cm). These are among the heftiest specimens of the Roman-made lewises in the temple. Yet the blocks that display these hefty crosslewises are not particularly large (averaging 1.5 tons). Standard lewises of the west crosswall are about the same length as the east crosswall lewises (both average ca. 12.0 cm long), but they are wider (5.7 cm versus 5.2 cm) and much deeper (10.1 cm versus 7.0 cm).

**Curvature of the North, South, and East Walls**

Field measurements to determine the possible curvatures of the long north and south walls of the temple at euthynteria and wall socle levels (*100.0 and *101.10, respectively, at the eastern end) were taken in 2000 using a total station. An

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53 These columns were numbered 79 and 80 by the current expedition. There are no numbers for them in Butler’s plan because he failed to recognize them as column foundations.
earlier attempt at measuring curvature was undertaken by Thomas Howe in 1982 using an optical dumpy level. The results generally support each other, although the greater accuracy of the electronic system refined and enhanced the earlier findings. Like Howe, we discovered that the eastern third of the long walls (20–25 m west of the northeast and southeast antae) had a more consistent curvature, while the curvature for the western half, especially of the north wall, appears inconsistent, even chaotic. This is probably due to the variable but minor settlements of the foundations, noticeable across the temple but somewhat more pronounced on its western end. Due to these variances and irregularities, we preferred to give direct "heights" above the euthynteria level in some of our designations on drawings rather than hard elevations above the arbitrary datum at *100.0, unless the "elevation" is the result of an independent survey.

The north side registers a maximum rise of 6 cm at 14–20 m west of the northeast anta pier at both the euthynteria and the top of the wall socle with torus molding levels (which Howe referred to as the "toichobate"). Indeed, a distinct curvature can even be detected by eye, as noted by Butler (see Fig. 1.13). West of this line the curvature sinks to below that of the euthynteria level by 5–6 cm, with occasional divergences in the southern half. In comparison with the north wall, the south wall displays a more consistent curvature with no noticeable settlement. Both the euthynteria and socle tops rise to a maximum of 6.5–7.0 cm, between 15 and 36 m west of the southeast anta pier (which is the middle portion of the 67.5 m long wall), then drop gradually to euthynteria level at *100.0.

Although these figures are still subtle for a very large temple, they are within the reasonable range of variation encountered in many Classical and Hellenistic temples (ca. 1:960 at Sardis versus the range of 1:650–1:925, or an average of ca. 1:750). Measurements taken along the euthynteria of the east wall confirmed the results from the north and south walls, even though the central 6.08 m base of the wall is obliterated by the east door stairs and had to be interpolated. With a maximum rise of ca. 5–5.5 cm over ca. 8.5–9.0 m (half the length of the east wall; ca. 1:550–1:600), the curvature is within range, perhaps even more pronounced. Thus, the evidence provided by the north, south, and east walls is sufficient to verify a subtle but deliberate curvature for the cella of the Artemis temple. Yet the nature of this curvature must be assessed in light of the knowledge that the sandy, gravelly, alluvial soil under the temple was unstable, affected by periodic and random landslides and washes from the Acropolis; simply put, the ground conditions that affect the Sardis temple are among the worst for revealing curvature. We also do not also know whether the Roman builders of the peripteral colonnades followed the cella wall curvature of the older building, because the Roman system of individual block foundations (with mortared rubble in between) makes individual settlement normal, and hence the determination of a uniform rise over a distance less reliable. The elevations taken on the plinth tops of the eight columns of the east peristyle suggest a curvature comprising a ca. 5 cm rise over the 22.30 m length of the half-colonnade; these measurements are inconsistent and complicated by the changing plinth heights. The rough and unfinished block foundations also make any calculation based on the euthynteria unreliable. Therefore, the question of whether the east peristyle colonnade followed the curvature of the east wall must remain unanswered.

FOUNDATION CONDITIONS OF THE TEMPLE

The land sloping down from the heights of the Acropolis on the east and the Pactolus streamed on the west—on which the Hellenistic cella (and later the Roman peristasis) was located—was composed of two strata: a solid clay bedrock sloping east to west on the east, and alluvial gravel and sand on the west.

The trenches excavated in the east porch area by K. Frazer and G. Hanfmann in 1971, T. Asena in 1996, and F. Can in 2011 were all cut into clay with no gravel. The 22 m length of the east interior adytum wall (1:750); but 6 cm over the 26 m length of the back, west wall (1:425). One should remember, however, the significant differences in conditions affecting measurement between the two temples: first, the Didyma temple is far better preserved at measurable foundation levels than the Sardis temple; and second, even though the soil conditions at Didyma are sandy, alluvial, and prone to tilts and settlement, the frequency and intensity of these movements would be nowhere comparable to the Sardis temple, which sits right under the great conglomerate mass of the Acropolis heights. These figures, however, as for other walls, represent an average for the southern and northern halves of the east wall; actually, the rise of the northern half is steeper (0.7 cm/m vs. 0.5 cm/m), and there is one area of decline in the southern half.

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55 For an overall summary of the geological strata upon which the temple was founded and the major alluvial flows affecting it, see the discussion of deposits over the clay bedrock of the temple in the next section of this chapter. For gravel and sand washed down from the Acropolis toward the Pactolus valley during the pre-temple era, see Cahill and Greenewalt 2016, pp. 494–95, 478–79. For a more general assessment of geological conditions affecting the temple, see the field reports by Ben Marsh, "Brief and Preliminary Report on Observations, July 29 and 30, 2008, Sardis" and "Toward a Landscape History at Sardis, July 24, 2009" (Sardis Expedition field reports).
56 Sardis II.1, pp. 33–34 and for a photo of the north wall curvature, see ill. 28.
57 See the discussion and the useful chart of curvature values in Haselberger 1999, table 9.1. The hard values of such subtle curvatures should, however, be viewed and used with caution: a curve of 7 cm at Sardis produces the ratio of 1:965, but a mere 2 cm increase at a distance of ca. 67.60 m changes this figure to 1:750! At the Temple of Apollo at Didyma, a temple that serves as a good comparison to Sardis in terms of its age of ca. 1:750). Measurements taken along the euthynteria 1:960 at Sardis versus the range of 1:650–1:925, or an average (half the length of the east wall; ca. 1:550–1:600), the curvature is within range, perhaps even more pronounced. Thus, the evidence provided by the north, south, and east walls is sufficient to verify a subtle but deliberate curvature for the cella of the Artemis temple. Yet the nature of this curvature must be assessed in light of the knowledge that the sandy, gravelly, alluvial soil under the temple was unstable, affected by periodic and random landslides and washes from the Acropolis; simply put, the ground conditions that affect the Sardis temple are among the worst for revealing curvature. We also do not also know whether the Roman builders of the peripteral colonnades followed the cella wall curvature of the older building, because the Roman system of individual block foundations (with mortared rubble in between) makes individual settlement normal, and hence the determination of a uniform rise over a distance less reliable. The elevations taken on the plinth tops of the eight columns of the east peristyle suggest a curvature comprising a ca. 5 cm rise over the 22.30 m length of the half-colonnade; these measurements are inconsistent and complicated by the changing plinth heights. The rough and unfinished block foundations also make any calculation based on the euthynteria unreliable. Therefore, the question of whether the east peristyle colonnade followed the curvature of the east wall must remain unanswered.

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58 These figures, however, as for other walls, represent an average for the southern and northern halves of the east wall; actually, the rise of the northern half is steeper (0.7 cm/m vs. 0.5 cm/m), and there is one area of decline in the southern half.
north pteroma trench dug on the western side of the temple by G. Eren in 2010, on the other hand, produced layers of gravel six meters deep, into which the foundations of the north wall were laid (see below). In the light of ceramic evidence below the basis and the silver crescent coin found in the basis, it was possible to infer that the gravel upon which the western temple was founded must have been deposited later than 550 B.C. but earlier than ca. 450 B.C. As Cahill contends, this six-meter-plus alluvial deposit was the result of a comparatively short, single event, and not the result of gradual seasonal deposits flowing down from the Acropolis over years and decades, as had been believed.59

These deep layers of gravel and sand thus predated the temple only by a few centuries. It seems that by the early seventh century A.D., debris flows from higher ground resumed; this was probably connected to major earthquakes and occurred at a time when religious and civic authority had failed to take countermeasures against such disruptions. Minor silting must already have been allowed to accumulate at the east end of the temple a couple of centuries earlier, because Church M, at the southeast corner of the temple, was founded atop over a meter of earth (see Introduction, p. 12). It is interesting to note that the block foundations of the cella walls and the exterior colonnades, built into clay on the east and gravel on the west, were quite resistant to the numerous earthquakes typical of the region and suffered no structural damage except for minor settlements that affected mainly the western half of temple euthynteria, distorting the curvature.

Noting the excellent state of preservation of the temple foundations, Butler remarked that “[e]ven if one had nothing else it would not be difficult to make a complete restoration of the plan.”60 This is quite true. The builders employed several different methods to make the foundations, depending on the type of structure (e.g., walls, columns, doorways), and the date and phase of construction, about which more will be said below. We can divide the foundation types by superstructure: foundations for the main cella walls; foundations for the three cella crosswalls; foundations for cella interior columns; and the foundations for the peristyle columns, including those of the east and west porches.

Foundations of the Main Cella Walls

The main walls of the cella, including their antae, are supported on continuous block foundations that rest mainly on clay on the east side and alluvial sand and gravel on the west (for north wall, see Figs. 2.63, 2.75, 2.76, 3.1; for south wall, Figs. 2.71, 2.2, 2.13; Pls. 14, 16–17). Usually laid in five courses, the depths of the foundations measured from the euthynteria/pteroma level vary 1.65–2.20 m (cella south wall 2.10–2.20 m; cella north wall 2.04–2.10 m; southeast anta 1.90 m; northeast anta ca. 1.65 m). This half-meter variance of foundation depths, also seen in other types of foundations of the temple, must be due to the natural topography and soil conditions encountered in different locations, although truly stable soil under the temple is not found for a depth of five or six meters or so. Furthermore, since the interior of the cella is higher than the pteroma by ca. 1.60–1.70 m, the depths of the foundations on the interior faces of the long walls appear significantly greater. The continuous block foundations project with each successive course, reaching as far as 0.60–0.70 m beyond the face of the wall at the bottom; this is best observed along a stretch of the south face at the western end of the south wall (Fig. 2.71); along the three-meter trench across the middle of the north pteroma (Fig. 2.76); on the west face of the northern

59 Cahill and Greenewalt 2016, pp. 494–95.
60 Sardis II.1, p. 27.
2. Description of the Building: The Physical Remains

fits snugly on the square dowel hole carved close to the edge of the lower block (determined, of course, by the amount of projection of the lower block; see Figs. 2.2, 2.16). Three dowels—complete with their iron pins fully surrounded by lead (two on the cast face of the southeast anta and one on the north face)—were found intact in 2002. Likewise, two crudely cut edge dowels, preserved with their lead matrix, are visible on the cast face of the purple sandstone foundations of the middle crosswall (ca. 0.48 m apart and 6.80 m south of the junction with the north wall).

The foundation blocks are mainly of marble with a few in limestone, and there are many reused blocks. Given the volume, size, and quality of these reused marble blocks, one wonders what kind of major architectural monuments existed in pre-Hellenistic Sardis that we do not know about. The courses are relatively thin, averaging 0.35–0.40 m, and vary in length from ca. 0.50 to 1.50 m. Although the blocks are roughly cut with quarry-finished surfaces, their vertical joins are smooth and tight. The primary method of binding the blocks laterally is simply the close fitting of the joints. With a few exceptions on the euthynteria course, no clamps of any kind have been used in the construction of wall foundations. However, the first two courses below the euthynteria display the occasional use of square edge dowels applied at or near the exterior face of the blocks (Fig. 2.71). When observed in elevation view the exposed south face of the south wall, these two courses reveal the pairing of some sixteen edge dowel holes; the “half-hole” located at the edge of the upper block, end of the west crosswall (Fig. 2.72); and around the northeast and southeast anta piers (Figs. 2.72–2.74, 2.153). We can assume similar projections on the interior face of the south wall. Since the south and north walls at euthynteria level are ca. 2.60 m thick, the total width of their foundations at the bottom could be estimated to reach ca. 4 m. The total outward projection on the cast face of the southeast anta pier foundation is no less than 1.55 m in five courses; however, its northeast counterpart is ca. 1.60–1.65 m deep and projects ca. 1.30 m. For both of these antae, the foundation projections on their inner, porch, sides are only 0.40–0.50 m.

The foundation trench was dug into layers of gravel and sand; below ca. *97.0–96.50 there were layers of natural, water-laid deposits of gravel and muddy sand which con-

North Pteroma Trench, 2010 and North Wall Foundations (Plan 6)

A three-meter-long trench across the north pteroma between peristyle foundations 37 and 39 was excavated in 2010. Although the primary goal was to attain further evidence for dating the temple, the trench gave us another chance to glimpse and record the Hellenistic foundations of the north wall.61 Laid in five courses (each course ca. 0.40 m thick), the foundation wall is 2.04 m deep (bottom at *97.96–98.00) and projects a total of 0.70 m from the wall face (Figs. 2.76, 3.31). The foundation trench was dug into layers of gravel and sand; below ca. *97.0–96.50 there were layers of natural, water-laid deposits of gravel and muddy sand which con-

61 The trench supervisor was Güzin Eren. For a summary assessment of the results, see Cahill and Greenewalt 2016, pp. 475–80.
tinued down until hard bedrock clay was encountered at 94.0, six meters below the pteroma (Fig. 2.75). Excavators observed that these strata were very similar to the sand and gravel deposits that buried the temple at later dates; most had been washed down from the Acropolis.

Construction fill associated with the Roman peristyle produced small amounts of second- to third-century A.D. pottery, while the best material for dating that came from the Hellenistic wall trench consisted of two coins of the late fourth or early third century B.C. Strata predating the temple (below ca. 98.50) illustrate "a short period (in geologic terms) of high-energy alluvial or colluvial deposition" but no traces of architecture or permanent occupation.

Foundations of the East and West Walls and the East Crosswall

Like the long walls of the temple, the original east and west walls utilize a continuous block foundation system, their blocks bonding into the long walls below and above the floor level. The east wall foundations vary in depth from 1.80 m (in four courses under the east door) to ca. 1.60 m (in five courses at the north end of the wall). The continuation of this foundation in large marble blocks under the door—and its even greater depth—supports the hypothesis that this wall was originally unbroken by a door (see above).

The original west wall of the temple ("middle cross-wall") illustrates the foundation system usually executed under a large door, which occupied the middle of this wall. The northern end of the west wall joining the cela north wall is visible down to several foundation courses (Figs. 2.53–2.56, 2.60, 2.100). Soundings in 1972 revealed that while the foundations under the solid portion of this wall had been constructed firmly in very large blocks of marble, with some pieces measuring as much as 2.31 m long and reaching ca. 2.10 m in depth (foundations on the interior, cela, side are some 3.60 m deep due to the difference in level between the inside and outside of the cela). In the middle, where the original door should be, is a mixture of smaller blocks of limestone, gray and purple sandstone, and soft conglomerate—a typically weaker foundation (Figs. 2.61, 2.62).

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62 A Seleucid coin and one of Lysimachus, which "generally corroborate but do not significantly refine the generally accepted third-century date of the construction of the Hellenistic temple" (Cahill and Greenewalt 2016, p. 478).
63 Cahill and Greenewalt 2016, pp. 494–95.
64 Sardis R1, pp. 82–83, figs. 120, 153, 155.
65 Sardis R1, pp. 84, figs. 120, 153, 155.
foundations for the north and south door jambs and stair parapets that Butler recorded are now gone.

The full depth and foundation construction of the east crosswall—a Roman feature—have never been explored. Since what we see preserved on site is the second course of the continuous marble block foundations (−2), and since one can see two more courses below this level at its northern end where the foundations simply butt against the north wall without bonding, we can conclude that the Roman builders of the east crosswall followed basically the same foundation system of the cella’s original walls (Pl. xii; Figs. 2.46–2.49). However, for additional stability (perhaps because the wall is only 0.93 m thick) they embedded the foundation blocks on both sides in a heavy mortared-rubble construction, a system they have used elsewhere in the building.

The east crosswall was inserted between the paired rows of the cella’s interior columns, immediately west of the image base (Fig. 2.86). The west crosswall (the west wall of the Roman phase of the divided cella, ca. 10.13–10.15 m west of the original west wall of the cella), on the other hand, was built directly over the block foundations of the original pronaos columns 79 and 80 (Figs. 2.65, 2.66). This wall, believed to be contemporary with the east crosswall, was exposed down to the bottom of its foundations by Butler. He also excavated the entire west pronaos area down to three meters or more (and refilled it) and mistakenly identified two courses of limestone blocks at the bottom of the north end of the wall as belonging to an older temple. Its southern half was re-excavated in 1972, and an investigative trench in 2010 revealed that the limestone blocks were a part of the Roman crosswall buttting against the original west wall. Founded on a bed of mortar, they run slightly deeper than the foundations of the Hellenistic columns (Fig 2.77). The column-base foundations incorporated into the west crosswall in four courses reach a depth of ca. 1.60 m below the original pronaos pavement at ca. *98.40; the Roman west crosswall foundations are at ca. *98.15–98.20. The narrow spaces at both ends of the wall, between the column-base foundations and the foundations of the long walls, were filled with several courses of smaller marble blocks. Under the new central west door (between the obliterated bases) we encounter again weak foundations composed of only two courses of block construction, apparently Roman, resting on a thick bedding of mortared rubble (only 0.90–0.95 m deep; see Fig. 2.66).

Foundations of the Columns in the Cella and the West Pronaos

The twelve interior columns of the original cella (numbers 65–76, in two rows of six) have individual foundations which are not connected to each other. The foundation blocks are preserved and visible at one or two courses below the level of the finished cella paving at ca. *101.63–101.65, which is ca. 1.60–1.65 m above the pteroma and porch level (column foundation tops inside the cella are preserved at *100.82–101.8, which is ca. 0.40–0.80 m below the finished floor level). Of the twelve foundations, seven (column foundations 65–68, 70, 75–76) have been preserved at two courses and five (column foundations 69, 71–74) at one course below the cella floor. In a sounding aimed at exploring the image base (“Butler’s “basis””) in the east cella in 1960, the foundations of columns 69 and 72 were partially excavated down to their bottom course, resting on layers of sand and gravel at *99.60–99.75. They revealed a foundation structure in four courses (the top or top two courses missing) whose depth can be reconstructed at 1.75–1.80 m, which is comparable to the depths of the northeast and southeast anta foundations, but one course (with a height of ca. 0.30–0.40 m) less deep than the foundations of the south and north walls. The foundations of columns 74 and 76, two of the four columns of the cella west of the east crosswall, have been preserved at three and two courses, respectively, above the above the present ground level; the former is missing its top course and the latter the top two courses. Since the tops of their bottom courses are exposed, resting directly on undisturbed soil, the foundations can be reconstructed also in four courses, ca. 1.50 m in depth—even more shallow than the two column foundations examined east of the east crosswall. Judging by their projecting lower courses ("spreading foundations"), the overall size of the bottom course for a typical interior column foundation can be estimated to be around 4.20–4.40 m square, while the average area of the foundation’s top course (at cella paving level) can be reconstructed at ca. 3.0 m square or slightly smaller.

The foundation courses vary 0.34–0.45 m in thickness, but their levels do not conform to the levels of the courses of the main cella walls (nor to each other). The variable thick-
ness of the uppermost course (not preserved anywhere) directly below the column base plinth must have brought the foundations to the same level as or slightly higher than the finished paving, which would have created the necessary height difference for the additional thickness for the hypothetical paving of the cella. As elsewhere in the foundations and walls of the cella, there are a fair number of reused blocks, which, in my opinion, account for the variation and oddity of a few construction features (e.g., two dowel holes very closely spaced; see below).

The center-to-center distance of the east cella column foundations (and hence the columns standing on them) can be reconstructed at ca. 9.30–9.40 m; with their finished, 2.58-m-square base plinths, the clear distance between columns at plinth level would have been ca. 6.70–6.80 m (Fig. 278). This is ca. 0.90–1.0 m wider than the same restored clear distance between the finished plinths of the west pronaos porch columns (columns 77–80) and the missing in antis columns between the northeast and southeast antae, as detected in examination of the soil (see below). The center-to-center distance of the west pronaos porch columns can be reconstructed at ca. 8.35–8.40 m, and their center-to-side wall distance (to north and south walls) is ca. 4.89–4.90 m. Restored with 2.56 m square plinths, the clear distance between finished base plinths of these columns is ca. 5.90 m, which is ca. 0.80–0.90 m narrower than the same span for east cella interior columns.

Although Cahill suggests that all interior columns of the divided cella were removed during the Roman phase in order to make room for a spacious cella (hence simply burying their foundations under the finished cella floor), I believe that the columns of the east cella remained in place, that the east cella roof structure was not necessarily dismantled, and that the column foundations we now see belong to the original Hellenistic construction (for a fuller discussion of this issue, see below). Column foundations 71 and 72 display a greater irregularity in their details and outline; this irregularity must be due to the need to accommodate the bulky foundations of an already existing platform (“basis”) between them.

The similarity of the construction techniques and physical features of all foundation courses is significant. Differences can be attributed to preferences among the several masons or work crews—then as now, variance within a general tradition of construction was normal and is the case for most Greek and Roman building work. These similar features that establish a pattern for cella interior column foundations can be summarized as such: each course is typically composed of six large, rectangular blocks arranged in two groups of three, the direction of the blocks changing in alternate courses. Individual blocks are ca. 1.60 × 1.07 m, and the overall base size is ca. 3.20 m square, roughly outlined (Plan 6). Only column foundations 69 and 71, located in the northwest corner of the divided east cella and preserved in two courses below the cella floor, deviate from this regular square outline and display a more irregular pattern. The foundations of these two columns (but also column 70, across from column 69 to the south) appear to be tightly jammed against the blocks of the central image base (Fig. 279); column foundation 70 is slightly askew in its east–west alignment—no doubt due to efforts to accommodate an already existing base structure and not, I believe, because it was rebuilt at any time (Pl. xii; Figs. 2.28, 2.80, 3.5). Because these foundations are preserved at one or two courses below the cella floor, the actual position and alignment of the bases and finished columns would not have been affected by such moderate misalignments in foundation.

No lewises are employed in any of the foundations, but there are small, square dowel holes (ca. 6 × 6 cm to 10 × 10 cm, 6 cm deep); and a few larger square or rectangular dowel holes without pour channels (ca. 10 × 10 cm, 12 × 8 cm, 16 × 8 cm, 14 × 9 cm, 6–7 cm deep). Blocks have tight joints and their surfaces are even and smooth, finished with a fine claw chisel; they are joined to one another by bar clamps. On the whole, clamp use is discreet and varies from a minimum of six to a maximum of fourteen, the lower courses using fewer clamps than the upper ones; also, the lower courses have fewer dowel and leverage holes than the upper ones. Dowel holes are usually placed along the edges of the foundation blocks (edge dowels), but they are not always paired with leverage cuttings marking the edges of the course above them. There are also dowel holes in the middle of blocks with or without leverage cuttings, some of which may be from the block’s earlier use; likewise, a few dowels
2. Description of the Building: The Physical Remains

Some of the individual blocks of these foundations (such as the southwest corner block of column foundation 72 with its large, circular cutting) are clearly repurposed, repaired and reset, as is true for the foundations of the cella main walls (Fig. 2.91).

Two irregularities deserve special mention. In one foundation (column 70) there are two nonfunctional clamps with proper end depressions for clamp hooks but no connecting cutting for the clamp itself. Since this anomaly occurs in adjacent, matching blocks, it cannot be explained simply as a matter of a reused block. There are also two foundations (68 and 69) that show sets of “doubled” edge dowels that could not have been used together. Although it has been suggested that these irregularities are evidence of a rebuilding process for these foundations (which would have involved taking down and rebuilding the columns they carried: shaft, capital, and part of the roof), there are no indications of such an overhaul of the cella columns at a later date, no “in-between” phase. Other explanations must exist; the nonfunctional clamps and the “doubled” edge dowels could simply represent a change of intent during the construction process due to any number of reasons, such as discovering that the available block was too small or too big for a prematurely cut dowel hole, or the already cut clamp holes were judged sufficient and the two seemingly nonfunctional clamps were simply left unfinished (after all, the foundation fall entirely outside the edge of the course that would have been placed above them; or, there are no dowels at all along the entire sides of some of the foundations. The structural logic behind the frequency and distribution of the clamps that secure blocks together appears flexible; of the seven possible adjacent sides in a foundation composed of the usual six blocks, by varying the number of clamp joints between each from none to one to two the builders have achieved as little as five clamps total (column foundation 67), or as many as thirteen (column foundation 71).

A few of the foundations preserved at lower levels reveal centering lines—L-shaped corner marks possibly to help the alignment of the course above or simple L-shaped lined marking one or more centers (but never all four). Mason’s marks (such as > < [Fig. 2.81], A–A, A–A, E–E [Fig. 2.81], L–reverse L [Fig. 2.83], or H–H [Fig. 2.84]) must be general-location marks to help set particular blocks next to each other, not for precise alignments; but of the twelve foundations in the cella (and fourteen counting column foundations 77 and 78 in the west pronaos porch), we have only two bases where such a system of marks has been used (column foundations 67 and 68; Figs. 2.81–2.84). Overall, the foundation blocks of the cella columns display the same careful construction style and details of the corresponding levels of the main walls that we associate with the original, Hellenistic phase of the building.
with the two nonperforming clamps has eleven performing clamps next to it; or, taking into account the whole room, only two of the total 112 working clamps and only seven of the 101 working edge dowels are an aberrations).  

Concerning the clamp holes that lack connecting cuttings, Weber explains these as evidence indicating that the clamps were removed from their original blocks and then the entire top of the foundation (a ca. 9 m² surface) was trimmed down a few centimeters. This would be an odd thing to do, and one involving enormous effort. Finally, Weber also sees the lack of a strict order in alphabetical sequencing of masons’ marks on adjoining blocks as support for a rebuilding activity that involved removing all the foundations and rebuilding them again. That only two foundations (67 and 68) out of the twelve display such marks is explained by the previously mentioned hypothesis regarding the trimming of foundation tops, now for all of them (all other foundations once had such setting marks but they were chiseled or trimmed away). There is, of course, no need to search for alphabetical sequencing, as masons of both the Greek era and the Roman era had considerable freedom in their work methods and procedures. Such matching marks are not indicators of "resetting/rebuilding"; they are far more widely and routinely used in new construction. Witness the segments of fluted columns from the west stoa of the Temple of Dionysus at Teos (late Hellenistic or early Augustan), where all joints are marked by matching pairs of letters, but this structure is clearly not a reconstruction (field study with Musa Kadıoğlu, July 23, 2019). Another example involves the matching marks of the relief sculpture panels from the tomb monument of C. Julius Zoilos of Aphrodisias, although according to A. Chaniotis, these marks are original to the relief and thus do not denote a bona fide secondary use (Aphrodisias Museum, inv. no. 79.10.174; conversation with the author, Aug 24, 2019).

Columns 77–80 (the last two built over by the west crosswall of the Roman west cella) constituted the eastern and middle pairs of the six columns inside the west pronaos (Pls. ix, xii; Plan 6; Figs. 2.65, 2.99). The hypothetical westernmost pair of columns between the anta piers is missing; investigations seeking a similar pair of in antis columns in the east pronaos indicated that they must have existed in the Hellenistic building but were completely removed at a later date (see below). That is also probably true for the in antis columns of the west porch; however, soil evidence was disturbed when this area was completely dug up by Butler. The foundations of columns 77 and 78 are preserved only one course below the finished paving of the west pronaos porch, as this area was outside the original cella proper and is lower than the cella floor. The foundations of columns 79 and 80 have been exposed down to their bottom course, which is resting on undisturbed soil (Pl. xxii). Comparable to the column foundations of the cella interior, the west pronaos porch column foundations, too, have four courses each that average ca. 1.60–1.70 m deep, meaning they are shallower than the foundations of the main walls of the cella.
2. Description of the Building: The Physical Remains

**Column foundation 65** (level −2, top *100.92): Eight bar-type clamp holes with four iron clamps, preserved in situ. Eight dowel holes, all except two distributed along the edges of blocks. No setting lines or corner marks. This foundation now carries a section of the north jamb of the east door.

**Column foundation 66** (level −2, top *100.93): Six bar-clamp holes, three with iron clamps, preserved in situ. Eight square dowel holes and leverage holes. No setting lines or corner marks. This foundation carries a section of the south jamb of the east door.

**Column foundation 67** (level −2, top *100.97) (Fig. 2.85): Seven clamp holes. Nine pairs of setting marks with letters Γ–Γ (four times); Τ–Τ (once); Α–Α (once); Ε–Ε (once); I–I (single use only on one side of the joint, once); A–A (once). These letters always occur in the middle of the blocks in order to align or center them; of the total seven joints between the six blocks, four are marked by one pair of matching letters, three by two pairs. There are seven edge-dowels located along the exterior edges of the blocks. The centers on the east and west sides are marked by crosses.

**Column foundation 68** (level −2, top *100.86) (Fig 2.86): Seven clamp holes; each block joined to the next one by one clamp only. Paired dowels and leverage slits and surface impressions indicate that the missing course above also had six courses laid at right angles to the joints of the lower course. Some of the blocks preserve two sets of dowels: a dowel and leverage hole combination, and a separate set of edge dowels (making one hole or the other useless) indicating that these blocks were reused.70 There are three pairs of setting marks or letters and two single letters: H–H (once); I–I (once); P–P (once); A (single use, once); A (single use, once). Three of the corners and all four centers of the preserved top course are marked with crosses (+). The center-to-center distance between the crosses of column foundations 67 and 68 (hence that of the columns that stood above them) can be restored at ca. 9.30 m.

**Column foundation 69** (level −1, top *101.26) (Figs. 2.87): Top course preserved at one course below the paving level; it is substantially more irregular than the course below it. The two courses (−2 and −1) are secured vertically by eleven dowels, six of which are visible at the edges of their blocks. Each block is joined to its mates by double clamps; there are a total of fourteen clamps of the bar type. This foundation is pushed 20–24 cm northward (compared to column foundations 67 and 65) in order to accommodate the central image base at foundation level.

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70 Or, as Weber argues, the course above was removed and reset though perhaps not as part of a Hellenistic rebuilding of the cella, which would have necessitated the complete removal of the column above it, but as a construction process readjustment; see previous note and Weber 2013, pp. 265–67.
Column foundation 70 (level −2, top *100.84) (Figs. 2.88–2.89): The top course is preserved at two courses below the paving level. Ten clamp holes, three with iron clamps, are preserved in situ but without the lead surround. The clamps are the standard bar (or hook) type, with a few larger ones showing a shallow butterfly outline only, but with round depressions at each end for anchoring the clamp. One of the dowel holes, in the middle of the foundation, is set so close to a clamp that they could not have been used together (probably a reused block). There are no setting or centering lines.

Column foundation 71 (level −1, top *101.26) (Fig. 2.90): Preserved one course below the paving level, there are thirteen bar-type clamps; all except one block are joined by two clamps. There are three large, rectangular dowel holes (8.5 × 16 × 5.5 cm; 7.5 × 13.5 × 4.2 cm; and 8 × 15 × 5 cm) with gouged sides, probably from when the metal and lead were later removed. The irregularly projecting blocks of the northwest side of the column are tightly compacted into the mortared-rubble filling of the area between column foundation 71 and the east crosswall. Like column foundation 69, this foundation is pushed 20–23 cm northward in order to accommodate the central image base at foundation level; nonetheless, the top surface still leaves a clear ca. 2.70 × 2.90 m area to allow for a regularly aligned top course for the foundation and the base. Although it is possible that some of the foundation blocks of column foundation 71 might have been reset and rearranged during the Hellenistic construction process, it did not necessitate the complete dismantling of the foundation.

Column foundation 72 (level −1, top *101.26) (Fig. 2.91): There are eleven bar clamps. With the pair of thin, elongated pieces in the middle, the layout of the upper-course blocks does not closely conform to the standard arrangement of six parallel blocks. The southwest corner block displays a deeply incised, circular outline which indicates that this is a reused piece. The top course has no less than nine or ten dowel holes, some paired with leverage holes. The inner edges of the foundation blocks, like those of the column foundation 71, are pushed tightly against the blocks of the central image base.

Column foundation 73 (level −1, top *101.29) (Fig. 2.92): Located on the west side of the east crosswall and the north side of the room, the east side of this base is lodged against the crosswall; three other sides—north, west, and south—are embedded in mortared-rubble construction constituting the large platform interpreted as the foundation work for the “west cella” image base and its northern extension. There are twelve bar-type clamp cuttings; all blocks are joined by double clamps. Edge dowels are placed along the east and west sides of the foundation, marking the alignment of the missing course above. No setting lines or corner marks.

Column foundation 74 (level −1, top *101.28) (Fig. 2.93): Directly south of foundation 73, the east side of the base is lodged against the east crosswall. There are eight clamps, all of the bar type. Nine dowel holes positioned along the exterior edges are paired with leverage holes. The west side shows two foundation courses, projecting below courses −2 and −3. Along the western edge of these courses there are four edge dowels. No setting lines or corner marks.
2. Description of the Building: The Physical Remains

**Column foundation 75** (level −2, top *100.92) (Fig. 2.94): There are seven bar clamps joining each block to its mates. There are ten dowel holes (all except two are edge dowels) arranged along the sides of the top course and at the edges of the courses below it. The lower course’s outer steps out from the south and west sides. All corners (except the broken southeast one) display corner setting marks (+), and two crude lines marking the centers.

**Column foundation 76** (level −2, top *100.92) (Fig. 2.95): There are single clamps joining each of the seven blocks to its mates. Edge-dowel holes are arranged along the east and west sides of the foundation. Other regular, small square dowel holes inside the block are paired with leverage holes. The lower course’s outer steps out from all sides. There are no setting lines on the top surface, but there are several leverage holes along the south side of the lower course that indicate the alignment of the upper course.

**Column foundations 77 and 78** (tops at *99.66 and *99.65, respectively) (Figs. 2.97, 2.98): Easternmost pair of columns inside the original west porch, both preserved one level below the original paving of the pronaos at *100.0. Their center-to-center distance can be reconstructed at ca. 8.35–8.40 m and their center-to-side wall distance (to north and south walls) is ca. 4.90 m; consequently, a clear distance between the column plinths of the west pronaos porch can be reconstructed at ca. 5.80–5.90 m. Although their overall size is comparable to the column foundations inside the cela (ca. 3.20 × 3.20 m), their top courses are composed of seven or eight rectangular blocks fitted together in a more complex pattern of parallel and right-angle arrangements instead of the simpler “six blocks in two rows of three” arrangement typical of the cela foundations. Their top surfaces are smooth, finished with a fine claw chisel, and the joints are closely fitted; there are no corner or edge setting lines. Bar clamps, among the smallest in the temple (ca. 17–18 cm), are used quite sparingly: nine on column foundation 77 and only seven on column foundation 78, each with one partially preserved iron clamp in situ. Square dowel holes (eleven for column foundation 78 and seven for column foundation 77) are placed along the sides or directly at the edges of the blocks; there are a few leverage holes. The southeast block of column foundation 78 displays a dowel hole with a lead surround preserved in place with the impression of the square iron or bronze dowel (placed slightly askew and now gone; Fig. 2.96). Compared to the other cela column foundations, column foundations 77 and 78 are more carefully finished.
Column foundations 79 and 80 (Figs. 2.65, 2.99): The central pair of the west porch columns positioned between the northwest and southwest anta piers were built over by the west crosswall. On the east side only the top two courses of these foundations are visible, course 0 at *100.0–100.04 (the original floor level of the west pronaos porch) and course +1 at *99.64–99.66. On the west side of the wall the top of course −2 is visible, top at *99.25. The top surface of column foundation 80 retains clear impressions on its south side for the plinth of the original column base that had been placed on it, providing strong evidence that these west pronaos columns were completed in the Hellenistic phase of the temple.

Roman Era Pier Foundations inside the West Cella (‘Rough Piers’) Quite apart from this orderly system of column foundations of the original cella and its west pronaos porch, a pair of pier foundations composed of rough blocks is located immediately east of the original west wall (Plan 7, Pls. 1, ix, xi). Their tops are preserved at ca. *101.0 and are missing two courses, which are ca. 0.65–0.70 m below the cella floor. Their clear span eastward to the face of the east crosswall is ca. 11.50 m and westward to the west wall face is ca. 12.86 m. This difference could have been reduced or made equal if the columns they supported were shifted west, partially carried by the submerged original west cella wall (the middle crosswall), and if their timber beams rested on half-piers projecting from east and west walls. They have a north–south, center-to-center span of ca. 11.32 m, and a clear span of ca. 8.40 m. The clear distance from the piers to the face of the north and south walls of the cella is ca. 2.0 m, although a column carried by them, shifted inward over the foundation, could have resulted in a slightly larger distance of ca. 2.60 m, and consequently, a slightly smaller center-to-center distance of ca. 10.60 m.

The foundations display mixed construction in marble, limestone, and purple sandstone blocks (almost all reused) with very small amounts of rubble (and very little mortar, if any at all) in their narrow cores and between courses, probably to help leveling. No clamps were used.71

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71 For their proposed function as supports for the newly created roof of the Roman “west cella” see pp. 204–205.
The south rough pier (Figs. 2.103, 2.104) is 3.16 × 1.36–1.47 m, preserved in three courses above ground (top at ca. 100.80–100.90), ca. 0.80–0.90 m below the level of the new, raised cella floor. On the west it joins the middle cross-wall and is ca. 2.6 m from the north face of the south wall. It has a hefty eastern extension (1.40 m wide and 2.60–2.70 m long, thus creating an L-shaped structure); this extension wall bonds into the western end of the rough pier and is built against the stepped foundation of column 76, without bonding. Like its northern counterpart, this pier is composed entirely of reused blocks of marble, limestone, and purple sandstone (sizes vary ca. 1.65 × 0.73, 0.99 × 0.55, and 1.08 × 0.49 m; heights: 0.49, 0.45, and 0.41 m). One block on the south face has a lifting boss and shows identical workmanship to the block with boss of the north rough pier. There are no functional clamps, though at least three clamp holes remain from earlier uses. The use of rubber is confined to the narrow core (ca. 0.40–0.45 m wide), even more restricted than the north pier, and the faces of the pier are almost entirely in large-block construction.

Foundations of the Temple Peristyle  
(Plans 6, 7; Pls. i, viii–xiii)

The pseudodipteral arrangement of the temple was designed to have a total of sixty-four exterior columns (numbered 1 through 64 by Butler [see Plans 6 and 7]), fifty-two of which constitute the peristylo columns of the exterior colonnades; twelve belong to the pronaos porches of the east and west ends (with six columns each—for prostyle and two in the returns: columns 10, 11, 12, 13, 16, and 17 of the east porch; and 48, 49, 52, 53, 54, and 55 of the west porch). Of the peripteral columns, eight columns of the east colonnade (columns 1–8), six columns of the east porch (columns 10–13, 16, and 17), and one column of the south colonnade (column 18, the third from the east) are preserved at varying heights over their original bases. Entirely missing even in foundations—and probably never even started—are four columns from the north peripteral colonnade (columns 19, 21, 43, and 57), one from the west pronaos porch (column 52; see below), and all of the columns of the west front (columns 57–63) except for the southwest corner column, 64. The extant column foundations have been laid to varying degrees of completion, even though many of these were never finished and could have not have received columns above them.

The columns of the east end have been preserved at varying heights (two in full); the foundations of other peripteral columns are preserved only in varying courses. Some of the foundations must not have progressed beyond a few courses, or even a few blocks, at the bottom of deep foundation trenches; others were robbed out later. The preserved, visible top surfaces of these foundation blocks vary in degree of finishing; those that are composed of several roughly shaped blocks loosely fitted together, without the use of clamps and with extremely uneven surfaces, could not have received another course above them. Unfinished, they represent only the first stage in the laying of individual column foundations.

The peripteral columns, like those of the cella interior, have individual block foundations that are encased on two, three, or even four sides by irregular, mortared-rubble construction; viewed in a row, the mortared rubble alternates with the block foundations under the columns (Figs. 2.105, 2.106). Where these block foundations are embedded in mortared rubble across an open space, such as the broad central areas of the east and west porches (see Figs. 2.110, 2.111), we can describe the system as a kind of “area foundation” with stronger masonry “point supports” directly under the columns, with the mortared rubble providing stability against earth movements, settlements, and earthquakes (see pp. 70–73 below). Stretches of this continuous encasement of “concrete” (a regional version of opus caementicium judged to be Roman Imperial in date) is also preserved at different levels. As a structural element integrated with the actual block foundations, the mortared-rubble construction normally rises to ground level or the top level of the foundation blocks. We can reasonably surmise that where such mortared-rubble construction is missing, block column foundations had never been laid.

The massive construction and substantial depth of the foundations of the peristyle are indicative of the builders’ greater concern for strength and stability. Unlike the foundations of the interior columns or the cella walls (composed of relatively smaller, thinner blocks averaging 0.30–0.40 m in height), the individual foundation blocks of the exterior columns average ca. 0.60 m in height (thickness), and a few,
such as column foundations 55 and 54, exceed one meter (Fig. 2.109). Of course, this sturdy approach is typical of Roman foundation work. Another difference is that the cella interior column foundations step out or spread as they get deeper (their bottom courses are roughly ca. 4.0 m square; tops at floor level reliably reconstructed at 2.90–3.0 m square), while the foundation courses of the peristyle columns are almost all the same size without any widening of the foundation. No doubt this was considered unnecessary since they were firmly embedded in rubble construction.

Visible for a 22-meter stretch along the western end (dug down by Butler), the south colonnade foundations are composed of four courses and are 2.10 m deep, thus matching the foundations of the south wall, which reaches the same depth in five courses (Fig. 2.105). The foundations of the north colonnade are similar to the south in depth and number of courses (Figs. 2.28, 2.129).

A trench opened in 2002 between the southeast anta pier and column 17 (and in 2012 between the northeast anta and column 16) revealed that the individual block foundations of these columns are not connected to the spreading block foundations of the southeast and northeast antae, which are the eastern ends of the continuous foundations of the south and north long walls of the temple.72 Both columns are encased in mortared rubble that appears to connect them to the other columns of the east pronaos porch but not the antae of the cella.

72 For the southeast anta and column 17, see Figs. 2.72–2.74; for the northeast anta and column 16, see Figs. 1.45–1.47.

The foundations of column 48 in front of the northwest anta and column 49 in front of the southwest anta display a construction system significantly different from that of their east-side counterparts (Plan 6, Fig. 2.107). Instead of rising on individual ashlar piers and being separated from the foundations of the antae by a space, the foundation blocks of columns 48 and 49 (preserved one course below
Mortared-Rubble Foundations: Block-and-Rubble Construction

The evidence for mortared-rubble construction encasing the peristyle column foundations is extensive. Encasing the entire temple, this construction appears particularly overpowering because it was exposed by Butler’s long, deep trenches along the north and south sides of the building (Figs. 2.108, 2.110). While the structural principle is the same, there is some variance in its application in different parts of the peristyle column foundations.

The mortared-rubble construction is a local variation of opus caementicium, or Roman concrete. Composed of medium-sized fieldstones (10–20 cm to 30–40 cm), set in a mortar of sand and lime, it displays homogeneous construction (Fig. 2.111). The stones (caementa) are mixed river stones with rounded edges, not quarry-split pieces (limestone, white quartz, and gray or purple sandstone). Scant amounts of reused brick and broken tile fragments are mixed into the caementa (as found in the 2012 surface excavations between columns 3, 4, 10, and 11, Fig. 2.113). Only in one instance (in the lower coursing of the band of rubble around the foundation of column 17) “pink” crushed-brick mortar has been encountered. It is likely that this harder, water-resistant, but more expensive mortar variety (a local type of opus signinum) was used sparingly in the column foundations.

The combination of block and mortared-rubble foundation systems can be seen in the six pronaos porch columns of the west end (Fig. 2.109). These foundations were largely laid bare by Butler’s excavations (columns 53, 54, and 55; the foundations of column 52 is entirely missing). The foundation of column 54, south of the central axis of the building, is fully preserved and visible, its uppermost course at *99.97 (essentially the level of the west pronaos porch floor at *100.0; Fig. 2.153). It reaches a depth of 2.30 m in only three courses; the fourth course, top barely visible below the present ground level, would give a minimum depth of 2.60–2.70 m, but is probably closer to 3.0 m since the courses of the west end column foundations are larger and vary in height (0.60–0.90 m). The substantial increase in foundation depths at the west end of the temple could be explained by the natural fall of the ground from east to west, requiring compensation.
practice in Roman concrete work. In most places, especially along the well-exposed north and south colonnade foundations, there is rough but discernible rubble facing, as if it were laid as a regular wall, that occasionally bulges out unevenly between the block foundations of the columns. This reflects the shape of the trench in which it was laid (Figs. 2.106, 2.111). Where visible today, such as between columns 64 to 42 of the south peristyle, the mortared-rubble mass is packed into the irregular outline of the foundation blocks, filling their interstices and even the spaces under the overhanging courses, making it likely that the block-and-rubble constructions are coeval and integrated.

On the north and south sides, the mortared-rubble fill between the independent block foundations of the columns is straightly aligned along their inner southern and northern faces (i.e., the pteroma sides); their outer faces are quite uneven, projecting and receding in jogs some 1.20–1.80 m in front of the foundation alignment and discontinuing where the foundations are missing (positions 43, 21, and 19 on the north side; Fig. 2.110; Plan 6). For a length of 25–30 m at the western end of the south wall the rubble construction widens to nearly 5 meters, making a secondary, sloping terrace. This usual projection was obviously made to accommodate a 10–12 m wide “southwest stairs” comparable to the northwest stairs. At a distance of 3.50 m from the south faces of column foundations 50, 46, and 44, and preserved for a length of 9.70 m, ten marble blocks constitute what appears to be a bottom course of a short flight of steps (three to four courses, their full length indeterminate) leading up to the south pteroma (Pls. xi–xii). Coarsely finished but worn smooth with use, the blocks are backed by mortared-rubble construction. Since the rubblework supporting the step below is unevenly eroded, the riser heights vary (0.12–0.18 m).

The rubblework exposed by Butler’s long trenches on the north and south sides of the temple appear as “wall faces” varying 1.0–1.60 m in height (rather depth, considering that they were subterranean structures), although the full height of the construction is expected to be 2.0–2.10 m in order to match the depth of the block foundations of the columns (Fig. 2.111). Thus, the north and south peripteral columnar block foundations are fully embedded in mortared-rubble construction on three sides and up to the top of their uppermost block courses at the level of the pteroma (where these courses exist).

Mortared-rubble construction on the outer face of the east colonnade, widening 1.50–2.40 m from north to south, follows the same system. However, on the western, inner face of this colonnade (directly in front of the four columns of the pronaos porch), it does not keep a straight alignment. Here, the foundations of the four middle columns of the east colonnade (columns 3, 4, 5, and 6) are connected by rubblework to the foundations of the pronaos porch columns (columns 10–13). Furthermore, it appears that mortared-rubble construction extends westward like a
2. Description of the Building: The Physical Remains

rug covering the entire central bay. The question as to how far west this "rug" extended was partially answered by a 2002 trench that revealed a very irregular western edge to the rubble construction, 1.70–2.0 m from the west face of column foundations 11 and 12, with only the portion directly in front of column 12 (0.60 m west of it) displaying a short, more-or-less finished straight edge (Fig. 2.112). A more evenly aligned western limit and face seems to have existed also in the area of the center bay, connecting the eastern faces of columns 16 and 17 in a straight north–south alignment, but it was later destroyed or robbed (shown as a continuous straight alignment in plan; see Plan 6). The rubble construction in this area was excavated only to a depth of 0.50–0.60 m, but we surmised that it continued down deeper, perhaps close to the bottoms of the column foundations. Rubblework follows a straight north–south line along the west face of columns 1–5 and 6–8, leaving the north and south pteroma extensions without rubble foundations.74

The top is somewhat uneven but is definitely a surface, with flat stones laid in thick lime mortar, probably prepared to receive a paving of marble blocks. Rubblework consistently comes up right up to the bottom of the column plinths at +100.0 (as evident at the excavated northwest corner of column 12; Fig. 2.175). Since this paving would have been laid against the plinths of the column bases, it would have been relatively thin; a few candidates for such a paving, marble slabs ca. 5–7 cm thick, were found among the building debris unearthed inside the east porch.

To further ascertain the extent and nature of mortared-rubble construction covering the east porch, an area of ca. 4.20 × 5.80 m—defined by the east porch columns 3, 4, 11, and 10—was excavated down to 25 cm in 2012 and exposed a paving of rubble in a matrix of lime mortar and marble chips, a fairly level surface prepared for finished paving (Fig. 2.113). Several horizontal seams in the rubble construction suggest that sections of it were laid next to each other in separate but contemporary processes. A smaller area in the middle (ca. 1.70 × 0.90 m) was excavated to a depth of 0.60 m, and the excavated material revealed a fill mainly of rubble stone, some broken bricks, and tile, probably brought as building debris from other unknown locations. The fill also produced marble chips and a few fragments of marble fluted columns set in lime mortar, probably remainders from the on-site construction of columns 11 and 12, suggesting that the building of the columns and the rubblework connecting and laid around them progressed concurrently.

Although the construction of ashlar foundations and their mortared-rubble encasing appear to have progressed in tandem, faintly visible horizontal and vertical seams in the rubblework suggest certain construction breaks. Admittedly, these seams are not very clear and could have been the result of later settlement cracks. Thus, the following discussion is tentative. Interruptions over a long period of foundation building is logical—even necessary—as it is inconceivable that all forty column foundations belonged to one continuous operation. Besides the elusive vertical seams, another indication for separation in time and phase for the laying of these foundations are the occasional but well-pronounced projections and recessions ("jogs") on the outer surface of the rubblework along the north and south peristyles, as well as clear interruptions where no founda-

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74 For trenches AT 72.6 and AT 72.6A, opened at the eastern end of the north pteroma between columns 15, 9, 1, 2, and 10, see Sardis R1, pp. 83–84, fig. 172. Butler opened an earlier, larger trench here in 1913; see next note.
tions seams to have been laid at all. Based on these features we can suggest five or six work segments for the north peristyle and four for the south (segments between columns north: 1–15, 23–35, 35–39, 39–41, and 45–57; south: 8–28, 28–34, 34–42, and 42–64). Rubblework for the east peristyle and its eight columns seems to present a more uniform and continuous surface (probably signifying the ambitious start of Roman construction), but a northern and southern division appears logical.

Reconstructions showing a full, uniform crepidoma of steps around the temple (such as Pl. i, Figs. 4.1, 4.13) represent an idealized, hypothetical condition. The de facto situation, as described above, is not so uniform. The preserved rubblework is much deeper along the north and south peristyles but shallower along the east front; what is preserved is not necessarily the original ground, but rather the deep trenching of Butler’s excavations. A finished crepidoma with steps, as proposed, could have been backfilled with looser rubble, which may have been robbed out over the years (as loose rubble as a building material was even more coveted than heavy marble blocks). Anyone who doubts the feasibility of such an arrangement could observe the very shoddy backfill of the fine marble steps of the Temple of Apollo in Didyma. Nonetheless, it is also possible that a stepped marble crepidoma of our temple had been planned but never executed.

### North Peristyle Individual Foundations

\textbf{(east to west)}

(Plan 6; Pls. viii–x; Table 2.1)

Of the nineteen planned columns of the north peripteral colonnade, four are not extant and were probably never built (columns 19, 21, 43, and 57). Two are represented by unfinished, coarse blocks of the bottom foundation course, 1.40–1.50 m below the pteroma level, and are not encased in mortared rubble (columns 35 and 41). Three with finished surfaces are preserved at the level of one course below the pteroma and could have received a base and a column above (columns 33, 45, and 47). Eleven were left unfinished at various levels and hence could have never received bases or columns (columns 15, 23, 25, 27, 29, 31, 35, 37, 39, 41, and 51). One has a finished top at pteroma level with markings for the column base above, so it almost certainly supported a base and probably a column (column 9). Although the construction techniques of the foundations largely remain the same, their block sizes vary considerably (e.g., foundations 33, 35, and 23 have tops composed of as many as eleven to thirteen blocks; foundations 27, 29, and 37 have as few as four or five), suggesting they are the works of different times and different conditions.

\textbf{Column Foundation 9} (Fig. 2.114): top at *99.98; preserved at pteroma level; top course composed of four blocks connected to each other by eight bar-type clamps (27–32 cm long and 6–7 cm deep). The top features a central, roughly square area, 2.20 × 2.30 m, finished in fine claw chisel and prepared to receive the plinth of a column base; borders are ca. 10–20 cm wide, project irregularly, and are left rough. Each of the four corners of the central square area has a small, square dowel hole with channels (4–6 cm square, 6–7 cm deep). Along the east edge there are four leverage holes to help set the plinth in place. The centers of the south and west sides and the southwest corner of the foundation are marked by setting lines. Three of the blocks (except the southeast one) have standard lewis holes (double slanting sides, ca. 15 × 8 × 8–9 cm).

\textbf{Column Foundation 15} (Figs. 2.115): top at *99.99; preserved at pteroma level. This foundation carries a finished base plinth (2.64 × 2.64 m, 0.42 m high). The marble plinth is composed of two rectangular pieces of equal size, and the joint running east–west has a very smooth claw-chisel finish. There are no construction marks, dowel holes, setting marks, or lewis holes; their bottom has no beveling. Unlike other plinths, there is no circular impression for a torus. The blocks are joined by four equally spaced bar clamps (ca. 0.27–0.31 m long); the western two preserve their iron clamps and lead casing in situ; the eastern two have bits of the setting lead but no iron clamps in place. The foundation blocks project 25–35 cm on the east and south of the plinth, but they are flush with it on the west and north. The projections display smooth and even surfaces without rough, raised edges. All four faces of the plinth are finely
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finished without the usual rough, unfinished top band common among all the other plinths. It appears that we have a plinth in the process of construction, not yet finished to receive the column.

Column foundations 19 and 21 are not extant (Fig. 2.116). No mortared-rubble construction (except along the east face of foundation 19) appears at these locations.\(^{75}\)

Column foundation 23 (Fig. 2.117): Preserved in two levels. Two blocks are on the higher south side (top at *99.61), one course below pteroma level. The top of the lower north side is *99.0, ca. 1.0–1.10 m, or two courses below the pteroma level. The lower-level blocks are crudely finished in pointed chisel and roughly fitted together. There are no clamp or dowel holes, and only some of the blocks have large, standard-type lewis holes. The east side of the foundation is marked by a long line, and there are cross-setting lines roughly in the center of the top surface, indicating that the unfinished course above would have been ca. 2.80 m square. The two blocks preserved on the top level are large (0.64 m high), coarsely shaped, finished in pointed chisel, and crudely fitted together but not joined by clamps. Their surfaces are very uneven and not prepared for the foundation top course, nor for a column above. Although Butler’s plan shows that the north and west sides of column foundation 23 were encased in mortared rubble, the rubble on the north side has since been removed.

Column foundation 25 (Fig. 2.118): top at *100.11; preserved at pteroma level and fully encased on the east, west, and north sides in mortared-rubble construction. The ten or eleven blocks that make up the top course of the foundation are relatively small in size and define a 2.60 m square area. Their top surfaces are rough with level differences between individual blocks as much as 9–10 cm. All blocks have lewis holes (ca. 15 × 7 × 14–15 cm), but there are no clamp holes, dowel holes, leverage holes, or any setting marks or lines. This foundation could not have received a base or column above it.

\(^{75}\) The area was excavated by Butler in 1913; however, as shown by two photographs in the Princeton archive (A.205 and A.205a, northeast corner of the temple, columns 2, 1, 9 and 15, looking southeast) no foundations in blocks or rubble are visible. Of course, as Cahill cautions, “[Butler] may have removed lots of mortared rubble here.” See “American Society for the Excavation of Sardis, 1910–1914” archaeological photograph archive at researchphotographs.princeton.edu. In view of the structural logic of the east porch columns, the possibility of finished columns at the locations 19 and 21 must be considered (see in this chapter p. 81, note 77).
Column foundation 27 (Fig. 2.119): top at *100.11; preserved at pteroma level, encased in mortared rubble on the east, west, and north sides. The top foundation course is composed of three large blocks, a small fourth one, and a very small filler in the middle, 2.60–2.70 m. The top surface has a rough finish in point chisel, while the stone is left natural with level differences between blocks as much as 10–14 cm in some areas. Each block has one or two large lewis holes, but there are no clamp holes, dowel holes, or setting lines. The southwest block has a large square cutting with straight sides (13 × 14 × 8 cm), probably late. This foundation could have never received a base or a column above it.

Column foundation 31 (Fig. 2.121): top at ca. *100.12–100.17; preserved at pteroma level and encased in mortared rubble on the east, west, and north sides. The top course is composed of four blocks: one colossal block for the east side, three normal ones along the west, and thin fillers between them, ca. 2.60 × 2.80 m. The eastern block is a single, massive piece (2.55 × 1.10 m) with no lewis holes. Other blocks, though smaller, have regular lewis holes; the middle block has a square hole (16 × 16 × 19 cm), comparable to the one found on foundation bases 27 and 29 and probably part of the same late feature. The top surface displays a coarse point-chisel finish with surface level differences of 10–14 cm. There are no clamp holes, dowel holes, or other markings on the stones. This foundation could not have supported a base or a column.

Column foundation 29 (Fig. 2.120): top at *100.04; preserved at pteroma level, encased in mortared rubble on the east, west, and north sides. The top course is composed of four blocks: one very large one at the southwest corner and three of normal size, ca. 2.70 × 2.90 m. The top surface is unfinished and coarsely shaped by point chisel with surface level differences between blocks ranging 10–14 cm. Three of the blocks have regular lewis holes, and the fourth on the southwest corner has one large, deep square hole in its center, comparable to the one on column foundation 27 (18 × 17 × 23 cm) which might have been linked to the other as a late feature like a socket to support a wooden post. There are no clamp holes, dowel holes, or other markings on the surface. This foundation could never have received a base or a column.

Column foundation 33 (Fig. 2.122): top at *99.33; top course is preserved ca. 0.65–0.70 m, probably one or two courses below the pteroma level and encased in mortared rubble only on the east and north sides. The top course is composed of eleven blocks, mostly small pieces. The surface is smooth and relatively well finished in claw chisel. Six or seven of the larger blocks have lewis holes. Nine large butterfly clamps join each block to its neighbor (20–28 cm long, 4–5 cm deep, without end depressions). There are no dowel holes, leverage holes, or setting marks on the surface. This foundation could have received another course (and, technically, a base and column) above it.
Column foundation 35 (Fig. 2.123): top at *98.65; preserved ca. 1.40–1.50 m, or two or three courses below the pteroma level; it is free of mortared-rubble construction (stopping short of the foundations on either side). The preserved course—the lowest course of the column foundations—is composed of nine blocks with coarse, unfinished surfaces and surface-level differences of 14–16 cm. The blocks have the usual large standard lewis holes but no other features or marks. This bottom course was never finished and could never have received another course above it. Since mortared-rubble construction progressed in tandem with the building of the foundations, the rubblework of this foundation, left at its lowest course, was probably never started.

Column foundation 37 (Fig. 2.124): top at *100.10; preserved at pteroma level on the west half of the foundation, two blocks ca. 0.65–0.70 m deep (top at *100.10); and one course below the pteroma on the east half (top at *99.44). The base is encased in mortared-rubble construction on three sides. Three of the very crudely shaped blocks of the top course on the east half of the base were probably placed in that location by Butler (the northwest block displays a cross-shaped lewis hole, ca. 13.5 and 14.5 cm; each arm 7 cm wide and 15 cm deep). Four visible blocks of the lower course that reveal a finer claw-chisel finish; no clamps are used. Each has a centrally placed, single lewis hole (ca. 12 × 6–7 × 11–12 cm). The west edge of the foundation at this level shows leverage holes and a center line. If the large, unfinished blocks of the upper course actually belonged there, this foundation could not have supported a base or a column above.

Column foundation 39 (Fig. 2.125): top at *100.12; preserved at the pteroma level on the east half of the foundation, and one course below that on the west half (0.40–0.50 m deep, top at *99.62). The base is encased in mortared-rubble construction on three sides. Three of the very crudely shaped blocks of the top course on the east half of the base were probably placed in that location by Butler (the northwest block displays a cross-shaped lewis hole, ca. 13.5 and 14.5 cm; each arm 7 cm wide and 15 cm deep). Four visible blocks of the lower course that reveal a finer claw-chisel finish; no clamps are used. Each has a centrally placed, single lewis hole (ca. 12 × 6–7 × 11–12 cm). The west edge of the foundation at this level shows leverage holes and a center line. If the large, unfinished blocks of the upper course actually belonged there, this foundation could not have supported a base or a column above.

Column foundation 41 (Fig. 2.126): top at *98.59; preserved at two or three courses below the pteroma level. This foundation is free of mortared-rubble encasing, but the face of the rubble construction around foundation base 39 comes within one meter of it. The preserved, bottom course of the foundation is composed of nine crudely shaped and fitted blocks joined by butterfly clamps; all blocks have lewis holes. Their surfaces are extremely rough and uneven, with surface level differences of 14–16 cm. This foundation, represented only by an unfinished bottom course, could not have received any other courses above it, and it appears that mortared-rubble construction was never started.

Column foundation 43 (Fig. 2.126): this foundation is not extant; no mortared-rubble work was started. Blocks currently placed in this position are not in their original locations.
Column foundation 45 (Figs. 2.127, 2.129): top at *99.25; preserved at ca. 0.75–0.80, or one course below the pteroma level, but there is a mortared-rubble encasing on the east, west, and north sides that is built up to the level of the pteroma, indicating that the blocks of the top course were removed. The east side of the mortared-rubble work has a crudely finished face. Three fluted drums have been placed on this foundation, but the visible parts show well-fitted blocks joined by large butterfly clamps (28 cm long, 7 cm deep) and a finely finished surface. Only two standard lewises are visible. Since the top course of this foundation was finished at pteroma level, it could have received a base and even a column.

Column foundation 47 (Figs. 2.128, 2.129): top at *99.11; preserved at ca. 0.90–1.0 m, or one or two courses below the pteroma level, and encased on all four sides in mortared rubble. The preserved course is made up of seven blocks, five of which have standard lewises. The smallest block weighs ca. 0.6 tons and is furnished with one lewis hole, while one massive block (ca. 2.03 × 1.06 × 0.78 m) weighing ca. four tons has none! Many of the blocks are joined by butterfly clamps (nine clamps in total, ca. 28 cm long, 5–6 cm deep). The surface is smooth and finished in claw chisel. The reconstructed top of the upper course measures 2.50 m square. All four sides have leverage holes lining the edges of the blocks; there are also setting lines along the four sides and a center line on the north, dividing the foundation exactly in half. Therefore, this foundation must have had at least one more course above—the top course at pteroma level—and technically could have received a finished base and column above it. This is also suggested because of the large but sloppy “Dutchman” repair on the southeast block, which has a smoothly finished top surface.
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Column foundation 51 (Figs. 2.129, 2.130): top at *98.84; preserved at ca. 1.20 m, or two courses below the pteroma level, and encased in mortared rubble on all four sides; the top layer of rubble, however, has eroded and been removed in recent times. The blocks of the preserved top course are extremely coarse, with a rudimentary fit without the use of clamps, and uneven, quarry-faced surfaces. Of the top ten blocks, five have large lewises but no other features. As in foundation for column 47, some massive blocks (ca. 3.6 tons) display no lewises while much smaller ones do. This foundation is unfinished.
Table 2.1. Column Foundations of the North Peristyle Colonnade (from east to west)

<table>
<thead>
<tr>
<th>Column Foundation</th>
<th>Course / Level</th>
<th>Rubble / Concrete</th>
<th>Lewis Hole</th>
<th>Clamp Hole</th>
<th>Dowel Hole</th>
<th>Leverage Hole</th>
<th>Setting Lines</th>
<th>Surface Finish</th>
<th>Column / Plinth Above</th>
<th>Column Above</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>4 corners</td>
<td>✓ 4 sides</td>
<td>✓</td>
<td>Fine</td>
<td>✓ plinth</td>
<td>Yes</td>
<td>Most probably</td>
</tr>
<tr>
<td>15</td>
<td>Plinth</td>
<td>3 sides</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Fine</td>
<td>X</td>
<td>No</td>
<td>Carries plinth but no torus markings on it, possible</td>
</tr>
<tr>
<td>19</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Nonexistent</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Nonexistent</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>−1</td>
<td>2 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>Rough</td>
<td>X</td>
<td>No</td>
<td>2 courses visible</td>
</tr>
<tr>
<td>23</td>
<td>−2</td>
<td>2 sides</td>
<td>✓ 5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>✓</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>One square post hole</td>
</tr>
<tr>
<td>29</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>One square post hole</td>
</tr>
<tr>
<td>31</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>One square post hole</td>
</tr>
<tr>
<td>33</td>
<td>−2 or −1</td>
<td>2 sides</td>
<td>✓</td>
<td>✓ 9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Mediocre</td>
<td>✓</td>
<td>Unlikely</td>
<td>Top course not preserved</td>
</tr>
<tr>
<td>35</td>
<td>−2 or −3</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>Unfinished</td>
</tr>
<tr>
<td>37</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>X</td>
<td>No</td>
<td>2 courses preserved</td>
</tr>
<tr>
<td>39</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>✓ 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Fine</td>
<td>✓</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>2 courses preserved</td>
</tr>
<tr>
<td>41</td>
<td>−2 or −3</td>
<td>None</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td>Unfinished 3–1 courses below grade</td>
</tr>
<tr>
<td>43</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Nonexistent</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>X ?</td>
<td>X ?</td>
<td>X ?</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Top course not preserved</td>
</tr>
<tr>
<td>47</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓ 9</td>
<td>X</td>
<td>✓ 4 sides</td>
<td>✓ 4 sides</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Top course not preserved</td>
</tr>
<tr>
<td>51</td>
<td>−1</td>
<td>3–4 sides</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Very rough</td>
<td>X</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Nonexistent</td>
<td></td>
</tr>
</tbody>
</table>

✓ = no evidence    ✓ = existing

- Of the nineteen foundations, fifteen did not receive columns (foundations 16, 19, 21, 23, 25, 27, 29, 31, 35, 37, 39, 41, 43, 51, 57).
- Four foundations are nonexistent (foundations 19, 21, 43, 57). It has been suggested that 19 and 21 carried foundations and columns, but these are now entirely robbed out.
- Three foundations might have received columns, but the top course of each is not preserved (foundations 33, 45, 47).
- One foundation received a column (foundation 9).
Table 2.2. Column Foundations of the South Peristyle Colonnade (from east to west)

<table>
<thead>
<tr>
<th>Column Foundation</th>
<th>Course / Level</th>
<th>Rubble / Concrete</th>
<th>Lewis Hole</th>
<th>Clamp Hole</th>
<th>Dowel Hole</th>
<th>Leverage Hole</th>
<th>Setting Lines</th>
<th>Surface Finish</th>
<th>Course Above</th>
<th>Column / Plinth Above</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>4 corners</td>
<td>✓ south side</td>
<td>✓ north side</td>
<td>Fine</td>
<td>✓ plinth</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>N/A</td>
<td>3 sides</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Column present</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Plinth</td>
<td>3 sides</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>X</td>
<td>Not visible</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>✓</td>
<td>No</td>
<td>Only partially visible, column drum above</td>
</tr>
<tr>
<td>24</td>
<td>Pteroma</td>
<td>3 sides</td>
<td>?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Fine</td>
<td>✓</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>✓ 10</td>
<td>✓</td>
<td>✓ center</td>
<td>Fine</td>
<td>✓</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>✓</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>✓ 2</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>✓</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>✓ 6</td>
<td>✓ east side</td>
<td>✓</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Partially visible, carries fluted drum</td>
</tr>
<tr>
<td>36</td>
<td>−1</td>
<td>3 sides</td>
<td>✓ 6</td>
<td>✓ 6</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Three blocks on top placed by Butler</td>
</tr>
<tr>
<td>38</td>
<td>−2</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Partially visible, carries fluted drum</td>
</tr>
<tr>
<td>40</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>✓</td>
<td>✓ 8</td>
<td>✓</td>
<td>X</td>
<td>Mediocre</td>
<td>✓</td>
<td>No</td>
<td>Top course unfinished</td>
</tr>
<tr>
<td>42</td>
<td>−1</td>
<td>3 sides</td>
<td>✓ crude</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Mediocre</td>
<td>✓</td>
<td>No</td>
<td>One course has square posthole</td>
</tr>
<tr>
<td>44</td>
<td>−1</td>
<td>3 sides</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>Rough</td>
<td>✓</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>−1</td>
<td>3 sides</td>
<td>✓ 1</td>
<td>✓ 2</td>
<td>✓</td>
<td>✓ 4 sides</td>
<td>✓</td>
<td>Mediocre</td>
<td>✓</td>
<td>Possible</td>
<td>Could have carried one more course</td>
</tr>
<tr>
<td>50</td>
<td>−1</td>
<td>3 sides</td>
<td>✓ 6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Mediocre</td>
<td>✓</td>
<td>Unlikely</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>−2</td>
<td>3 sides</td>
<td>✓ 3</td>
<td>✓</td>
<td>✓</td>
<td>✓ faint</td>
<td>Fine</td>
<td>✓</td>
<td>Possible</td>
<td>Could have carried one more course</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>−3 or −2</td>
<td>2 sides</td>
<td>✓</td>
<td>✓ 8</td>
<td>✓</td>
<td>✓</td>
<td>Fine</td>
<td>✓</td>
<td>Unlikely</td>
<td>Under construction, preserved 2-3 courses below pteroma</td>
<td></td>
</tr>
</tbody>
</table>

X = no evidence  ✓ = existing

• Of the nineteen foundations, six did not receive columns (foundations 22, 24, 38, 40, 44).
• Ten foundations might have received columns, but it is unlikely (foundations 26, 30, 32, 34, 36, 42, 46, 50, 56, 64).
• One foundation has a column in situ (foundation 18).
• One foundation received a column (foundation 14).
• One foundation carries plinth but not full base or column (foundation 20).
**South Peristyle Individual Foundations**  
*(east to west)*

(Plan 6; Pls. i, xi–xiii; Table 2.2)

Of the nineteen foundations of the south peristyle, only one carries a column (column 18, preserved to a height of ca. 6.30 m from the ground); another, column 20, carries the plinth of a column base *in situ*, hence it is likely that it also carried a column. The partially preserved top course of foundation 22 might or might not have received a base and a column. All foundations are at least partially extant. Ten are preserved at one course below the pteroma level; since the top surface of this lower course is finished for all ten, technically they could have received their top foundation courses as well as bases or columns above them (columns 30, 32, 34, 36, 40, 42, 46, 50, 56, and 64). Six were left unfinished at the pteroma level or below, hence they could not have supported bases or columns (columns 22, 24, 26, 28, 38, and 44). Only one fully finished foundation (of column 14) is preserved at the pteroma level, and it probably carried a column. We observe that if foundations 20 and 22 carried columns (see below), the likelihood that their northern counterparts, foundations 19 and 21 (positions now empty) also had foundations and columns becomes a stronger hypothesis since their hypothetical architraves, aligning with the major east wall of the cella, would create a structurally sound and logical support system for the entire east porch and its roof.

**Column foundation 18** (Fig. 2.199): Carries a column (preserved height is 6.32 m). The plinth of the base projects over the west edge of the foundation by 12–14 cm.

**Column foundation 20** (Figs. 2.132, 2.133): Top at *100.06. This foundation carries what appears to be the original plinth for a base (2.60 × 2.64 m, 0.38 m high) as well as an unfluted column drum. The plinth is made of two equal-sized rectangular blocks, originally placed east–west, and joined by a pair of bar clamps (each 28 cm long). A third block on the south, joined by an additional pair of clamps, probably belongs to an earlier repair. There is no beveling at the bottom. The west side of the plinth overhangs the foundation blocks by 8–12 cm, while on the southwest corner and south side, two angled blocks of the foundation project ca. 28 cm beyond the plinth edge, its top well prepared to receive the plinth. The top surface has a very smooth finish in claw chisel; there is no circular impression of the base scotia that would normally rest on the plinth (e.g., compare the plinth on foundation base 15 on the north side). This foundation and its base plinth might have been in preparation to carry a column.

**Column foundation 14** (Fig. 2.131): Top at *99.99; preserved at the pteroma level and encased in mortared-rubble construction on the east, west, and south sides. The top course is composed of five blocks with a fine claw-chisel finished top. All blocks except the middle one have standard lewis holes, and there are nine bar-type clamps connecting them. The four corners of the foundation have square dowel holes with diagonal channels. There are setting lines on the north side and several leverage slits on the south. This foundation almost certainly carried a base and a column above.

**Figure 2.132**  
Column foundation 20

**Figure 2.133**  
Column foundation 20, with plinth and drum

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76 Column 14 is in line with the four front columns of the east pronaos porch and opposite column 9 on the north side, just behind the southeast and northeast corner columns of the east peristyle; both probably carried columns.

77 The possibility that the empty positions 19 and 21 housed foundations that were later fully robbed out was pointed out by my anonymous reviewer.

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78 The unfluted drum on this plinth, placed there by Butler, probably did not belong in this position (diameter: 1.94 m; height: 0.74 m). It is a reused piece, as is apparent in the smoothly recessed door threshold (1.34 × 0.70 m) carved on it, complete with holes for hinges and a cutting for a center bolt.
2. Description of the Building: The Physical Remains

**Column foundation 24** (Fig. 2.136): one large and unfinished block, 0.70 m high, occupies the northwest corner of the foundation; it is preserved at pteroma level, with its top at *100.18. The course below it (top at *99.34) has eight or nine blocks, seven of them displaying lewises. All pieces are joined to each other by butterfly clamps (five total, ca. 28 cm long, 5.5 cm deep). The surface of the lower course is smooth and even with several leverage holes and center lines. The foundation is encased on the east, west, and south sides in mortared-rubble construction. This foundation was built up to only the pteroma level, and it was never finished to support a base or column above it.

**Column foundation 26** (Figs. 137): top at *99.65; preserved ca. 0.40 m, or one course below the pteroma level; encased in mortared-rubble construction on the east, west, and south sides. Only six blocks of the foundation are visible because of the anta blocks and one possible wall top molding placed on it by Butler (see pp. 148–149 below). The top surface of the foundation is coarsely and unevenly finished in point chisel with roughly fitting joints, joined by butterfly clamps (ca. 26 cm long, 5 cm deep). All six blocks display large lewis holes. It appears that this course was in the process of being trimmed and prepared for the pteroma level top course when work stopped.

**Column foundation 22** (Figs. 2.134, 2.135): top at *100.16. The top of the foundation is partially blocked by an unfluted column drum (which was placed there by Butler to carry capital E [diameter: 1.97 m; height: 0.72 m]; the capital has been removed). This top of the drum displays only anathyrosis, a central, regular lewis hole (17 × 5.5 cm), and no dowels. The northern half of the foundation is preserved at the pteroma level in a single rough block finished in coarse pick chisel (0.69 m high). The south side, missing its top course (top at *99.32), is built up by a partially preserved unfluted column drum, mortar, and rubble to support the upper drum that supported capital E. The east, west, and south sides of the foundation are encased in mortared rubble and are fully preserved at the pteroma level. Surfaces of this course are smooth in fine claw chisel. There is one visible butterfly clamp at the lower level (28 cm long and 5 cm deep) and a leverage hole. Based on the mediocre finish of the northern top course, it is hard to judge whether this foundation could have received a base or a column above it, though it seems unlikely.
**Column foundation 28** (Fig. 2.138): top at *100.17; partially preserved at the pteroma level, as attested by five coarsely fitted blocks (0.66–0.72 m high) placed on the east, south, and north sides of the foundation, which is encased on three sides in mortared-rubble work up to this level. The top surface is unfinished and rough; levels vary 12–14 cm. Each of the six blocks of the top course has a large and crudely cut lewis hole (ca. 14.2 × 8 × 11.5 cm) but no clamp holes or any other lines or markings. Five of the smaller blocks of the lower course are joined by butterfly clamps; only one lewis hole is visible (others probably blocked from view by the top course). This foundation could not have received a base or a column above.

**Column foundation 30** (Fig. 2.139): top at *99.60; preserved at 0.50–0.56 m, one course below pteroma level; it is encased on three sides in mortared-rubble construction. This course has seven blocks, each joined to the other by butterfly clamps (25–26 cm long, 5–6 cm deep). Five of the seven blocks have one lewis each; one very large block and one very small one have none. There are also a few leverage holes along the east side but no setting or centering lines, and the top surface is finished in claw chisel. This foundation could have received an upper (pteroma-level) course, and technically it could have supported a finished base and a column above.

**Column foundation 32** (Fig. 2.140): top at *99.53; preserved 0.50–60 m, one course below pteroma level and encased on east and south sides in mortared rubble. The top surfaces of the six blocks of this course are finished smooth, and impressions of the upper-course blocks are visible on the west side. Four of the blocks have lewises of varying sizes (average 14 × 5.5 × 6.5 cm); two have none. The blocks are joined by six butterfly clamps (average 25–27 cm long, 5.5–6.0 cm deep), and the east side of the course has a row of leverage holes. This foundation was prepared for its top course and technically could have supported a base and column above.

**Column foundation 34** (Fig. 2.141): top at *99.48; preserved 0.50–0.55 m, or one course below pteroma level, but the mortared-rubble construction on the east and west sides of the foundation is built up to the upper level; the south-side rubblework has eroded. The top of this foundation is largely obstructed by a fluted drum that carried capital D, placed there by Butler (capital now removed, drum still there); but visible areas show that this course was built with only two blocks: the southern, very large trapezoidal piece (1.67 × 0.94 × 2.42 m). Tops show a smooth finish, lewis holes, setting lines, and leverage holes, but no clamp holes. The large southern block must weigh ca. 5.5 tons and has a single, centrally placed lewis hole (13.2 × 6.5 × 6.1 cm). One
wonders if this medium-sized lewis, with a depth of only 6.1 cm, was sufficient to lift the block. This foundation probably received its top course, and it technically could have carried a finished base and a column. The fluted drum which once carried capital D (diameter 1.46 m, height 0.75 m) displays a central standard lewis cut through an earlier round dowel hole (lewis measuring 16.5 x 7.1 cm; round dowel 9 cm in diameter) and a pair of small square dowel holes.

**Column foundation 36** (Fig. 2.142): top at *99.49; preserved 0.50–0.60 m, one course below pteroma level and encased in mortared-rubble construction on three sides (not the north). The course is composed of six blocks joined to each other by butterfly clamps (averaging 26–28 cm long, 5.5 cm deep); the blocks have lewis holes, setting lines, leverage holes, and clear impressions of the missing upper-course blocks. Surfaces are smooth and finished in claw chisel. This foundation was ready for its top course and technically could have supported a base and a column above.

**Column foundation 38** (Fig. 2.143): loosely placed in the depression for this foundation are three large blocks, ca. 0.60 m high, tops at *99.40–99.50, probably found near this location and placed there by Butler. The barely visible course below these blocks is two levels below pteroma level, top at ca. *98.90. The depression for the foundation is encased in mortared-rubble packing. The top of the course below the large blocks is a finished, smooth surface, but not enough of it is visible to ascertain other construction details. This foundation was left unfinished and could not have supported a base or a column.

**Column foundation 40** (Fig. 2.144): top at *99.99; the northern half of the foundation is preserved at pteroma level and represented by a single, very large block (2.60 x 1.40 x 0.80 m); the course is encased in mortared rubble on three sides: east, west, and south. The large block on the north might not be in situ; its top reveals a relatively even finish but no other features. Even if this top block belonged in this position, it must have been in the process of construction and not ready for a column base above. The course below the pteroma, visible in eight blocks, is well trimmed and has a finished top surface (except for the south edge which is left rough and raised, top at *99.18). Only two or three of these eight blocks have proper lewis holes; several have very large leverage holes along their south and west edges (easy to confuse with a small lewis) and one very shallow lewis hole, only 2 cm deep, for a socket that was probably started but left unfinished. Other blocks, some very large, must have been moved and lifted using simpler methods. All blocks are connected by butterfly clamps (24–28 cm long, 4–5 cm deep). This foundation appears to have had an unfinished top course and could not have supported a base or column.

**Column foundation 42** (Fig. 2.145): top at *99.50; preserved 0.45–0.55 m, one course below pteroma level. Three sides are encased in mortared rubble; the fourth side (north) was excavated by Butler down to the foundation bottom and shows three massive courses: 0.45, 0.35, and 0.67 m.
Foundation Conditions of the Temple

high from top to bottom. The top course is composed of seven blocks; all but two of these have large standard lewises (ca. 15.0 × 7.5 × 13.2 cm); the small, central block has none; the southwest block has a large, square (or nearly square) hole with straight sides which could have served as a socket for a post (16 × 13 × 11 cm). Two blocks have shallow, apparently unfinished, nonfunctional lewis cuttings only 3–4 cm deep. None of the blocks is secured by clamps. There are a few setting and corner lines along the southern edge and corners, and the top surface has an even finish. It could have supported an upper course above it.

Column foundation 44 (Fig. 2.146): top at *99.47; preserved ca. 0.60–0.65 m, one course below pteroma level and encased on three sides in mortared rubble. The exposed north side shows the surviving three courses of the full foundation, 0.54 m, 0.56 m, and 0.42 m high, from top to bottom. The top preserved course is composed of six crudely shaped blocks with rough and uneven surfaces. Each of the six blocks of the top course has a lewis; one has two; a pair placed diagonally across the stone. The large southwest block displays one large, square hole like a post hole (14.5 × 14.5 × 16 cm) with straight sides, possibly for a later use. There are no clamp holes, setting lines, or corner marks. Some of these blocks were reused. This foundation could not have received its top course or a column above.

Column foundation 46 (Fig. 2.147): top at *99.45; preserved top course is 0.50–0.60 m high, one course below pteroma level. Only three of the six blocks have proper lewis holes (11–12 cm long, 9–10 cm deep); three are unfinished, shallow lewis sockets, 2–4 cm deep. Only two of these blocks are joined by butterfly clamps (28–29 cm long, 6 cm deep). The foundation is encased in mortared rubble on three sides; the north side, exposed like foundations 42 and 44, shows three courses—0.54 m, 0.59 m, and 0.56 m high, from top to bottom. Top surfaces are relatively well finished. There is an unusually elaborate set of markings on the surfaces: leverage holes, setting lines, and corner marks that clearly define the limits of the missing uppermost course, a square area 2.56 × 2.68 m (L-shaped setting lines at north- east and northwest corners; east center “+”; north, south, and west centers “|”). This foundation must have received its top course and technically could have supported a base and a column above.

Column foundation 50 (Fig. 2.148): top at *99.48; preserved top course is 0.50–0.55 m, one course below pteroma level. Three sides of the foundation are encased in mortared rubble; the fully exposed fourth side (north) reveals three courses: 0.48 m, 0.58 m, and 0.52 m high, from top to bottom. The top surfaces have medium to excellent finish. All blocks display standard lewises and are joined together by a total of six butterfly clamps (averaging 29 × 6 × 5.5 cm). There are a few leverage holes and two setting lines marking the northwest corner and the middle of the north side. Foundation 50 could have received its upper course and, technically, a base and column above.
Column foundation 56 (Fig. 2.149): top at *98.49; preserved ca. 1.45–1.50 m below, or two courses below pteroma level. The foundation pit is encased in mortared-rubble construction on the east, west, and south sides, but the south side is largely eroded. Six large blocks of the preserved bottom course define an unusually large area of ca. 3.70 × 3.20 m. All blocks have lewis holes, but only three are connected with butterfly clamps (28–31 × 5.5–6.0 cm × 4–5.5 cm). The top surface, especially the north half, is smoothly finished in claw chisel, other sides are rougher and have raised edges. There are a few lightly carved setting lines on the northeast and southeast corners. This foundation could have received at least one more course.

North and South Peristyle Foundation Lewis Holes

The majority of the north and south peristyle column foundations display one lewis of the standard type per block; and few very large blocks have two. Average lewis hole sizes of the north and south peristyles are almost the same, or very close (north–south: 13.8 cm vs. 13.9 cm in length; 6.6 cm vs. 7.3 cm in width; 13 cm vs. 13.3 cm in depth). Compared to the Roman period crosswalls of the temple cella the lewises of the north and south peristyle column foundations are considerably larger (Roman crosswall lewis hole averages, compared to those of the peristyle foundations: 12.0 × 5.5 × 8.5 cm vs. 13.9 × 6.8 × 13.4 cm); naturally, the blocks of the peristyle column foundations are much larger. There are also some large, square holes with straight sides (16, 18, and 22 cm square and 15–21 cm deep on column foundations 27, 29, and 31 on the north side, and on column foundations 42 and 44 on the south). These could have served as sockets for post holes, probably from the building’s afterlife. There is one cross-lewis on column foundation 37 of the north peristyle (13.5 × 14.5 × 15 cm).

One general observation about the lewises of the north and south peristyle column foundations is that the structural, proportional relationship between the block weight and the size of the lewis hole is only very loosely connected; some blocks three to four times larger than others utilize lewis holes no larger than the smaller blocks, or sometimes have none. Obviously, these very large blocks—some still in their rough, quarry-shaped state—had no use for lewises during their transportation into the temple (ropes might have been just as effective, not to mention faster and cheaper) and were simply lodged into place without bothering to carve lewises. In general, the blocks of the lower courses, which were finished and closely fitted, have proper lewises (probably allowing finer control in lifting and placing the blocks) as well as large, butterfly clamps joining the blocks, whereas the quarry-finished blocks display no clamps since they were still too rough for close fitting and joining.
Of thirteen randomly selected standard lewis holes of the north side, lengths vary 12.8–16.0 cm, with an average of 13.8–14.0 cm; widths vary 5.1–8.5 cm, with an average of 6.6–6.8 cm; and depths vary 9.0–16.0 cm, with an average of 13.0 cm. Of twelve randomly selected standard lewis holes of the south side, lengths vary 12.0–17.0 cm, with an average of 13.9 cm; widths vary 6.0–9.0 cm, with an average of 7.3 cm; and depths vary 10.5–18.5 cm, with an average of 13.4 cm. These considerable variations, especially in depth, can be explained in part because most of the lewis holes were carved on unfinished blocks whose effective depths would be reduced by some 2–4 cm once the top surfaces of the blocks were trimmed.

West Pronaos Porch Column Foundations

(Plan 6; Pls. 1, viii, xi; Table 2.2)

The west pronaos porch projects in front of the west pronaos and its anta walls. Like the east porch, it is a six-column porch: four in the front and two in the returns (columns 48, 52, 53, 54, 55, and 49; Fig. 2.151). Column 52 and its foundations are missing entirely; two columns have their plinths in situ and almost certainly carried columns (48 and 53); and two are preserved with finished top foundation courses at pteroma level or one course below it; hence they technically could have supported bases and columns (54 and 49) as well.

Foundations of the west pronaos porch columns (composed of ashlar blocks embedded in mortared-rubble construction), where Butler’s deep excavations removed enough soil to expose them almost entirely, can be observed more readily than their counterparts of the east pronaos porch. The block foundations of columns 55, 54, and 53 are still visible for a height of 2.30–2.40 m, but they were probably deeper. The four front columns of the porch (52 missing, 53, 54, and 55) and the two returns in front of the northwest and southwest anta piers (48 and 49) are encased in mortared rubble. They are linked to each other along their east side following a straight north–south alignment (ca. 1.70–1.80 m east of columns 53 and 54) but the mortared rubble jogs up and around to envelop column 48 (creating a very narrow neck at the corner it makes with the missing column 52; its counterpart, column 49, does not have this unusual rubble-work projection toward the north; Fig. 2.152). Along their west side, the massive structural matrix of mortared-rubble foundations varies in thickness from 1.40 m (south end) to 1.70 m (north end); partially reconstructed, it is visible along its west side, east of the altar wall (Fig. 2.153). The rubble construction is interrupted only at the northwest corner of the pronaos porch, creating a roughly five-meter-square void where the foundation of column 52 ought to be (Fig. 2.152).
2. Description of the Building: The Physical Remains

**Column foundation 48** (Figs. 2.153–2.156): This base is directly in front of the northwest anta and supports a plinth made of two pieces (2.56 × 2.56 × 0.40 m). Along with its southern counterpart (column 49), it displays a unique foundation arrangement where its block foundations extend and connect (but not bond) to those of the northwest anta pier (Fig. 2.107; see above). The top-surface features of the plinth, partially obscured because of the two fluted drums placed on top of it, has a fine claw-chisel finish; the circular impression of the missing scotia of the Ionic-Attic base is visible on the northeast and southeast corners, with a top at *100.39 (the plinth being 0.39 m high). These corners reveal square dowel holes with channels, placed ca. 0.25 m inside the arc of the circle. The vertical faces of the plinth are partially finished, the top 19 cm–strip left rough all around (as common to all other plinths of the peripheral colonnade); the bottom face has a fine claw-chisel finish and a shallow beveled edge. The top two courses of the column foundation are visible below the plinth, 0.36 m and 0.51 m high, respectively. The north, south, and west sides of the base are encased in mortared rubble. The mortar packing on the north side supports the northwest stairs; that on the west side is only 0.40–0.50 m wide and makes a sloped “outer” face into the deep hole of the missing column 52. Foundation 48 and its plinth, in situ, must have supported a column.

**Column foundation 53** (Fig. 2.157; Pls. i, viii): This is the foundation for the north middle column of the pronaos porch. It is encased on all four sides in mortared rubble. The top course of this foundation is preserved at *99.98 and supports a plinth composed of two pieces (restored size: 2.56 × 2.56 × 0.38 m) with only a small portion in the middle missing. The western plinth block (2.60 × 1.40 m) features seven small, square dowel holes with pour channels arranged along its outer sides; the eastern block (2.60 × 0.60 m) displays three dowel holes along its eastern side. The former has a pair...
of large, centrally placed lewis holes (16.5 × 7.1 × 13.0 cm and 16.5 × 8 × 15.0 cm); the latter has a single one (13.2 × 6.1 × 10.0 cm). Both the foundation and plinth blocks are joined by bar clamps, and the tops of the plinth blocks are finished in fine claw chisel. Instead of the usual circular impression for the base scotia, the plinth top displays the lines and markings for a square plinth (ca. 2.40 × 2.40 m), thus providing us with crucial evidence that the column occupying this position (and most probably its southern counterpart, column 54) stood on a tall pedestal base, much like the well-preserved counterparts on the eastern porch, columns 11 and 12.

**Column foundation 54** (Fig. 2.158): This is the foundation for the southern middle column of the pronaos porch. It is encased on all four sides in mortared rubble, although the construction on the south side (between bases 54 and 55) was removed by Butler, allowing for a "sectional" view of the full north side of the foundation. The top course is preserved at *99.98, the pteroma level, and the top surface is finished in claw chisel. Five of the seven blocks that make up the top course have large, standard lewis holes (18–19 × 7 × 14 cm). As in foundation 53, all seven blocks are connected to each other by bar clamps (21–23 cm long) and one iron clamp is preserved in situ. There are six small, square dowel holes with diagonal pour channels (ca. 20–24 cm long) located at the corners of the foundation blocks. There are several leverage holes along the south and east sides, but no setting lines. Still, following the evidence of dowels and leverage holes it is possible to reconstruct the hypothetical plinth of the base as a 2.50–2.56 m square, indicating a pedestal base comparable to the northern column of the pair (53). The total height of the foundation on its exposed southern side is 2.30–2.40 m in three very tall courses (the top two are 0.94 m and 1.05 m high). The use of such massive foundation blocks, especially at the western end of the temple, where the heights of individual blocks vary within a course, is typical of Roman construction. Foundation 54 almost certainly supported a base and a column.

**Column foundation 55** (Fig. 2.159): this is the southernmost corner column of the pronaos porch, with a top at *99.25; considering the exceptional height of the blocks of foundation 54, we presume it is preserved only one course below pteroma level. It is encased in mortared-rubble construction on the east, west, and north sides; the latter was removed by Butler to create a ramped passage for ease of entrance into the west pronaos porch from the west.79 The top surface is moderately well finished in point chisel, although the north and south edges are left relatively rough and raised. The preserved top course consists of eleven blocks and the middle area filled with small pieces. All blocks have large lewis holes, and the southwest block also has one centrally placed square hole (14 × 16 × 20 cm). No less than fourteen butterfly clamps secured the blocks together, all joined by at least one clamp—some with two or three—that vary considerably in size (24–32 cm long, 5–6 cm deep). There are a few leverage holes and many setting lines marking the edges and the corners of the roughly square course above, reconstructed to measure ca. 2.70 × 2.60 m. It is preserved to one course below its top course (but prepared to receive it), and this foundation could have supported a base and a column.

**Column foundation 49** (Figs. 2.160, 2.12): top at *99.27; preserved ca. 0.75–0.80 m or one course below pteroma level. Defined in a rectangular outline (4.50 × 3.60 m), this foundation belongs to the column in front of the southwest anta; it is connected (though not bonded) to its block foundations. The foundations of the original Hellenistic anta and

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79 See Sardis I.1, p. 48, ill. 38, which shows a horse cart laden with debris emerging from the “breach between piers B and D [54 and 55],” while workmen behind dig in the west pronaos porch.
2. Description of the Building: The Physical Remains

the Roman addition to the column foundation join along a straight edge using distinct construction styles (this is also true for column foundation 48 and the northwest anta; see above). Mortared-rubble packing of the foundation occurs only on the west side, linking column foundation 49 to column foundation 55. The surface of the preserved course for the column (one course below pteroma level) is finished in fine claw chisel and prepared to receive the courses above, its clear impressions defining a square area of ca. 2.80 × 2.70 m. There are leverage holes and setting lines on all four sides around the smooth center. The preserved course is composed of thirteen blocks (some reused) with large lewis holes and seven large clamp holes of the butterfly type (28–32 cm long, 5–6 cm deep). Foundation 49 could have supported a base and a column. Along the exposed southern face of foundation 49 one can clearly see the dramatic difference in construction between the Hellenistic foundations of the south wall and the southwest anta and Roman foundations of this base. The two constructions abut each other along a sharp line, clearly displaying different block sizes and course heights (Fig. 2.13).

Missing Column 52

The high, sloping mortared-rubble walls on the south, east, and north sides of this “sunken” space where the northwest corner column of the west porch should be (the north side construction supports the northwest stairs) display fairly well-finished faces with basic horizontal coursing. This suggests that these faces were built up (rather than laid down into a foundation trench) in order to contain and define the void left after the complete removal of corner column 52 (Fig. 2.161). Although the lack of archaeological evidence for the existence of column 52, we believe that it was built based on structural logic: a projecting pronaos porch without its corner column could not have supported the roof of the frontal porch—at least, not in any credible fashion. Although the programmatic emphasis (and funds) seems to have been shifted in order to complete the full east front of the temple at this stage, we believe some effort would have been spent to built at least a rudimentary porch for the entrance to Artemis’s chamber and the temple’s original west front. Thus, my hypothetical reconstruction of this facade includes the four projecting front columns carrying a roof and probably a pediment (Fig. 4.10; see pp. 232–236).

Butler claimed that he had observed the impressions of the missing foundation blocks of the western peristyle columns (columns 59–63); there are no such impressions now, and he must have been mistaken about these impressions, as the west front column foundations were never put in, except column foundation 64. Whether he included column 52 is not clear; however, there are no impressions of blocks on the sloping faces of the wall surrounding the position of column 52. Furthermore, the foundations of these Roman era columns, which typically had straight sides (unlike the Hellenistic column and wall foundations, which projected out with each course), could not have reached out to the line of the mortared rubble, which in the case of column 52, is some 1.80–2.0 m away. Sardis I.1, p. 49.

In 2010 a trench was opened within the interior right angle that
East Peristyle and the East Pronaos Porch
Column Foundations
(Plan 6; Pls. 1, X, XIII)

The foundations of the east peristyle (columns 1–8) and the six-column east pronaos porch (columns 10–13 and 16–17) are only visible along their edges because these positions are occupied by columns standing on Asiatic-Ionic bases of various preserved heights. Where observable, the top foundation blocks are irregular and roughly cut. Composed of several blocks, many foundations project unevenly some 10–50 cm beyond the edges of the finished bases, although in some cases there is little or no projection at all, leaving the plinth hanging over the edge of the foundation. The tops and edges of some foundation blocks were cut down to create a relatively even bearing surface to receive the plinth of the base, often leaving a raised edge or border around it.

Since the bearing surfaces of these foundations are occupied by columns, it is impossible to see construction features like lewis holes, clamp holes, and dowel holes. In contrast, they are observed readily on foundation bases such as 9 and 14, which carry no columns, and elsewhere along the peripteral colonnades and the west pronaos porch column foundations. A few exceptions are the two large lewis holes on the west side of column 12’s foundation (Figs. 2.162, 2.163, 2.175), a dowel hole with a pour channel on the southeast corner of the same base, and metal bar clamps preserved in situ on the south side of base 16. These all display a fairly rough construction consistent with the west porch base foundations of the temple, and in contrast to the exceptionally fine foundation finish of the Hellenistic era foundations of the northeast and southeast anta piers (Figs. 2.73, 2.74). A common construction feature of foundation blocks are small holes or setting slits (6–8 cm long) placed parallel with and very close to the edges of the plinths (Fig. 2.172). Three types of setting lines are visible on the top surface of these blocks: lines parallel to the edges of the plinths (indicating the positioning of base); crossed fine lines, or L-shaped lines at the corners (indicating the corners of the base plinths); and short, straight lines or “center lines,” marking the midpoint of the base (Fig. 2.163). In some instances, the latter is matched or aligned with short vertical lines incised on the finished vertical face of the plinth above, and sometimes these continue all the way to the (unornamented) base torus as a short, thin line or nick.

All foundation blocks of the east colonnade and the east pronaos porch (including foundations 9 and 14, which do not carry bases or columns) are similar in construction and workmanship and display the same, generally coarse features; these would have been largely invisible since the projecting surfaces were intended to be trimmed and covered by some sort of paving. All appear to belong to the same phase of construction.
2. Description of the Building: The Physical Remains

Column 1 foundation, plinth, and base (Fig. 2.164):
Setting lines on east, south, and west sides; center line on west side; cross lines at northwest corner; leverage holes on east, south, and west sides.

Column 2 foundation, plinth, and base (Fig. 2.165):
Foundations project only 2–3 cm on the east, south, and north sides. On the west side four blocks project 10–18 cm; there are two leverage holes. No visible setting lines.

Column 3 foundation, plinth, and base (Fig. 2.166):
Setting lines and a center line on the west side only. Leverage holes on all four sides. Blocks have minimal, uneven projections.

Column 4 foundation, plinth, and base (Fig. 2.167, 2.22a):
Slight or no projections on the south, west, and north sides; east-side blocks project 20–30 cm. The well-preserved north side is cut along a raised edge to accommodate the plinth. Likewise, blocks are trimmed down to make an even surface, which created a raised ledge along the east and south sides. Setting lines are preserved only on the east side of the foundation. Leverage holes are on the east, west, and north sides.

Column 5 foundation, plinth, and base (Fig. 2.168, 2.20a):
South and west sides of the foundation are composed of strongly projecting (30–40 cm), heavily tooled blocks; the plinth overrides the foundation blocks on the east and north. There is a setting line and a center line on the west and north. There is a setting line and a center line on the west side and two leverage holes on the south.

Column 6 foundation, plinth, and base (Fig. 2.169, 2.20b):
Foundations project evenly on all sides, 14–20 cm on the east, south, and north, and 20–30 cm on the west side. Center line marked on the west and north; corner cross lines on the southeast and northeast. The south side is composed of two large blocks connected by a clamp. Leverage holes are visible only on the south side.
Corner and the east and south sides are very rough and have been cut down 4–6 cm in order to place the plinth of the base. There are no setting lines visible, but there are cross lines at the northwest and northeast corners and leverage holes on all sides. There are four square markings with smooth surfaces (ca. 6 × 6 cm) along the north face of the foundation; perhaps the block was a reused one. The west face of the foundations reveals block construction similar to the foundations of column 17, although the excavations did not reach beyond the top foundation course and the rubble foundation wall (see below; Figs. 3.45–3.47 as well as pp. 184–188).

**Column 7 foundation, plinth, and base (Fig. 2.170):**
Blocks project 12–30 cm on the west and north sides; the north side is trimmed down to accommodate the base. There is a small setting line and a cross center line on the west side. The cross line marking the northwest corner was partially obliterated when cutting back the corner in order to fit the base.

**Column 8 foundation, plinth, and base (Fig. 2.171):**
Blocks project ca. 20 cm on the west and 30–40 cm on the north side. There is one setting line on the east end of the south side.

**Column 16 foundation, plinth, and base (Figs. 2.172, 2.216):** This is the column in front of the northeast anta pier; its foundations were investigated in limited excavations in 2011 (see below). Foundations project unevenly on all sides, 15–53 cm (the southwest corner projects 53 cm with a rough, 10 cm–high protrusion); the northeast corner and the east and south sides are very rough and have been cut down 4–6 cm in order to place the plinth of the base. There are no setting lines visible, but there are cross lines at the northwest and northeast corners and leverage holes on all sides. There are four square markings with smooth surfaces (ca. 6 × 6 cm) along the north face of the foundation; perhaps the block was a reused one. The west face of the foundations reveals block construction similar to the foundations of column 17, although the excavations did not reach beyond the top foundation course and the rubble foundation wall (see below; Figs. 3.45–3.47 as well as pp. 184–188).
2. Description of the Building: The Physical Remains

COLUMN 12 FOUNDATION, PLENTH, AND PEDESTAL BASE (Figs. 2.175, 2.219): Column with a pedestal base, south of the central axis. Foundation blocks project 15-40 cm beyond the plinth of the column pedestal on the south, west, and east sides; the north side blocks have been leveled down to receive the pedestal base. Southwest and northwest corners are marked by cross lines, the latter corresponds directly to the corner lines of the base plinth above. There are two well-preserved lewis holes on the west side and leverage holes on the south and north sides. There is a dowel hole with a channel (ca. 14 cm of the channel is visible) on the southeast corner, where a shallow trench revealed the connection of the foundation and the mortared-rubble surrounds.

COLUMN 17 FOUNDATION, PLENTH, AND BASE (Fig. 2.177): This is the column in front of the southeast anta pier. Visible above ground level are minor projections of the top course of the foundation block, even in width (3–8 cm along the east and south sides and 10–12 cm along the north side); there are no features except a thin center line on the north side. The 2002 trench between the northeast corner of the southeast anta pier and the northwest side of column 17 established that their foundations were separate, representing different structural styles and belonging to different periods of construction (Figs. 2.72–2.74). The block foundations of the anta pier have five courses 1.81 m deep (heights from top to bottom: 0.32 m, 0.32 m, 0.39 m, 0.42 m, and 0.34 m), and each course projects beyond the one above it; this follows the system of the continuous block foundations of the long south wall of the cela. On the other hand, column 17 rests on an independent foundation of large ashlar blocks with no stepping out (four courses, 2.20 m deep, bottom at ∗97.60–97.80; course heights from top to bottom: 0.55 m, 0.45 m, 0.65 m, and 0.60 m), much like the foundations of the exterior columns. The ashlar foundation is encased, at least on the east and partially exposed north sides, in a 0.30–0.40 m thick “collar” of mortared rubble, similar in construction style and structural purpose to the mortared-rubble work connecting the foundations of peristyle columns. The block-and-rubble foundations of columns 17 and 16 can be understood as representative of the Roman period foundations for other columns of the east end pronaos porch. The foundation trench around the east and north sides of the southeast anta pier was partially cut into bedrock and yielded mixed Hellenistic and Lydian sherds. The trench for column 17 was dug partially into the original trench of the anta pier, and predictably, it contained Roman pottery.

COLUMN 13 FOUNDATION, PLENTH, AND BASE (Fig. 2.176, 2.215): Foundation blocks do not project beyond the plinth; only a thin, eroded center line is visible on the south side.

82 Alessandra Sulzer, who supervised the trench in the 2002 temple excavation, was able to trace the outline of the earlier and later foundation trenches cut by the builders and observed that “original Hellenistic fill [containing mixed Lydian and Hellenistic sherds] was used to cover up the trench and foundations” around the anta foundation blocks (p. 4 of her final report, see below). She judged the two operations to be distinct and separate, and believed that the structural components of the column foundation—ashlar blocks and their mortared-rubble encasing—were laid together in a single operation. The builders’ trench for column 17 was probably a long one that extended to the foundations of column 13. Work in the tight, west end of this trench would have been conducted from west to east; as the foundation blocks of column 17 were laid in place the rubble-and-mortar would be fitted tightly between the blocks and the trench face. As further observed by Sulzer, work on the foundation blocks and on the rubble “collar” around them progressed in tandem, and there was no apparent attempt to match the courses and “work lines.” The excavation also exposed three dowel assemblies with lead casings around an intact iron dowel, between the first and second, the second and third, and the third and fourth courses of the anta foundations (courses −1, −2, and −3). They were left undisturbed. See Sulzer, “AT 02.1 Final Report” (Sardis Expedition field report). For comparative results of the northeast anta wall and pier foundations investigated in 1997 (trenches 2 and 3A), see Sardis R1, p. 87, figs. 120, 156, 158–159. The southern trench of excavations in 2011 in the same area further exposed the foundations of the southeast anta pier and the inner face of the anta wall (Figs. 2.73, 2.74); see Cahill and Greenewalt 2016, pp. 483–84, figs. 11, 17.
Laying the Foundations of the Peristyle Columns

The process of laying the foundations of the peristyle columns probably proceeded as follows. The size and depth of the trench would be determined by the type of foundation required, that is, whether the foundation blocks under the columns were to be embedded in mortared rubble in two, three (as in the north and south colonnades), or four sides (as in some columns of the east and west porches and the broad fills of mortared rubble around them). After the positions of the columns were marked, the laying of the blocks and their mortared-rubble encasing would progress in tandem. As each block course was placed, rubbework would be packed tightly against it and laid against the somewhat uneven face of the trench. The uneven and sometimes bulging face of the mortared-rubble work, where visible, may be explained thus (Figs. 2.106, 2.111, 3.33). The wide areas between the columns, comprising the east and west porches, must have been laid like a “rug” or pad of mortared rubble (of varying depth, ca. 0.40–0.70 m) connecting to the deeper block-and-rubble foundation network of the outer colonnades and the pronaos porch columns (Figs. 2.112, 2.113). The long south and north pteromas are free of rubbework and are not connected to the mortared-rubble peristyle foundations, but rather they exhibit a thin layer rich in marble chips, probably an under layer for block paving which also indicates that marble blocks were carved and shaped on site.

This process would probably progress slowly because the foundations would be put in position as rough blocks that were trimmed and clamped together, and their upper surfaces then trimmed and prepared before the course above them could be laid. The vague coursing detectable in some areas of the rubbework does not always match the coursing of the blocks; therefore, the builders might have put the blocks in place before they added the mortared-rubble packing around them. Nonetheless, since the construction of block foundations and rubble encasing must have been a single operation, one should not expect to see rubble where no blocks were laid; conversely, preserved rubble construction strongly indicates that block construction probably occurred, though the blocks might have been robbed out at a later date. However, gaps where the mortared-rubble construction probably displays deliberate interruptions indicate that either no block foundations were laid (as in the case of positions 19, 21, and 43), or they were discontinued and left unfinished after a single bottom course (with rough and untrimmed surface) was placed, as in the case of 41 and 35 (Figs. 2.116, 2.126). In a few instances, such as foundations 45 and 33 of the north colonnade or 24, 30, 32, 38, and 40 of the south colonnade, mortared-rubble construction is higher on either three or all four sides of the foundation blocks, leaving a square depression; this indicates that there was one or several courses in place at one time, but later robbed out or removed. Consequently, the top of the preserved course in the depression will invariably display a finished surface.

Columns of the East End

Fifteen columns stand at varying heights at the east end of the temple, from 6.32–6.36 m (columns 11, 16, and 18) to 17.87 m for fully preserved columns 6 and 7 (for the preserved heights of the east end columns, see p. 100, Table 2.3). Eight belong to the east colonnade (columns 1–8); six to the pronaos porch (columns 16, 10, 11, 12, 17, and 13); and one (column 18) to the south colonnade, third from the east.

83 Some stretches of exposed, mortared-rubble foundations—such as along the north peristyle—have such regular, evenly laid courses that we might be open to the possibility that some foundation walls were “built up” rather than “laid down and against” a foundation trench where topography allowed for (or demanded) it.

84 Despite this strong and logical hypothesis, one should not entirely disregard the possibility that in some gaps in the peristyle (such as column positions 19 and 21 in the north peristyle), the entirety of the foundation material, ashlar blocks as well as mortared rubble, might have been robbed out as reusable building material; the latter was as coveted as the former.
Composed of unfluted, roughly dressed drums of varying heights (from 0.48–1.92 m, ca. 3.9–15 tons), all east-end columns were probably completed to their full height and had capitals except for the middle two columns of the pronaos (columns 11 and 12), which were unfinished in terms of fluting, trimming, and other details (Figs. 2.178, 2.181, 3.40). However, columns 6 and 7 (and others represented at their full height in the drawings of eighteenth and nineteenth-century travelers) display fluting on their top one or two drums; obviously they were intended to be fluted entirely (Figs. 2.179, 2.203; Pls. xxiii–xxiv; Table 2.3; see also Figs. 1.19, 1.21, 1.23, 1.27).

Thanks to these two fully intact columns, the height of the exterior order can be fixed at 17.87 m, measured from the bottom of the base plinth to the top of the capital (capital height: 0.82–0.84 m; column shaft height: 15.87 m for column 6 and 15.90 m for column 7; base heights: 1.16–1.17 m; Fig. 2.179). The measurements for the other columns of the east end vary: 1.12–1.20 m for the bases and 5.26–9.26 m for the shafts as preserved. The total restored heights of the two nonconforming “pedestal columns” (11 and 12) can be calculated to be 15.71–15.73 m, not counting their 2.14–2.16 m high pedestals (Table 2.3). Based on measurements taken at the smoothly finished bands ca. 0.30–0.35 m above the bases of the columns (accepting as a working hypothesis that these bands represent guidelines for the finished bottom diameters), the bottom diameters of the eight east colonnade shafts vary very little, 2.06–2.01 m. The top diameters of these shafts (measured at the level of the finished top flutes of columns 6 and 7) are 1.76–1.77 m. Since there is a slight increase in the diameters of the roughly trimmed drums in the lower quarter of their shafts, entasis might have been intended. Additionally, in his 2018 and 2019 photogrammetric studies of the standing columns, 6 and 7, P. Stinson observed that their shafts appear to lean to the north (inward) and west (toward the cella), although the results of this continuing study are as yet inconclusive. If further study proves the existence of such inward leaning, it would be an exciting discovery that would illustrate the subtle and sophisticated refinements applied in the Ionic order during the Roman Imperial era.

The rest of the columns are preserved at the following heights and numbers of drums: column 1: 10.45 m (10 drums); column 2: 8.74 m (8 drums); column 3: 8.43 m (7 drums); column 4: 7.68 m (5 drums); column 5: 8.82 m (6 drums); column 8: 6.36 m (7 drums); column 16: 6.36 m (5 drums); column 17: 6.68 m (5 drums); column 16: 7.59 m (7 drums); column 13: 6.69 m (6 drums); and column 18: 6.12 m (5 drums).

To quote from Stinson’s 2018 Sardis Expedition field report, entitled “AT Columns 6 and 7, Inclination Study,” with his gracious permission: “[Photogrammetry models for columns 6 and 7] use 4000 × 3000 px photos taken with a DJI Phantom 4 Pro [drone by N. Cahill]. The photos were processed using Agisoft Pro software, with settings ‘high’ for alignment, and ‘high’ for dense cloud creation, . . . I established horizontal and verticality, on the basis of the joints between the column drums, which I assumed to be [unlike the Parthenon column joints—FKY] horizontal. Then I took measurements in AutoCAD from scaled orthographic top views of the models.” Reflecting on the possible level difference between the tops of the Ionic capitals in situ on columns 6 and 7, Stinson wonders if this has “something to do with curvature in the entablature.” Stinson’s further study on the subject is forthcoming.
The columns of the pronaos porch are smaller and more varied in size than the peripteral columns of the east front and sides. Columns 16 and 17, located directly in front of the northeast and southeast anta piers, have lower diameters of 1.88 m, while their top diameters can be reconstructed at ca. 1.58 m (based on the partially fluted top drums of these columns, now in the field). Columns 10 and 13, the pair in front of the former that comprise the outer corners of the porch, are only slightly smaller with bottom diameters of 1.84 m and top diameters that can be reconstructed at ca. 1.56 m (Figs. 2.181, 2.180, 2.213). The bottom diameters of the two finished middle columns on pedestals, numbers 11 and 12, are 1.58 m; their top diameters (taken from one top piece in the field) are ca. 1.32–1.33 m. The diameter-to-height ratio of the east colonnade columns is 1:8.9 (the only fully reliable value since the bottom diameters of the other unfinished columns may not be exact); those of the pronaos porch columns are 1:9.47 for columns 16 and 17 and 1:9.67 for columns 10 and 13. For the so-called pedestal columns this ratio is 1:9.92 (also reliable). Thus, an intentional gradation in the slenderness of the Ionic order results in the following variation: from “thicker” peripheral columns, to more slender columns in the pronaos porch, to the most slender, special columns that were rebuilt and raised on tall pedestals during the Roman era. Since the height of the cella interior columns matched that of the porch columns raised on pedestals, their slenderness ratio also must have been ca. 1:9.9.

respectively, by about the same amount as column 6 leans northward, the center-to-center distance between the two would be reduced by about 13–14 cm, from 7.06 m at the bottom to ca. 6.92 m at the top (see pp. 144–145).

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### Top Drums of the East End Columns

The following is a general description of the top surfaces of the top drums of the column shafts of the east end as preserved; though photographed, many could not be reached for direct measurement (Fig. 2.181: cols 1–5, 8, 10–13, 16–18).

**Column 1** (Fig. 2.182): anathyrosis with a central, standard lewis hole and a pair of small, square side dowel holes. A square incision measuring exactly half of the drum’s diameter and positioned off-center must have been cut at a much later date in order to extract a square block (see a similar operation at a more advanced stage on the top drum of column 4; for the graffiti on the northwest side of the drum top see p. 114, Fig. 2.228 in this chapter).
Column 2 (Fig. 2.183): anathyrosis but no central lewis hole; a pair of small, square dowel holes on either side of center.

Column 3 (Fig. 2.184): anathyrosis with central standard lewis hole and a pair of small, square side dowel holes; northwest side heavily damaged.

Column 4 (Fig. 2.185): anathyrosis with no lewis hole. A large, square block off-center toward the north has been carved out at a much later date (see top drum of column 1). There is one standard lewis hole and one small, square dowel hole on the east side, clearly the preserved members of a pair.

Column 5 (Fig. 2.186): anathyrosis without a center lewis, but rather a pair on either side. In the center is a large, square dowel hole (ca. 10–11 cm); north side of the drum is severely damaged; surface eroded. No side dowel holes have been preserved.

Column 6 (Fig. 2.187): anathyrosis with a central, large square dowel hole (ca. 12–13 cm); there are a pair of standard lewis holes on the east and west sides and a pair of small, square dowel holes on the north and south sides of the center.

Column 7 (Fig. 2.188): anathyrosis with central, standard lewis hole; a pair of small, square dowel holes on the north and south sides of the center.
Column 11 (Fig. 2.189): fluted original drum reused on a Roman pedestal base; large, central anathyrosis with standard lewis hole cut through the original square dowel hole; a pair of small, square dowel holes on either side of the center.

Column 12 (Fig. 2.190): fluted original drum reused on a Roman pedestal base; large, central anathyrosis with a cross lewis hole cut through the original square dowel hole; top of the drum was severely damaged, obliterating the pair of square side dowel holes.

Column 13 (Fig. 2.191): top drum shorn in two; only the eroded east half remains; scant evidence for central anathyrosis, and the northern member of the small dowel hole of the usual pair remains. Unclear whether there was a central lewis hole or a large, square dowel hole.

Column 16 (Fig. 2.192): anathyrosis with a large, square dowel hole (12 × 12 × 7–8 cm); a pair of standard lewis holes on the east and west sides and small, square dowel holes north and south of center.

Column 17 (Fig. 2.193): top of drum is too severely damaged and eroded to leave any features; there was probably anathyrosis but no central lewis or large, square dowel hole.

Column 18 (Fig. 2.194): central anathyrosis (badly eroded) with a large, standard lewis hole; only the south member of the usual pair of small, square dowel holes is preserved.
Table 2.3. Known and Restored Dimensions of East End Columns (in meters)

<table>
<thead>
<tr>
<th>Column No.</th>
<th>Preserved Height</th>
<th>Number of Drums Preserved</th>
<th>Total Height (Shaft + Base + Capital)</th>
<th>Preserved Height of Shaft</th>
<th>Height of Base</th>
<th>Height of Plinth</th>
<th>Height of Capital</th>
<th>Shaft Diameter at Bottom</th>
<th>Shaft Diameter at Top</th>
<th>Ratio of Diameter to Height</th>
<th>Length of Square Plinth Side</th>
<th>Torus Diameter</th>
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<tr>
<td>1</td>
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<td>10</td>
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<td>[—]</td>
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<td>8</td>
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<td>[—]</td>
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<td>[—]</td>
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<td>8</td>
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<td>[—]</td>
<td>2.01</td>
<td>[—]</td>
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* Column 11 pedestal height 2.14 m; total height preserved (pedestal + shaft + base) = 6.34 m
** Column 12 pedestal height 2.14 m; total height preserved (pedestal + shaft + base) = 7.06 m
[ ] Numbers in brackets represent restored dimensions
Columns 11 and 12

The two middle columns of the east pronaos porch are different from all other columns of the temple’s east end in two important aspects: design and state of completion. First, they are raised on 2.16–2.18 m high, unusually shaped, unfinished pedestals made of reused material from the original temple. Second, the columns (base and fluted shafts, not the pedestals) are finished in every detail (Figs. 2.178, 2.195, 2.196). The west pronaos porch also displays the same design arrangement with a pair of pedestal-base column foundations (53 and 54) about the building’s middle axis (see above). The capitals tentatively assigned to these columns are of the small type, as exemplified by capitals C, D, and G. These smaller capitals, as well as their fluted column shafts, are all Hellenistic originals assigned to the interior of the cella; their suggested positions on the columns of the east and west pronaos porches represent their Roman era reuse. The following is mainly a physical description of these columns and their pedestal bases.88

The pedestal columns carry shorter and slenderer fluted shafts compared to the regular columns of the east end (since these shafts, composed of drums, originally come from inside the cella, with a floor 1.60–1.70 m higher than the porch floor); consequently, in their later use they were raised on very tall pedestals (ca. 2.18 m high). Their shafts stand on bases of a type known as Asiatic-Ionic composed of an ornamented upper torus (both decorated with vertical laurel leaves with rounded tips), double scotias separated by a pair of astragals (“reeds,” as Butler named them) over a square plinth (2.30 × 2.30 m, plinth height 0.39 m; total base height 1.16 m). The restored height of the fluted columns (base, shaft, and capital), calculated based on the known total height of the exterior columns, is 15.69 m (ca. 2.14–2.16 m shorter than regular east porch columns). The top surfaces of their plinths display the usual construction marks such as centering and setting lines, leverage holes, and pour channels for dowel holes where damage to their lower scotias makes them visible, especially at the corners of the plinths (four such channels are visible: two on each base, ca. 8–14 cm long); these pour channels are typical of Roman construction.

The tall pedestals are each composed of a square plinth, which is similar to the plinths of other bases (2.56 × 2.56 m, ca. 0.42 m high); a finished, smooth, middle section in two courses (2.32–2.35 m wide and 0.76–0.77 m high; each course is 0.38 m high) surmounted by a very roughly dressed zone (ca. 0.99–1.01 m high) with a reverse taper from 2.36–2.38 m at the bottom to 2.70–2.75 m at the top (Fig. 2.196). This top zone is built of reused and reshaped drums of the original fluted shafts, two or three blocks on each side (Fig. 2.178). The upper edges of this rusticated zone project over the smooth middle section, varying between a maximum of ca.

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88 For an architectural and chronological assessment of columns 11 and 12, see pp. 178–180.
type, the Attic-Ionic (later a Roman favorite), is simpler and more practical. It is composed of an upper and lower torus with a single, deep scotia between them and often a plain plinth below the lower torus; the latter typically had a larger diameter than the upper torus, creating a stable, splaying outline. The type was a creation of Athenian architects and was well represented in a great variety of important buildings in Greece from the fifth century B.C. onward. Mnesikles used an early form of it in his Propylaia (ca. 437 B.C.), followed by a more mature form in the east and north porches of the Erechtheion (ca. 421–405 B.C.). While the widespread acceptance of the new base in Greece following the Classical era is indisputable, I would query the statement of Lucy Shoe Meritt, whose prolific and leading scholarship on classical profiles is also indisputable, that “the appearance of the Attic [base] form was so strong that it won the field in Asia Minor and was the form which the Greeks carried . . . everywhere throughout the Hellenistic world.”39

The bases of the east end columns are Asiatic-Ionic, which is a form of Ionic base developed in western Asia Minor, composed of two scotias separated by horizontal astragals (“rope profiles”) between an upper torus and a lower plinth (Fig. 2.197). Variations in the profiles do exist. Of the fifteen bases, nine of the toruses (bases 4, 5, 6, 16, 17, 10, 11, and 12) display finished or nearly finished ornament (vertical or horizontal laurel-leaf patterns, oak leaves, and guilloche). The remaining five have plain, smoothly finished (vertical or horizontal laurel-leaf patterns, oak leaves, and guilloche). The remaining five have plain, smoothly finished ornament. The choice of Asiatic-Ionic bases reflects, to a certain extent, the historical bias of western Asia Minor for this elegant native order in general, and in particular the desire to continue the base type used inside the cela of the Hellenistic temple—which, itself, harks back to the Classical and Archaic traditions of the great Ionic temples of the land.

The *locus classicus* of the Asiatic base is the Archaic Arztemision of Ephesus (ca. 560 B.C.); it is also used in the Archaic Temple of Apollo at Didyma, and later in Pytheos’s Temple of Athena in Priene (334 B.C.).40 The other major Ionic base

89Meritt 1969, p. 191. Meritt’s viewing of classical architecture through a Greek-focused lens, when it was not Italian, was fairly characteristic of the period in which she was writing Asia Minor played a lesser role in the admirable breadth of her scholarship, and the article I refer to here was written in honor of her own teacher, the renowned Hellenic specialist Rhys Carpenter, the first editor of the journal *Hesperia* that she herself led in 1946. Learning to create detailed drawings—referred to as “full-scale details” (FSD)—of moldings and profiles of historical architecture was an important part of the training of the architectural fellows of the American Academy in Rome from the 1920s to the 1940s. A collection of these very handsome drawings was planned for publication by Gorham Phillips Stevens, the Academy director (1917–31), but was never completed. Lucy Shoe Meritt was a fellow of the Academy (1937–49) and a frequent visitor and researcher there; she would have seen Stevens’s profile collection (now lost), and her own work followed the Academy tradition of studying profiles and moldings. Yeğül 1991, pp. 226 nn. 21 and 38, 224 n. 11. See also the remarkable collection of profiles of the bases of the Sardis temple in Sardis II.1, lls. 168–169, which are there compared to those of other major sites in Asia Minor (Temple of Apollo Smintheus, Chryse; Temple of Zeus Sossianus, Magnesia; Temple of Zeus, Aezane; Archaic

17–20 cm and a minimum of 9–10 cm, especially if measured inside the deeply recessed joints between the rustic blocks. Two of the smooth middle sections of the plinth of column 12 and one of column 11 contain faintly visible incised lines and geometric patterns that appear to represent architectural drawings (see pp. 116–118 below and Figs. 2.235, 2.236).

### Bases of the East End

The bases of the east end columns are Asiatic-Ionic, which is a form of Ionic base developed in western Asia Minor, composed of two scotias separated by horizontal astragals (“rope profiles”) between an upper torus and a lower plinth (Fig. 2.197). Variations in the profiles do exist. Of the fifteen bases, nine of the toruses (bases 4, 5, 6, 16, 17, 10, 11, and 12) display finished or nearly finished ornament (vertical or horizontal laurel-leaf patterns, oak leaves, and guilloche). The remaining five have plain, smoothly finished (vertical or horizontal laurel-leaf patterns, oak leaves, and guilloche). The remaining five have plain, smoothly finished ornament. The choice of Asiatic-Ionic bases reflects, to a certain extent, the historical bias of western Asia Minor for this elegant native order in general, and in particular the desire to continue the base type used inside the cela of the Hellenistic temple—which, itself, harks back to the Classical and Archaic traditions of the great Ionic temples of the land.

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89 I should mention here the proto-Asiatic bases of the Archaic (“third”
It seems that the Attic base made its appearance in Asia Minor by the second century B.C., as evidenced by the Hermogenean temples in Magnesia and Teos, even if the current attribution of their peripteral colonnades to the early Imperial period carries a lot of weight.92 Regardless of the growing popularity of the Attic-Ionic base—probably conceived as a “modern” base in its simplicity and preferred for its comparative ease of production—throughout Greece, Italy, and even to an extent in Asia Minor, Anatolia stayed (more or less) faithful to its Ephesian-type, Asiatic base throughout the Hellenistic period all the way into the mid-Imperial Roman era (referred to as the “Anatólian-Ionic” type by Turkish archaeologists). Major examples, besides the Temple of Athena at Priene, are the Temple of Apollo Smintheus in the Troad (second century B.C.); the small Temple of Sossianus in Magnesia (third–early second century B.C.); the small temple east of the agora in Priene (“Temple of Zeus,” ca. late third century B.C.); the Ionic temple in the Sanctuary of Hemithea at Kastabolos (late third–early second century B.C.); the monumental Ionic column to honor Menippos in Claros (ca. 160 B.C.); the Wadi B temple at Sardis (see Ch. 3, pp. 218–220) and the Temple of Zeus at Aezane (see below).93

The bases of the east end (those of the west end or any other peripteral columns were either not finished or not preserved), all of mid-second century Roman construction, are among the finest and latest examples of the Asiatic-Ionic type, closely following the original Hellenistic bases of the temple in form and style; two of them, columns 11 and 12, reused on tall pedestals on the east side, are preserved. This is hardly surprising since on the one hand, the Roman builders must have considered their building to be the continuation of the Hellenistic original, especially in its original, exquisite ornament. The close and successful stylistic imitation of the Hellenistic capitals by their Roman successors is a case in point (see pp. 122–123 below). The influence of the Asiatic bases of the Temple of Apollo at Didyma, a close and prestigious model for our temple, is another. The use of Asiatic bases in the Wadi B temple at Sardis (ca. mid-first century A.D.), which are similar to the bases of the Artemis temple, is not remarkable, but it is indicative of the appreciation of this base form in the city and the region, as well as the continuity of the artistic skill in creating it (the grandson, if not the son of a mason working on the Wadi B temple could have worked at the Artemis temple). Still, considering the bigger picture and generalizing mildly, these Roman choices at Sardis and elsewhere in Asia Minor may reflect some historical bias for this type of base as a native creation, rather than looking to the aesthetic authority of the “Attic form which had invaded its territory in force” (for example, the main order of the Temple of Zeus at Aezane, a late Flavian project).94

Neither of these main base orders developed in isolation; there was considerable mutual awareness and borrow-
2. Description of the Building: The Physical Remains

The physical remains of the late Flavian Temple of Zeus in Aezane were full-blown cella walls were Attic profile; so were the bases of the anta base of the same temple and its extension along Didyma may represent the classical form of the Asiatic base, ple, Attic-Ionic bases. The Hellenistic Temple of Apollo at Ephesus, project—columns of the exterior rising on elaborate, eye-catchasing Asiatic bases, the anta bases; and cella toichobate, or the interior columns of the porches employing the simpler, Attic-Ionic bases. The Hellenistic Temple of Apollo at Didyma may represent the classical form of the Asiatic base, but the anta base of the same temple and its extension along the cela walls were Attic profile; so were the bases of the naikos of Apollo inside the adyton. The exterior columns of the late Flavian Temple of Zeus in Aezane were full-blown Asiatic, but its architect chose the quieter Attic form for the bases of its porches. Hybrid types, especially in Republican Italy, where the Attic form took root through the second and first centuries B.C., were also common. Experimentation was vibrant but, in J. J. Coulton’s words, “fitful and irregular.” Much depended on the creation of a promising model “worth taking up and modifying.”

The discovery of two matching torus fragments with horizontal fluting, among the architectural detritus from the east porch, fortifies the connection of its larger Anatolian koine; this was a type of decoration common among the bases of the Archaic and Classical Artemisia at Ephesus and the Hellenistic bases at Didyma (22 x 8 cm, flutes ca. 4.0–4.3 cm wide, separated by 4.0–4.8 cm wide fillets). The joined piece has a curvature that matches that of a medium-sized column base (e.g., columns 13 or 17) and might have belonged to one of the in antis columns, or to another column close in size and style, such as the original interior cella columns, some of which were dismantled during the division of the cella in the second century A.D., others later. The use of horizontally fluted torus ornament at the Temple of Artemis in Sardis, possibly for the bases of the in antis columns of the east porch, is distinctive and intriguing. The profiling and proportions of the Didyma bases are nearly identical to the Sardian ones, though there are also some subtle differences.

The constructions of the bases vary although there are some significant consistencies. The three main elements of the bases for the six columns of the pronaos porch (bases 17, 13, 16, 10, 11, and 12), namely torus, scotia and plinth, are made of separate stones. This apparent lack of interest in monolithic construction for these six porch columns (and none of the larger eight columns of the east peristyle) leads us to identify the pronaos porch group as the work of a master mason or team of masons, although it is impossible to conclude from this that they represent a different chronological period (see below). Finally, the base of column 18 (the third from the east end of the south colonnade and the only column preserved from the side peristyles of the temple) has an unornamented torus and unfinished scotia with partially finished astragals (Fig. 2.199). There are no lifting bosses and no visible centering line on the scotia top. It is of the same size and workmanship as the bases of the east colonnade and carries a shaft of similar dimensions.

Though larger in size, the bases of the peripteral columns (1–8 and 18) display different degrees of monolithic construction (in some columns the bottom drum of the shaft is carved in one piece with parts of the base). Base 4 can be isolated because of the victory inscription in Greek on the

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95 Coulton 1977, pp. 102–4, fig. 40.
fillet of its bottom drum, announcing that this was the first column erected and boasting that its base and torus were carved from a single block—which we know is true because the torus, scotia, and lower drum of the shaft are monolithic (Figs. 2.198, 2.202, 2.223; see also pp. 190–193). In every column the large, square plinth is a separate element composed of two rectangular pieces joined by clamps. In bases 2, 3, 5, 6, and 18 the torus and scotia are carved in a single block (heights varying 0.72–0.85 m); in base 6, the torus, scotia, and just the astragal of the column shaft are in a single piece; in bases 1, 4, 7, and 8 the bottom drum of the column shaft, torus, and scotia are monolithic, making these the heaviest among the ones we have (heights varying 1.07–1.34 m). Since the elements included in these monolithic constructions vary, it seems that the Roman mason wanted to get as many elements (or profiles) as he could from one quarry block of marble, and only the available size of the blocks determined which of the elements were included. Naturally, those made with many elements in one piece of stone were more difficult to carve and transport and were duly prized. Furthermore, because of the very deep recess between the inward curve of the torus and the flat top of the scotia (ca. 16–18 cm), it would have been very difficult, nearly impossible, to carve the torus ornament if the torus and scotia were one piece, another reason to celebrate this skill and pride.

An interesting feature visible on many, though not all bases is the “centering lines” for the setting and alignment of the different elements of the base for proper orientation. These thinly incised, centered lines typically divide its circumference into four quadrants following the basic cardinal axes of the temple (but, interestingly, they do not necessarily match other setting and alignment marks placed on the unfluted shafts of the columns; see below). They are typically very short lines or “nicks” made on the curved surface of the torus, on the top or bottom astragal of the scotia, and are often matched with small, center marks also on the edges of plinths, or a long, thin vertical line across the middle of the plinth face, rarely preserved (Figs. 2.200, 2.201). Lines made on the flat, top surface of the scotia are typically longer, ca. 15 cm or so. It seems that masons used these marks to guide their work as they saw fit and did not bother to polish them out. These centering details are particularly well preserved on bases 17 and 13, but also visible on bases 16 and 10 and on many of the east front column bases, though some are now very difficult to detect (for other construction marks related to centering and dividing column shafts, see pp. 111–114 below).

Although the bases represent mixed stages of the construction process, it is possible to review them in large, tentatively formed groups according to size, ornament, construction details, and state of completion. The eight bases of the east colonnade (1–8) can be understood as one such group (Fig. 2.203). Their heights and plinth sizes all fall within a close range (overall base height 1.12–1.15 m; plinth size 2.65–2.70 m square) and they carry columns very...
2. Description of the Building: The Physical Remains

The degree of finish of the scotia astragals vary, but generally the middle and lower pairs are more complete; often only one astragal of the pair (usually the lower one) is fully rounded while its upper mate retains a rough and square-nosed profile, as if such close variance served as a model of a finished profile for an apprentice to follow.

The vigorously carved oak foliage of the torus of base 6 is unique and delightful among the decorative details of the temple. As described by its original excavator: "On the faces of some [of the oak leaves] are carved, not only acorns, but little animals of various sorts, lizards, scorpions, snails, slugs, etc., so deftly executed that one may look at the carving for some time without observing them" (Fig. 2.207, 2.208).

Aside from the proud declaration of victory in verse on column 4, a more modest lithic declaration in the first-person singular is represented by three roughly carved graffiti in Greek: twice on the base of column 17 we see the word MECKEAC (Fig. 2.209, 2.210) and once on the shaft of column 16 (Fig. 2.211). The former two are on the south face of the plinth (east end) and on the top surface of the southwest

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Figure 2.203
East peristyle with Church M at left

Figure 2.204
Column 5 base, detail: vertical laurels, some with ribs, some unfinished

Figure 2.205
Base 6 has running horizontal oak leaves, finished (Fig. 2.205, 2.206). None of the scotias are finished; the upper pairs retain their square-nosed reeds, and the middle and lower ones have rounded profiles. The degree of finish of the scotia astragals vary, but generally the middle and lower pairs are more complete; often only one astragal of the pair (usually the lower one) is fully rounded while its upper mate retains a rough and square-nosed profile, as if such close variance served as a model of a finished profile for an apprentice to follow.

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The delight we still experience today, even a century (or twenty centuries) later, seems to belong to these lovely, playful little critters who cavort among the foliage and allow themselves to be discovered.

Aside from the proud, declaration of victory in verse on column 4, a more modest lithic declaration in the first-person singular is represented by three roughly carved graffiti in Greek: twice on the base of column 17 we see the word MECKEAC (Fig. 2.209, 2.210) and once on the shaft of column 16 (Fig. 2.211). The former two are on the south face of the plinth (east end) and on the top surface of the southwest

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Sardis II.1, p. 61.
lifting boss. Although the inscription had been interpreted by Buckler and Robinson to mean something like "May you shade me!," in a new reading Georg Petzl concludes that the meaning is "Finish me" or "Prepare me."99 Considering their unfinished state, the imperative call for completion with the first-person referent shows that the column itself is speaking—as did column 4 with its more poetic declaration—may be more apt. Although the more colorful declaration "Shade me" clearly represents a wrong translation, it evokes the image of either the column itself or a passerby yearning for shade (a wish I myself have made more than once while working in that area under the scorching summer sun)—and it should be noted that only tall, finished columns (with or without roofs) can offer shade. These graffiti, their unvarnished and transient commands gouged rough and raw

99 Sardis VII.1, no. 182: 1, 3. Petzl 2018.
across unfinished surfaces, accost the viewer just as noticeably as the beautifully formed letters of “classical” inscriptions and encourage emotional, effective engagement with the building. In either case, the variously modulated, crisp injunctions expressing the desire for completion make our columns appear more talkative than we first thought.

Another identifiable group is the four outer bases of the pronaos porch (numbers 16, 17, 10, and 13), whose columns are ca. 12–18 cm smaller in diameter and slenderer (see above; Figs. 2.212–2.213). All four columns display ornamented toruses in matching pairs: the outer pair (10 and 13) have guilloche decoration; the inner pair (16 and 17, directly in front of the antae piers) have vertical leaves with rounded ends (a form of laurel, native to southern Anatolia, which Butler called “water leaves”), also used for the toruses of the two elevated, middle columns of the pronaos (11 and 12; Fig. 2.196). While the torus ornament is finished, the scotias and their astragals are not. With their blunt, square edges not quite separated into two astragals or “ropes,” they are even less finished than the bases of the east peristyle columns. All retain crude bosses for lifting (some ca. 30 cm wide and projecting 20–25 cm); there are four on the torus and four
on the scotias, signifying that the usual luis method for lifting was not used here. Although known from other buildings and sites, this is a construction detail not seen on any of the other column bases of the east porch; if they had it, they must have been fully trimmed away. The almost fully finished base of column 13 allows us to appreciate the beauty of these bases, whose precise profiles and sumptuous ornament are enhanced in raking light and shadow (Figs. 2.213–2.215). A guilloche motif ornamnets its torus, and the curves of scotias and astragals are perfectly molded and smooth. Somewhat incongruously, however, the crude lifting bosses are left in place, and the bottom of the plinth is unfinished.

Many of the bases—and sometimes parts of column shafts, too—have large or small repair pieces (“dutchmen”) that fit precisely in place. These are often so carefully constructed that it is hard to perceive the joint, as observed on column base 16 (Fig. 2.216).100 A cruder attempt at providing a patch is the large, key-shaped replacement on the southeast corner of the plinth of base 10 (Figs. 2.217, 2.218). Some of these repairs are undoubtedly the result of damage done to reused elements during relocation and rebuilding, such as the bases and fluted drums of columns 11 and 12; others are probably accidents and errors in carving, damage during the construction process, and the erosion of time and vandalism.

**Plinths**

The plinths of the temple’s east end column bases come in three main sizes: east peristyle plinths (columns 1–8), 2.65–2.70 m square, 0.43–0.45 m high; east pronaos porch outer column plinths (columns 16, 10, 17, and 13), 2.56–2.57 m square, 0.41–0.42 m high; and east pronaos porch middle column plinths (columns 11 and 12, on pedestals), 2.30–2.31 m square, 0.41–0.42 m high. All plinths have beveled bottom edges, cut 2–3 cm deep at a 45-degree miter (Fig. 2.219). None of the plinths (not counting those of bases 11 and 12) are finished except, typically, the lower halves of their vertical sides. A rough top band, 10–25 cm wide, projects 3–15 cm over the finished lower half except for a smooth area of ca. 15 cm wide in the middle. Along the top edges of many plinths there are incised guidelines or grooves (4–6 cm long, 6–12 cm from the edge) for trimming unfinished top projections down to the intended, fin-

100 The term “dutchman” is used in masonry and woodworking to refer to a precise inset patch. The process is a valued procedure in historic repair and reconstruction in which a piece of original stone is removed, often from another part of the building, and replaced to create a seamless effect. The etymology of the term is obscure, though it must have originated among colonial American craftsmen. John R. Bartlett’s *Dictionary of Americanisms* of 1848 describes it as “a flaw in a stone or marble slab, filled up by an insertion.” There is a sense that the practice also denotes frugality (as in “Dutch frugality”); or, it could come from early American masons’ imitations of the precision and (also frugal) skills of their German (“Dutchman” substituting for “Deutschman”) masters.
vertical faces, or at the edge of their top surfaces, that mark the exact center of the plinth and hence the main axes of the column (see Figs. 2.200, 2.201).

All plinths are made of two rectangular blocks joined lengthwise, except for column 6, which is monolithic. Many of these rectangular blocks comprising the square plinth are unequal in size. The plinths of the east colonnade are joined in the north–south direction; hence their east (exterior) and west (interior) faces are without seams, as are the plinths of columns 11 and 12. The joints of the plinths for columns 10, 16, 13, and 17 (the exterior columns of the pronaos porch) are east–west, presenting a seamless front and back toward the north and south ambulatories and to the central area of the porch. Almost all of the joints are protected by narrow, slightly protruding, unfinished vertical bands on either side of the joint. There are no lifting bosses except on plinths 10 and 11 (only on their east side); plinth 12 (on its south side); and plinth 13 (on its north side). Originally more of them might have had bosses but trimmed, as is seen on the upper parts of the bases. The tops of many plinths reveal certain construction elements common to other parts of the temple, especially where the bearing surface is visible, that is, when the edges of the column base above are broken (often intentionally to extract metal). There are clamps joining the two blocks of the plinth, dowel holes, and shallow circular recessions or outlines of the scotia that sit directly on top of the square plinth.

The only evidence for the use of clamps comes from base 4, where the north and south sides of the scotia are broken and reveal a pair of bar-type clamps in situ (ca. 27 cm long and 16 cm from the finished edge of the stone; Fig. 2.220). However, the two partially finished plinths on foundations 15 and 20 show clamps of the bar type (Fig. 2.115). The presence of dowel holes is indicated by long channels, which extend to and are barely visible at the outer edges of their scotias. All the east front column bases appear to have employed channeled dowels. Best observed are the exposed dowels of column 4, located diagonally on the four corners of the plinth, their long channels (lengths vary 18–26 cm) stopping just short of the edge of the scotia, yet allowing just enough space for pouring in lead (Fig. 2.220). Bases 1–5, 10, and 13 all bear visible channels as evidence for one or more dowels. Further evidence for their common use is provided by the many holes made by robbers, who were almost always successful in locating and extracting the metal dowel and the lead inside it. Altogether, some eighteen to twenty channeled dowels may be counted on the bases of the temple’s east end. Bases 1–5, 10, and 13 all bear visible channels for one or more dowels with channels visible for about 3–26 cm. Visible deep in the recesses between the bottom of the torus and the top of the scotia of the bases of columns 16 (east side) and 17 (west side) are globs of lead, not a thin sheet. This is undoubtedly evidence for lead overflow from a dowel hole, but in these cases there do not seem to be any overflow or pour channels (Fig. 2.221). The occasional use of

Figure 2.220
Column 4 base, detail showing lead channel and position of bar clamp

Figure 2.221
Column base 10, detail: a clump of lead overflow between torus and scotia

Figure 2.222
Column base 13, lead sheet visible between torus and scotia for ca. 35 cm

101 For the plinths of columns 16 and 10, see Figs. 2.172, 2.173; for columns 5 and 7, see Figs. 2.168, 2.170.
lead sheets between the torus and scotia of a base is demonstrated by column 13 (Fig. 2.222).

The circular base of a scotia normally leaves a clear, circular impression (really a very light recession, ca. 3 mm) on the finished surface of the square plinth upon which it sits. This circular impression is caused partly by the slightly smoother, finer surface that was intentionally prepared for the scotia and further aided, in terms of visibility, by the different weathering of the plinth top that is protected by the scotia. Of the eleven plinths whose tops are partially visible for study, nine show circular impressions and two do not. On base 4, where the bottom scotia is severely mutilated around its edges, almost the entire circular recession is visible (Fig. 2.226).

**Column Shafts, Masons’ Marks, and Graffiti**

The shaping and dressing of the exteriors of the east end’s unfinished columns are fairly rough, although the individual drums have tight joints with precise beveling. Normally, the roughly finished stone surface bulges out several centimeters and sometimes as much as 5–8 cm beyond the outer edge of horizontal joints (Fig. 2.223). The large, uneven expanse of an exceptionally coarse layer that covers almost the entire surface of the second drum of column 5 indicates that the process of trimming the drums was not complete, even at the time the temple was abandoned (Fig. 2.224). The rough dressing of the shafts is done in medium-to-coarse point chisel or coarse claw chisel, producing four broadly recognizable surfaces: evenly distributed, non-directional dots or gauges created by point chisel; fine, directional, short lines in groups, indicating slanted or running use of the point; random, non-directional distribution of short lines like “scratches” made by point or coarse claw chisel; and striations, or longer lines applied directionally in roughly parallel formations, made also by the running, slanted point chisel. The continuity of some of these recognizable patterns (especially the striations) across the surfaces of several drums indicates that the finishing was done in situ after the columns were erected, while their variation indicates relatively different times of construction and/or different hands of masons and craftsmen; today they leave a not entirely unpleasant, though unintentional rusticating effect.

A smoothly finished band, 4–5 cm wide, encircles every column shaft of the east end at 30–40 cm above the base, just above the apophyge curve (e.g., Figs. 2.216, 2.217). On most
of them, a set of extremely fine horizontal lines (crossed by verticals where visible) encircle the band and appear to mark the intended finished face (or the bottom diameter) of the shaft just above the apophyge, though on some of them there are three fine parallel lines. In some cases, they also show vertical guidelines for laying out the fillets and flutes. If these smooth bands do indeed indicate the intended face of the finished shaft as assumed, all we have is the bottom diameter, and we cannot know the diameters at intermediate heights on the shafts; however, since we have the top diameters for columns 6 and 7, we can roughly estimate the tapering or curvature of the overall shaft. The top diameter, measured at the already finished fluted tops of the shafts of these two columns (1.76 m for column 6; 1.77 m for column 7), is about 24 cm less than the bottom diameter, resulting in a fairly standard taper (or a slenderness ratio of 1:8.8).

Normally all drums are carved with a pair of leverage holes (or grooves) on the opposite sides of their top surfaces. This unusual but effective detail consists of a hole or slit (3–5 cm long) on the top edge of the lower drum and a matching vertical cut (10–18 cm high, 4–8 cm deep) inclined inward at the bottom edge of the drum above. Visible as a deep cut or groove at the joints, four or five of these matching pairs are stacked vertically (Fig. 2.224). It appears that a pair of crowbars anchored at the leverage holes on the opposite sides of a drum (pushing upward against the inclined surface of the vertical groove of the upper drum) would have been effective in guiding the partially suspended upper drum into place, matching their dowels. Perhaps by raising one end while keeping the other end down, the dowels could have been positioned and lead poured into dowel holes on opposite sides of a drum for exact leveling. Since unfinished drums always had a mantle of excess material, these grooves would have been largely gone once the excess material was trimmed and the fluting was carved in place. This detail, however, makes the interpretation of the smooth band as a guide for the finished surface of the column bottom unlikely, if not impossible; since these leverage grooves are cut some 6–9 cm into the unfinished surface of the shaft, they actually lie deeper than the presumed “finished” surface of the column. Perhaps these bands represented a bottom diameter for the column at the first stage of carving, to be further reduced in stages. Yet, this theory has its problems; in order to clear these two roughly 7–8 cm deep leverage grooves, the bottom diameter of a typical east end column (with an unfinished bottom diameter ca. 2.0 m), must be reduced to ca. 1.86 m. This is only 8–9 cm more than the preserved finished diameter at the top (1.77–1.78 m, or merely a 4 cm taper all around at a height of ca. 17 m), far too small to be satisfactory. One could suggest that these aids were later corrected by imperfect but practical means, as is the case for other construction aids and shortcuts employed in this temple, and in classical architecture in general. Here, a neat marble plug (“dutchman”) of ca. 10 × 8 cm could have effectively covered any resulting holes so that they would be visible only upon close inspection—possible but not probable. However, the problem would disappear if the leverage grooves were positioned inside where the flutes would have been carved; the lower band would then indicate the surfaces of the finished outer faces of the fillets between the flutes. Since the flute depths vary 8.8–9.6 cm or deeper, no trace of the leverage groove would have remained when carved.

Another important “construction detail” or “field mark” used only on the group of four unfinished columns of the pronaos porch (numbers 16, 17, 10, and 13) are the eight small, smoothly finished rectangles (“tabs,” ca. 4 × 6 cm) that divide the circumference of the column into eight equal segments (0.72–0.74 m apart). The tabs encircle the column shaft at the same height, between the first and second (or second and third) drums along their joints. Each is marked by a very fine vertical line or cross lines. The west-facing tab of column 13 displays the Greek letter epsilon Ε [perhaps omicron Ω]; the south/southwest-facing tab of column 16 has psi ψ (Fig. 2.225); column 17 beta B (Fig. 2.226); and column...
Since the columns were intended to have twenty-four flutes, the simple division of a one-eighth segment into three equal parts between two tabs would give the exact centerline between the flutes (or fillets). Interestingly, these divisions of the column circumference do not match the main axes of temple, but there is no compelling reason why they should. There are also occasional tabs with centerlines placed at the joints of the east colonade column drums. These, however, appear to be sporadic markers to mark and position individual drums, “setting lines” of top and bottom, as field aids for construction and not as a regular measuring system for laying out the fluting.

Thanks to B. Yıldırım’s sharp eye, we now note that the smooth band encircling the second drum of column 4 (the first drum being the same stone with the torus and scotia of the base), ca. 42 cm above the top of the torus, displays a set of finely incised circles. These circles seem to represent another method of dividing the shaft circumference into equal segments for the exact positioning of fluting. The band, 6.0–6.1 cm in width, is divided horizontally by upper and lower lines with 3.5 cm between them and a finer center line in the middle. We are able to see some fifteen complete or partial circles, 5.8–5.9 cm in diameter and tangent to the slightly fuzzy outer edges of the smooth band (Fig. 2.227). The center-to-center distance (in some cases centers are marked by “compass-point” dots) is 26.0 cm. Since the circumference of the column at the smooth band is 6.24 m, the circles at centers divide the column exactly into twenty-four equal segments, which is the precise number of flutes expected. Although all of the east peristyle column shafts have smooth bands (some with incised center lines), no circles could be detected on any of them. Column 4, which as the “first to rise” might have enjoyed the privilege of being the first to receive a special construction detail. Similar fine lines and circles incised on the necks of column shafts to mark the exact position of flutes and fillets are fairly common on major monuments in Rome, such as the Temple of the Deified Hadrian, some columns and pilasters from Trajan’s Forum, the Temple of Ves-

Looking at the four columns of the east prostyle porch as a group, U. Weber noted the need for a “meaningful sequence” in these letters, which started as alpha and beta (the first two letters of the Greek alphabet) for columns 16 and 17, in front of the antae, but the outer corner columns, 10 and 13, follow as pi and omega (the last two letters), not gamma and delta, as Weber’s logical and orderly academic mind would have required. He believed that all of the columns of the east end of the temple must have had such identifying tabs, now all bafflingly absent; so perhaps once there but all chiseled out later. He reasoned (see Weber 2013, pp. 70–71). My construction-trained mind begs to differ; in this case at least, masons probably used the letters they wanted and cared not a jot for absolute alphabetical order.

For the use of similar smooth bands with marker lines and circles to mark the fluting on the top drums of columns 6 and 7, see below. Such simple but effective incised-line markers have been used by Roman masons on the socle of the south cella wall, to mark every ca. 4.58–5.01 m the positions of the peristyle column centers all the way across the pteroma; see pp. 37–38.

As discussed, ancient repairs are found on foundations, column bases, drums, capitals, and other parts of the temple, used to fix damages or to fill the natural gaps and imperfections in the marble (see Figs. 2.217, 2.218). Another conspicuous but late surface feature of the better-preserved columns of the southeast end of the temple are the square “beam holes” (ca. 15 × 15 cm and ca. 18 × 20 cm) cut at roughly 3.40–3.80 m above the pteroma level of columns 13, 6, 17, and 8. Judging by their matching placement on the sides of the columns that face each other, one could imagine that they were made for the main roof beams of temporary wooden structures, signifying some later use of the temple; they probably belonged to a kind of roofed “forecourt” or vestibule for Church M, which occupies the southeast cor- ner of the pteroma.

Finally, there are several graffiti in Greek—either carved or painted on the surface of the columns or on the top surface of an accessible column drum—that date to a later time. These could be as late as the eighteenth and nineteenth centuries, as indicated by their dates carved in Arabic numerals (albeit with some error), long after most of the temple had been buried, but at the level of the eighth to tenth drums from the bottom, conveniently at average human height. Written in local or demotic letter forms, which are ostensibly a form of colloquial Greek, these coarse graffiti are difficult to “translate” or understand. In the informed view of Dr. Yannis Tzifopoulos of the Aristotle University of Thessalonike, they must be “mainly abbreviated forms of names by people of various backgrounds . . . visitors, pil-

For similar mason’s marks on the necks of columns 5 and 7, see below. For a study that illustrates the widespread use of a similarly simple but effective method of marking the position and width of flutes and fillets by points, circles, and lines in monuments from Augustus to Constantine in Rome, see Claridge 1983; also Inglese and Pizzo 2012, pp. 47, 49–50, 58, 60 (see also p. 117, note 115).

For a threshold and two small gate-like columns excavated in this location, see Sanders 1.1, p. 70, ill. 63; and photo A.118, Butler Archives, Princeton University.
grims; comparable in form and purpose to scratches on the Parthenon, the Memnonion at Abydos in Egypt, and the Melidou Cave in Crete. The following is a simple visual transcription of these writings as recognized:

Column 1, top of uppermost drum, northwest face (Figs. 2.228)

告诉她

Column 6, eighth drum, west face (Fig. 2.229):

阿里安斯·萨尔达列斯 1784

Column 6, ninth drum, northeast face (Fig. 2.230):

ΔΣΚ Τινιος 1874

Column 7, tenth drum, northwest face (Fig. 2.231):

AKAA

ΙΣ [ - - ]

AKAAΞΟΠΟΥΛΟΥ

Along with these historical graffiti are some on the southeast anta in Turkish, using Arabic scripts, that are even later in date, some from the Greco-Turkish war years (1919–23), or slightly later (probably prior to 1928, the year the Latin alphabet was adopted in Turkey). They record various Turkish names (Basri 1926; Salahüddin [Selahattin]; Ali) and a group visit to the temple by the Salihli Türk Ocağı in A.H. 1340 (ca. 1921–22, the war years), a cultural, educational, and mildly nationalistic civic society organization still alive and well in Salihli and elsewhere in Turkey today.

Top Fluted Drums of Columns 6 and 7

The top drums of the two fully standing columns (6 and 7) display short sections of finished fluting on their uppermost part directly below their capitals (Fig. 2.245). These short segments are not the only columns with “fluting” belonging to the Roman phase of the building; there are several fluted top drums that Butler found on the ground. Apart from these, all fully preserved columns seen and depicted by eighteenth- and nineteenth-century travelers and artists show fluting on the uppermost (or the top two) drums (Figs. 1.17, 1.19, 1.21–1.23, 1.26, 1.27). However, most of the drums we have, in situ or on the ground, are unfinished and unfluted, or they are columns rebuilt from existing Hellenistic fluted drums (such as columns 11 and 12). The fluted segments on columns 6 and 7 provided guidelines for the downward extension of their flutes and fillets over the entire column shaft (see below). Although there is some evidence in Roman practice for providing fully finished and detailed column shafts to the job site (e.g., possibly the segmented shafts of the Temple of Mars

107 I express my thanks to Dr. Tsifopoulos and colleagues John Papadopoulos and Sarah Morris, who looked at these mysterious scratches and facilitated contact with Dr. Tsifopoulos. It is significant that, unlike my uninformed guess, the graffiti are not by local Greeks of Sart village or nearby Salihli, but rather outsiders—tourists, as it were—to the temple. This is generally true today, where most of the unfortunate name scratching on the temple walls is perpetrated not by local villagers but by outside tourists, student groups, and such—pace students.

108 I am thankful to Emily Neumeier, by way of N. Cahill, for this interesting information. For the Salihli branch of Türk Ocakları, see https://www.turkocaklari.org.tr/sube/salihli-subesi; and https://www.turkocaklari.org.tr/sube/salihli-subesi/salihli-ye-turk-ocaklari-meydani-7907.
Ultor in Rome, or some of the granite monoliths of the Pantheon, both Italian buildings), fluting the drums would have been far more logical and easier to do in situ; it is certainly the accepted practice in Asia Minor. However, the fluted top drum of column 6 is technically not a drum at all; it is carved in one piece with its slightly dislocated capital A. To our knowledge this is the only capital from the temple with such unusual detailing, though it is a method used in other temples, such as some of the columns of the Temple of Apollo at Didyma. The method became more common for late Roman and late antique capitals, as it is much easier to carve these two elements in one stone, thus avoiding the need for deliberate and delicate calculations to fit the top of a column shaft into the slightly recessed underside of an Ionic capital. The fluting under capital A, unlike its counterpart on the top drum of column 7, continues down to the joint the capital B makes with the drum below it. In capital B and in the other preserved examples of this detail (e.g., top drum under capital E, restored on site), the fluting stops 6–8 cm above this joint, leaving a narrow, coarse, unfinished band, probably to protect the filets until the whole shaft was fluted (Figs. 2.255, 2.264). Furthermore, the top of the fluting of column 6 starts about 9–10 cm below the top astragal and apophyge, leaving a much broader band than that of column 7 which starts almost directly below the apophyge (only 2.8 cm below). In both cases, however, the top flutes are 19.5–20 cm wide and the filets are 2.9–3.0 cm wide (filet-to-flute ratio is 1:7). The finished flutes of column 7 are shallower than that of column 6 (8.8 cm deep versus 9.6 cm).

A number of original construction and setting lines have been preserved on the uppermost fluting of column 7 (Figs. 2.232–2.234). A heavy vertical line in the middle of the flute on the east, north, and west faces indicates the central axis of the column; undoubtedly there was one on the south side also, but it is broken. These centering lines (ca. 4.5–5 cm long) can be observed on the neck of capital B and on the drums of column 7, numbered from the top down as 19, 18, 17, 16, 15, and 14. The width of the filets is marked by pairs of vertical lines incised on the unfinished (but smooth) lower band below the flutes. In some instances, a third vertical line between these indicates the exact middle of the filets (filets are 23 cm apart at the centers). About nineteen out of the twenty-four filets display these double vertical lines; probably all filets displayed these lines before some were erased by erosion or covered by surface deposits, making them very difficult or impossible to see. The tops of many filets (12.8 cm from the drum top astragal) are finely polished in a small, rectangular area (ca. 3 × 3.8 cm). A fine horizontal line that crosses the middle of this smooth “tab,” which presumably marks the point where the outward curvature (apophyge) of the top profile of the shaft becomes vertical (or the point where the fluting begins to curve upward); the horizontal line is 1.2 cm from the top and 2.6 cm from the bottom of the “tab.” Fifteen or sixteen out of

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109 The total height of the capital and fluted drum segment is 1.17 m; normally, the capitals of the east colonnade are 0.86–0.85 m in height. For capital A, see Figs. 2.250, 2.251, 2.286; compare capital B, Figs. 2.257, 2.287.

110 For a similar detail marking the widths and the positions of the filets at the bottom of the columns of the Tetrapylon at Aphrodisias, see Inglese 2016, p. 41, fig. 54.
twenty-four of these horizontal lines are preserved. There are other essentially similar methods of placing setting lines as field aids for fluting column drums in Asia Minor and the West, such as laying out concentric circles to mark the width of both the fillet and the flute. In the Sardis temple two methods have been used to divide the column shaft circumference into segments divisible by twenty-four: “tabs” marked by incised vertical lines or Greek letters, and circles incised on smooth bands encircling the bottom shaft (see pp. 111–112 above). Although the details varied, the unifying principle was the same, as expressed by Peter Rockwell: “[T]he Roman method was not based on scale drawings and templates. It was based on working closely with the material available and placing instructions directly on the stone.” These setting-out lines, used variably and non-uniformly, were in essence not rules from an academic manual of construction, but rather the architect’s direct “instructions” for the mason in the field.\(^\text{111}\)

\(^{111}\) Rockwell 1987–88, pp. 51–59, 68. The broad range of construction and masons’ marks for marking corners or centers—long and short incisions, straight or curved edge lines, L-shaped or crossing lines—were used as field aids in the process of building. Their widespread use across Asia Minor, Rome, and the Italian peninsula indicate their practical origins in masonry techniques and quarry practices and do not necessarily indicate specific or specialized relationships between particular sites and traditions. There is little doubt that some of these masonry methods were more sophisticated than others and required a higher degree of knowledge of architectural and planimetric geometry, but on the whole they represented variously, not always consistently, applied and shared field conventions. For a general review of construction marks from a handful of sites in Asia Minor (the Temple of Artemis in Sardis included) and their similar uses in Italy, see Inglese 2016.
quarters of the circles are incised; the right side quarter is left undrawn. There are also breaks on the rest of the circular segments, as if a compass drawn over the stone was allowed to miss some points, or those missing parts are too eroded for sight.

None of these drawings from the pedestals of columns 11 and 12 can be associated with a specific architectural element or ornament. While some underline the presence of basic geometries (especially the converging, angled lines that penetrate the circles), they neither relate to the stones upon which they were drawn, nor any known detail or feature of the temple. These seemingly disparate drawings on the pedestal surfaces of columns 11 and 12 may signify some evidence for a construction detail, but in the absence of a satisfactory explanation we will remain silent; or, as Carlo Inglese and Antonio Pizzo (who studied hundreds of such drawings and setting lines) commented, when facing a recalcitrant drawing, that it was "un caso peculiare nel panorama di tracciati." Not counting the simpler setting lines, positioning devices, and masons’ marks (such as letters or lines for dividing the column shafts, marking fluting widths, or sequencing column drums), these unusual patterns are the only instances from the temple that we could technically call architectural drawings. Here, we offer a short digression in order to consider our drawings in the larger context of architectural drawings and representations in classical antiquity, with the hope that such an overview might contextualize our examples.

This special category of drawing is “architectural” in a professional sense (plans, sections, elevations) and represents buildings, building parts, or architectural ornament at full or reduced scale. We know that ancient architects used drawings as models to present their designs to prospective clients, but more importantly, to help actual builders on site. These drawings would have been mostly on portable, perishable materials with little chance of survival. There is, however, a small but expanding category of drawings incised on stone surfaces, mainly on the marble walls of the buildings themselves, that have attracted much scholarly attention. A very small number of these drawings show a view of a large portion of a building. For example, a small-scale elevation of the full pediment with entablature of the Temple of Athena in Priene is incised on the lower marble walls of the building, probably intended to provide a relatively complete view of the temple. Incised on the stonework of the Roman amphitheater at Pola, Croatia, is a generalized drawing of five or six tall piers connected by arches, which must have served as an effective, shorthand visual representation of the proportions of the monumental amphitheater’s arcade. Greater in number and variety, however, are drawings of building parts and details such as partial sections of pediments, entablatures, profiles of capitals, curves of Ionic volutes, and entasis of columns, drawings mainly intended to help masons—in essence, what one would call field drawings.

Studies aimed at the recognition and analysis of such field or working drawings gained momentum after L. Haselberger’s discovery, nearly four decades ago, of complete sets of architectural drawings and details incised on the lower parts of the interior walls of the “adyton” of the Temple of Apollo in Didyma—covering nearly 2000 sq. feet of wall space. These, on the whole, relate directly to the architectural details of the temple itself or the naiskos located in the middle of the open adyton. Of particular interest is the drawing of half of the pediment, the cornice, and the entablature of the naiskos and the drawing of a base torus and lower shaft of a column with proportionally exaggerated entasis. Some of the drawings even show on-site corrections encountered in the course of construction.

There is at least one example that goes beyond the field practicalities and exigencies of construction to evoke a scholarly purpose: a full-scale elevation of a pediment corner and architrave on the long wall of the Hellenistic Temple of Dionysus (“theater temple”) at Pergamon. The

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113 Coulton 1977, pp. 71–73.
117 Corso 2016, p. 90; Heisel 1993, pp. 81.
115 Among the recent publications that treat the subject in a comprehensive way are Inglese and Pizzo 2014 (an encyclopedic survey of categories of mainly working site drawings and marks from Rome and Italy), with a second volume of essays on a wider geographical coverage of the same subject: Inglese and Pizzo 2016. See also Corso 2016, which has a short compendium of some of the more informative architectural drawings; Rommelaer 1983 (acts of a colloquium in Strasbourg with selective application); Hoepfner 1984 (another collection of works presented at a colloquium in Berlin in 1983), esp. pp. 11–23, 89–136; Heisel 1993; Azara 1997; Haselberger 1997.
117 Corso 2016, p. 90; Heisel 1993, pp. 81.
119 Consider also the full-scale drawing incised on the paving in front of the Mausoleum of Augustus in Rome that pertains to the west corner of the pediment and gives details for the entablature of the porch of the Pantheon: Haselberger 1994; Corso 2016, pp. 86–87, no. 32.
temple was damaged in a fire and largely rebuilt (and re-dedicated) during Roman times. The drawing on its wall is essentially a document that formed the "basis design for the architrave of the renewed Roman temple" to help guide the Roman architect in a sort of historical reconstruction.120 Did the Roman architect of our temple use such aids for his very successful recreation of the original Ionic capitals of the temple?

Haselberger, who has been a principal contributor to the documentation and analysis of ancient architectural field drawings that appear on classical buildings, explored associations between the practical directives of drawing and the big-picture meanings of representation, or dispositio, provided by Vitruvius (1.2.2). The paradigms of the ground plan, elevation, and perspective view (ichnographia, orthographia, and scenographia) all contribute to the Platonic concept of ideai, or the appearance of form in architecture. Thus the existence of an object in the real world goes through stages of development—in principle, the ultimate transference of the concept to the object, or to the appearance of reality. Haselberger linked the concept of ideai to ideal form, "just as the ideal existence of an object is related to its occurrence in the material world, so is the role of graphic design related to the materialized, built form."121

We do not know if the complex concentric circles, elongated arcs, interlocking curves, and converging lines scattered over the smooth, marble pedestal blocks of the Sardis temple represent the heights of such ideas—or ideai—in some material, built form we cannot yet unlock, or some ad hoc instructions for apprentice masons we do not yet understand, or just joyful doodles of craftsmen who were simply happy to be working for Artemis.

120 Schwandner 1990, pp. 93–102; Corso 2016, p. 84.

**A Comparative Review of Construction Characteristics and Details of Fluted and Unfluted Column Drums**

The fluted and unfluted column drums of the Temple of Artemis are the most numerous and interesting architectural elements we have in terms of the richness and variety of their construction features. They merit a special, comparative, and possibly diagnostic review. In discussing the Hellenistic and Roman era construction features and methods used in the temple for lifting and joining blocks we underlined not only the repetitive use of these features and methods as "consistent systems" (which could help to date the construction), but also the inconsistent and creative variants as field solutions to field problems, or simply idiosyncratic approaches of different masons and their crews—the techne of construction. So much variance does this techne allow that we would be excused for thinking that the only constant in the construction of, say, column drums seems to be anathyrosis: large, slightly depressed circles of varying size (ca. 0.30–0.80 m in diameter) with rough, recessed surfaces carved in the centers of drums (Figs. 2.6, 2.238, 2.239). The bearing surface around the circle where two drums actually touch is extremely smooth and polished, ensuring a flawless fit. The following is a more detailed review and, to a certain extent, a tabulation of these main construction features and characteristics of fluted and unfluted column drums in order to grasp better their similarities and differences.

Twenty-two or twenty-three wholly or partially preserved fluted drums were studied for their lifting and other construction features (seventeen tops and seven bottoms visible). Thirteen of these drums were collected on the west end of the temple, arranged as a group by Butler on bases 53, 54, and 48, and on the foundations of the northwest anta where they were found (Fig. 2.237). Many must have be-
longed to the west pronaos porch (as seen in the distance on C. F. Stanfield’s watercolor of ca. 1830; see Fig. 1.27). Others come from the north, south, and east peristyle areas. Several pieces are now outside the temple area in fields to the west and southwest; some are too fragmented or eroded to reveal their features.\(^{122}\) Two are the top drums of columns 11 and 12 of the east porch, *in situ* in their Roman rebuilding. Five of the seventeen tops display a single, standard lewis in the center; in another five the central standard lewis is cut through a central square dowel socket; one has a central standard lewis cut through a square dowel socket and a pair of side lewises (Fig. 2.240); one has a T-shaped lewis hole cut through the central square dowel socket (Fig. 2.241); and one has a cross-lewises hole cut through the central square dowel hole and a pair of standard lewises flanking the anathyrosis; and one with a cen-

\(^{122}\) Five of the fluted drums piled between column positions 43 and 54 bear Greek letters on their upper surfaces: E, Z, H, Θ, and probably Ξ (diameters 1.28 m, 1.31 m, 1.33 m, 1.37 m, and 1.43 m, respectively), representing a vertical sequence of construction in accordance with their diameter sizes—a fairly standard procedure. Yet none of the many other fluted drums in or outside this group, nor the two topmost *in situ* drums of columns 11 and 12, have any such letter construction aids. That they represent the markings to make the “rebuiding” of these columns easier is logical; that all drums once had these markings, but now are all faded from weathering as Weber suggests, seems unrealistic; Weber 2013, pp. 268–69.
Seven of the fourteen bottoms from this group have a central large square dowel socket, and seven have plain centers without any cuttings. However, all unfluted drums except one have a pair of small, square side dowels. In sum, both the fluted and unfluted drums display remarkable variations in the application of construction details that employ empirical field solutions within a broadly recognizable system.

In addition, there are six to eight unfluted drums, preserved in various incomplete stages, laid out in the field southwest of the temple; many are too fragmentary to allow comment on their features, although all four tops that are visible seem to display a single central lewis, anathyrosis, and a pair of small, square side lewises. Of particular interest is the southernmost drum, preserved about one-quarter of its full size (ca. 1.54–1.56 m diameter, 0.57 m high) which has a central cross-lewis (16 × 15 × 13 cm), one preserved, square dowel hole with a bronze casing in situ (5 × 5 × 5.5 cm), its position marked by a fine, incised radial line and another circumventing the rim of the drum ca. 7.2–7.3 cm from the outer edge (Fig. 2.4). A pair of clamp cuttings are positioned along its side (cut straight) and intended to join what appears to be the missing part of the drum; there is little doubt that the drum was broken or dangerously cracked either at the quarry, during transport, or at the jobsite when it was decided to remedy the situation by clamping the pieces together.

Among the fluted group, lewis-hole lengths vary 13.5–21 cm, averaging 15.5 cm; widths vary 5.5–7.1 cm, with an average of 6.3 cm; and lewis hole depths vary 11–18.5 cm, averaging 16.2 cm. Among the unfluted drums, lewis-hole lengths vary 13.5–21 cm, averaging 17.4 cm; widths vary 5.6–9.1 cm, averaging 7.0 cm; depths vary 13–22 cm, averaging 16.8 cm. One notes the substantial variations in these figures, especially the lewis widths and depths; however, the considerable weight difference among the unfluted drums (7–12 tons) may account for this variance, as larger lewises correlate with heavier blocks. Almost all top and bottom contact surfaces display anathyrosis, although the slightly depressed, rough circle in the center varies in diameter, with 0.50–0.60 m as the standard.

Of particular interest is one fluted drum now placed on the northwest anta pier. A standard lewis hole is carved through a circular dowel hole, in conflict with the top and bottom functions of this piece (Figs. 2.243, 2.244). Since the bead-and-reel ornament crowning this drum firmly identifies it as the original topmost drum of a fluted shaft, the circular dowel hole is the correct bottom detail of this drum. Hence, one would have expected the standard lifting lewis to be carved on the top, even if the column to which this drum belonged—like many others—was re-erected during the Roman phase of the temple.

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123 Five of the in situ top drums of the east-end columns have single, standard lewis holes in their center (columns 1, 3, 8, 10, and 18); three or four each have pairs of standard lewises (columns 4, 5, 16, and possibly 13); and one has no lewis at all (column 2).
We have seven capitals (designated by Butler as A through G) in various stages of preservation. There are also four large fragments that belong to the southeast anta capital (placed on the southeast anta by Butler), and two more of the same are in the Metropolitan Museum of Art, New York. Two of the normal Ionic capitals (A and B) are on columns 6 and 7 and are almost intact (Fig. 2.245). Capital A, sitting crooked on column 6, suffered some damage and lost most of its southwest volute at some point in time (Fig. 2.254). Capital B is the largest and displays slightly cruder detailing than capital A (Fig. 2.255). Of the five others, capitals C and D are in excellent condition (the former in the Metropolitan Museum of Art since 1922). Capitals E, F, and G have suffered more damage and show extensive ancient repairs. In addition, there are some fifteen to eighteen large fragments (pieces with lesser dimensions not smaller than ca. 30 cm) and as many smaller pieces representing identifiable sections from volutes, bolsters, and echinus eggs.

The largest fragment, designated capital I (in the field, northeast of the temple), is the bolster end of a capital preserved at its full (but partially restored) width of ca. 2.10–2.12 m, with only the tops of opposite volutes but none of the echinus or the profiled edges of the abacus remaining (ca. 2.12 × 1.25 × 0.70 m) (Fig. 2.246). The top of the capital is shorn off completely, leaving no trace of the finished top or the abacus molding, but with a very large corner lewis ca. 0.80 m from the restored front edge (21 × 6 cm long, partial depth 9 cm); we see this on capital G but not A or B, which have central pairs of lewises. The well-preserved, sweeping curve of the pulvinus is decorated with two panels of vertical, round-tipped laurel leaves separated by pairs of cables (panel width 0.32 m, cable width 0.12 m, height 0.68–0.70 m), a type seen also on capitals A and C (capitals D, E, and F have plain bolsters). While the incomplete state of this capital fragment does not allow for accurate measurements, the partially restored dimensions indicate that it was one of the larger capitals of the east peristyle, a hypothesis supported by find location and decorative style.

Among the fragments found in the east-porch trenches the largest is a finely molded volute and bolster (ca. 0.60 × 0.50 × 0.35 m; its volute eye 12.8 cm in diameter) found in the 1972 Trench 2 among five smaller fragments. Hanfmann called the larger piece “capital H” and identified as Hellenistic. The east porch also produced six medium-sized volute pieces in a 1996 trench and dozens of others in a 2011 trench, some of which join Hanfmann’s capital H. Since these capital fragments and other building material from the temple were found in fourth- to fifth-century A.D.

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124 The ink-wash drawing of the east end of the temple with six of its columns intact by Giovanni Battista Borra of May 1750 (see Fig. 1.19) shows column 6 with its capital already askew. Yegül 2003, pp. 22–23, 180–4.

125 Sardis R1, p. 85, figs. 162–64.

contexts of the east porch, it is natural to assume that they were broken up at that time, although an argument can be made that at least some of this rich material might have been left over from earlier times. Both the mid-second and the fourth to fifth centuries were times when there was intense activity at the east end of the temple, and its columnar elements were refashioned, rebuilt, removed, or vandalized and broken up (some possibly even to feed lime kilns) to accommodate the new purposes (see Ch. 3, pp. 180–181).127

If the in antis column shafts and capitals of the east porch were removed in the mid-second-century rebuilding of the temple, then there should have been no physical trace of them in the east porch trenches of 1996 and 2011. This is a logical argument but does not lead ipso facto to the assumption that any and all fragments found in these trenches belong to the fourth or fifth centuries or to the in antis columns. They could have belonged to either (a) the columns and capitals of the east porch, other than the in antis columns (there were many) or (b) the fluted columns 11 and 12 or other fluted columns nearby, such as columns 65 and 66, the easternmost columns of the cella; or (c) they might have been leftover construction detritus from the second century A.D., residuals as it were, when the very same area was a busy building site when columns 11 and 12 were indeed being cut up, refashioned, and rebuilt from parts of other fluted columns (their fragments are in the mix). One should view the mixed and fragmentary nature of the columnar contents of this area with some caution: do the hundreds of fist-size pieces buried here suggest a wider range and deliberate breakage, rather than a normal and localized collapse? Their great volume is also misleading: these hundreds of fluting fragments scattered across the trenches of 1996 and 2011, if condensed, would hardly amount to one fluted column drum.

The bottoms of Hellenistic capitals are slightly oval, elongated in the direction of the capital’s main axis, and smoothly finished. All have circular dowel holes in their bottom centers, a common construction detail of the fluted, Hellenistic drums (Figs. 2.258, 2.267). Capitals E and F also each show a pair of small, square side dowels at their bottoms, a Roman era detail and indication that these capitals were reset on new columns during the Roman rebuilding of the temple. Since capitals C, D, and G lack these patently Roman side or corner dowels, one imagines that they were not functionally employed by Roman builders. This idea, first enunciated by N. Cahill, is further underscored by their exceptional quality and refinement, as well as their excellent state of preservation (capital G a possible exception); additionally, they have been found far from any standing column or fallen drum. Unlike capitals E and F, they have no repairs to suggest continued structural use. At the top of the list is the almost-intact capital C, striking in its composition, modeling, and originality. These characteristics identify this exceptional capital as an iconic showpiece from the original temple, never put to practical use in the Roman building and displayed as a “memorial” to the building’s history, perhaps set up inside the new west cella dedicated to Artemis. This beautiful capital continues its iconic vigil today as one of the foremost striking exhibits in the Greek and Roman galleries of the Metropolitan Museum of Art (Fig. 2.247).128 Capitals D and G, fine but not quite in the same class as capital C, may also be included in this “exhibition group,” mainly because their bottoms lack the small, square side dowels typical of Roman usage that we see in capitals E and F.129 The presence of Roman era standard lewises on these capitals (one pair on capitals C and D; two pairs on capital E; and triplets on capitals F and G), on the other hand, can be explained by the need to move these capitals from their original high positions and transfer them to their new display position, wherever that might have been. Although the evidence is not clinching, it is strong enough to conclude that the smaller capitals, once functional inside the cella, found no structural use during the Roman construction of the temple.

127 If the in antis column shafts and capitals of the east porch were removed in the mid-second-century rebuilding of the temple, then there should have been no physical trace of them in the east porch trenches of 1996 and 2011. This is a logical argument but does not lead ipso facto to the assumption that any and all fragments found in these trenches belong to the fourth or fifth centuries or to the in antis columns. They could have belonged to either (a) the columns and capitals of the east porch, other than the in antis columns (there were many) or (b) the fluted columns 11 and 12 or other fluted columns nearby, such as columns 65 and 66, the easternmost columns of the cella; or (c) they might have been leftover construction detritus from the second century A.D., residuals as it were, when the very same area was a busy building site when columns 11 and 12 were indeed being cut up, refashioned, and rebuilt from parts of other fluted columns (their fragments are in the mix). One should view the mixed and fragmentary nature of the columnar contents of this area with some caution: do the hundreds of fist-size pieces buried here suggest a wider range and deliberate breakage, rather than a normal and localized collapse? Their great volume is also misleading: these hundreds of fluting fragments scattered across the trenches of 1996 and 2011, if condensed, would hardly amount to one fluted column drum.

128 See Cahill and Greenewalt 2016, p. 503. The possibility of an extra-functional status for capital C—either during the Roman period, or from the beginning—recalls the “surplus capital” from the Younger Polycleitus’s Tholos at Epidaurus. This capital (found carefully buried) was exceptional in the refinement and boldness of its style and execution, with an experimental and unfinished array of details. Although it was damaged in carving and may not have been closely followed by the actual capitals, it is viewed by Haselberger “as the experimental prototype of the building’s Corinthian capitals, their true-size paradeigma.” A similar exceptional use for capital C during the Roman period as an exhibition model (and a prototype for other Roman Ionic capitals) may be envisioned, since capital C might have been used functionally in the Hellenistic period, and was not, properly speaking, a paradeigma. See Haselberger 1997, p. 89, fig. 17; Defrasse and Lechat 1895, pp. 114–16.

129 See Cahill and Greenewalt 2016, p. 503 for this suggestion concerning these smaller capitals.
Another construction detail that might shed some light on the positioning of these capitals is the presence of round corner dowel holes on top of capitals E and F (probably positioned on all four corners, some with pouring channels; see Figs. 2.266, 2.268) while capitals C, D, and G have no round dowels on top (Fig. 2.259). This top detail suggests that capitals E and F were originally attached to stone architraves. If they were used inside the cella, they could have carried stone architraves spanning their long, east-west direction, which is the short span of the cella colonnade; double wooden beams or trusses carried by these architraves could have crossed the long, north-south span (ca. 6.70 m)—a typical structural arrangement for a cella roof. Yet, the “medium” size of E and F could have discouraged their use upon the smaller columns of the cella where “smaller” capitals (C, D, and G, with no round, Hellenistic era top dowel holes) would have been more appropriate. In antis columns of the east porch would appear, at the first glance, to be a better position for them although the immense 8.30–8.40 m center-to-center span reconstructed for this position (ca. 5.80 m clear span) is also not ideal for stone architraves, as signaled by their round top dowels. Likewise, does the absence of round dowels on the tops of capitals C, D, and G mean that they did not carry stone architraves (if so, would their possible use inside the Hellenistic cella be compromised because stone architraves could be expected for the short, east-west position?). Inconsistencies in the use of such construction features are fairly common in the temple; as is often the case for these capitals, the diagnostic details represented by our statistical samples are too small to serve as proof.

Capitals C–G display a lifting device called a Carian-Ionian lewis, whose use is restricted to the Hellenistic era (the system went out of use by the second century B.C., see pp. 29–31 above; Figs. 2.265, 2.268), which reliably identifies these capitals with the original, Hellenistic phase of the temple. Lifting sockets of the Carian lewises are positioned at the centers of the capital tops. These capitals also have two or more standard Roman lewises (typically arranged in matching pairs, but positioned symmetrically on the axes of the capital with less exactitude, some off-center of an axis by ca. 10–15 cm) which must have been carved later, signifying Roman period rebuilding or relocation. As is expected, the two in situ Roman capitals, A and B, each display only a pair of standard lewis holes centered on their top surfaces (Fig. 2.253).

Due to their delicate design and decoration, the capitals were more vulnerable to damage during their long history. One of the major causes of breakage (except natural causes, such as earthquakes) was the Roman period of rebuilding activity when many capitals were removed, re-lifted, and repositioned on new or re-erected columns. These damages, often affecting the delicate volutes and ornament, were repaired with new pieces that fit precisely. One can see substantial repairs on the inner and outer volutes of capital F, parts of them entirely rebuilt with iron pins still in place (Fig. 2.248). Likewise, the volutes and parts of the lotus-and-palmette ornament between the volute and the echinus eggs of capital E received major repairs (Fig. 2.249). The process underlines not only the dangers of rebuilding and reuse but also the determination to make the damage good again through expert methods of repair. Less delicate but probably just as effective was the employment of clamps across developing cracks, as we see on capitals F and E.

The upper surfaces of most of our capitals, especially capitals C–F (all Hellenistic originals), are left rather rough, finished in medium or rough point chisel.130 In the case of capitals C and D there is also ca. 1–2 cm difference in level for about one-third of the top surface (Fig. 2.259). Butler was concerned that such rough tops would make poor surfaces for heavy architraves and suggested that molten lead was poured over the top of capital C to create a smooth bed, but this is unlikely.131 Simple strips or shims of lead, however, were certainly used in the joint between the torus and scotia of the base of column 13 (Fig. 2.222) as well as between the second and third courses of the northeast anta pier base and the course above, and probably also in the same joint along the north face of the wall (the joint at ca. 2–3 mm is much wider than the normal, razor-thin wall joints; see pp. 41–43 above). Still, capitals C, D, and G—the group of small capitals with rough tops and no top dowels but with lewis holes—indicate evidence for lifting but not necessarily reuse.

130 Discussed in greater detail in Cahill, “Notes on Moving the Capitals of the Temple of Artemis, 2017” (Sardis Expedition field report).
131 Sardis II.1, p. 49.
Classification of Capitals According to Size

The seven better-preserved capitals of the temple are compared and grouped according to size and the results given in Table 2.4 (p. 135). The relevant dimensions used to register capital size are the following: (a) width at abacus top (front); (b) width at abacus top (side); (c) maximum volute-to-volute width; (d) volute eye-to-eye width; (e) bolster/pulvinus width (side); (f) height (abacus top to impost bottom); (g) diameter of volute eye. Another important dimension, the diameter(s) of capital bottom (impost) is not included since this area is never a true circle but an oval (measurements are given in individual descriptions of capitals). Direct measurements were taken as often as possible; reconstructed dimensions, if reliable, are given in parentheses; if reasonable variance exists, the range is given. It is important to note that capitals A and B, intact on their columns, were measured directly and reliably for the first time because of the scaffolding erected around columns 6 and 7 in 1992 (Figs. 2.254, 2.255). This also gave us the chance to make some measured pencil sketches of the details of the capitals A and B (Figs. 2.250–2.252).

The largest capital with a substantial margin over the others in overall size and dimensions of its parts is B (abacus 2.22 × 2.11 m; Fig. 2.255). Next is capital A, roughly 0.10 m smaller than B at its abacus and 0.19–0.20 m at the maximum volute width (abacus 2.10 × 2.01 m; Fig. 2.254). Capitals E and F are quite close to each other in proportions and size, and substantially smaller than A and B (Figs. 2.264, 2.269). Capital E, which is the better preserved one, is the same size or only a few centimeters larger than capital F, whose abacus and volute dimensions are based on partial reconstruction (capital E abacus 1.94 × 1.69 m; capital F abacus frontal width, restored 1.92–1.94 m). With dimensions conforming exactly, or in a few cases within centimeters of each other, capitals C (Figs. 2.256, 2.257), D (Figs. 2.260, 2.262, 2.279), and G (Figs. 2.270, 2.280) are a group roughly one-eighth smaller than capitals E and F; and one-fifth smaller than capital B. As the best-preserved example of this group on site, the dimensions of capital D can be taken as representative and compared to capital C (capital D abacus 1.76 × 1.67 m; capital C abacus 1.74 × 1.67 m; capital G abacus restored 1.76 × 1.67 m).

On the basis of size alone (regardless of date or origin) it appears that the seven preserved or partially preserved capitals of the temple represent three groups assignable to specific positions or columns, at least in theory. Roman capitals A and B, already in their original positions on the east peristyle, belong to the larger size. Since the remaining base plinths of the north and south colonnades (column 15 of the north colonnade, column 20 of the south colonnade, and the plinth of column 18: the one remaining column of the south colonnade) are all practically the same size as the plinths of the east peristyle columns, we can surmise that all the finished peripteral Roman era columns received capitals of the first (large) group, probably fairly close in size and detail to capital B or A. At least in the case of columns 6 and 7, a fair amount of variation in capital size was tolerated between columns of virtually the same size and next to each other (there is a difference in abacus size of about 10–11 cm between the capitals of columns 6 and 7 although their top shaft diameters vary only by 2 cm: 1.76 m for column 6, which received the smaller capital A, and 1.78 m for column 7, which received the larger capital B). We have provisionally identified the capital for column 1 or 2 to be the fragment I (about one-quarter of the top of the pulvinus side preserved) fallen next to these columns. From available measurements, this fragment belongs to a large capital. We have no other assignable capitals identified for the peripteral colonnades, except perhaps the large volute fragment found in 1972 (capital H) that might have belonged to one of the in antis columns of the east porch where it was found (volute eye diameter 12.8 cm, second only in size to capital B; see above).132

Capitals E and F represent the middle-size group and must belong to the original Hellenistic temple because of their Carian lewises. Found at the southeast end of the temple...
ple, capital E could have belonged originally to one of the *in antis* columns of the east porch. If these *in antis* columns were removed during the Roman reconstruction (not a certainty), they could have been repositioned on column 13, the southeast outer-corner column of the pronaos porch, as indicated by the top setting lines for a corner architrave (see below). Capital F was found outside the northeast angle of the temple and could have been assigned a place on column 10, the northeast outer corner of the pronaos porch, in Roman times because the weathering pattern of its top is right for the exposed-corner position. The medium size of these columns was appropriate for reuse in these locations since the porch columns were a size between the larger columns of the peristyle and the smaller cella interior columns. Another reason for favoring capitals E and F for the porch positions is their unusually elongated abacuses, which would have reduced the span of their major long axes, unlike the rest of the capitals, whose abacuses are more square in proportion.

If the drawing made in 1750 by Robert Wood’s draftsman, Giovanni Battista Borra, is right in showing the volutes of the capitals of the three visible columns of the east pronaos porch facing east–west like the capitals of the east colonnade (and not special corner Ionic capitals for columns 10 and 13, as one would have expected), the elongated tops of the abacuses of columns 13 and 10 would have helped to reduce the exceptionally long spans of columns 10 to 11 and 12 to 13 (ca. 6.64–6.67 m on-axis span, as opposed to the ca. 4.97–4.99 m on-axis spans of 16 to 10 or 17 to 13; Figs. 1.18, 1.19).133

The three well-preserved capitals C, D, and G, almost identical in dimensions, belong to the small group. Their original positions must have been the interior of the cella, which required smaller capitals because, rising from the higher level of the cella (ca. 1.60–1.70 m higher), these columns were shorter. In their Roman incarnation these smaller capitals would have been appropriate: capital D (found southeast of the temple) in the middle position of the east pronaos porch or on columns 11 and 12; and capitals C and G (found on the southwest and northwest sides of the temple) in positions 53 or 54 respectively, of the west pronaos. As discussed above, however, these capitals (especially C) are believed to have been set aside as display models.

Another noteworthy, size-related feature of our capitals is the varying number of eggs decorating their front and side abacuses (all counting the corner eggs): capital B, 12 × 12; capitals A and E, 12 × 11; and capitals C and D, 14 × 13; capital G, only preserved back, 13. It is interesting that the larger capitals have fewer, larger eggs (about one-quarter larger), smaller capitals have more, smaller eggs (original, smaller capitals displaying greater labor). This apparent incongruity probably reflects their dates and origins: the constituent elements in the larger Roman examples (capitals A and B) are larger, fewer, and simpler, which is consistent with the Roman tendency to simplify details and economize work compared to the finer detailing of Hellenistic period.

Among the temple’s capitals, A and B—preserved in situ on columns 6 and 7, respectively—are the only ones with standard-type, rectangular lewises as elements for lifting that are associated with the Roman era (Fig. 2.253). With one pair per capital, the lewis holes are centrally and symmetrically placed (capital A: 26 × 11.5 × 19 cm and 18 × 10 × 19 cm; capital B: 24 × 12 × 20 cm and 22 × 11.5 × 19 cm); those of capital A are placed parallel to the long axis of the capital, and those of B are placed parallel to the short axis, or the pulvinus side of the capital. There are no dowel holes, setting lines, or marks for architraves, even though we know that at least these two columns carried an architrave (recaptured intact, see below). Their top surfaces are finished relatively smooth in point chisel. Capitals A and B also demonstrate different detailing solutions for the connection between the capital and the column top drum (Figs. 2.254, 2.255). In the former we have a rare application: the uppermost drum of the column and the capital are monolithic.

133 Yegül 2001, pp. 32–33, no. 4.
This drum is carved with the usual crowning astragal (bead-and-reel) and apophyge above a short portion of fluting tops (ca. 18 cm high) that joins the unfluted drum below it. All other capitals exhibit normal joints between the top drum of the shaft and the capital impost. In normal detailing of capitals, as in capital B, the volute eye falls 12 cm outside of the column neck and 8 cm higher than the column top. The smaller size and unusual design of capital A creates an exceptionally snug fit; the volute eye is only 3 cm outside the column neck and 2 cm higher than the column top.

**Capital D**

The underside of capital D (1.56 × 1.52 m in diameter) has a single Hellenistic round dowel viewed during its 2017 moving (Fig. 2.258); there are no Roman era square side dowels. Like capital C it might not have been used during the Roman period. The lifting socket of the Carian lewis is positioned on the center of the capital top (8.5 × 3.6 × 25 cm; the large, square portion is 29 × 27 × 26 cm with deep gouging around its sides. A pair of standard Roman lewises of different size are set on either side of the Carian lewises, offset from the center by 8–9 cm (18 × 8 × 18 cm; 13.5 × 7 × 15 cm; distance to the edge is 41 cm on the left and 24 cm on the right). A single, rectangular dowel hole (7 × 7 × 5.5 cm) is on the back-right corner.

The abacus measures 1.74 × 1.67 m, with twelve eggs on the front and back, eleven along the sides (Fig. 2.261). The front and back, as well as both pulvinus sides, are well preserved and missing only small portions of the volute bottoms (Figs. 2.260, 2.261). The refinement of the small, elongated eggs of the egg-and-dart and the delicate “bell-flowers” (Butler’s term) at the ends of the curling acanthus ornament of the front echinus are noteworthy (Figs. 2.262, 2.263).
Capital E

The underside of this capital has an oval resting surface (1.74 × 1.65 m), a Hellenistic round dowel in the middle, and a pair of Roman square side dowels. The back and right sides of the top are broken away across a diagonal line from the right front to the left back (Fig. 2.265). A pair of poorly preserved clamp cuttings at front right represent a Roman era repair. The top surface displays a fairly coarse finish in pointed chisel. Based on restored distances, a Carian lewis occupies the center. Its lifting socket (13 × 4.5 × 28 cm) is only 4–5 cm off-center from the short axis of the capital; its larger, square portion is 28 × 28 cm and has sides that are cut back unevenly 6–9 cm. There are two pairs of standard Roman lewis holes. The first pair is placed on the capital’s long axis, symmetrical on either side of the Carian lewis (the left is 15 × 10 × 14.5 cm; the right is preserved only at its bottom). The second pair, probably representing a later lifting operation (i.e., after the capital was damaged), is located in front and back of the Carian lewis, the back one cut deeply into the broken back of the capital (the front is 15 × 8.5 × 17 cm; the back is 14.5 × 6 cm, its depth indeterminate due to the break). Round dowel holes occupy the preserved...
left front and back corners (ca. 30 × 32 cm from the edges of the abacus, 7 cm in diameter and 6 cm deep); the front dowel has two pouring channels, (Fig 2.266) while the back one, not well preserved, does not appear to have any. These dowels may represent original, Hellenistic use of the capital, possibly inside the cells to support a stone architrave in the short east–west direction (see above and as reconstructed in Fig. 4.14).

The capital top also displays setting lines for an architrave, ca. 13 cm from the front and left edges, and an L-shaped one on the front-left corner, probably belonging to the Roman re-setting of the original Hellenistic capital (Fig. 2.265). As observed by Cahill, “the capital must have been exposed to weather for a significant period of time . . . with no roof (to protect it),” since the edges of the capital top are eroded.135 Based on the position of the corner setting for an architrave, capital E must belong to column 13, the southeast corner column of the east pronaos porch. Similar round corner dowels are found on the tops of capital F but not C, D, or G, nor are they found on the Roman capitals A and B, nor on the undersides of any Roman architraves.

**TOP COLUMN DRUM UNDER CAPITAL E**

The top drum upon which Butler placed capital E (the drum and capital were found together and placed on foundation 22 in 1912) is 0.58 m high and has a crown molding of bead-and-reel, a fillet, and a neck apophyge that eases into the encircling band of flute tops (ca. 24–28 cm high, 8 cm deep) over a coarse, unfinished bottom band (24 cm high; Fig. 2.264). As seen on column 7 and other peristyle columns in early travelers’ sketches, this appears to have been the standard Roman top-of-column detail (sometimes the top two drums are fluted); the unfinished flutes, probably carved on the ground, set a template for the rest to be carved in situ (see pp. 95–97 and pp. 114–116 above). When capital E was lifted in 2017, we found that the usual two small, square side dowel holes and a pair of standard lewis holes on the top surface of the drum were unremarkable, but a Carian lewis was an unexpected and baffling feature for Roman period construction. Quoting Cahill:

> On its [i.e., the drum’s] underside it bears anathyrosis and two Roman square dowels but no central round dowel. The Carian lewis would seem to mark it as a Hellenistic block, but the unfinished [bottom] band and lack of a round dowel on the underside are difficult to reconcile with this. The resolution could be that the block [was] a Hellenistic capital recut in the Roman period into an upper drum; they simply did not cut away the original Carian lewis but did trim off the bottom [and that is why there is no Hellenistic round dowel].136

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135 Cahill, “Notes on Moving the Capitals of the Temple of Artemis, 2017” (Sardis Expedition field report), p. 3.

136 Cahill, “Notes on Moving the Capitals of the Temple of Artemis, 2017” (Sardis Expedition field report), p. 4.

137 Sardis II.1, p. 72.
The top of the capital is fairly well preserved, the damage contained mainly to the front and left sides (Fig. 2.268). The top surface is finished in medium-coarse point chisel and has a large crack in the middle, running front to back. Three bar-clamp holes, a pair at front and back (ca. 12 cm from the edge) and one roughly in the middle (0.23 m, 0.23 m and 0.31 m long, respectively) provide evidence for an ancient repair. The Carian lewis has a lifting socket centered on the capital top (3.5 × 11 × 23 cm), and the larger rectangular socket (28 × 25 × 23 cm) widens at the top to a substantial 39 × 35 cm. There is a set of three standard Roman lewises, two in front on either side of the Carian lewis and one behind it, outlining a centrally positioned lifting triangle (15 × 9 × 18 cm on the left; 14 × 7 × 15 cm on the right and 19 × 8 × 22 cm on the back). In addition to this set there are two Roman lewis holes on the long axis of the capital located on either side of the Carian lewis, possibly representing a second lifting during the Roman era. The right-facing lewis is offset by ca. 16 cm, located at the edge of the Carian lewis and very close to the crack (the right lewis hole is 16 cm from the lifting center of the Carian lewis and the capital; the left one is 30 cm from the center). This appears to be an empirical application of construction statics, the short moment arm on the right—close to the crack—minimizes the stress on the stone (i.e., the rotational moment about the crack). Four round dowel holes with pouring channels are located at the four corners of the capital top (18–19 cm from the edge at the front and 28–29 cm at the back; holes are 7 cm in diameter and 6 cm deep); comparable to the circular top dowels of capital E, they are judged to be Hellenistic features that signal the use of architraves.

The back side of the capital displays partially preserved volutes (Fig. 2.269); the outer edge of the left one is repaired neatly with a dutchman and a pair of iron pins in situ; the damaged pulvinus channel behind this volute shows an ancient repair by a hook clamp, 19 cm long. Likewise, the right volute has an ancient repair at bottom with a smoothly cut dutchman and two iron pins. Cuttings in the centers of both volute eyes indicate the application of ancient ornamentation. The front side of the capital is poorly preserved except for a central rosette above the echinus and the palimpsest of acanthus tendrils. The egg-and-dart of the abacus is entirely missing.

This medium-sized capital could have belonged to one of the porch columns, either 10 or 16. The noticeable weathering along the unprotected front and right sides of the capital suggests that it was on column 16, “since the top of 16 was protected until at least 1750,” 138 (the capital on column 16 would have been protected better than that on column 10 by its two-way architrave, as seen in the Borra illustration, Figs. 1.18–1.19).

138 Cahill, “Notes on Moving the Capitals of the Temple of Artemis, 2017” (Sardis Expedition field report), p. 4.

Capital G

Capital G was found “well beyond the northwest angle of the peristyle.”139 Its smooth underside has one central, Hellenistic round dowel and no square side dowels, suggesting that this capital, too, might not have been reused in the Roman period (or, are we suggesting too many “display capitals”?). The front is completely shorn off, leaving some three-quarters of the top, both volutes, echinus, and the central rosette of the back almost intact (Figs. 2.270, 2.280, 2.282). The abacus can be reconstructed at 1.75 × 1.66 m with eleven eggs on the well-preserved back side. Finished in fine point chisel, the upper surface of the capital is remarkably smoother and less cluttered than any other. The lifting socket of the Carian lewis is centrally placed (10.5 × 3.6 × 19 cm); the large rectangular socket (29 × 27 × 19 cm), unlike those of other capitals, shows no apparent widening or gouging of its sides. There are two standard Roman lewis holes on the right side of the Carian lewis (viewed from front), both ca. 24 cm from the abacus edge; the back right corner one is 11 × 5.5 × 13 cm; the other, front right corner one is mostly gone, visible only as scar of its bottom. Although balanced on the long axis of the capital, these two hardly make a lifting pair since they are on the same side of the short axis. A third lewis hole on the left side is centered on the capital’s long axis (15 × 6.5 × 18 cm; ca. 14–15 cm from the Carian lewis), and working together with the previous two, it could make a well-balanced lifting triangle centered on the lifting socket of the Carian lewis. The question is why utilize triple lewises when a well-centered pair would do? Unlike capitals E and F, the top of this capital is free of other construction features such as round (or square) dowel holes or setting lines. The standard lewises indicate it was lifted and moved in the Roman period.

139 Sardis II.1, p. 72.
Stylistic Considerations of Capitals

Although this is a chapter devoted to physical descriptions (with some minimal interpretations), stylistic considerations of the capitals naturally include close, detailed descriptions of physical features. And in this way, we keep all discussions about the capitals together. All except one of the capitals are surmounted by abaci of open egg-and-dart rows (all darts are of the pointed, bar type) with corner eggs decorated by inverted palmettes. The only known capital to employ a plain fillet terminating the abacus, arrow-shaped darts, and plain corner eggs is capital B on column 7 (Figs. 2.272, 2.273). The echinus decoration of all capitals, especially capital C—with well-rounded and deeply set eggs inside their shell-like casings and separated by elegant, thin darts—display a sculpted plasticity that invites comparison to the superbly turned out egg-and-dart molding of the single, preserved Hellenistic anta capital of the temple (Fig 2.275; compare Fig. 2.293). The eggs of all echinuses are plain except for those of capital C, which are decorated with richly carved inverted palmettes growing from egg casings that are converted into delicate, ribbed acanthus calyxes and scrolls (Figs. 2.256, 2.274). The tongues/darts between the echinus eggs are also carved as pairs of slender stalks terminating in inverted buds and triple-leaf palmettes—“which take the place of ordinary sharp rims (‘tongues’ or darts) flanking the eggs”—unique details in the vocabulary of Ionic capitals (Fig. 2.275). The volutes have deep, rounded channels and make three turns around a flat, round eye. On capitals A, B, E, and F the centers of the eyes are carved with small, rectangular holes, probably to anchor some kind of metal ornament; this is confirmed by the lead “oozing” out of the volute eye on capital B (Fig. 2.276).

On capitals D and G, the centers of the volute eyes are marked by thin, vertical setting lines that cross the entire width of the circular eye, occasionally with faint erasures (Figs. 2.277, 2.278). In addition to the crossing center lines of the front (exterior) left volute of capital D, there are two additional vertical lines to the right and left of the center; the center of the right volute is defined by a pair of vertical lines on either side of the center (2.5 mm apart). The back (interior) left volute eye also has two additional vertical lines (1.2 cm apart) on either side of the center cross; the right eye has no horizontal line to define the center crossing; a vertical line passes through the center point, with an additional vertical line 7 mm to its right. Only the back (interior) volute eyes of capital G are preserved. The left eye has only one vertical line passing through the center; the right one is defined by a pair crossing through the center.

The volutes of capitals C, D, and G are connected by a gracefully dipping fillet (sometimes called a listel) that leaves a large "channel" above for ornament (Figs. 2.270, 2.274, 2.279, 2.280); on capitals E and B there is no fillet connecting the volutes and the top of the echinus with the strongly projecting triple egg-and-tongue, which is invisible from below. It is left quite rough, and in the case of capital E it appears unfinished (Fig. 2.264). The profiles of the “reed” that connect the volutes (seen from the front or the back) directly under the abacus vary slightly. In capitals A, C, E, and F, this cable-like element is well rounded; in capitals B and G it has a flatter profile and meets the abacus projection above almost at a right angle (cf. profiles in B, Fig. 2.287, bottom; and A, Fig. 2.286, bottom). The concave curve of the volute channel directly above the echinus (egg-and-dart) is also shallower for B and G. The volute channel of each capital is decorated on the front by a pair of undulating, ribbed acanthus stalks and tendrils ending in a delicate,

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140 Sardis II.1, pp. 66, 133–34; Butler’s assessment of the originality of this ornament is well taken; less so is his comparison of the capital C echinus ornament to the cornice palmettes of the Mausoleum at Halicarnassus (which shows a regular row of palmettes separated by lotus flowers), though it is true that the elegance and delicacy of the mid-fourth-century ornament from the Mausoleum strikes a similar chord as the later Hellenistic ornament of Sardis. See also Dinsmoor 1908, p. 22, fig. 7.
Figure 2.272 (L) Capital B, north pulvinus

Figure 2.273 (R) Capital B, detail: abacus with egg-and-dart molding, and upper filet

Figure 2.274 (L) Capital C, restored side view on column "31 or 32." Drawing by Maitland Belknap, Sardis III, pl. b

Figure 2.275 (R) Capital C, detail: echinus eggs and upper moldings

Figure 2.276 (L) Capital B, interior face, detail: south volute with lead in volute eye

Figure 2.277 (R) Capital D, detail of south face, right side: volute eye, with center marked by point and crossing lines
upturned half-palmette on either side of a six-petal rosette (as seen restored on capital C; Fig. 2.274); this leafy motif grows out of a pair of shorter acanthus stalks that terminate in delicately curling leaflets, as preserved on capital E and restored on capital A (Figs. 2.264, 2.286); the back side of the capitals are simpler with only a six-petal central rosette and no acanthus stalk.  

Butler observed that “one of the most interesting features [of capital C] is the marked inward slant of the volutes from top to bottom, which gives . . . firmness and compactness in design, and undoubtedly added much to the effect of the volute scrolls when seen from below” (Fig. 2.284). The same sentiment was echoed in 1922 by architect Lansing “Denny” C. Holden, Jr., a member of the Butler team and one of the draftsmen of these capitals, that the ornament of the volute band and the palmettes of the echinus appear visually connected, “creating a unified mass . . . not only from close up but from a distance” and to this we will add from below, as they were normally viewed.

The pulvinus sides of all capitals are articulated by five pairs of reeds or astragal moldings that create four channels, two at each end that define the volutes and three in the middle. The bottoms of these channels are decorated with palmettes in all but capital F. On capitals C and A (as well as on some capital fragments), the middle two channels also display overlapping vertical leaves (or “scales”) pointing downward, similar to the laurel-leaf torus decorations of some of the bases (11, 12, 16, and 17; A: Figs. 2.283, 2.285, 2.286; C: Fig. 2.284); in others this area is left plain (B: Figs. 2.272, 2.287; D: Fig. 2.279; G: Fig. 2.280; E: Fig. 2.290). A comparable version with a slightly pointed laurel-leaf motif is also seen on the large capital fragment (I) left in the field to the northeast of columns 1 and 2. Another subtle variation in design is the gentleness of the curve with which the pulvinus meets the abacus, visible when looking at the side of capital. In capitals A, D, and C the sweep of the pulvinus has a uniformly gentle, upward curve (A: Figs. 2.286, bottom, 2.289; D: Fig. 2.279); in capitals B, E, and G the upper portion of the pulvinus meets the abacus in a steep, almost straight line, the curve beginning only halfway down the volute (B: Figs. 2.272, 2.287, bottom; E: Fig. 2.290; G: Fig. 2.280).

As apparent from the discussion above, all the capitals of the temple—Hellenistic or Roman—share basic stylistic similarities and conventions with minor variations. With delicately curving and ribbed acanthus stalks, bunched leaflets growing out of calyces and buds, or tulip-like flowers growing at the ends of gently waving stems, sketchy and delicate but sharp and linear, they belong to a generally recognizable decorative and stylistic family of Hellenistic ornament from Asia Minor. However, it is possible to assign them to several subgroups based on size (see above), type

141 A viable comparison for the curving acanthus stalk decorating the echinus is the contemporary Ionic capitals of the Propylon of Ptolemy II at Samothrace; see Samothrace 10, fig. 51.
Figure 2.281 (L)
Capital D, detail: “flaming” palmette between volute and echinus egg-and-dart

Figure 2.282 (R)
Capital G, detail: palmette between volute and echinus egg-and-dart

Figure 2.283
(L, above)
Capital A, three-quarter view with west face and south pulvinus

Figure 2.284 (R)
Capital C, pulvinus and bottom views. Drawing by Maitland Belknap, Sardis II, pl. C

Figure 2.285
(L, below)
Capital A, south pulvinus
of ornament, stylistic conventions, and to a lesser extent, degree of refinement in workmanship and modeling. One understands that stylistic differences, such as they are, represent normal and creative variations among the different craftsmen who made them, except for the more substantial differences of Roman era capitals A and B. Among the Hellenistic capitals, capital C can be singled out from the rest not only because it displays the finest modeling, but also it has unique and sophisticated features, such as the rich and unusual decoration of the echinus (eggs decorated with inverted palmettes, egg casings developed as acanthus stalks and calyces) and the subtle, inward curve of its volutes. Capitals D and G are close comparisons in structural form as well as artistic delicacy and richness of ornament. Even the two patently Roman capitals, A and B, vary notably in quality. Capital B, on column 7, represents the greatest deviation from the original models, as it is generally sketchier and cruder than the others. Its volutes and volute channels are flatter. Its upward pulvinus curve is steeper while its mate, capital A, displays a gentler curve, probably in imitation of capital C. Capital B is also the only example with a fillet that crowns a coarser rendition of the egg-and-dart abacus (and not egg-and-tongue like all others). Still, its echinus has sculpted, rounded, and deeply encased eggs in the distinctive style of the Sardis capitals, rather than the delicate, pointed, and rather shallow egg-and-tongue molding typi-
Table 2.4. Capitals (listed by size)

<table>
<thead>
<tr>
<th>Capital (Abacus Eggs)*</th>
<th>Size at Abacus Front-Side</th>
<th>Max Width of Volutes</th>
<th>Width Eye-to-Eye</th>
<th>Width of Pulvinus</th>
<th>Height</th>
<th>Eye Diameter</th>
<th>Bottom Diameter Small–Large</th>
<th>Suggested Position/ Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>B (13 × 12)</td>
<td>2.22 × 2.11</td>
<td>2.98</td>
<td>2</td>
<td>1.95</td>
<td>0.82</td>
<td>0.135</td>
<td>[—]</td>
<td>In situ on col. 7—the only capital with fillet crowning abacus. Roman</td>
</tr>
<tr>
<td>A (12 × 11)</td>
<td>2.10 × 2.01</td>
<td>2.8</td>
<td>1.81</td>
<td>1.89</td>
<td>0.78</td>
<td>0.123</td>
<td>[—]</td>
<td>In situ on col. 6—capital and top drum one piece (H: 1.16). Roman</td>
</tr>
<tr>
<td>E (12 × 11)</td>
<td>1.94 × 1.69</td>
<td>2.6</td>
<td>1.7</td>
<td>1.54</td>
<td>0.82</td>
<td>0.124</td>
<td>1.65–1.68</td>
<td>Originally between east side or west side antae; in Roman reuse on col. 1</td>
</tr>
<tr>
<td>F</td>
<td>1.94 × ?</td>
<td>2.54–2.58</td>
<td>1.65</td>
<td>1.53</td>
<td>0.8</td>
<td>0.124</td>
<td>1.68–1.74</td>
<td>Originally between east or west side antae; in Roman reuse on col. 10 or 16</td>
</tr>
<tr>
<td>D (14 × 13)</td>
<td>1.76 × 1.67</td>
<td>2.4</td>
<td>1.52</td>
<td>1.5</td>
<td>0.76</td>
<td>0.115</td>
<td>1.48–1.56</td>
<td>Originally inside the cella; in Roman reuse col. 11 or 12</td>
</tr>
<tr>
<td>G (13 × 7)</td>
<td>1.76 × 1.67</td>
<td>2.41</td>
<td>1.52</td>
<td>?</td>
<td>0.74</td>
<td>0.114</td>
<td>?</td>
<td>Originally inside the cella; in Roman reuse col. 53 or 54</td>
</tr>
<tr>
<td>C (14 × 13)</td>
<td>1.74 × 1.67</td>
<td>2.4</td>
<td>1.52</td>
<td>1.49</td>
<td>0.76</td>
<td>0.11</td>
<td>1.48–1.52</td>
<td>Originally inside the cella; in Roman reuse col. 53 or 54; or, never used? Now in MMA, New York</td>
</tr>
</tbody>
</table>

* = restored dimension  
* = counting corner eggs

cal of late Hellenistic capitals or ornament of Asia Minor in general, such as the near-contemporary work at the Belevi Tomb monument (Fig. 2.291). The elegance and firmness of the volutes of capitals A (Fig. 2.254) and B (Fig. 2.255), enhanced in our detailed views, are hard to match not only among other Roman examples, but even Hellenistic ones, as seen in the capitals of the Temple of Artemis in Magnesia (Fig. 2.292). Understandably, capital B (the largest) was the only capital believed by Butler to be a Roman copy, “set up a second time on a shaft of later date in connexion with extensive repairs at this end of the temple.”

Lansing (Denny) Holden, who had measured and studied the capitals of the temple during a wartime campaign at Sardis in 1922, described them later as “the most beautiful things I have ever seen.” Many artists and scholars would have agreed with Denny, an architecture student of Butler at Princeton, a flying ace and avowed risk taker who was the first person to hoist up himself the full height of column 7 in 1922 using a bosun’s chair and record it with astonishing accuracy. Singly viewed, all capitals of the temple are

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145 Sardis II.1, p. 65.  
146 On the brave and interesting career of “Denny” C. Holden, see Yeğül 2003, pp. 74–75, no. 22. For the distinguished British Neoclassical architect C. R. Cockerell’s singular admiration of the Sardis capitals, and his decision to use them as models for his Hanover Chapel at London in 1821 (“capitals of Sardis . . . Asiatic Ionic not yet seen”), see Yeğül 2003, pp. 34–35 n. 5.
The Sardis capitals were part of a group of Ionic capitals (with those of Delos, Halicarnassus, Priene, and Didyma) studied for stylistic and structural similarities by M. Mărgineanu-Cârstoiu and A. Sebe. Following the internal and external characteristics of their volute spirals, and based on the hypothetical geometry of a central pentagon, the authors demonstrated certain basic controlling relationships and correlations among the examples (the mathematics involved in this analysis is not for the faint hearted). While deemed to be a part of the established Ionic stylistic order of the group, the Sardis capital analyzed (capital C) is shown to be its most-independent, least-conforming member; perhaps this explains its visual allure as the least-mechanical, most-creative and beautiful member of the group.147

Anta Capitals

Six large fragments of an anta capital were found by Butler’s team very near the southeast anta pier and judged to belong to this position. Four of these fragments are now placed on site on the southwest anta, at or close to their approximate positions (Fig. 2.296); a fifth, smaller fragment (ca. 0.80 × 0.80 × 0.50 m) has only the top molding with a few segments of egg-and-bar, bead-and-reel, and part of the projecting fascia; it is located east of the temple among other column fragments of the east peristyle. Two other pieces are at the Metropolitan Museum of Art in New York (inv. no. 26.59.12a, b). Although none of these fragments match, the remaining pieces are complete enough to allow for a reliable restoration of this anta capital.148

The anta capital is composed of two parts. The upper half is a cornice with a strongly projecting fillet and fascia over a bed molding of large egg-and-tongue and bead-and-reel (total height: 52 cm; bed molding: ca. 27–28 cm; eggs: 19 × 16 cm; center-to-center distance: 27.6–27 cm; Fig. 2.293). The bottom element is a flat frieze of thinly modeled laurel wreaths, four on each side of the anta pier, and each with a rosette in the center and crowned by a delicate bead-and-reel under a lesbian cyma (total height: 63.4 cm; flat frieze height: 41.6 cm; cyma reversa crown molding: 16.4–16.6 cm; diameter of wreaths: 36–37 cm; Fig. 2.294, 2.295). The egg-and-tongue and bead-and-reel of the cornice ovolo is deeply carved and fully rounded, the former comparable in style to the echinus of the regular capitals (including the specific decorative motif of articulating the corner egg of the cornice with an inverted palmette), and to some extent, the egg-and-dart molding of the Hadrianic east door jambs (see pp. 167–174). The contrast between the boldness of its ovolo beautiful and subtly varied; their aesthetic effect as a group lined up in a row must have been impressive (four have been lined up as a group in 2017 in a protective shed [Fig. 2.271] and described by the excavation members, separately, as looking “regal”). It is understandable that, faced with such an exquisite array of Ionic capitals, Roman sculptors and craftsmen had little need and probably no desire to go elsewhere for models. It might be that the late-Hellenistic version of the typical Ionic capital widely used in Asia Minor even under the empire held little appeal; it tends to be more linear with taut, shallow volutes, shallow and pointed egg-and-tongues like fine china, as opposed to the rounded, substantive plasticity of the Sardis capitals. The original capitals of the temple provided an impressive set of prototypes to imitate and emulate. Naturally, the credit for creativity and inventiveness must go to the Hellenistic masters who fashioned the originals, but even the copies created by their Roman followers are distinctive.

147 Mărgineanu-Cârstoiu and Sebe 2000.

148 Sardis II.1, pp. 54–55; atlas, pl. ii. A large cornice fragment (ca. 0.90 × 0.79 m, 0.53–0.55 m high) from east of the east colonnade displays one and a half deeply carved egg-and-tongue moldings (eggs: 18.2 cm high, 15 cm wide) over a partial bead-and-reel, and a fascia/corona projecting 8 cm; a very small area of the finished bottom is preserved.
cornice and its delicate frieze is noteworthy. Compared to many contemporary Hellenistic examples of pier and anta capitals (e.g., from Magnesia, Labraunda, Priene, Samos, and Samothrace), which are characterized by their trapezoidal shape, elegant but rich, fussy, and layered moldings, the flat and sparse simplicity of the Sardis anta capital appears unusual and sophisticated—and stylistically enigmatic. While the deeply carved eggs of the cornice can be compared to Hadrianic ornament (at least to a point), the shallow and delicate frieze definitely cannot. As noted by Butler, who appreciated the stylistic superiority of their ornament over their peers, these are “the most interesting and beautiful anta-caps yet discovered.”

Two cornice pieces are placed on the outer (south) face of the southeast anta pier, one being the southeast corner piece; two on the inner (north) side belong to the frieze, including the piece for the L-shaped inner reveal of the anta pier (Figs. 2.296, 2.297). This frieze piece is carved as a monolith with its westward continuation on the anta as an unornamented wall block with narrow, drafted edges (Fig. 2.294). The tops of all anta capital fragments are finished in fine or medium point chisel, their top surfaces prepared to receive upper elements—either the anta cornice above the frieze, a wall architrave on the outer (north) side, or a regular architrave that must have spanned the southeast and northeast anta piers and the original in antis columns of the east pronaos porch. The edges of some of these blocks are discernible as slightly raised impressions on the top surfaces of the anta capital (Figs. 2.296, 2.297). Interestingly, the tops of all blocks (where preserved) display large, square dowel holes with pour channels (ca. 6–7 × 6.7 cm, with 14–15 cm long pour channels) and standard lewis holes (10.5 × 5.5 × 7.2 cm; 15 × 6.5 × 10.2 cm). The southeast corner cornice (ca. 1.19 × 0.95 m; 0.53 m in thickness; Fig. 2.298) has a finished western edge with anathyrosis and a large, deep cutting for half of a hook clamp (14 × 10 × 10 cm), as does one of the two cornice blocks at the Metropolitan Museum of Art. The second cornice piece placed west of the southeast corner has a rough, raised band 33 cm wide along its outer edge (1.06 × 1.02 m) and a dovetail clamp along its broken west side inside a 13–14 cm-deep cutting; it probably marks a late repair for a crack (Fig. 2.299). No lewis hole is preserved, but there is a square dowel hole with pour channel ca. 52 cm from its south (ornamented) face. The piece located on the northeast corner of the anta is a frieze, ornamented on the east and north sides, but the top is en-

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149 “The carving is extremely free and graceful, and the undercutting very deep. . . The wreaths of the frieze are simply designed and are plainly executed. . . . It is evident that they were thus treated because they were to be seen from a distance and chiefly by reflected light [deep in the pteroma]” (Sardis II.1, pp. 54, 129–30, figs. 47–48). For other examples of Hellenistic anta capitals, see Rumscheid 1994, pls. 81.2, 87.2, 88.1, 93.3, .5 (Magnesia); pl. 66.1–4 (Labraunda); pl. 154.4–5 (Priene); pl. 178.5, 7 (Samos); pl. 202.6 (Samothrace).
2. Description of the Building: The Physical Remains

The only remaining element of the entablature of the Temple of Artemis is the architrave, represented by fragments in the field and in early illustrations showing some in situ on columns. No frieze was found on site or in drawings. Although entablatures composed of only architraves and cornices were acceptable in Hellenistic and Roman usage, I prefer the traditional option that includes a frieze in my idealized reconstructions of the temple’s east front because of concerns of proportion, as well as historical preferences of the mid-second century A.D. (Figs. 4.13, 4.14; Pl. vii). Likewise, no cornice has been found. However, in the watercolor view of the temple by C. E. Stanfield (Fig. 1.27), a half-buried, large cornice piece composed of two fragments with prominent Roman modillions is depicted in the forefront, fallen below the east peristyle colonnade near columns 6 and 7 (see pp. 23–24).\(^\text{150}\) The clarity and specificity of this cornice illustrated among other fragments from the temple (some in place and identifiable today) strengthens the thesis that despite the “romantic” purpose and appeal of these kinds of drawings, it is highly probable that this cornice was not an artistic whim or trope, but rather a real piece on the ground, now disappeared like many other elements of the collapsed entablature. Furthermore, French traveler B. Poujoulat, who visited Sardis in 1840, also mentioned a “cornice” among the various architectural ornaments fallen about the temple (see p. 13 and note 45).

Another piece of evidence that may speak to the existence of a cornice is a gigantic lion-head spout found by Butler at the northeast angle of the temple, below column 1 (now in the Istanbul Archaeological Museum, inv. no. 4047). Although Butler doubted whether the temple ever had a proper frieze, except for a heavy denticulated element of the right scale above the architrave, he considered the lion-head spout as the only possible evidence for the existence of a cornice. The head, “boldly modelled” and intact, is a detached piece separate from the regular sima of the cornice, and was described by Butler as having been “set in the sima and protruding through it” (Fig. 2.300).\(^\text{151}\) Grenewalt and

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\(^{150}\) See Grenewalt 2003, p. 25, fig. 11; Sardis II.1, p. 10, ill. 7. Another modillioned cornice is shown prominently close to the bottom of columns 6 and 7 in a view of the temple by Harry Johnson, dated ca. 1859. Although that view is largely a collage of the antiquities of Sardis (foxes gallivanting among the ruins and catching birds, etc.), and hence less reliable, the specific relationship of the cornice to the ruins of the temple may make it worthy of consideration. For an engraved reproduction, see “Sardis,” Illustrated London News (Feb. 12, 1859), p. 152.

\(^{151}\) Sardis II.1, pp. 51–52, 71–74, ills. 84–85. I examined the structural details of Butler’s reconstruction of the lion-head spout set in a sima (Sardis II.1, ill. 46) in 1975 at Hanfmann’s request and judged it to be possible. Hanfmann found that the finish around the head and flat chisel work “on top of the lion’s ‘collar’ are both consistent with a 5th or 4th C. [b.C.] date,” but concurred with Butler that elements
Cahill, who have studied the piece in Istanbul, found it to be stylistically “probably pre-Hellenistic” and not Roman.152

The likelihood of an unfinished entablature except for its architrave is valid, supported by the argument that the relatively coarse state of finish of the architrave tops would have made difficult or unlikely that they received another element above. Nonetheless, the tops of architraves A and B and others are not so rough that a frieze or a cornice could not be placed on top of them. While the rough ridges and hollows of the point chisel finish create irregularities ca. 1–3 cm deep, the overall level across the five-meter length of the architrave is fairly even.

Based on the study of some eight or nine pieces (one intact), we can reconstruct the architraves of the temple peripteros in two halves; the back elements facing the pteroma, or “architrave backers,” are the only ones we have (top width 1.34–1.35 m; bottom width 1.03–1.04 m; height 1.49–1.50 m). The architraves of the east pronaos porch, placed on the smaller columns, are single-piece elements (top width 1.70–1.72 m; bottom width 1.58–1.59 m; height 1.22–1.33 m m).

The following is a description of one complete and two fragmentary architraves, along with two smaller pieces found in the field whose incomplete features make clear identification impossible.153 We designated these fragments with the letters A–H for convenience. The fully preserved architrave A and three separate joining fragments (B, C, and D) belong to the east peristyle colonnade of the temple and are architrave backers. All pieces belong to the “inner” or pteroma half of the architraves; they have simplified, coarse profiles. We do not know what the outside-facing (or “front”) architraves looked like. This makes any attempt to dating based on ornament styles impossible, except that they are Roman Imperial.

Architrave A, the intact piece, spanned columns 6 and 7 of the east peristyle. Joining fragments B, C, and D constitute the central architrave of the east colonnade, spanning columns 4 and 5, with a total length of 7.06 m.154 Fragments E, F, and G belong to a matching single-piece architrave and span from the northeast anta pier to column 16. Architrave fragment H, found near the west end of the south peristyle, displays a different design and dimensions and is probably a reused, rare piece of the Hellenistic architrave belonging to the interior of the cela (see below). In addition to these, two severely mutilated architrave fragments (M and N) are located in the northeast and southwest fields. Many of our architraves display repair marks, some clearly made in situ, but others have been found incompatible with their original purpose, and therefore might have been reworked and reused at a later date.

**Architrave (A) Spanning Columns 6 and 7, East Colonnade**

Found by Butler next to the southeast anta (now placed north of Church M), architrave A is a full, inward-facing piece that spanned columns 6 and 7 (it is 5.52 m long, 1.35 m wide at top and 1.05 m at bottom, and 1.49 m high; Figs. 2.301, 2.302).155 As the largest single block remaining from the temple and weighing some 24–25 tons, the piece gave Butler considerable trouble in bringing the ground down to the pteroma level; this was finally solved by Butler’s engineers with their ingenious use of pressurized water to gradually erode the soil upon which the architrave rested.156 The inner face shows a smooth, featureless finish in point chisel. The side facing the pteroma displays a simple profile: two fasciae separated by a angled molding 6 cm wide (intended as a half-cavetto) and a crown composed of top fillet, plain cyma recta, and astragal (total height 49–50 cm). The face is finished smooth with a claw chisel. The ends of the architrave have point-chisel finish except for a 16–18 cm wide anathyrosis band along its front edge where it joined the architraves spanning the next columns. The top is finished in coarse point chisel, but it is still level across its wide expanse. There is a cutting for a half-length bar clamp at the right top edge of the block to connect it to the next (south) architrave but none on the opposite end. A pair of large, standard lewises, each well centered on the ends of the block (off-center toward the north by 7 cm), have different dimensions: the south pair, 12 × 6.5 × 14 cm and 19 × 8.5 × 21 cm; the north pair, 13 × 7 × 13.5 cm and 13.5 × 7.5 × 16 cm. The larger and deeper lewises of the south pair offer greater lifting capacity (539 sq. cm contact

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153 I acknowledge here the efforts of Brianna Bricker and Nicholas Cahill, who contributed to the study of the temple architraves and successfully combined many fragments into whole pieces.
154 Considering that the east peristyle columns might have leaned inward, the extra-wide central span between columns 4 and 5 could have been reduced somewhat at the top. Leeway in the reconstruction of the three architrave pieces (B, C, and D) allows such small flexibilities.
155 As quoted in a note to page 265 of W. M. Leake’s 1824 Journal of a Tour in Asia Minor, C. R. Cockerell, the renowned Neoclassical architect who visited Sardis in 1812, stated that “two columns of the exterior order of the east front [columns 6 and 7] . . . are still standing, with their capitals. . . . [They] still support the stone of the architrave.” However, Cockerell’s pencil drawing (now at the Yale Center for British Art) of these columns and a third, possibly column 16, shows no architrave carried by any columns. For his placement of an architrave on his restoration of the east front of the temple, see Fig. 1.25 and pp. 21–22. Watkin 1974, p. 139; Yeğül 2003, pp. 34–35.
156 Sardis I.1, pp. 92–93, ills. 65 and 93; Sardis II.1, pp. 49–50, ill. 44.
Perhaps this is why a third, smaller lewis was introduced on the north (10.9 × 5.5 × 10 cm, which provides exactly an additional 110 sq. cm). Given that the total weight of this architrave is 24–25 tons, the average capacity for each of the five different-sizedlewises would have to be ca. 4.4–4.6 tons, indicating that the margin of safety used by Roman engineers was—at least in this case—fairly close.
Architrave Spanning Columns 4 and 5, Central Span (Fragments B, C, and D)

Fragments B, C, and D are the three joining interior pieces of the architrave that spanned the central, widest intercolumniation between columns 4 and 5, with a length of 7.05 m (Fig. 2.301). All display the same design, simple moldings, and dimensions—conforming to the profile of architrave A within a few centimeters (top fillet, plain cyma recta, astragal over a pair of fasciae, separated by angle molding). The preserved backs are finished by fine point chisel, the fronts by claw chisel, and the tops by coarse point chisel.

Located in the field southeast of the temple, fragment B is the left (or north, facing the colonnade from inside) piece of the central architrave, and it joins fragment C (Fig. 2.304). It is preserved at ca. 2.76 m in length, with a top width of 1.35 m, a bottom width of 1.04 m, and a height of 1.50 m. The left (north) end of the piece has a point-chisel surface with a band of anathyrosis in front. Four centrally positioned, standard lewises are crowded on this end (from top down: 13 × 6 × 13 cm; 12 × 5.2 × 4.6 cm; 11 × 5.5 × 10 cm; 11.3 × 5.5 × 12 cm) signify an unlikely “end-up” lifting of the block. However, the lifting of this architrave must have been achieved properly with the three lewises placed on the block top (13.5 × 7.5 ×
Figure 2.305
Central architrave fragments

Architrave fragment B

Architrave fragment C

Architrave fragment D
17.2 cm; 11 × 6.5 × 15 cm; 18 × 6.5 × 21 cm) aided by the two on top of the right (south) end of the architrave (see below). Two bar clamps at the back corners of the block must have secured the architrave to its front counterpart. More intriguing are two additional, very large, half-length bar clamps applied to the broken left end of the profiled face, above the upper and lower fasciae, that apparently joined this piece with the next architrave fragment (top clamp 31 cm long, bottom 29 cm). Clearly these clamps must represent late, in situ repairs of the block, perhaps to stop an emerging crack in the stone.

Architrave fragment C was found between columns 11 and 12 and is now located in the field east of the east colonnade; it is the middle piece of the architrave that spanned columns 4 and 5 (Fig. 2.304). It is preserved at ca. 2.80–2.90 m in length, with both ends broken; the top width can be reconstructed at 1.35–1.36 m and the height at 1.48–1.49 m. On the front only a part of the crown molding is preserved. A pair of long clamps on the back of the stone secured it to half-architrave B (the half-length of the lower clamp is 25 cm; the upper one is preserved only in its hook hole). A larger, lateral bar clamp (29 cm long) disfiguring the cyma recta molding of the front must represent a later repair. Its broken ends join architrave B on the left and D on the right.

Located immediately north of fragment C in the east field, architrave D is the right (south) end of the middle-span architrave. It is ca. 2.0–2.03 m long, 1.36 m wide at top, and 1.50–1.51 m high (Figs. 2.304, 2.305). The top displays two lewis holes. The preserved right end is finished in point chisel and displays no lewis holes or construction features except for an anathyrosis band along its profiled edge.

Architrave Spanning Northeast Anta Pier and Column 16 (Fragments E, F, and G)

Three large, joining architrave fragments found near the northeast anta by Butler were placed on this pier and on the north end of the temple’s east wall. Fragments E, F, and G constitute the architrave between the northeast anta and column 16, with a total length of 4.75 m (Fig. 2.312). The largest, and relatively best-preserved piece is designated as E, now placed on the anta pier bottom up (Fig. 2.306). It is 2.85 m long, ca. 1.59 m wide at the bottom, ca. 1.70 m wide at the top, and 1.32–1.33 m high (Fig. 2.307). Fragment E is a single-width architrave, the type used for the rest of the east pronao porch architraves. Neither its top nor its bottom has been preserved intact; the top has been cut down coarsely some 5–8 cm lower than the edges and finished in coarse point chisel. The bottom is eroded, leaving only a very small area of the original surface; there are traces of a soffit molding which joins the better-preserved soffit of fragment F (reconstructed length ca. 2.60 m; see below). The bottom of the finished end of the fragment on the west side (resting on the anta pier) has been carefully cut down and fashioned into two rectangular areas with smooth surfaces and precise edges (Figs. 2.307, 2.308). The rectangular depression originally facing north (outside) is 1.32 × 0.90 m and lower by 9–14 cm, sloping down toward its finished end. The south-facing depression is 1.02 × 0.71 m and 4–9 cm deep. Both display numerous construction cuttings: two on the north-facing depression: 7 × 5 × 12 cm and 7 × 4 × 12 cm; and two on the south-facing depression: 6 × 3.5 × 9 cm and 6 × 3.5 × 8 cm. One of these (at the southern end) may represent a clamp hole, while the other three might have held dowels for a repair or a late reuse of the stone. That these carefully prepared, depressed areas sat on matching projections on the top surface of the anta pier capital, like tendon-and-mortise joints in carpentry to achieve a tight fit, is always possible as pure theory but not
probable, as the author knows of no such detail connecting an architrave to a capital top (the partially preserved south-east anta capitals reveal no such detail). Furthermore, other construction details carved on the bottoms of these depressions appear incongruous to the original purpose of an architrave bottom (such as leverage holes). A repair, such as a dutchman, undertaken in the course of original construction also comes to mind, as does the remote possibility of some post-1750 reuse of the block since the architrave was in situ when Wood and his team visited Sardis at that date (see pp. 15–17, Figs. 1.18, 1.19).

The unbroken end of fragment E has a coarse point chisel finish with both edges defined by anathyrosis bands (9–10 cm wide; Fig. 2.306). There are three centrally positioned lewises (12 × 6.5 × 16 cm; 11 × 6.5 × 12 cm; 13 × 7 × 13.5 cm), suggesting that this block, at least at some point in its usage, was raised to position end-up and maneuvered into place. Although most of the top of the architrave is impossible to see, there is at least one major lewis hole (ca. 2.46 m from the finished end; 13.5 × 6.5 × 16 cm), which suggests that the original lifting could have been accomplished from the top as is customary.

The inside and outside faces of fragment E display the same profile: lower and upper fasciae separated by an angled fillet (probably intended to be finished as a quarter-circle cavetto); a crown molding which consists of a wide top ovolo approximating a cyma reversa profile over a thick, projecting, rounded molding, eroded and broken for most of its length. There is no sharply defined top fillet. This is a simpler crown molding than that of the peristyle architraves. One curious feature is a narrow, raised band (ca. 14.5 cm wide) left rough along the west edge of the architrave and facing outward (north), as reconstructed in position (Fig. 2.306). Not seen on any of the architraves, this detail could have been intended to protect the joint the architrave made with the next block on the cella north wall—a detail not shown on the famous drawing of this view by Borra (Figs. 1.18, 1.19). Both the inside and outside faces of architrave fragment E were furnished with large bar clamps (half-lengths 13.5–14.0 cm) on their broken ends, probably precautionary hardware against developing cracks in the stone.

The architrave fragment that joins fragment E at its broken east end is sheared into two large pieces, the bottom piece designated as fragment F and the top as fragment G (Fig. 2.309). The bottom fragment is ca.1.67–1.87 m long, ca. 0.72 m high from its preserved soffit to its fractured top, and 1.58 m wide at the bottom. It displays a centrally positioned and partially preserved soffit decoration in the shape of a rectilinear, recessed panel with crescent-shaped ends (pre-
served ca. 54 × 22 cm, with 7 cm frames; restored length of the full soffit decoration is ca. 2.60 m, distance to the finished edge of fragment F is 0.60–0.65 m; see Fig. 2.310). The architrave face, available for study, has a lower fascia (0.41 m high) surmounted by a projecting angled fillet; everything above is gone. At each end of the architrave face there are carvings for very large bar clamps (half-lengths 14 cm and 22 cm). The left end (at the east, resting on column 16) displays a roughly finished, recessed band at its lower fascia (ca. 38 cm wide, 5–6 cm deep); this curious feature is faithfully recorded on the Borra drawings (Figs. 1.18, 1.19).

Neatly fitting the fully fractured top of fragment F (and the east end of fragment E) is architrave fragment G, a top piece with one finished end; the complex, three-dimensional geometry of the joining breaks of E, F, and G was identified by N. Cahill’s sharp eye (Fig. 2.312). This fragment is ca. 2.25–2.40 m long, ca. 0.60 m high, and reveals a top width of 1.71 m, which matches exactly the top width of fragment E, the western half of the full architrave. The largely damaged top has one large lewis hole (24 × 10 × 14 cm) 0.69 m from the finished end of the block. Roughly in the middle of the broken end of the block is a large bar clamp (half-length 11 cm).

159 Sardis II.1, pp. 50–51, ill. 45.
A pencil sketch of the east end of the temple (and an ink-wash drawing of the same), made by Borra in 1750, provides invaluable evidence for the identification of this architrave, broken into three pieces (total recomposed length is ca. 4.75 m), as the one that spans between the northeast anta and the column immediately east of it, column 16; but it also introduces further questions (Figs. 1.18, 1.19, 2.212). The view, taken from northeast, shows the east porch (and some of the columns of the east colonnade) with two lengths of architrave between columns 10, 16, and the northeast anta pier. The position of the architrave, which is carried by column 16 and the northeast anta pier, is ascertained by the rough, recessed panel on the lower fascia of its east end (shown on column 16). Yet, if this identification is correct, as supported by the pieces and verified by the Borra drawings, one also should expect to see the other rough band at the right (west) end of the face of architrave, which should fall on top of the anta pier; but that important detail is not shown on the Borra drawings, nor is the repair clamp that should be in the middle of the architrave.

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### Two Architrave Fragments in the Field, M and N

Two heavily damaged architrave fragments, one found at the northeast of the temple and the other at southwest, are stored in the field and designated respectively as M and N. M belongs to the single architrave type of the east porch; it is 1.52 m long with one finished and one broken end (Fig. 2.313). The partially preserved front shows two fasciae (lower 0.44 m high, upper 0.54 m high) separated by an angled astragal and the beginning of a crown fillet with a simple, plain ovolo. The 1.34-meter height of the piece matches exactly the height of the east porch architraves. The preserved bottom width of 0.64 m (instead of the normal ca. 1.50 m) shows that the piece was cut from a full architrave for reuse—or, it is a rare example of a wall architrave either from inside the pronaos porch or somewhere on the north cella wall, although the indifferent modeling and finish argues against this possibility. The finished end has anathyrosis bands along the front and bottom and a pair of diagonally positioned bar clamps at its front corner to repair a large sliver broken off from the architrave face. The
top is finished in moderately fine point chisel and displays a single lewis hole in the middle (10 × 5.5 × 13 cm) and two lewis holes on either side, no doubt to further secure the broken piece.

Architrave N, stored in the southwest field, is more broken and eroded and less instructive than the others. Preserved as a top piece (in two joining fragments), it has one finished and one broken end, with an overall length of 2.05 m. Its top and bottom widths, 0.79 m and 0.70 m, respectively, do not follow the top and bottom widths of any of the other architraves. The back side is cut straight and finished in fine point work; the finished end has anathyrosis. Its damaged top molding can be restored similar to the ovol-o-and-fillet crown of the east porch architraves, although the 0.60-meter-high upper fascia (all that is preserved of the face) does not follow the 0.54 meter height of the latter. There are two large lewis holes on the rough top of the fragment (12.5 × 6 × 16.5 cm; 14 × 6.5 × 15 cm).

A Hellenistic Architrave Fragment, H

Fragment H is a sliver now on the west end of the south wall of the temple (top 0.52 m wide [thick], bottom 0.32 m wide [thick]). It displays different dimensions and profiling than our other preserved architraves, as well as better workmanship (Figs. 2.314, 2.315). It may be the only architrave from the Hellenistic era architecture of the temple, probably carried by the interior colonnades of the cella (running east–west), or possibly it spanned the original in antis columns of the pronaos. The construction marks on the small piece leave no doubt that it was “sliced” from a full architrave at a later date for a different use.

Architrave H is preserved 1.27 m wide at the top, 1.16 m at the bottom, and 1.10 m high; these figures denote the dimensions of the original piece. The front profile consists of triple fasciae separated by an astragal below and a cyma reversa band above; it is crowned by a simple ovol-o projection with a graceful cyma reversa curve and probably had a top fillet over a cavetto. All surfaces show a fine claw-chiseled finish. The back side of the architrave bears a plain band 0.87 m high (perhaps a fascia) over which only the beginning of an angled projection is preserved (this top molding would have added up to a crown molding ca. 0.27 m high).

The finely finished, smooth (left) end might have been the original end of the architrave, but it was cut at a later date to include a single, main lewis hole in the center (20 × 9 × 16 cm) and a shallow secondary one above it (15 × 5 cm, only 4 cm deep). The lewis holes must have been cut during the reuse of the piece, also indicated by a square dowel hole below the main lewis with a vertical pouring channel 58 cm long that angles back to the edge of the stone. A pair of bar clamps at the top edge (half-length ca. 12 cm) further indicate that the fragment was reused with its original left end up, prepared for another course above it as in the
2. Description of the Building: The Physical Remains

Wall Entablature Fragments

Another curious decorative element, possibly a fragment of an unspecified wall entablature found inside the west cella (ca. 0.34 × 0.26 × 0.12 m), represents an egg-and-dart surmounted by a gently curving cavetto above, for which there is a narrow fillet and a receding, concave top profile (Figs. 2.316, 2.317). The cavetto is decorated with a relief of a seven-leaf palmette growing like a crown from the head of a female figure (face, neck, bust, and arms) next to another female head crowned by a pair of outward-curving lotus leaves with an acanthus leaf between them. Although preserved at 0.34 m high, it can be reconstructed at ca. 0.50 m or even higher. Butler remarked that “the whole design is quaint and not without beauty”—indeed, it is charming and delicately made.161 The shallow and delicate manner of its figures and the inventive design suggest a late-Hellenistic date. Illustrating a curious kinship in such anthropomorphic experiments in Hellenistic ornament are the famous anta capitals of the nearly contemporary Temple of Apollo at Didyma (Fig. 2.318). These are also decorated with winged female figures, the Rankenfrau (as described by the German excavators of Didyma) growing out of inverted acanthus leaves much like the head that grows from the Sardis piece. Although our fragment could have well belonged to a base or pedestal molding, we suggest that it might have been a wall piece, such as the crowning element of a wall entablature or a molding from the interior of the original cella.

161 Sardis II.1, pp. 75–77, ills. 88–89; Sardis I.1, p. 64, ill. 18. Unfortunately, the whereabouts of this piece are unknown.
quaint, anthropomorphic form combining hybrid human and plant elements might well have alluded to Artemis.  

Another likely candidate for a “wall architrave”—rather, a molding to terminate a major wall—is a massive marble block, probably found in or near the south pteroma, that Butler called a “wall cap” and placed on column foundation 26 (Figs. 2.137, 2.319). The piece is roughly trapezoidal in shape as preserved (0.65–1.14 × 1.30, full height 0.53 m), with one finished short end with anathyrosis (8–9 cm). Its top displays medium point-chisel work with slight indications of the course above it. The presence of a standard lewis located midway along the short side and ca. 0.75 m from the finished end (14.8 × 5.8 × 7 cm) suggests that the finished block would have been ca. 1.50–1.60 m long; a half-clamp set on its short, finished end and 0.30 m from the front edge must have secured the block to its mate. A square dowel hole with a pour channel is partially preserved 0.62 m from the finished end and ca. 0.30 m from the broken, profiled front. The well-preserved profile of the block defines a widely curving sima (cyma recta; the missing crown fillet can be reconstructed) separated from its lower convex profile roughly midway by a sharply delineated, recessed horizontal molding with a square cross-section (3 cm wide, 2 cm deep) that would have created a sharp shadow line. The bottom of the block is articulated by a rather large, three-quarter circle astragal (6 cm diameter) that hangs below the smooth bottom of the block by about 3 cm. The scale and the stark, simple profile of the piece would make its use crowning the exterior of the massive south wall, inside the pteroma, appropriate.

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162 Another earlier use of an inverted lotus comes from a Lydian palmette bearing a bilingual inscription found near the temple; Sardis II.1, pp. 75–77, ills. 88–89, 91. For an illustration of the Didyma anta capital, see the 1765 drawing by William Pars, as illustrated in Chandler [1775] 1971, pl. 6. See also Rayet and Thomas 1877, atlas, pl. 46. Actual pieces are displayed onsite at Didyma, and one is in the Louvre in Paris.

163 Sardis II.1, p. 79, ill. 94a; this piece is not described by Butler, but its profile is correctly drawn (partially restored) and included among other “miscellaneous profiles” designated as the “Wall Cap” in the figure above.
Regarding the original design of the Temple of Artemis at Sardis and its successive renovations, Howard Crosby Butler wrote, “we are confronted by a curious combination of certainty and doubt.” After five years of excavation and many more of research, Butler was uneasy because the well-preserved plan and the “mass of details” did not seem to add up to a clear design or a construction sequence that represented several distinct historical phases.

A century later (and after further archaeological work), we are in a much better position to understand the architecture and construction of the temple and its wider cultural context. There is, however, much we still do not know. We are still baffled by the unorthodox design of the temple and its complex building history. While the east end of the temple—the east wall with its monumental door, a six-column projecting pronaos porch, and an eight-column east facade—remain nearly intact, the west end is fragmentary and confusing. Three walls—at varying distances from the firmly preserved east wall (including the original west wall, also referred to in this book as the middle crosswall, of the temple)—cross the elongated cella, and the western two show indirect evidence for centrally placed doors. These crosswalls and the two back-to-back platforms for cult images indicate that, at some time in its history, the temple had a two-cella arrangement. However, relative to the overall topography and the great Lydian/Hellenistic altar (LA 1/LA 2), the architectural features and the major level differences evident in the west end are in many aspects unclear, and they require some hypothetical proposals (see Fig 1.2). With the exception of a few topographical benchmarks, the original landscape around the temple still presents some questions, even if we can predict the nature of the larger features and the extent of the sanctuary.

Except for the southwest corner column (column 64), none of the west peristyle columns of the temple had been started even at the foundations; other columns of the peristyle are preserved unevenly in their foundations or are missing completely. Of the west pronaos porch, at least five of the column foundations (including the middle two with pedestals) are preserved at the level of their tops or column base plinths, and they probably carried columns; significant numbers of fluted drums were found in this area, too. Even at the end of its life as a pagan temple sometime in the fourth century A.D., the building was largely unfinished. New, intrusive construction inside and around the cella prepared the building for its continued, partial use during the Christian era and later—its afterlife, in current parlance.

A flight of marble steps on the northwest corner is an incongruous element with respect to Greek temple design, especially since these steps are not connected presently to an architecturally defined temple platform or to a stylobate, as a regular crepidoma would be (e.g., the Temple of Apollo at Didyma). In fact, we have no stylobate proper at all. A heavy mass of mortared-rubble construction envelops the temple peristasis. Furthermore, the early monumental altar LA 1 (substantially enlarged at a later date to LA 2), located on the temple axis at the west of the building and probably once physically connected to it, complicates the question of the temple’s orientation and its relationship to the car-

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1 Sardis II.1, pp. 81–82.
lier elements of the larger sanctuary of Artemis before the temple proper was built.

As preserved, the temple is categorically a pseudodipteral incorporating spacious amphiprostyle porches within its ends, three intercolumniations deep. We are confident that the cela and its interior columns, and probably the columns between the anta walls at both ends, were the first to be built (but were later removed or incorporated into a new cela configuration). The peristyle belongs to a later—Roman—stage coeval with the division of the cela into two equal-length, back-to-back chambers to house the newly granted Roman imperial cult. The two major, interconnected questions before us are thus:

1. What are the origins and architectural nature of the pseudodipteral design and its possible predecessors?; and
2. What is the date and nature of the conversion of the temple into a double-cella structure that responded to the needs of dual cult worship?

And, one might add,

3. What is the relationship of the temple to Anatolia’s own architect Hermogenes, if any?

These questions, and others related to them, have engaged generations of scholars, who provide differing or overlapping solutions based on their own interpretations of the evidence: archaeology and physical remains, architecture, design and historical precedent, construction and materials, economics, epigraphy, ceramics, coins, and ornamental style—and, of course, the aspects of Sardis’s social and religious culture that affected the use and design of the temple during different periods.

STATE OF THE SCHOLARSHIP

I will present here a summary review of the current state of scholarship on the temple, starting with its original excavator, Howard Crosby Butler. Seeing the building through the eyes of many scholars and following their analyses and proposals, past and present, exposes the many sides of the problem and elucidates their various and sometimes divergent proposals. Many of these, I gratefully acknowledge and accept. Against this backdrop, I present my own interpretations and proposals (often built upon this earlier research and subject to the same historical shortcomings and conflicts) based on the last forty years of close documentation and study of the temple. Where I can offer no consistent and satisfactory explanations, and where I am at variance with other proposals (even some contemporary archaeological ones), I am content with presenting the evidence as I know and understand it, and I defer to the judgment of present and future peers; likewise, I will represent some alternative views but enunciate what theories I prefer and why.

According to Butler, there had been an older marble temple, begun in the time of Croesus, whose purple sandstone foundations once emerged just west of the Hellenistic west wall of the temple. In 1960 Gruben identified these blocks (now gone) as the foundations of the stairs and the original west door of the cella (see pp. 52–54). Butler imagined that the course of limestone blocks running across the foundations of column 79 (built over by the late west crosswall and visible on the northern end of its west face) was further evidence for this “older” temple (“probably the relics of this temple”).2 The purple sandstone foundations were instead constructions of the Hellenistic era for the door and its stairs, while the limestone has been shown to belong to the foundations of the Roman west crosswall (see Fig. 3.32).3

Butler’s hypothetical “early” temple, he explains, burned down during the Ionian Revolt of 499 B.C. and was replaced by an all-marble temple of the Classical era (by which Butler meant the mid-fifth century B.C.), which in turn was damaged in the fourth century B.C. Butler proposed that this second temple was a colossal dipteros planned along the same lines as the Classical Artemision of Ephesus, though never completed. The present (third) temple was, under the Seleucids (perhaps Antiochus I, r. 281–261 B.C.), in Butler’s view, not an independent building but merely a continuation of its fifth-century B.C. predecessor; it incorporated many of that structure’s elements, including column foundations and bases, and most of the capitals and fluted columns, especially those raised on pedestal bases in the middle east pronaos porch (columns 11 and 12).

Butler also speculated that the renowned Anatolian architect Hermogenes, who may have been employed at Sardis during the rule of “the great Pergamene building monarch” Eumenes II (197–159 B.C.), could have been responsible for the temple’s pseudodipteral plan.4 Butler could not substantiate this complex chronological sequence of temples—from Archaic to Roman—with any convincing evidence,

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2 Sardis II.1, pp. 27–28, 101, ill. 19.
3 “[B]locks running against the Hellenistic column 79, not under it” (Cahill and Greenewalt 2016, pp. 478–80).
4 Sardis II.1, pp. 101–4. How Hermogenes, whose work most likely falls in the late third to early second century B.C., was responsible for the pseudodipteral arrangement of the temple—which also, according to Butler, was finished by the late fourth century B.C.—we do not know (for the most recent scholarship on the dates of Hermogenes, see p. 217, note 36). This is one of the several inconsistencies that bedevil Butler’s chronology in his handsome publication. The reader will find it difficult to follow the complex and numerous “phases” of construction, summarized on p. 101, such as: “The details of the present building . . . suggest that the earliest columns were erected not much before the middle of the fifth century and not later than the beginning of the fourth [B.C.]. They further indicate that some of the columns were erected in the latter part of the fourth century, and others at the end of the third or the beginning of the second.”
such as actual building elements or datable ornament. Nor has any archaeological evidence emerged to support his thesis in the many trenches opened in the temple since his time. Although Butler was wrong in his grand scheme of the temple’s evolution, he was right in some of his piecemeal interpretations of the temple’s past and architectural usage.

According to Butler, work on the peristyle columns was nearly complete when the great earthquake of a.D. 17 hit Sardis. He thus believed that Roman work on the temple was not a substantial rebuilding (or a “phase” proper) but rather was restricted to repairing, replacing, and strengthening the earthquake-damaged structure, especially the bases and shafts of the east colonnade; the capitals, however, appear to have escaped the destruction and were used for a second, and even a third, time.5

Butler proposed that the fourth-century temple faced east, with the old Archaic altar (LA 1) “at the rear of the temple”—a situation that was seriously and justly questioned by Gottfried Gruben (see below), as it would be by most scholars today.6 Butler argued that the east door, whose finely carved jambs were compared favorably to early Hellenistic ornament from Priene, belonged to the original building (which I now date on stylistic grounds to the Hadrianic period, see pp. 167–174).

Butler also considered what we call the “east crosswall” to be simply a thin, nonstructural screen wall, but still an original, internal feature of the Hellenistic cella. What he thought was the “back wall” of the temple (the Roman “west crosswall”) we now know was the front wall of the west-facing temple. The space between the latter and the west crosswall appeared to him to be an independent room with a pair of interior columns (columns 77 and 78); Butler erroneously dubbed this space the “treasury.” Since the floor level of this room (actually part of the pronaos porch) was some 1.60–1.70 m lower than the cella proper, any connection between the cella and the “treasury” would have required a door and a stair, for which he could find no evidence. He admitted that this was a problem for which he had no solution, but he tentatively restored a pair of doors at the north and south ends of the wall—shown with question marks on his plan—without any stairs.8 However, he correctly identified the weaker rubble-masonry foundations in the middle of the west crosswall as evidence for a central door into the “treasury.” Butler did not realize that the west wall, not bonded to the north and south long walls of the temple, is a late feature, not an original wall. More surprisingly, he did not notice that this wall was laid directly over the foundation blocks of the pair of columns of the west pronaos (columns 79 and 80; see Figs. 2.64, 2.65; Plan 6), directly west of columns 77 and 78. This last oversight may explain his misinterpretation of the temple’s orientation and resulting invention of a “treasury” as a part of the original Hellenistic scheme.

Another problem area for Butler—and still for us, to a certain extent—was the marble steps that lead up to the western end of the temple from the north (“Northwest Stairs”). Believing these to be an original, early aspect of the design, Butler incorporated them into his ingenious, entirely fanciful, and grandly symmetrical restoration that also connects the great altar to the temple’s west front (Fig. 3.1). The magnificent, neo-Baroque design actually works (but cannot be substantiated by evidence) and reveals, perhaps, more about Butler’s own roots in the Beaux-Arts tradition of architecture than what the evidence on the ground supports or how Hellenistic Ionic temples were designed.8

7 “Had there been any doorway or doorways between the two chambers [the ‘treasury’ and the ‘cult chamber’], steps would have had to be provided; but this wall . . . shows no evidence of a provision for steps” (Sardis II.1, p. 96, pl. A).
8 Sardis II.1, pp. 84–87, ill. 97. Butler’s remarkable design for the temple’s west end, with sets of stairs and ramps incorporating the altar into one grandiose scheme, hardly noticed today, is too good to pass up without comment. As a chair-holding professor of architecture at Princeton University, Butler would have had ample familiarity.

5 Sardis II.1, p. 142.
6 Sardis II.1, p. 87; Gruben 1961, p. 157.
Butler did not wish to attribute an independent building or rebuilding “phase” to the Roman period, except for a strengthening of the foundations by encasing them in rubble construction and “extensive repairs at the eastern end,” necessitated by the earthquake of A.D. 17. However, the early discovery of the colossal head of the empress Faustina the Elder in the western part of the cella (and several other colossal male and female heads inside of or in proximity to the temple; see p. 198, Table 3.1) allowed him to propose that “the old west wall of the cult-chamber was removed . . . in order to convert the cella into a double sanctuary hall.”

The deified empress stood on the Roman era concrete base in the new “duplex” cella, facing west, and Artemis, on the other side of the “light dividing wall,” faced east—a theory that was at least partially correct, as far as the conversion of the cella into a “double sanctuary hall” is concerned.

Butler also claimed that the entire cella had been made into a deep cistern after the temple fell into disuse during the Byzantine era. He interpreted the brick-colored mortar in the chamber between the original west wall (middle cross-wall) and the west wall as a Byzantine version of opus signinum laid over mortared-rubble construction. Since he removed this layer almost entirely, it is hard for us to evaluate this interpretation, although what little remained in the northwest corner of the original cella (as observed by the author in the early 1990s) appeared no different than typical Roman mortar for floor paving in marble. This is indeed what British Consul George Dennis, who originally exposed that part of the temple in 1882, had thought. A more professional opinion was that of architect Francis Bacon, who was also at Sardis in 1882 and reported in a letter to Charles Eliot Norton: “He [i.e., Dennis] found a terra cotta Roman pavement.”

with the study of historical architecture and Beaux-Arts design. We could start a hare running by pursuing another, even stronger source for Butler’s excellent design for the west end of the Artemis temple: his long association with the American Academy in Rome, a bastion of student exercises in academic classicism in the early twentieth century. Butler spent 1897–98 at the American School of Classical Studies in Rome as a fellow in archaeology. The classical school was closely connected to the Academy in those early years, and in 1913 it was moved under the same roof. Butler must have revisited Rome and the Academy during his Sardis years, and he must have been exposed to the Beaux-Arts-inspired student designs there. He was close to Gorham Phillips Stevens, an architect and the director of the Academy (a student of Charles Follen McKim, considered to be the founder of the Academy) and an avid supporter of academic classicism. In one of his Academy visits (probably 1913 or 1914), Butler even offered the Roman areas of Sardis to the Academy, reasoning that “it would be a fine thing to have one great site excavated and set in order by American enterprise.” Stevens was much interested in this little-known idea for a Academy–Sardis collaboration, but the Trustees of the Academy were not. Yegül 1991a, pp. 98, 231 n. 1.

We suspect that much of the rubble reported (and removed) by Butler was the Roman fill of the west cella (the original pronao), placed there in order to raise its floor level; the red mortar above it would have been for the Roman paving of the cella. Sardis I.1, pp. 7, 53, 61–64; Sardis II.1, p. 13. A rough calculation indicates that a cistern covering the entire cella, even if the walls had been preserved only up to half their original height, would have had a capacity of 6,000–7,000 m³, far too large for the needs of what must have been a small Byzantine town. One could compare Butler’s cistern proposal to one of the large rectangular halls of the Baths of Diocletian in Rome (Hall XI, at the east corner of the bath block, 41 × 11 m), which was converted into a cistern (mainly serving the baths and its great natatio) during late antiquity. With walls covered by hydraulic cement up to five meters high and strengthened by semicircular buttresses, this cistern had a capacity of 2,000–2,200 m³, considerably smaller than the hypothetical Artemis temple cistern; Candilio 1999, p. 55; Lombardi and Santucci 2014. Furthermore, Cahill rightly observed that “since the east door wasn’t blocked or sealed (as visible in Butler photographs), it would have made a lousy cistern.” Indeed it would have (personal communication, May 1, 2017).

Hanfmann concluded that, contrary to Butler’s belief, no earlier temple, Archaic or Classical, existed below the present one, whose builders “constructed the piers [and column and wall foundations] directly into torrent deposits” that had washed down from the Acropolis slopes.

Hanfmann believed that the temple was begun during Seleucid rule (Seleucus I Nicator, r. 301–281 B.C.), after the Battle of Koroupedion in 281 B.C. He thought that at that time it was already conceived as a two-cella temple “with Artemis [facing west] and Zeus [facing east] as protectors of the Necropolis and Acropolis respectively.” However, Hanfmann also suggested that the division of the cella actually occurred during the short reign of Achaicus, the rebellious Hellenistic general who ruled Sardis 220–213 B.C. on Achaeus’s rise to power in western Asia Minor, see Polybius.
He supported his thesis by identifying the badly mutilated colossal head found in the temple by Butler (see below) as Zeus/Achaeus, whose cult and image, he believed, had joined that of Artemis during this short period. This head is now tentatively identified as an Antonine emperor, probably Marcus Aurelius (see Fig. 3.55 and Table 3.1). Hanfmann also maintained that the establishment of the plan as a pseudo-dipteros occurred during this “Achaeus” phase, 220–200 B.C., an early date also supported by some in recent scholarship on Hermogenes. In sum, Hanfmann and Frazer, unlike Gruben, saw the cella division as a pre-Roman undertaking, but the three concurred that the adaptation of the pseudo-dipteral plan was a Hellenistic idea.

Hanfmann explained that the Roman reconstruction of the temple began soon after the earthquake of A.D. 17 and mainly consisted of the erection of the east peristyle and east pronaos porch columns over their Hellenistic foundations and bases; in this he differed from Butler, who had repeatedly asserted that the post–A.D. 17 Roman work on the temple was mainly a repair and was limited to the east end. However, he followed Butler’s theory that this Roman phase included strengthening the masonry block foundations of the peristyle columns using mortared rubble; he believed the actual independent ashlars to be original Hellenistic work.

In Hanfmann’s scheme, during the middle of the second century A.D., with the granting of neokorate honors to Sardis, the colossal images of Antoninus Pius and his wife Faustina simply joined Zeus and Artemis. The goddess and the deified empress shared the west cells, occupying the newly made image base. The extensive mortared-rubble construction, which is preserved between columns 73 and 74 (immediately west of the east crosswall and extending to the north wall), was interpreted as the foundation for this marble-clad base. The same material was used as foundation fill on the east side of the east crosswall, between this wall and the original image base (see Fig. 2.8c). The temple was left unfinished, with only the major cella roofed and the fully standing columns of the east end balanced by some—if not all—of the columns of the west pronaos porch, which was approached by the makeshift arrangement of the northwest steps.

Gottfried Gruben

It is surprising that neither Butler nor Hanfmann, directors of the two American teams at Sardis, paid attention to the copious and clearly delineated techniques and construction details of the monumental building—details that provide potent and objective criteria for dating. Both were more interested in stylistic analyses of ornament or sculpture, or the greater events of local and regional history in relation to the city of Sardis, as the primary criteria for explicating the building history of the temple; the evidence of the stone itself remained unattended. We are indebted to Gottfried Gruben, the eminent German architectural historian of classical architecture, who, in a seminal publication in 1961, challenged Butler’s design and dating sequence. Gruben’s hypothesis regarding the building history of the Artemis temple is based on objective, though by no means conclusive, criteria: the observation of characteristic or unique masonry techniques and construction details, such as the shape and type of clamps, dowels, and lewis holes. Gruben determined that there were two distinct construction techniques (“Technik I” and “Technik II”) used in the temple that provide reasonably secure criteria for distinguishing two major phases: Hellenistic and Roman. The early phase (Phase I) is represented by simple, bar-shaped clamps (also known as hook clamps); square dowel holes placed at joints or edges of blocks (kanten-dübel, or “edge dowels”); and a total absence of lewis holes. The Roman phase (Phase II) is characterized by butterfly clamps with or without depressed, hook ends, dowel holes with single or double channels (for pouring lead or using the channel for lead overflow), and the widely used standard-type lewis holes.

Using primarily these differences, Gruben recognized that the thin east crosswall and the west wall were not parts of the original Phase I construction, but rather belonged to the Roman period. He was the first to point out that these walls do not bond into the north and south walls (Figs. 2.46, 2.49, 2.67), nor do their masonry courses match those of the long walls. The so-called middle crosswall, on the other hand, bonded into the north and south walls of the cella and displayed all of the typical features of the earlier, Hellenistic construction technique; this was identified as the original west wall of the cella. A monumental door in its middle, indicated by the telltale evidence of weaker, porous, sandstone foundations, would have been approached by stairs whose design, comparable to the door of the cella east wall, Gruben ascertained; he also correctly identified the foundations of its side or parapet walls (clearly shown on Butler’s plan but now gone). Gruben established the extent and the orientation of the west-facing original cella, thus eliminating the “treasury” theory.

Gruben proposed three major phases in the history of the temple (Fig. 3.2). The first, early Hellenistic peri-
3. Building History and Chronology

The early phase (300–280 B.C.) was represented only by the cella with its deep, west-facing, almost-square pronaos (17.91 × 17.69 m) and a short opisthodomos, one-third as deep as the pronaos (17.91 × 6.00 m). The pronaos had six columns in three pairs, the opisthodomos one pair, and the cella interior had twelve columns in six pairs. The temple was oriented to the west and separated by a spacious platform from the massive altar, the latter structure predating the temple. Drawing his influential parallels in part from contemporary dipteral temples such as the Temple of Apollo at Didyma and the second Artemision at Ephesus, Gruben proposed that the original temple was conceived also as a gigantic Ionic dipteros, but construction never advanced beyond the cella stage.

Gruben's second phase coincided with Pergamene rule and influence at Sardis in the late Hellenistic period (190–150 B.C.) when the present pseudodipteral arrangement with 8 × 20 columns was adopted. The west-facing cella remained the same, as did the west porch, which he postulated was accessed by a flight of marble steps from symmetrical northwest and southwest sides. Therefore, the adoption of a pseudodipteral scheme at Sardis would be understood as a response to contemporary ideas on Ionic temple planning popularized by Hermogenes. However, Gruben noted the difference between orderly plans based on Hermogenes’s academic rules and the free and creative interpretation at Sardis, with its three-intercolumniation-wide east and west ends occupied by deep, amphiprostyle porches that precluded a continuous ambulatory of equal width as the side pteroma.

According to Gruben, these unusual porches were created by moving the pairs of pedestal columns forward from their original in antis positions between the pronaos and opisthodomos anta piers to their middle positions. Although none of the columns of the long north and south sides—and none except the previously described pair of pedestal columns of the west end—were started during this period, he believed that the six-column pronaos porch of the east side was fully finished.

More critical to the shaping of future proposals in the design of the temple was Gruben's belief that the eight frontal columns of the east end and the last few from the east end of the north and the south sides (columns 9, 15, 14, 18, and 20) were already laid in their foundations during this later Hellenistic period. Gruben justified this view by observing and claiming that the construction techniques revealed by the tops of column foundations 9 and 15 on the north, and 14 and 20 on the south (the only positions on the east end not occupied by columns), identified them as Hellenistic (see Figs. 2.114, 2.115, 2.131, 2.133). These features are, primarily, the use of bar-type clamps instead of butterfly clamps; however, as a full study of these features indicates, bar clamps occur in Roman construction also on courses at or above ground level, and butterfly clamps occur below (as also shown by Thomas Howe, see below). Gruben supported his arguments for a Hellenistic date for the pronaos porch by holding that the fully finished bases, and the three capitals from the “small group” assigned to these positions (capitals C, D, and G), belonged to the Hellenistic period in terms of style, perhaps as early as the first phase of the temple, which he dated to ca. 300 B.C.

Gruben identified the third building phase as the division of the cella into equal parts during the Roman Imperial era. To him, the inscription recording the erection of column 4 carved on the fillet of its bottom drum (see pp. 190–193 below) and the colossal head of Faustina found inside the cella both suggested an early Antonine date for this phase of extensive building and renovation of the by-then long-neglected structure. He believed that the new “double temple” with its back-to-back cellas, like the Temple of Ve-

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20 Howe 1999, pp. 208–9, fig. 11.7.
21 In his stylistic judgment Gruben was keener than Butler and Gisela Richter, curator at the Metropolitan Museum of Art, who had both assigned these capitals to the fifth century B.C.; Gruben 1961, pp. 170–75; Sardis II.1, p. 128; Richter 1930, p. 321. We now know that Gruben was correct, because these capitals (as well as the medium-size capitals E and F) are the ones which feature the Ionian-Carian lewises, a type that originated during the Hellenistic period and was not favored by Roman builders (see pp. 121–123).
nus and Roma in Rome, would have incorporated the cult of the deified empress and that of Artemis. According to the German architectural historian, in order to create two spacious chambers of equal length, the original west wall of the cella would have had to be dismantled and rebuilt, including its monumental door and stairs, at a distance of 6.01 m from the west anta piers, thus shortening the original pronaos by two-thirds and creating a pair of identical porches at the east and west ends. The east wall would also have been partially dismantled and rebuilt with a new door and stairs leading up to the east cella. While the original image base remained in this space, a new base would have been created in the west cella, whose mortared-rubble foundation is preserved as a broad platform immediately west of the wall dividing the cellas, the east crosswall.

The reorganization of the west cella would have required some ingenuity, because the western half of the room, originally a part of the pronaos, ended up being ca. 1.60–1.70 m lower than the eastern half. An even floor was achieved by filling up the lower, eastern half of the pronaos. Telling evidence of this operation is provided by a clear, horizontal line of erasure across the upper surface of the Mnesimachos inscription, which was carved on the south, interior face of the northeast corner orthostat of the original pronaos (for a full discussion of this important inscription, see p. 163 below); the area below this line, marking the new, higher floor level, was buried; since it was not visible, the bottom part of the inscription was retained (see Figs. 2.54, 2.100).

The roof of the new west cella presented a problem because its interior supports represented two different spans or systems: the four interior columns of the original cella (columns 73–76) are on a different alignment and are spaced far wider apart than the columns on the western side of the new room (columns 77 and 78). Thus, they cannot be reconstructed with aproper orthochron following a continuous straight line (see pp. 204–205 below). Gruben offered an ingenious and simple solution in his suggestion that the ineffective column pair 77–78 had been demolished and replaced by a pair of piers some 5.60–5.80 m to their east. Preserved in their foundation courses directly east of those inside the cella, confirming the chronological difference between them—the cella came first, then the peristyle. Gruben's ideal, dipteral scheme based on an imaginary interaxial distance of 5.90 m (20 feet) is a theoretical construct; the actual interaxial width of the peristyle columns is ca. 5.83–5.85 m. What is more cogent and convincing in his argument is the possibility that a dipteral arrangement conforming to contemporary principles of Ionic temple design could have been achieved using simple modular ratios based on plinth sizes, interaxial distances, and column heights, i.e., a system based on geometry.

The mid-second-century Roman building of the peristyle would have included all eight columns of the east front (over Hellenistic foundations, Gruben believed, as did Hanfmann and Frazer), almost all of the column foundations of the north and south colonnades, and possibly the remaining five (or all six) outer columns of the west pronaos porch, making it the mirror image of the eastern one. None of the columns of the west front, except southwest corner column 64, had been started even in their foundations, although it appears that they were planned, because there was just enough distance for a row of columns west of the great altar.

In studying the metrology of the Hellenistic temple, Gruben adopted an Ionic foot of 29.42 cm (one millimeter longer than the Ionic foot of Didyma) and rounded his figures when necessary, thus making the millimeter-accuracy of the Ionic foot moot. Gruben proposed a twenty-foot interaxial module, which gave an overall interaxial length of 300 Ionic feet and a width of 150 Ionic feet (actually 148.75 feet) for an 8 × 16 temple. He noted the discrepancy between the alignments of the present peristyle columns and those inside the cella, confirming the chronological difference between them—the cella came first, then the peristyle. Gruben's ideal, dipteral scheme based on an imaginary interaxial distance of 5.90 m (20 feet) is a theoretical construct; the actual interaxial width of the peristyle columns is ca. 5.83–5.85 m. What is more cogent and convincing in his argument is the possibility that a dipteral arrangement conforming to contemporary principles of Ionic temple design could have been achieved using simple modular ratios based on plinth sizes, interaxial distances, and column heights, i.e., a system based on geometry.

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24 Gruben 1961, pp. 184–91. The conformity of the actual dimensions of the temple to measurements according to Gruben's "chosen" Ionic foot of 29.42 cm is imprecise. For instance, Gruben proposed an interior width of 60 Ionic feet for the pronaos/opisthodomos. This dimension is not represented in the building at all. Measured at the perfectly preserved opisthodomos, the width between the projecting moldings of the anta piers is 17.58 m, and that between the anta walls is 17.96 m. Hence, Gruben takes the "perfect" number 17.71 m as the theoretical average between these two measurements (or, one might be able to "find" this figure if one chose and measured from the right pair among the multiple projecting bottom moldings of the antae). Likewise, Gruben accepted the ideal column height of 17.73 m to produce a column 60 Ionic feet tall (or near enough), but the actual height of our columns is 17.87 m, which is 0.54 Ionic feet, or 12.8 cm more than the desired number (conversely, using a 29.68 cm foot would give the exact 60 foot column!). As observed by Hanfmann, Gruben could be excused for not taking perfectly accurate measurements during his short and clandestine stay at Sardis; "his factual data must be used with caution" (Sardis R1, p. 75 n. 17). Indeed, many of our dimensions measured by total station are slightly different from his. It is an irony inherent to all metrological studies that a few centimeters' difference—a multiple-molding profile, a wall face slightly out of the vertical, erosion, etc.—can make a mockery of one's theoretical system, putatively based on the discovery of an ancient measurement unit or module claimed to be accurate within a few millimeters.
In a 1990 study devoted mainly to Hermogenes and his architecture, W. Hoepfner focused on the Temple of Artemis at Sardis as an example of the high Hellenistic pseudodipteros, predating Hermogenes by roughly half a century and providing him with a system of temple design based on whole-number ratios of lower diameters and intercolumnar distances. According to Hoepfner, this system, viewed as part of a tradition represented by the complex (“multiple”) contractions of the frontal intercolumniations at Sardis (and the late Classical Artemision at Ephesus), was passed on to Vitruvius by way of Hermogenes. Thus, an early date for the Sardis pseudodipteros was important for Hoepfner’s thesis.

Eliminating Gruben’s second Hellenistic building phase altogether, Hoepfner maintained that the temple was designed from the onset, ca. 300 B.C. or slightly later, as a giant pseudodipteros that was finished only during the Roman Imperial era. Instead of its present, unusual plan, Hoepfner proposed that the original temple had traditional amphi-prostyle, tetrastyle porches with pairs of pedestal columns in antis and four prostyle, directly in front of the antae. Thus, in this scheme the temple displayed a more “correct” and orthodox pseudodipteral plan with a continuous ambulatory two intercolumniations wide.25

During the Roman Imperial era, the two pedestal columns in antis were moved forward to their present locations by leapfrogging them over the two middle columns (numbers 10 and 13 in Hoepfner’s plan) of the proposed tetrastyle porch, as these two were dismantled and brought out diagonally to the corners of the newly created pronaos porch. Hoepfner’s interesting, eye-catching, but orthodox proposal was put to test and to rest in 1996 when we opened a deep trench inside the east porch where one of the columns of his hypothetical tetrastyle porch was expected to stand (number 13, the third column from the north in Hoepfner’s plan). The trench reached a depth of 2.50 m below the surface and exposed only the purplish clay of the bedrock (*98.25–97.76); above this was the earlier occupational layer sprinkled with Lydian sherds.26 It is a pity that some recent scholarship accepts Hoepfner’s thesis—though perfectly reasonable as a hypothesis at a time when archaeological evidence was lacking—as fact without any questioning.27

The most recent work on the building history and design of the Temple of Artemis was undertaken by Thomas Howe, who was the chief architect of the Sardis Expedition from 1980 to 1982. His conclusions, published in 1999, refine and simplify the framework of the chronology set up by Hanfmann and Gruben, and are largely borne out by our long-term fieldwork.28

Contrary to Hanfmann and Gruben, Howe proposed two rather than three major building phases: Hellenistic and Imperial Roman. According to Howe, the temple was a Seleucid project begun a generation or two after Alexander. During the first phase (280–200 B.C.) the west-facing cella and its interior columns were finished, but the exterior peristyles of columns, “whether planned as a dipteros or pseudodipteros, was not begun.”29 If the original building was intended to be a dipteros, the proportions of the exterior colonnade could have been a simple, modular grid based on a column base or an anta plinth, rather than one following the complex numerical ratios typical of third-century B.C. temples.

Skipping the late Hellenistic (or “Pergamene”) period of earlier hypotheses, Howe saw the cella division and the building of the exterior peristyle as broadly contemporary activities belonging to the Roman imperial period, or the “second phase” of the temple. Following and refining Gruben’s powerful analysis of construction techniques, Howe was able to surmise that the full peristyle, including the foundations of the east colonnade, used a clamping and doweling system different from the Hellenistic construction of the temple. He argued that the evidence—including the colossal heads of Faustina and Antoninus Pius found in the cella and the second neokorate awarded to Sardis, probably under the same emperor—indicated that the undertaking to finish and redesign the temple as a joint temple to Artemis, Zeus, and the imperial cult was an Antonine project. He also evaluated the uniquely spacious pronaos porch as an arrangement closer to that of a Roman pseudodipteros, such as the Temple of Zeus at Aezane, or the early Imperial pseudodipteros known as the “Wadi B temple” at Sardis (see for Aezane, Fig. 3.74; pp. 218–219 below; Fig. 3.72), rather than to the arrangement of a Hellenistic temple with the characteristic columns in antis cella design.30

Howe presented a convincing and cogent thesis that the Antonine re-creation of the Temple of Artemis at Sardis marks the end of a conservative, late Hellenistic tradition of temple design whose origins reached back to Hermogenes.31 However, his association of the temple with the Zeus cult, an old and intriguing idea, finds no support.

25. Hoepfner 1990, fig. 2.
27. Such as the representation of the plan of the Temple of Artemis at Sardis in Schulz 2012b, p. 167, fig. 1, in the very volume where my article, which illustrates why the Sardis temple was not a traditional four-column prostyle temple, appeared! See also Schulz 2012, p. 89, fig. 89; Yegül 2012.
30. Ratté, Howe, and Foss 1986, fig. 7.
31. Howe 1999, p. 210. Presenting a series of papers before scholarly audiences in the mid and late 1990s, this author independently ar-
HISTORICAL, EPIGRAPHIC, AND NUMISMATIC CONSIDERATIONS FOR DESIGN AND CHRONOLOGY

The following section presents considerations and proposals for a revised building history for the Temple of Artemis at Sardis, one partly based on the ideas of previous scholars but mainly on the reevaluation of historical, epigraphic, ceramic, and (scant) numismatic evidence. Primary to this thesis, however, is the close study of the technical details of construction and architectural documentation of the temple (undertaken between 1987 and 1998) as well as limited archaeological investigations (sporadically since 1960, but mainly in 1972, 1996, 2002, and 2010–12). These new studies allowed the formulation of new proposals for the sequence of design and construction and provided clues to the temple’s chronology. However, in a number of instances they led to diverse interpretations of the evidence, sometimes with differences in end results.

In this study I have tried to include the sanctuary’s religious and cultic associations, especially the incorporation of the Roman imperial cult; comprehensive studies of religion and cult at Sardis obviously belong to other venues. In a short section devoted to the archaeological yield from a small trench between the northeast anta and column 16, I examine varying views based on ceramic and construction evidence. A review of some six or more colossal, iconic images of the Antonine era found inside or close to the temple indicates that they were an integral part of the temple’s design and usage in the Roman period. Finally, in a separate section devoted to architectural analysis and comparison I consider the temple’s unique design in the larger context of Hellenistic and Roman pseudodipteral temples in Asia Minor, as well as its potential connection to Western and Italian temple design.

Historical Considerations

The inspiration for the Temple of Artemis belongs to the Hellenistic world of inquiry, one of ideological and materialistic expansion that was ushered in by Alexander the Great. The conqueror did come to Sardis when the city surrendered peacefully in 334 B.C., but we have no records to the Sardian Artemis. The Acropolis, but there is no mention of endowing a temple according to the Greek historian Arrian, Alexander gave orders to build a temple to Olympian Zeus on the heights of the Acropolis, but there is no mention of endowing a temple to the Sardian Artemis.

Stratigraphic soundings in the east cella of the temple in 1960 provided sufficient evidence for Hanfmann to assert that there had been no earlier temple under the present structure, and that conclusion has not been changed by our various investigations in the temple through 2010–12. However, evidence for continual occupation of the site during the late Lydian and Persian periods (mid-sixth to fourth century B.C.)—and for the presence of a sanctuary or a precinct sacred to the goddess—that predates the Hellenistic temple includes ceramics, the Archaic altar (LA 1), and the sandstone image base (“basis”) inside the cella of the temple (see pp. 163–164).

There is general agreement that the colossal temple building was started under the Seleucids, soon after the Battle of Koroupedion in 281 B.C., in which Seleucus I Nicator (r. 301–281 B.C.), the founder of the dynasty, defeated Lysimachus (a Macedonian general of Alexander) near Sardis and gained control of most of Asia Minor. This was the historical and political turning point that would have rendered the conditions convenient, even necessary, for such a prominent civic project. It is also an opportunity to link a great building to a “Great Man” and a great event—a satisfying theory, though not always true or expedient. We have no hard evidence that this was so, but a late fourth-century B.C. date is technically possible.

The assumption that links the temple to the new Seleucid rule is, however, based on two cogent and logical considerations. First, only a strong, stable dynasty could support such a large and expensive project. Second, after the conquest, Sardis remained an important city and assumed a special position among the cities and sanctuaries of western Asia Minor as a royal center of the Seleucid reign and an official residence (or one of the official residences) for its monarchs. As the site of the western terminus of the widely traveled Royal Road, the city’s historical and geographic position was too important to be entrusted to any but the leading power-holder of the new dynasty. It was the first place where Antiochus I and Queen Stratonike stopped to burnish the Seleucid royal presence after the untimely death of Seleucus I in 281 B.C., and that is where Stratonike, an exceptional royal woman with a penchant to revive or recreate cult centers with political significance, both lived most of her life and peacefully died, as discussed further below.

p. 103), assumed that Arrian’s silence on the subject indicated that the temple was already finished; of course, one can assume that it was not even begun.

33 Arrian, History of Alexander 1.13.6. Butler, who wished the Temple of Artemis to be much earlier than the time of Alexander (Sardis II.1, 35 Stratonike’s image base (“basis”) inside the cella of the temple includes ceramics, the Archaic altar (LA 1), and the sandstone image base (“basis”) inside the cella of the temple (see pp. 163–164).

34 For perceptive views on the traditional “Great Man” theory and approach to history predominant in the late nineteenth century (as opposed to more contextual and processual approaches), see Hall 2014, pp. 210–11.

35 On Sardis as an “inherited Seleucid capital,” see Kosmin 2014, p. 155. Kosmin is careful to point out that certain strengths of the

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An equally important indicator of the city’s importance as a capital, perhaps, was the location of the royal archives. \(^{38}\)

After conquering the city and establishing peace, Seleucus I and his successors had powerful motives for founding a proper temple in the old Sanctuary of Artemis at Sardis to rival those of Ephesus and Didyma. \(^{39}\) The former was the home of the older Artemis cult, which was related to the Sardian cult; the latter was represented by a major temple—a well-documented bequest of Seleucus I himself—comparable to the Sardis temple in many aspects of its construction and detail. \(^{40}\)

Appealing to local deities and cults in post-Alexandrian kingdoms and committing large sums of money for major building (that is to say, land you build on is land you own) was not simply a politically motivated measure but rather an active step in exploiting the opportunity to legitimize the dynastic claims of their rulers. In working to revive older, pre-Achaemenid local and regional cults, and rebuilding or building new major temples in major sanctuaries, it would be sensible to assume, the Seleucid rulers were calling attention to their difference from the Achaemenid rulers, who were known for establishing great temples in the East but were strangely unmotivated to do so in their western colonial centers. As Rostovtzeff observed long ago, “there was probably no Greek city in the Seleucid Empire without a cult of the reigning sovereign, his family, and his ancestors.” \(^{41}\)

We do not have independent evidence for a specific Seleucid ruler cult at Sardis, much less in the Hellenistic temple, but there was general interest in and a political advantage to establishing dynastic cults in close association with local ones. Such a politically motivated association might have paved the way for the inclusion of the Roman imperial cult in the Temple of Artemis in the second century. The same political benefits for cultic transparency and continuance was not lost to the new Roman rulers as they assiduously preserved and encouraged these Seleucid ruler cults and their priesthoods in the Seleucid centers of Asia Minor, even long after the dynasty had become extinct. \(^{42}\)

**Queen Stratonike and Sardis**

Seleucus I was killed in 281 B.C., only seven months after his victory over Lysimachus. If the Sardian temple was a Seleucid project, then real work on the building could not have started before the reign of his son and successor Antiochus I, and his wife, Queen Stratonike—that is, by the end of 281 B.C. or sooner. While firm epigraphical evidence for Seleucus’s involvement in the Temple of Artemis at Sardis is lacking, he is credited for building the Temples of Zeus at Olba and Cilicia, and one much closer to Sardis, donating lavish gifts to the near-contemporary Temple of Apollo at Didyma, which must already have been under construction early in his reign. One would expect that his generosity toward Sardis, the famed capital of the Lydian kings and now his city, where he had defeated a strong foe, would not have been anything less. \(^{43}\) Even if he had no time to build or start such a temple, he would have bequeathed the desire and intention to do so to his son and erstwhile wife.

\(^{38}\) Wiegand and Reimer, I Didyma, no. 492a–c, lines 44–45; Magie 1935, pp. 121, 975. An important document indicating the sale of land by Antiochus II to his divorced queen, Laodice, was recorded on five steiae erected in five major sanctuaries, but the primary copy was inscribed and kept at the “royal archives at Sardis,” as had been in the case for the four others. Knibbe 1961–63; Robert and Robert 1965, pp. 53, 74; and Sherwin-White and Kuhrt 1993, pp. 180–84.

\(^{39}\) Wiegand and Reimer, I Didyma, no. 492a–c, lines 44–45; Magie 1935, pp. 121, 975. An important document indicating the sale of land by Antiochus II to his divorced queen, Laodice, was recorded on five steiae erected in five major sanctuaries, but the primary copy was inscribed and kept at the “royal archives at Sardis,” as had been instructed by the king. See Austin 2001, pp. 105–7, no. 185.

\(^{40}\) The interrelationships as well as the rivalry between Ephesus and Sardis and their parallel cults of Artemis is dramatically illustrated in an inscription (the “Sacrilege Inscription”) found at Ephesus. The inscription is difficult to date (L. Robert suggested a date around 340–330 B.C., and D. Knibbe in the early third century B.C.) and thus provides little help in dating the Sardis temple, since the Sardian cult must have existed long before the temple. It does underscore, however, the strong desire on the part of the Sardians to measure up to the Ephesians (who already had their renowned temple) and the additional incentive to appeal to Seleucus I, who had been generous to Didyma (and later, his son Antiochus and Stratonike, too), for a temple worthy of his new royal city. Knibbe 1961–63; Robert and Robert 1965, p. 155, no. 342; Sokolowski 1965; Hanfmann 1987; Sardis R.I, p. 179 n. 15.

\(^{41}\) Rostovtzeff 1967, pp. 431, 439. For the cult of Antiochus I established in Ilion after his succession, and a cult of Seleucus I and other instances of Seleucid rule, see Austin 2001, nos. 139, 143, 151, and 182; OGIS, nos. 219, 212.

\(^{42}\) Rostovtzeff 1967, p. 486; for examples of sacred images of Hellenistic rulers sharing honors with the established deities in temples, see Ma 2011, pp. 81–82 (“the practice here shades into that of ruler-cult for the Roman emperor”).

Stratonike, daughter of Demetrius Poliorectes (“Besieger of Cities”) and granddaughter of Antigonus I Monophthalmos (“One-Eyed”), was Seleucus’s wife before he divorced her in 294/93 B.C. so that his lovestruck son could marry her. It is tempting to imagine this beguiling queen—whose life story has inspired generations of artists, writers, and musicians—visiting or even residing with her royal husband in their newly acquired capital, Croesus’s golden city, and honoring the Great Goddess with a temple, as she had done earlier for the local goddess Atargatis at Bambyce (Hierapolis) in Syria. She was also known to have made many offerings to Leto, Apollo, and particularly Artemis at Delos.

Although there is no obvious evidence that Stratonike played a leading political role in both of her Seleucid husbands’ reigns, modern scholarship views her as a wealthy patron of religion, active and involved in honoring local cults as much as enjoying being the subject of cult worship herself (as “Aphrodite Stratonicia” in Smyrna: OGIS XI.4, 228 and 229), not a passive pawn in convenient marriage arrangements. Stratonike’s position as a “lifelong ambassador,” or bridge, between cultures and dynasties would have guaranteed her close involvement in the religious affairs of the Seleucid-controlled cities of Asia Minor, particularly Sardis, which she had made her own.

A Babylonian account from the reign of Antiochus I for the years 276–274 B.C. confirms that Sardis, once a military and administrative center of the Persian stratege and a well-known stronghold, was the official residence of the Seleucid king and his queen, Stratonike, at least during this period. According to this source, on his way to confront the Egyptian army in Syria Antiochus “left behind his [court], his wife, and the crown prince in Sardupa [Sardis] in order to strengthen the garrison [in Erib-Nari, Egypt].” Another Babylonian record, a plaque with an astrological calendar, informs us that Stratonike died at Sardis between September 24 and October 24 of 254 B.C. The mother queen, who had probably married her younger daughter Stratonike II to Demetrios II, the bride’s Macedonian cousin, during the same year (or a year earlier), must have been sixty-two or sixty-three years old when she died.

Curiously, barely two generations earlier, Sardis had been home to another powerful Hellenistic queen, Cleopatra of Macedon, the daughter of King Philip II and Queen Olympias, and thus the sister of Alexander the Great. After her beloved brother’s death in 232 B.C., many of his generals sought her hand in marriage (which would have increased their chances in succession and become king), but in the end, none succeeded. The rivalries and intrigues among the contenders and retainers caused Cleopatra’s semi-exile in Sardis to prevent her from upsetting the balance of power. Cleopatra, brave and resourceful, but isolated from her Macedonian power base, stayed at Sardis for twelve years, perhaps because she was in some ways happy there, or else because she had no options. After an unsuccessful attempt to escape from the city, probably to marry Ptolemy of Egypt, she was brought back and assassinated in 308 B.C., at age forty...

— Valerius Maximus 5.7.1; Plutarch, Life of Demetrius 38; Appian, Syrian Wars 59–61; Lucian, De Syria 17–18; Rostotzeff 1967, pp. 438–49; Oglen 1999, pp. 119–25. While selfless, paternal love for an ailing son and heir is the popular explanation, historically, the reasons may also be practical and political; see Carney 2000, p. 171; Taşkin 2011, pp. 116–18.

— For Stratonike’s dedications at Bambyce, see Lucian, De Syria 17–18. For the postclassical tradition of representing the popular and romantic story of Stratonike in the arts, see Stechow 1945 and Stechow 1964. I am grateful to the late C. H. Greenewalt, jr., for sharing curiosities, speculations, and bibliographical sources on “Faire” Stratonike, and especially for pointing out the delightful verse play in Turkish by A. Necdet


— Smith 1924, pp. 150–95; Orth 1977, pp. 124–25 n. 6; Austin 2001, pp. 340–41, no. 141, and pp. 194–96, no. 113. The same Babylonian source mentions that during this critical period the satrap from Babylon and his high-ranking entourage visited Antiochus at Sardis and...
six or forty-seven, on the order of Antigonus I Monophthalmos. Anticipating the political backlash that would result from the murder of this fiery and beautiful Macedonian princess (and queen of Epirus), Antigonus put the assassins to death and gave Cleopatra a fine funeral in Sardis.22

An early admirer of the power, personality, and intelligence of these queens, Grace H. Macurdy aptly commented that “like many unscrupulous women of this extraordinary northern breed . . . Cleopatra was murdered by men who feared her power and prestige.” Stratoniike, as she strolled the gardens of her royal residence at Sardis, would have known all this. As a woman of that “extraordinary northern breed” herself, she must have pondered the tragic fate of her less-fortunate kinswoman, probably with wistful thoughts about her own future—it was a hard world, and for many women, it is still a hard world.

A particularly intriguing indicator of Stratoniike’s connection to the city and to Sardian Artemis is a dedication found in the Temple of Artemis, a marble ball ca. 36 cm in diameter, bearing the inscription “[Gift of Stratoniike, daughter of Demetrios the son of Antigonus.” The letter forms indicate that this is a mid-second-century B.C. Hellenistic copy of the original gift, which must have been made during Stratoniike’s lifetime, that is, early in the third century B.C. and presumably soon after the city came under Seleucid power in 281 B.C.23 This may be true, but it does not alter the historical usefulness of the evidence; copies of inscriptions of cultic, archival, and political significance were common. However, there are also some doubts about the authenticity of the inscription, as Stratoniike’s royal title and her husband Antiochus’s names are missing.24 However, in inscriptions on the queen’s other known offerings the name of her husband and her dynastic titles are often omitted in favor of her father’s name. This is especially true of her lavish gifts at Delos; she never calls herself “queen” or “wife of Antiochus” but simply “daughter of King Demetrius.” One explanation could be that she made this offering before she married her husband in 294 B.C.; or that she was following the third-century practice of omitting the husband’s name in dedications made by Hellenistic women.25 The more convincing answer, I believe, is to be sought not just in her well-documented devotion to her father and her clan, but also in her sense of independence.26

One might point out that even an authentic dedication by Sardis’s queen does not in and of itself prove that the temple existed; she may have made the dedication to the sanctuary of Artemis before the temple was built; there are a number of such dedications that predate the temple but were later set up in the sanctuary. However, there is no clear information that leads to such a conclusion either. The argument here is based on the strength of Stratoniike’s historical personality and connection to Sardis, as she made the Lydian capital her own; the discovery of the dedication inscription (or its later copy) is an additional indicator of this special kind of involvement. It also takes into consideration her deep sense of religiosity, particularly her devotion to Artemis, which would have been an effective supporting factor for why the temple was initiated during her reign and residence as basilissa in Sardis.27 Despite justifiable caution, I maintain that it was Queen Stratoniike who made the dedication to Artemis at Sardis, and this makes it possibly the earliest physical document we have that is associated with our temple.28

opinions of the late C. H. Greenewalt, jr., as expressed during numerous discussions with this author.

23 Macurdy 1932, p. 81; Ogden 1999, pp. 119–25; Bagness 1976. For Stratoniike’s “surprising degree of connection to the dynasty of her birth,” and continuous choices to portray herself as an Antigonid—even after she became a Seleucid queen (and perhaps indeed because of it)—see Carney 2000, pp. 164–65, 171, 105 n. 74. A marble statue base (now lost), which carried a dedicatory inscription to Arsinoe, daughter of King Ptolemy and Queen Berenice, simply refers to Stratoniike without her titles or husband’s name: “Stratoniike, daughter of King Demetrius, dedicates . . .” (OGIS, no. 143). As documented and observed by Tarn (1969, pp. 149–51): “[It is not difficult to avoid the supposition that Stratoniike considered herself rather as the daughter of her father than as the wife of her husband.” In a personal note to the author (July 1998), C. H. Greenewalt, jr., suggested that it “might reflect her personal preference not to be identified with her husband’s”—wise words.

24 Although Stratoniike was in the forefront of powerful Hellenistic women patrons of cult, and spent a large part of her life as queen in Artemis’s city, she was never formally connected to Artemis, as she was to Aphrodite. It has been reasonably thought that a major goddess like Artemis, or Hera, was too serious, even threatening, to be intimately connected with Aphrodite, who was a less forbidding deity, especially for women. Carney 2000, pp. 211–22; Tondriaux 1949, pp. 12–13, 46; Neumer-Pflau 1982, pp. 25–60. See Coşkun and McAuley 2016.

25 I will take the opportunity to write this in a footnote, which
Mnesimachos Inscription

An equally important inscription in Greek carved on the interior northeast corner of the west pronoa wall of the Temple of Artemis records in detail the mortgage obligations of a certain Mnesimachos in return for a loan he received from the temple funds (see Fig 2.54). The display of official deeds and records on important public buildings represents a well-known ancient tradition. Mnesimachos's extensive estate, which had been granted to him by a king (including land, villages, dwellings, slaves, and other revenue-bearing assets), is described as a kind of collateral (in the modern sense) against this loan.

Considerable controversy exists, however, about the nature and date of this important inscription, which naturally is central to the question of the dating of the temple itself. If the Antigonus mentioned in this inscription is Antigonos I Monophthalmos (r. 306–301 B.C.), the founder of the Antigoniad dynasty of Macedon, the date of the original mortgage document, perhaps carved on a stele, would be somewhere between 300 and 250 B.C., since Mnesimachos could not be expected to have survived the king by more than about forty years.

Mainly on epigraphic grounds, many scholars consider the text carved on the temple wall to be a later copy of an earlier document broadly datable to 250–200 B.C. Thus, it might allow the introduction of a provisional idea (that a main-line text might shy away from), I might even carry the battle into enemy territory, and suggest that if the inspiration behind building a major temple to Artemis in her beautiful Sardian sanctuary could be traced to a person or patron, why not Stratonike, the ambitious queen of the newly conquered Seleucid land and the first denizen of Croesus's temple to Artemis in her beautiful Sardian sanctuary could be traced to a person or patron, why not Stratonike, the ambitious queen of the newly conquered Seleucid land and the first denizen of Croesus's legendary metropolis? See also Yegül forthcoming.

60 Sardis VII.1, pp. 1–7, no. 1; Prentice 1912. For a more recent assessment of the Mnesimachos inscription and relevant social and economic issues, see Atkinson 1972. See also Levy 1976; Zawadzki 1951. My thanks to N. Cahill for bringing the following more recent studies of this inscription to my attention: Billows 1995, pp. 111–45; Débord 1982, pp. 244–51; Descat 1985.

61 An issue relevant to the question of the dating and the architecture of the temple is the meaning of the word neopoio, used twice in the text and commonly translated as "temple warden." It is not clear if this office required the existence of an actual temple, or if what is indicated or implied, in a general sense, is a "sanctuary." If it did not, the association of the original document with our temple proper would not be critical. Naturally, this issue does not affect the actual version of the inscription carved on the temple wall. See Sardis VII.1, pp. 50–51, no. 27; Swoboda 1888; Burrell 2004, pp. 55–57. See also Olmstead 1916, p. 247.

62 In their first detailed study of the Mnesimachos inscription, Buckler and Robinson considered the carved document on the temple wall to be the original and suggested a date within Antigonus's rule (Buckler and Robinson 1912, pp. 22–26). These authors revised their dating of the temple inscription to ca. 250 B.C. in their 1932 Sardis volume, Sardis VII.1, pp. 1–7, no. 1. The same view had already been expressed by Butler in 1922 (Sardis II.1, p. 166) and by P.R. Franke, who studied the temple in tandem with Gruben and proposed a date of 250–200 B.C.; Franke 1961. After his recent consideration of the historical and contextual evidence, G. Petzl also thinks that the "Mnesimachos inscription [as represented on the temple wall] could not have been carved as early as 300–290 B.C." (personal communication, Sept. 22, 2014). Supporting ca. 200 B.C. date, see also Schuller 1998, p. 160; Robert and Robert 1951, p. 173, no. 145; and SEG 15,741.

63 For a direct assessment of the inscription, see Atkinson 1972, opting for 250–200 B.C. as the date of the carving of the inscription. Atkinson argued that the "Temple of Cybele" was burned by Antiochus III in 214 B.C. as punishment for the support given by the city to the pretender Achaicus, and that the present temple was built between 214 and 200 B.C. Atkinson's purely hypothetical history of the temple, which is supported by no evidence in the field (no sign of burning at all), was challenged by Hanffmann in Sardis R1, pp. 180–81 n. 44.

64 Gruben 1961, p. 192; Wiegand and Rehm, I.Didyma, no. 492a–c; OGIS, no. 225; Austin 2001, pp. 305–7, no. 185; Sardis II.1, p. 124.

65 These include the previously mentioned inscribed marble balls, similar to the one set up by Stratonike, recording dedications to Artemis by her priestesses; a cylindrical marble statue base in honor of one lollas, a civic leader who also had received many other statues in marble and bronze, is dated to the second half of the first century B.C. Sardis VII.1, pp. 50–51, no. 27; Buckler and Robinson 1912; Buckler and Robinson 1913a; Buckler and Robinson 1913b.

Coins from the Image Base ("Basis")

A group of 126 Hellenistic coins (54 silver coins along the east side of the image base and 72 bronze ones along the north) and one silver croeaseid (in the center) were found inside the purple sandstone foundations of the base ("basis") located in the center of the original cela (now the east cela), which was believed to have carried the image of Artemis when the temple was constructed around it. These foundations, preserved as two courses of ashlar and occupying the entire area between columns 69/71 (north) and...
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70/72 (south), would have been covered in marble to create a large (ca. 3.60 × 3.60 m) but low square platform, rising ca. 0.50 m from the cella floor (Figs. 2.80, 3.3, 3.4, 3.5).66

Butler, noting the tightly fitted blocks finished with a fine flat chisel and joined by many large “pi-shaped clamps” (bar/hook clamps)—comparable to Lydian masonry at Sardis—as well as the single croeseid coin, considered the base to predate the temple. Few of these clamp cuttings are visible now; they must have been destroyed or eroded in 1914 when Butler dismantled the soft-stone blocks and opened a three-meter test pit in the center of the cella to look for earlier structures (none were found), leaving the blocks lying in heaps. In 1960 the Harvard-Cornell Expedition attempted “no more than putting the chaos of stones into some semblance of order and filling the hole in the east cella.”67 Some 102 blocks were measured, numbered, and put in place in two courses according to a tentative reconstruction. We have no reliable drawings or photographs of the base before it was dismantled. Therefore, the way the stones of the platform have been drawn and placed on the site does not represent with certainty how they originally were.

Hanfmann and other scholars settled on a date around 220–190 B.C. for the construction of the base from the evidence of the reused blocks.68 This conclusion was questioned by P. Stinson, who noted that the unusually broad placement of the cella’s column foundation blocks around the central platform must signal the builders’ attempt to accommodate this preexisting structure, although the actual spacing of the columns above them would not have been affected. Compelled by this observation, N. Cahill opted for Butler’s pre-temple date for the base. He pointed out that the Hellenistic bronze and silver coins used to date it were found “in the vertical joints between the stones of the upper course . . . as if at the foot of the pedestal of the statue,” while the silver croeseid was between horizontal courses; it can thus be linked to the actual time of construction and is compatible with the ceramic and masonry stylistic evidence.69

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66 Sardis I.1, pp. 74–76, ill. 71; Sardis XI, p. v; Sardis R1, pp. 76–81, with a tentative reconstruction plan (fig. 129) and sections (fig. 130); for a plan of the coin findspots, see fig. 128. See the useful comparison by D. Van Zanten (Sardis R1, p. 80 n. 32) to the image base of Athena Polias in the temple in Priene, where the image of the goddess and its base were not set up before the mid-second century B.C., although Pytheos’s temple dates to 334 B.C.

67 Sardis I.1, p. 75, ill. 71; Sardis XI, p. v; Sardis R1, p. 77, figs. 133–34. Franke gave an upper date of ca. 190 B.C., which is refuted by the independent studies of Newell, Seyrig, and Hanfmann, who prefer a date around ca. 220–210 B.C. Franke 1961; Newell 1941, p. 187 n. 154; Seyrig 1963, pp. 23–24. See also Le Rider 1991; BASOR 166 (1963): 34–35; Noc 1917, no. 925; Sardis II.1, p. 168.

68 Cahill and Greenewalt 2016, p. 495; Sardis I.1, 74–76; Sardis II.1, p. 108; Sardis XI, pp. 7–81, no. 273. On Lydian ashlar masonry techniques, see Sardis R5, esp. pp. 17–46.
MATERIALS AND METHODS OF CONSTRUCTION: TECHNICAL AND STYLISTIC CONSIDERATIONS

Historical and epigraphic evidence, often inconclusive and circumstantial, provides a broad contextual backdrop against which our primary interest and methodology—employing the construction details of the building as a dating tool—may be measured. Careful observation of the temple construction, including the details of its marble ashlar walls and the foundations of its walls and columns, has provided us with a set of more objective criteria for distinguishing what we see as two main construction phases.70 These technical features evidently represent the work of two major periods and were used consistently in the construction of the temple. Though these features have been described previously, they will be summarized in this section as well. Some, but not all, of the observations in the following discussion are similar to those that Gruben published in 1961 and are supported for the most part by Howe. In certain details I offer new possibilities.71

Main Walls and Foundations

Significant details that clarify the construction processes of the Artemis temple appear consistently in the long north and south walls, the east wall, the original west wall (middle crosswall), and in the foundations of the twelve interior columns of the original cella. These include the use of bar clamps (with hooked ends), square dowels without channels (used as edge dowels below floor level and in combination with leverage holes at or above the euthyneteria level), and a total absence of lewises holes (see Figs. 2.9, 2.15, 2.22, 2.60, 2.62). We may identify these characteristics with the temple’s original, Hellenistic construction, or first phase.

The Roman (second) phase construction is represented by the east crosswall, the west wall, and all of the foundations of the exterior columns of the peristyle, as well as the column foundations of the east and west porches (where preserved or visible). This construction is broadly identifiable by the use of butterfly clamps (without end hooks; “wing clamps” in some publications) for the courses below the floor, or the euthyneteria level, but regular bar clamps (though of a larger size than those typical for Hellenistic construction) for courses at or above the euthyneteria level (as observable in the case of the foundations of columns 9 and 14: see Figs. 2.114, 2.131). Square dowed holes with single or double pouring channels are common. Standard-type lewises holes (large in size and with double slanting sides) are universally used; very large blocks, such as some of the column drums and architraves, commonly use two or more lewises. Rarely are L-shaped, T-shaped, or cross-shaped lewises employed, although these shapes may exist due to the later reworking of standard lewises.

Below is a detailed description of these Hellenistic and Roman features.72

Hellenistic Phase Features

Walls identified with the first phase of construction, as readily seen in the south and north walls and the original west wall (middle crosswall), are built of larger, more uniformly shaped blocks that are well joined and fitted and display a smooth finish. Surface cuttings or construction cuttings (clamp, dowel, and leverage holes) are employed sparingly; no lewises appear except in the Roman reuse of such blocks, such as the fluted drums. The courses below the euthyneteria level (−1), as seen on the western end of the south wall, are so closely and finely fitted that they required no clamps or any other cuttings except for small, square dowels. Courses at or one course above the euthyneteria level (0 and +1) are joined by a row of bar clamps (ca. 12–16 cm) applied along the outer edge of the wall; courses above this level (+2 and higher) have two rows of bar clamps along both the outer and inner edges of the wall; clamps are never used to join blocks laterally across the width of the wall.

70 Primary sources for Greek and Roman construction techniques that illustrate some of the features discussed here include Orlandos 1966; Martin 1965, pp. 55–57 and esp. 48–51; Durm 1892; Dinsmoor 1913, pp. 8–9; Adam 1994; Bingöl 2004; Bingöl 2012a; Nylander 1966; Ayward 2009; Pedersen 2011; Inglese 2016; Inglese and Pizzo 2012; Bonetto, Camporeale, and Pizzo 2014, pp. 1–4. See also Marta 1986; Marta 1990.

71 See Gruben 1961, pp. 160–75; for a graphic comparison of construction techniques of the Hellenistic and Roman periods (Technik I and Technik II), see fig. 2.

72 For comparative and selective illustrations of Hellenistic and Roman construction techniques, as seen particularly at the western end of the south wall: connections between the southwest anta pier and column foundation 49, see Figs. 2.9–2.13; the southeast anta pier and column foundation 17, see Figs. 2.12–2.14; the northwest anta pier and column foundation 48, see Figs. 2.107, 2.153–2.155.
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The unclamped joints of foundation blocks of the courses below the euthynteria approximate the tightly fitted, quasi-polygonal technique and must have been conceived as a structural device to retard or offset differential settlements (as visible in the connection of the middle crosswall and the south wall; see Fig. 2.60).

The technical features (mainly clamps and dowels) of the north and south walls of the cella display a roughly consistent system of distribution patterns specific to courses: edge-type dowels are used in combination with a leverage hole, often located in a row ca. 0.20–0.25 m from the edge of the wall, and without the use of pour channels. In the case of the edge dowels, lead was poured in from the edge after the dowel was put in place, and then the next block was lowered and shifted into position with the help of a crowbar. All clamps are of the bar type, with ends anchored into the stone (see Figs. 2.20–2.24); they are small or medium in size (12–16 cm) and run in rows close to the outer or inner face of the wall, or both; there is no lateral or cross joining of the blocks (see Figs. 2.15–2.17). These construction features and details also characterize the individual column foundations inside the original cella and the west pronaos (see pp. 60–67).

Roman Phase Features

The blocks of the Roman (second) phase, especially the column foundations of the north and south peristyles and the west pronaos porch columns (column foundations 48, 53, 54, 55, and 49), are massive, coarsely shaped, and characterized by an excessive use of clamps. Clamps above foundation level are uniformly of the bar type, while the foundation courses below often display larger butterfly clamps without end depressions.

Blocks for the east crosswall and the west wall, both Roman additions, are not as tightly or carefully fitted as the earlier Hellenistic work; smaller stones fill the wall middle (for the east crosswall, see Figs. 2.46–2.49; and for the west wall, Figs. 2.67, 2.68; see also Figs. 2.9, 2.10, 4.11). While in the Hellenistic work only the outer row of blocks of a course are joined by a carefully aligned row of clamps, in the later construction almost every block is joined to its neighbor by one clamp, and often two or three. Dowel holes, when used, are accompanied by one or two pouring channels at the corners. Three of the unfluted column drums display pairs of small, square dowels of the “dry dowel” type, typically with a bronze casing to receive a dowel that would have matched exactly and did not require the use of lead; it is likely that this method was more common than the preserved evidence suggests, considering that the metal would have been an easy target for robbers.

The use of standard, rectangular lewis holes is ubiquitous; even relatively small blocks bear at least one lewis hole, and larger ones have two or more. The lewis holes are conspicuously large, deep, and coarsely cut (averaging 10.0–12.0 × 4.5–7.0 × 7.0–10.0 cm for the crosswall blocks and 12.0–17.0 × 6.0–9.0 × 10.0–18.0 cm for the north and south peristyle column foundations).

The use of masses of mortared rubble (a local variant of opus caementicium), which thoroughly encases the marble block foundations of the exterior columns, is a patently Roman construction on the site (see pp. 68–73). Although there are instances of mortared-rubble construction dating to the first century A.D. in Asia Minor and at Sardis, such as the Wadi B temple (ca. mid-first century A.D.; see pp. 217–220), the system becomes widespread during the late first and second centuries, as exemplified by large projects at Sardis such as the Bath-Gymnasium Complex and the great end walls of the theater (the date of the latter may be late first or more likely second century A.D.; Fig. 3.6). Like these instances, the mortared rubble of the Artemis temple appears coarsely and unevenly laid, using a surplus of rubble stones and less lime mortar.

In some cases, the consistent use of these techniques, both Hellenistic and Roman, is compromised because a wall or a part of a wall has been rebuilt using blocks from an earlier construction. This is especially true for the west wall and the preserved northern end of the middle crosswall (see Figs. 2.54, 2.58, 2.59, 2.62). Only six meters from the

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73 Cooper 2008, pp. 232–34; for “polygonal foundation stonework” typical of the Temple of Artemis Agoria at Demetrias, see Cooper 2008, fig. 9.2.
end of the west anta piers, the former is of “mixed construction”: some blocks show predominantly Roman features, but there are a few that bear smaller bar clamps with hook ends, even below the foundation level; this represents reuse from the earlier phase. The west wall bonds to neither the south nor the north long wall, nor does it match their masonry coursing (observable only at its northern end). It is laid directly over the foundations of the pair of original column foundations of the pronaos (column foundations 79 and 82, not on Butler’s plans). We can imagine that the late west wall was built mainly from the stones of the demolished original west wall (now called the middle crosswall) of the cella, including its central door and staircase.

The western end of the north wall also shows mixed construction, with bar clamps used on courses above ground level and butterfly clamps below ground level. The foundations of the northwest anta pier (Hellenistic) and column 48 in front of it (Roman) are connected along a joint with three large butterfly clamps, while the blocks of the anta pier above grade have bar clamps. In the same area, there are no lewises on the side of the anta pier, but many are visible below and above grade on the column side (Fig. 2.107). Differences in construction techniques are particularly dramatic at the western end of the south wall and the southwest anta pier, where the abrupt change from Hellenistic to Roman construction (and the seam between the two) can be seen very clearly on the preserved surface of the wall, 7.50–7.60 m from the reconstructed face of the missing southwest anta pier, as well as along the south face of its foundations (see Figs. 2.9, 2.10).

The East Door

Structural and Stylistic Considerations for Dating

Butler believed that the temple was meant to face east and that the east door was its original door. Hanfmann and Frazer held that the east door was a late feature, belonging to a “late Hellenistic” phase (see Figs. 2.28, 2.29). However, the evidence provided by the masonry construction below the threshold and around the door opening, along with the style of ornament of the well-preserved door jambs, indicates that the east door was cut during the Roman period when the cella was divided into two separate chambers (for a description of the construction below the threshold of the east door, see pp. 46–49). In Greek and Roman architecture, construction directly under door openings is typically and intentionally left “weaker” for reasons of economy because that area supports less weight. The threshold of the Artemis temple’s east door is supported by continuous marble-block construction no different from the foundations of the main walls of the cella, a clear indication that the east wall was originally solid, and that the east door was not an original feature of the Hellenistic building.

The two courses visible below the threshold were left largely rough, leading one to believe that they were intentionally unfinished because the original design included a door and stairs that would have masked this part of the lower wall (see Figs. 2.28, 2.36–2.38). Close examination, however, reveals that these courses below the threshold were partially finished: a pair of smooth, finely dressed blocks of the second course below the threshold continues some distance under the door on both sides (see Fig. 2.43). The blocks of the middle portion of this course (for a length of 5.14 m) display a coarse, quarry-faced surface with a smoothly drawn, 6–7 cm wide “drafted edge” along their top edge. The course above this is left entirely rough with no drafted edges at the joint. The rough areas of the course below the threshold thus actually represent work in progress. Their smoothed horizontal and vertical bands are not “drafted edges” of finished masonry, but guides for trimming the surface of the rest of the block—a standard detail indicating that work progressed in stages, moving from the wings to the center of the east wall. If the original builders had planned for a door here, there would have been no finished or half-finished blocks under the threshold. Why trim masonry that would have been invisible behind the massive stairs of the door? It appears then that at the time the door was cut open, finishing work and detailing on the opisthodomos walls were only partially completed, moving from the flanks to the center—a normal procedure.

Further evidence for the later date of the door can be evinced by observing the pattern of the masonry courses on both sides of the door opening. The third and fourth courses (up from the porch floor) adjacent to the south jamb of the door are 0.74 m and 0.44 m long, respectively; the fourth course on the north side is 0.60 m long (see Figs. 2.36, 2.37). These are uncommonly short blocks in relation to the temple’s scale and the normal length of its ashlar blocks. In fact, they are the shortest three of the more than 356 blocks that are preserved in situ and visible on the cella walls (typical block lengths run 1.20–2.20 m). Furthermore, they appear anomalous to the regular long–short alternating rhythm typical of Hellenistic ashlar masonry in this temple and elsewhere. This anomaly is a strong indicator that the center of the east wall was taken down to its lowest course, and that some of

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74 Sardis II.1, pp. 39–41; Sardis R1, pp. 82–87.

75 An exploratory trench in front of the east door in 1972 (“trench 3”) showed four more courses of marble-block foundations below what is visible, resting on gravel bedrock on the east side, top at *58.20. This is the same depth and same type of construction as the rest of the east wall, the southeast and northeast anta walls, and the rest of the main walls of the cella. See Sardis R1, figs. 153, 155–156.

76 Hanfmann and Frazer believed that the east wall had to be dismantled down to and including the course below the threshold in order to install the door: “Normally, both sides of the join [top and bottom] would be dressed in one operation. The upper course is later, having been laid to replace the dismantled courses” (Sardis R1, p. 181 n. 43).
its blocks were either cut shorter or completely replaced in order to accommodate a large door centered on the cella axis.

While I hope that these structural considerations are sufficient to show that the east door is a late addition, they do not necessarily prove that it is Roman; Hanfmann and Frazer believed that it was part of a late Hellenistic renovation. However, internal construction evidence that points to a Roman date is provided by the very large lewis holes and channeled dowels carved on the upper surfaces of the door jamb blocks, which are typical construction features of the Roman period (see Figs. 2.35, 2.36). Furthermore, stylistic considerations of the jamb and cornice ornament of the door allow us to narrow down the dating to the Hadrianic period.

**Ornament**

With the exception of some capitals, decorated bases, and several pieces of the unornamented inside (ptera-oma-facing) architraves (one fully preserved), extant Roman ornament on the temple is restricted to the jambs and lintel of the east door and the enormous consoles flanking the lintel (see Figs. 3.7, 3.27).

The presence and prestige of the Hellenistic temple, especially its superbly modeled and carved Ionic capitals, as well as the delicate torus decorations and elegant profiling of the few remaining original bases, explain its close—and on the whole very successful—Roman imitations. We have no difficulty recognizing capital C as an original piece, but it is hard to determine solely on the basis of style whether others, such as capitals A and D, are actually Hellenistic originals, or competent Roman copies (capital A is Roman, and capital D Hellenistic; see pp. 121–125).

The new ornament created for the east door—which might have been inspired by the ornament of the original west door, then moved on to the new Roman west wall—displays the persistent influence of specific Hellenistic models upon the common mid-second-century, Roman ornamental repertory of Asia Minor. In fact, the distinctive Hellenistic style or manner of the east door ornament may find signification and explanation through its links to the well-known classical qualities of Hadrianic ornament, though it also shows differences (discussed below). Compared to the refinement of the temple’s east door ornament, datable Hadrianic ornament from other sites often appears schematic and simplified. It is a pity that no Roman ornament of the exterior order survives to further illustrate this process of imitation and amalgamation.

Like an architrave would be, the jamb and lintel of the east door are divided into triple fasciae, separated by bead-and-reel and cyma reversa (Figs. 3.7, 3.8, 3.9). The crown molding is composed of a bead-and-reel and an egg-and-dart ovolo (pointed darts), surmounted by a strongly projecting cavetto decorated with open and closed palmettes alternating with lotus flowers. The cornice is composed of a small, plain cyma reversa crown and a plain corona during what he and Hanfmann believed to be the “second Hellenistic” period (i.e., not Roman; see Sardis R1, p. 87).

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77 As an alternate, earlier interpretation of the construction of the east door, K. Frazer posited that although the original Hellenistic temple had been planned without an east door, a door was put in

78 See *Milet VII.1*, pp. 96–98, pls. 34–36 (Heroon II, Miletus); pp. 98–110, pls. 69–70 (theater stage, Miletus); pp. 122–23, pls. 83–88 (Market Gate, Miletus); also pl. 114 (Library of Celsus, Ephesus); pl. 115 (Temple of Hadrian, Ephesus).
projecting over a row of bold dentils, now partially preserved. No frieze has been found, though Butler restored one for reasons of completeness and proportion. The fine quality of the carving; the round, globular beads and their sharply outlined, disc-shaped reels; the well-formed eggs deeply set in their smoothly curving casings; and the overall superb modeling and plasticity led Butler to date this ornament to the fourth century B.C., which was part and parcel of his efforts to see the building as a creation of the Classical era.\(^7\) Butler’s aesthetic assessment is understandable, yet the overall appearance of the jamb ornament is distinctively Roman.

Compared to the eggs with slightly pointed ends encased in tightly fitting, narrow shells and delicate darts, all shallowly modeled, as is typical of late Hellenistic ornament of Asia Minor (as in the Hermogenes-designed Temple of Artemis at Magnesia on the Meander [Fig. 3.16] and the architraves of the Belevi Tomb near Ephesus), the egg-and-dart ornament at Sardis is deeply carved and strongly modeled, with more rounded eggs set in widely splayed and fully formed shells (Fig. 3.9). Although it displays greater stylistic affinity to the architrave ornament from the Smintheion at Chryse (Gülpınar), as compared to the thin precision and linear delicacy of its egg-and-dart crown (Fig. 3.12), the Sardis ornament has greater plasticity.\(^8\) Interestingly, the regular, well-rounded eggs and the bead-and-reel row of the architraves of the Hermogenean Temple of Dionysus at Teos appear closer to Sardis: this may be explained by the Hadrianic date that can be assigned to a part of the temple’s entablature (Fig. 3.11). At Sardis the careful triple alignment of the palmettes, eggs, and the beads of the crown molding of the jamb, especially the superbly modeled, almost lacy palmette-and-scroll row of the top cavetto, may follow Hellenistic precedents, but the fullness of these appears more distinctive than typical Hellenistic examples, where the decorative elements are subtly, but somewhat weakly, merged into a whole (Figs. 3.8, 3.9; cf. Fig. 3.12).

Likewise, the rich leaf pattern of the open-and-closed palmettes appears sumptuous on the door jamb cavettos, setting them apart from their lean, linear, and delicate Hellenistic counterparts. The Lesbian cyma of the door, with its broadly splayed leaves, hardly appears in the Anatolian repertoire before well into the second century A.D.\(^9\) The same

\(^7\) Sardis II.1, pp. 55–57, 130–32.

\(^8\) Weber 1966; Rumscheid 1995; Bingöl 1990. Mustafa Uz clarified the difference between the architrave crown ornament of the Roman Imperial period and the few pieces found of the Hellenistic one, featuring simpler, tighter, and flatter egg-and-dart and anthemion lotus- and palmettes. He compared them closely to those of the Temple of Artemis at Magnesia; Uz 1990, p. 58 n. 14, fig. 7, also Uz 2013, pp. 60–98. See also Rumscheid 1994, pl. 18.3, 5, 6, pl. 19.5, 6 (Chryse); pls. 78.3, 79.1 (Magnesia); pls. 185.1–6, 186.6 (Teos).

\(^9\) Dinsmoor, who followed Butler’s chronology and believed the Artemis temple to be essentially a Classical building, was baffled by the ornamental style of the east door. He admitted that the orna-
individualistic quality holds when the door ornament is compared to some early or mid-Imperial Roman examples. At Sagalassus, the architraves from the Julio-Claudian lower agora gate and the egg-and-dart of the Ionic capitals from the Temple of Apollo Clarios (whose different phases are variably dated from the late first to the early second century a.d.) display the same delicate but shallow carving style, especially their flattened eggs with pointed ends; this is noticeably different from the precision of the Artemis temple’s east door ornament, whose aesthetic impact is enhanced by the changing play of light on its deeply recessed, three-dimensional surfaces (Fig. 3.13).82

Apart from these distant late Hellenistic/early Roman comparisons, a closer and more immediate model for the robust plasticity of the east door ornament comes from the original Hellenistic anta capital of the temple, especially when one compares the egg-and-dart of the door jamb with the full, rounded, and articulated crowning egg-and-tongue of the anta capital cornice, now preserved on the southeast anta pier; this comparison perhaps illustrates the elusive concept of “Hadrianic classicism” in the plastic arts (cf. Figs. 2.293, 3.8). A detail particular to Sardis is the elegantly formed lotus flowers that alternate with the open-and-closed palmettes of the cavetto, an elaborate combination also seen on the cavetto molding of the cella door of the so-called Serapeum at Ephesus, which is dated to the Hadrianic period (cf. Fig. 3.8 and Fig. 3.14). Considering that a special and unusual variation of this so-called lotiform motif was found in the temple,83 one wonders if this strange and elegant motif was not a local preference plucked from among the rich Anatolian-Hellenistic repertory of architectural ornament in Asia Minor.84

Taken as a whole with its strongly modeled, deeply carved, carefully aligned elements, the ornament of the east door at Sardis represents a fine balance between local style and regional—even international—conventions, as practiced by the original artists and architects of the temple, a backward glance at the delicacy and precision of Anatolia’s Hellenistic ornament mixed with or overlaid by the newly acquired, robustly articulated assertiveness and formality of the imperial presence at Sardis. These qualities of creative classical revival and renovation are commonly associated with Hadrianic architecture in general, but here we also see the inescapable influence of the temple’s Hellenistic ornament.

While it is difficult or impossible to be certain of precise dates in matters of decorative style (who can tell the difference between a late Hadrianic and an early Antonine work?), an early or middle Hadrianic date (a.d. 120–30) for the Sardis jamb ornament would be in keeping with the eclectic classicism typical of the Hadrianic style in Asia Minor, especially in its readiness to combine this versatile classicism with local and foreign motifs.85 Comparing particular stylistic motifs of the Sardis east door to some of the contemporary and comparative examples from Ephesus, Nysa, Sagalassus, Miletus, and Didyma (such as the later architraves of the Temple of Apollo), and following the general development of the ornament of the Imperial era in Asia Minor, S. Pülz, F. Rumscheid, L. Vandeput, M. Kadıoğlu, O. Gülbay, and this author are among the number of scholars who firmly opt for...
a Hadrianic date for the Sardis door ornament—and hence, for the presence of Roman renovations at the temple.86

It is important to note that although the east door’s ornament follows the general style and order commonly ascribed to Hadrianic ornament, such as the distinctive globular beads and the careful alignment of certain decorative motifs, few of the fairly numerous and well-documented examples of Hadrianic ornament from Asia Minor display close similarities.87 This may underscore the special position of the Roman temple at Sardis as a deliberate imitation of its “highly visible” and prestigious Hellenistic predecessor, as mentioned earlier.88

Common comparisons could be made to the architraves and the door jambs from the scaene frons of the theater at Nysa (Fig. 3.15); the “Antonine” temple at Sagalassus (late Hadrianic to early Antonine, Fig. 3.16); the Temple of Hadrian at Ephesus, with its distinct cavetto lotiform motifs (Fig. 3.17); and the Library of Celsus from the same city (Fig. 3.18).89 Details of the ornament from the Hadrianic Baths at Aphrodisias (Fig. 3.19), the “Small (Hadrianic) Temple” at Cremona (mainly its door jambs), and the cornice from the late Hadrianic Nymphaeum F3 from Perga (Fig. 3.20) provide basic similarities that help underline the Hadrianic origin of the Sardis temple doors.

However, many are characterized by coarser, stenciled, and mechanical features typical of good, provincial mass-produced work, in contrast to the refinement we see at Sardis.

86 According to Stefan Pülz, the Roman ornament of the Sardis temple (mainly the door and its overhead consoles) generally belongs to the Trajanic–Hadrianic period, but specifically the Hadrianic ornament of Asia Minor—a judgment echoed by Vandeput, Kadioglu, and this author; see Pülz 1989, pp. 74–77; Vandeput 1997, pp. 74–76, 85–86. For a comprehensive and comparative study of ornament from Asia Minor during the Hellenistic period, see Rumscheid 1994; for a similar general study of the Imperial period, see Köster in Milet VII.1. See also GÜlbay 2009, pp. 141–43, 189–91.

87 One should be aware of the potential inequality in the nature of the comparisons between the mere jambs and the lintel of a door. However monumental, this is limited evidence when considered alongside entire programs of ornament from large architectural ensembles in several stories, such as theater facades, nymphaea, and temple entablatures.

88 Ornament that deliberately harks back to an earlier style is not uncommon in Asia Minor, as observed by L. Vandeput: “The tendency to give well-formed ornaments, often similar in shape to the decoration of older monuments, at highly visible positions recurs in the same way on the [Hadrianic] door-jamb of the Temple of Dionysus at Pergamon and even on the Temple of Serapis at Ephesus” (Vandeput 1997, p. 76). For the Hadrianic dating of the door jambs from the Temple of Dionysus at Pergamon, see Pülz 1989, pp. 83–85; Strocka 1988, pp. 289–306, pl. 44.1–3.

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Figure 3.19 (L) Hadrianic Baths, Aphrodisias; architrave. Courtesy R. R. Smith, Aphrodisias Excavations

Figure 3.20 (R) Nymphaeum F3, Perge; anta cornice ornament

Figure 3.21 (L) "Polygonal Building," Alexandria Troas; architrave

Figure 3.22 (R) "Polygonal Building," Alexandria Troas; cornice ornament. Both Figs. Courtesy E. Öztepe, Alexandria Troas Excavations

Figure 3.23 (L) Hadrianic Nymphaeum, Sagalassus; cornice palmette. L. Vandeput, The Architectural Decoration in Roman Asia Minor (1997), pl. 106.5

Figure 3.24 (R) Hadrianic Nymphaeum, Sagalassus; architrave frieze block

Figure 3.25 (L) Antonine Nymphaeum, Sagalassus; facade

Figure 3.26 (R) Antonine Nymphaeum, Sagalassus; architrave ornament. Figs. 3.23, 3.25, 3.26 Courtesy M. Waelkens, Sagalassos Archaeological Research Project
In these and other comparative examples the general carving appears flatter, even cruder: eggs are slightly elongated and not fully rounded, their shells not integrated into egg form; darts are sometimes shown as stubby and harshly shaped “arrows”; reels are elongated and simplified (some on their way to the long and “faceted” reels typical of Severan ornament); and the palmette row of the cavetto is flat and mechanical, generally a far cry from the luscious naturalism of Sardis cavetto palmettes. Even the fine and vigorously carved Hadrianic ornament (with eggs loose in over-widely splayed casings), from the entablature of a remarkable but lesser-known, Polygonal Building (a twelve-sided, domed hall) in Alexandria Troas appears somewhat mechanical when compared to the Sardian door jambs (Figs. 3.21, 3.22).

Another cogent illustration demonstrating the considerable variety among Hadrianic ornament, from different sites in different regions under different circumstances, can be evoked by viewing the Sardis door ornament against the late Hadrianic ornament of the lower agora nymphaeum at Sagalassus (Figs. 3.23, 3.24). In their consideration of this extensive, two-storied, three-sided aedicula ensemble enclosing a pool, Waekens, Üner, and Richard observed that “none of [its] various types of ornaments . . . was uniform throughout the entire structure, nor did they reflect the hand of a single stonemason or a team.” Some of the inconsistencies in style, quality, and finish of this ornament (including the ubiquitous three-fascia architrave, scroll acanthus frieze, and cornice with palmette-and-anthemion sima) can be explained by the haste with which this large project was undertaken. Yet a comparison of even the most relevant ornamental elements—from its architrave to the door jambs—with the Sardis door reveals a blatant lack of refinement in the former. Often the quality and individuality of detail in ornament and construction is determined less by a period style broadly defined and more by the local narrative behind it.

The importance of individual distinction within a period style is also shown by the huge, handsome consoles with volutes (scrolls) that supported the cornice above the east door of the temple, which harken back to its Hellenistic roots (Figs. 3.27–3.29). The deeply carved, concave volutes with curling corner palmettes appear to have been deliberately fashioned in overall form and individual detail on the model of the famous Hellenistic capitals of the temple. However, with the oversized palmettes decorating their faces, their powerful, striking presence is more appropriate to mid-second-century imperial work. One of these consoles appears in the fully restored, splendidous facade of the nymphaeum on the upper agora in Sagalassus (Figs. 3.27, 3.28), given a late Hadrianic to middle Antonine date by the excavators (as judged by Vandeput: “some of the motifs . . . even seem to preclude Severan decoration”) [Vandeput 1997, p. 105; see also pp. 100–105, 209–11, pls. 41.1–41.4, 46.1].
The peculiar ornamental style of the Roman work at the Temple of Artemis can be confidently identified as early Hadrianic. It seems to be a unique reflection of the complex and formative influence of this landmark monument’s own Hellenistic and classicizing past; its site-specific and compelling artistic tradition acts as a powerful magnet, creatively disturbing and reshaping a common style into an uncommon local amalgam.

3. Building History and Chronology

The materials and construction techniques of the peristyle foundations also illuminate the building history of the temple. All foundations, walls, and individual foundations of the cella interior and surrounding peristyles have been described in previous sections in greater detail; here I will discuss them in the light of their structural characteristics that help to define and date the building (see pp. 68–73).

The main walls of the cella have continuous foundations in blocks of marble (see Figs. 2.76, 3.31), and the interior columns have isolated block foundations (see Figs. 2.28, 2.78). The courses of these wall and interior-column foundations step out as they go deeper. The exterior peristyle columns are also supported on individual piers of large ashlar blocks of marble or limestone without courses that step out. Unlike the foundations of the interior columns, they are also not fully independent; instead, they are structurally connected to each other by a packing of heavy mortared-rubble, or in some cases they are encased in this material (see Figs. 2.105, 2.111, 3.33). The rubble construction irregularly projects beyond the outer line of columns for a distance of ca. 0.60 m or more, probably marking the outer edge of the crepis if there was any. The block foundations of the east and what remains of the west end columns are encased on three or four sides by mortared-rubble construction and linked to each other.

96 For the north peristyle individual column foundations, see pp. 70–79; for the south peristyle individual column foundations, see pp. 80–86.

(Now incongruously “composed” in a mock-up on site, in front of the door with other elements from it) can be compared to consoles from the door of the so-called Temple of Serapis at Ephesus, dating to the late Hadrianic/early Antonine period (Fig. 3.30). Although the similarity is striking at first glance, it is instructive to consider the simplified, mechanical, linear style of the Serapis console, with its drilled acanthus filling the scroll, in comparison with the softer, sculpted elements of the Sardis temple.95

95 These consoles are among the features that prompted Vandeput to opt for a late Hadrianic date for the Roman phase of the Temple of Artemis at Sardis, a view shared by many other scholars: “Opinion differs concerning the restoration of this temple . . . some authors date it to the reign of Hadrian [e.g., Butler in Sardis II.1, p. 131, ill. 54; Püll 1989, pp. 74–77; Gülbay 2009, p. 143], others under Antoninus Pius around the middle of the second century a.d. [e.g., Gruben 1961, pp. 195–96]” (Vandeput 1997, pp. 74–75 n. 143). These useful observations were written before Vandeput was aware of our more recent work on the temple and its ornament, which fully supports her Hadrianic preference. In fact, during a field conference at Sardis in 2016, M. Kadıoğlu opted for an earlier rather than later Hadrianic date, no doubt due to the finer quality of the Sardis door jambs, able to be viewed and admired at closer quarters than other dated Hadrianic ornament from Asia Minor, such as scæna frons theaters (Miletus, Nysa). See also Koenigs and Radt 1979; Strocka 1988, pp. 299–303.

PERISTYLE AND WALL FOUNDATIONS
Although isolated block foundations for the exterior columns of temples, stoas, and other monumental structures occasionally occur, the norm for colonnades in Greek architecture is continuous block foundations comparable to those of our cella walls.\(^97\) The structural effectiveness of the system established as the norm in Greek and Hellenistic colonnades is underscored by F. Cooper: “[A] spread footing, running underneath the peristyle and common nearly to all Greek designs [my emphasis]” distributes concentrated loads to inhibit differential settlements, “with the additional advantage of transmitting the concentrated loads at the intercolumniations over as wide an area as possible.”\(^98\) Variations exist, as dictated by terrain, soil conditions, and most importantly the economy. An effective alternative to the continuous-block foundation system is a “foundation grid” with short crosswalls,\(^99\) linking the individual foundations of the exterior columns to the continuous foundations of the cella walls, creating a "waffle" system. The spaces between the columns and the crosswalls (inside the waffle) are filled with earth, gravel, or stone chips from the marble chantier, or dry, compacted rubble stone; unlike the Roman system, this is not structural, mortared-rubble work.\(^100\) An excellent example of the waffle system is the Temple of Apollo Smintheus in Chryse (Gülpınar) in the Troad, dating to the mid-second century B.C. (Fig. 3.34), or the Temple of Apollo at Didyma, of 300–250 B.C.\(^101\) Other variations of the system can be found in the Temple of Apollo at Claros and the Temple of Artemis at Magnesia on the Meander.\(^102\) Another elaborate example of this Hellenistic foundation system is the platform built under the Altar of Zeus on the Acropolis of Pergamon. This grid is composed of a parallel series of primary walls 1.60 m apart and connected by secondary crosswalls at 3.0–4.0 m intervals.\(^103\)

Structural use of mortared rubble alone, or in connection with ashlar masonry as seen in the exterior column foundations at Sardis, is uncommon before the Imperial era. Analysis of this construction at Sardis reveals that it is highly unlikely that mortared-rubble construction was introduced later as a separate process after the earthquake of A.D. 17 in order to fortify the existing Hellenistic block foundations (as suggested by Butler and Hanfmann), but rather it belongs to the same operation and phase as the building of these foundations and columns, as correctly proposed by Gruben.\(^104\) The foundations of the exterior columns of the

\(^{97}\) For a comparative discussion of Greek and Hellenistic foundations, see Martin 1965, pp. 308–22.


\(^{99}\) In French the term is murets de liason; in Turkish it is izgara temel sistemi.

\(^{100}\) The system was particularly useful in the creation of terraces for colonnades and buildings on sloping ground. The terracing for the Sanctuary of Demeter on the Acropolis of Pergamon consists of four separate walls built parallel to the hill and partially connected by crosswalls. The spaces between the main walls and crosswalls were filled with compacted earth and gravel. See Dörpfeld, Hepding, and Kolbe 1910. See also Vann 1976, pp. 35–41.

\(^{101}\) Özgünel 1990, fig. 4. For Didyma, see Didyma I.3, pp. 49–50.

\(^{102}\) Humann, Kohle, and Watzinger 1904, pp. 39–40, figs. 17, 29. See also Martin 1965, pp. 310–12. For Claros, see Robert 1954b; Bean 1966, p. 194.

\(^{103}\) AvP III.1, pp. 12–15, pl. 2.

\(^{104}\) Butler believed that “in connexion with the extensive repairs upon the temple, an attempt was made to render secure the foundation of some of the columns by embedding them in concrete” (Sardis I.1, p. 111). See also Sardis II.1, pp. 166–7; Gruben 1961, p. 169.
peripteros and the pronaos porches at Sardis represent a unified, contiguous system where the isolated, marble-block foundations of the columns are enmeshed with the structural mass of the lime-mortared-rubble construction; sometimes, as shown by the partially exposed foundations of columns 16 and 17, the block foundations are encircled by a rough, mortared-rubble “wall” with a mortared-rubble subfloor pad or platform extending around them, a construction type that seems to be limited to the east pronaos porch. Such mixed systems—used for foundations or upper structures of buildings—find no parallels in the pre-Roman buildings of Asia Minor. However, they are quite typical of Roman construction in the West and stem from the basic structural logic behind opus caementicium and its numerous local variants. This method had already been used at Sardis for the foundations of the Wadi B temple, an early Imperial pseudodipteros (see Fig. 3.72). Another contemporary and closely relevant example for the patently Roman, eminently practical nature of this mixed-foundation system of alternating strong support (under columns or piers) and weak support (in the spaces between) are the foundations of the Temple of Zeus at Euromos, a peripteros dated to the mid-second century a.d. (Fig. 3.35). A similar system is also well illustrated in the foundations of the Temple of Deified Hadrian in Rome (Fig. 3.36).

Basing his judgment on an analysis of foundation conditions, Gruben hypothesized that the decision to continue the construction of the temple as a pseudodipteros belonged to what he termed the second or “Pergamene” phase (190–115 B.C.), when Hermogenes’s influence in the design and reorganization of Ionic temples in Asia Minor must have been impossible to ignore (see pp. 155–157 above). He believed that all of the foundations of the east end columns, i.e., the eight columns of the east facade (numbers 1–8 and 18), and the six columns of the pronaos porch (numbers 10–13, 16, and 17) were completed during this phase, although he admitted that the columns themselves were erected during the third, Roman Imperial phase of the building. Surprisingly, he ignored the distinctly Roman character of the heavy mortared-rubble work that he knew was integral to the foundations. He supported this theory by claiming that the construction details of these foundation blocks displayed his Technik I (the Hellenistic technique), characterized in particular by the use of bar rather than butterfly clamps. Since the three observable top foundation blocks unoccupied by columns (numbers 9, 14, and 15) indeed employ bar clamps to join the blocks of their top courses (course 0), his reasoning appeared justified (Figs. 2.114, 2.131). There is, however, an oversight in Gruben’s assessment of the difference between the employment of bar and butterfly clamps: bar clamps, which he identified exclusively with Hellenistic construction, are also used in Roman work for courses at or above the ground level, such as the top, or euthynteria course of column foundations. Larger butterfly clamps are restricted to courses below the ground level in Roman construction as a stabilizing infill” (Howe 1999, p. 268). See also Waelkens 1987. Gruben mentioned that a similar technique of encasing block foundations in massive opus incertum has been used in the Hadrianic Pompeion in the Kerameikos in Athens. See also Gruben 1961, p. 169; Ratté, Howe, and Foss 1986, fig. 7.}

106. Ratté, Howe, and Foss 1986, figs. 4–5.

107. “Sütun temelleri münferit olarak inşa edilmiş, araları moloz dolu yapılmış, stübyolar dış meseninin sütunlar ve duvar arasında kalan bölümü (pteroma) plaka taşlarla tamamlanmıştır [Column foundations were laid individually and filled in between in rubble stones; the paving of the pteroma was completed in paving blocks]” (Serdaroğlu 2004, p. 122).
tion, as seen on the west end of the north wall.\textsuperscript{108} Although the dowel holes are often covered on the bases by the columns that stand upon them, careful observation, especially where the edges of the bases are broken, reveals that the base plinths of most of the eight east peristyle columns have small square dowels with channels, four on each base, located diagonally on four corners.

Furthermore, the overall quality and type of the foundations of the east front and pronaos porch columns display a more-or-less uniformly coarse style and quality of masonry and a rough finish that is distinct from the carefully finished foundation work of the Hellenistic elements. The projecting top edges of the column foundation blocks in the east pronaos porch are irregularly and crudely shaped, unfinished or cursorily trimmed in pointed chisel; hastily done, they have uneven and raised surfaces (see especially the foundation of column 16, see Fig. 2.172). This kind of coarse finish (or no finish at all, as they were probably supposed to be trimmed and covered by the finished paving of the porch) is very different from the evenly shaped, smooth euthynteria of the anta piers (Fig. 2.74). Likewise, the setting and centering lines for the placement of column-base plinths are coarsely marked, unlike the precise “crosshairs” marking the corners of the southeast and northeast anta piers.

**Mortared-Rubble Subfloor of the East Pronaos Porch**

Investigations in 2002 showed that the floor between pedestal columns 11 and 12 (the middle columns of the pronaos porch) is filled in with mortared rubble, extending irregularly for 0.60–1.80 m beyond their west face and connecting the block foundations of these columns like a continuous concrete pad (see Figs. 2.112, 2.175; Plan 6; Pls. 1, x, xiii).\textsuperscript{109}

\textsuperscript{108} Gruben’s surprising error is noted by Howe (1999, pp. 208–9): “Gruben distinguished between two clamping and doweling techniques: a Hellenistic technique with hook clamps and a Roman phase with wing clamps [butterfly clamps] and single-canted lewises. This led him to conclude that the peristasis columns only the foundations at the eastern end were laid in the Hellenistic period and that the lateral foundations and the west end were continued in Roman times. The actual distribution of techniques is in fact a little different: both hook and wing [bar and butterfly] clamps appear in the Roman work. Wing clamps and double-canted lewises were used in the courses below ground level, hook [bar] clamps above.” (Howe is slightly wrong here: double-sloped lewises are also used at or above ground level.) “This is why the eastern columns appeared to be Hellenistic in Gruben’s scheme, because they are the only piers finished to stylobate level, and hence have hook [bar] clamps. In fact, there is a point in the new (i.e., Roman) wall west of the cela [west crosswall] where one can see both hook clamps and wing clamps in the same course: the outer face, which was to be some two courses above ground level, has hook clamps; the inner face, which was to be below ground level, has wing clamps.”

\textsuperscript{109} Alessandra Sulzer, who supervised the 2002 trench, observed that the rubblework was laid during the Roman period, partially into the Hellenistic fill and partially into the dense, undisturbed soil. See Alessandra Sulzer, “AT 02.1 Final Report” (Sardis Expedition field report). Butler’s state plan of the temple (Sardis II.1, atlas, pl. 1) does not indicate mortared-rubble construction anywhere inside the east porch, nor any linking the six columns of the prostyle porch with the rubblework that connects the foundations of the eight columns of the east row. A straight, dotted line along the east edge of this colonnade marks the presumed eastern, exterior extent of the rubblework.
3. Building History and Chronology

Pedestal Columns 11 and 12

The tall pedestals of the east porch support the only fully finished columns in the temple (numbers 11 and 12; Figs. 2.178, 2.196). They probably carried reused Ionic capitals of the smaller group, such as capitals C, D, or G. These smaller shafts and their capitals must have come from the redesigned Roman cella when a new “west cella” was created and its original columns were decommissioned (see pp. 203–205 above). The rebuilt pedestal columns of the porches can be reconstructed at 14.68–15.70 m high, which is ca. 2.16–2.19 m shorter than the height of the peristyle columns. The well-preserved eastern pair, occupying the middle two positions of the pronaos porch, represents a distinctive design within the vocabulary of classical columns (Fig. 2.181).

Flanking and emphasizing the main axis of the temple and its monumental doorway, these uprights inspired Butler to recall the “Nearer Asia[n] and biblical” notions of monumental columns that signify “the entrance of a holy or particularly important place.”112 An idea similar to this but broader in implication has been rekindled by Howe, who wondered if these “enigmatic” columns in Roman guise may have evoked the ideas of triumph and triumphal procession, appropriate for a temple that accommodated the imperial cult.113 At the same time, we also note the Roman predilection for strong, axial schemes and suggest that the creation and deliberate placement of these unusual columns on the long axis of the building strengthens this axis, affirming Roman architectural traditions.

According to Butler, the outwardly tapered, roughly hewn, unfinished tops of the pedestals were intended for sculpture, comparable to the sculptured bottom drums (columnae caelata) of the Archaic and Classical Artemisia at Ephesus; the strongly projecting upper parts could accommodate the shoulders and torsos of the hypothetical figures. This idea found considerable support from other scholars, though we find the comparison imprecise. Columnae caelata denote the carving of the column shaft (well represented in the Ephesian examples) rather than a separate, carved pedestal base. Butler, however, was right to declare that they were “so unusual, so foreign to anything known in the whole range of Hellenic architecture . . . [that] we may well ask whether they were not possibly taken over from purely Lydian sources.”114 My own search of classical and eastern sources was no more successful in identifying clear models for this unusual architectural element, other than the generic Roman use of tall pedestals, such as the highly classicizing pedestal of the Column of Trajan in Rome. The unorthodox, even bizarre power of this motif as used at Sardis may not find ready parallels in the classical world (let alone the Lydian world), but as an appropriate marker of monu-

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110 This is comparable to the early Antonine Temple of Zeus at Euromos, as described above in note 107.

111 For a detailed discussion of this conclusion, see pp. 236–238.

112 Sardis II.1, pp. 43, 93–97 (quotes p. 97).


114 Sardis II.1, p. 97.
mental axes and memorable and mythical landscapes, it was echoed in the architecture of later periods. Here we might cite the handsome sculptured pedestal bases for the double columns marking the main axial entrance of the Grand Palais in Paris (1897–1900; Fig. 3.37); and François de Nomé’s enticing seventeenth-century architectural capriccio Samuel Anointing Saul, a strange extrarurban scene containing a triumphal arch, a stepped tomb monument, and a monumental column on a tall, rustic pedestal with carved figures (Fig. 3.38; compare to Fig. 3.40).

Notwithstanding the undeniably exotic and powerful appearance of these top-heavy rustics, the reality of the origins and intended design of the Sardian examples may be more ordinary. These pedestal columns were almost wholly reconstituted during the Roman phase of the temple from parts and elements taken from the dismantled Hellenistic columns of what became the west cella (see above); the job was practical and practically done. Careful study of the fluted shafts reveals that there are minute discrepancies in the fluting (fillets and flutes often do not match by margins of 1–4 mm); therefore, the shafts must have been rebuilt from the drums of existing columns. Such discrepancies in fluting would neither have been tolerated nor possible if the flutes were newly carved on their shafts in situ, as was the custom. This view is supported by the large number of damages and repairs seen on the delicate, finished fluting of the columns; some of these were probably incurred during their transportation and reconstitution.

Five or six blocks recut and reshaped from fluted drums, similar to those used for the pedestals, were found at the west and southwest end of the temple. In the same area, there are also some fourteen or fifteen fluted column drums in a good state of preservation. As shown by Ken Frazer, each pedestal is composed of eight blocks, each face of the pedestal has three blocks with tightly fitting joints between them (with anathyrosis). The joints recede inward considerably from the rough, projecting face of the blocks. The unfinished, outward-tapering blocks of the pedestal tops were entirely recut from fluted drums of columns no longer needed in the new Roman redesign, probably the columns freed in the rebuilding of the west cella and the west pronaos porch; these recut flutes can still be seen on the pedestal (Fig. 3.39). Using these elements, Frazer reconstructed in 1993 a sketch of a full pedestal base and a column shaft surmounted by the

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115 The monumental Beaux-Arts Grand Palais on the Champs-Élysées (still used as an exhibition hall and museum) was built for the 1900 Paris Exhibition by a consortium of architects under the supervision of Albert Louvet; the grand facade and sculpted pedestal bases, which represent Architecture, Sculpture, Painting, and Music, were designed by Henri Deglane. See Boyd 1901, p. 177; Iwarere n.d.

116 This painting at the Harvard Art Museums (obj. no. 2012.62), a seventeenth-century architectural fantasy in a dreamy urban setting, reminds us that our rusticated pedestal column, similar in appearance, might have been conceived as an architectural capriccio for its time and purpose; even if it was not, over time it became so.
half-preserved capital G (found on the west end of the temple) as column 53 of the west porch (Fig. 2.270). There are enough blocks and fluted drums in the field on the west side of the temple to recompose one or even two columns on pedestals.

Even if the unfinished blocks were intended for sculpture, as Butler had maintained, their Roman Imperial date means that they need not have been for archaizing reliefs like the sculptured drums of the Ephesian Artemision. Rather, they could have been straightforward Roman representations in low relief, such as the assemblage of trophies decorating the huge pedestal of the Column of Trajan in Rome, or as another possibility, the classical figures of muses, allegories, racial types, or captives found on the column pedestals of Roman temples and triumphal arches. However, that is admittedly a long shot; a plainer solution is to be preferred. Although the rough top blocks of the pedestal appear to taper strongly outward, they do not project more than just 8–10 cm beyond the finished surface of the plinth course below them (when measured from the recessions of their joints) (Fig. 3.40). The intent could have been to trim down the rough blocks to an even surface, making an ordinary, modestly projecting crown molding. In either case, as Butler noted, the pedestal columns of Sardis are uncommon and eye-catching elements, inside or outside the repertory of classical architecture. Likewise, they might not be reproductions “taken from purely Lydian sources,” even though there are Lydian letters inscribed on the bottom of the shaft of column 12, which probably belonged to the column in its original, conventional role in the cela (Fig. 3.41).

Instead, they appear to be eclectic and creative examples of Roman bricolage, achieved by recycling some of the older and more precious elements of the Hellenistic temple, drawing attention to and accentuating the central axes of the projecting porches.

**Considerations for Columns In Antis and a Pronaos Porch Open to the Sky**

According to Gruben, a pair of columns with high, rusticated pedestals originally stood between the anta piers of the east and west porches (Fig. 3.2, upper plan). Gruben’s hypothesis for the existence of these in antis columns is an architecturally pleasing and structurally logical solution; these columns provided a viable cella design even when the peristyle was missing. Indeed it would be difficult to imagine how the short ends of the Hellenistic cela, presumably with its gable or pediment, would be possible without columns in these positions. Yet in terms of chronology and several other important aspects, his theory proved untenable.

The design history of these in antis columns, now missing, is important. The depth of the pronaos porches (created by the removal and absence of these columns) strengthens the theory that they were defined by six columns (enclosing an area of ca. 17 × 13.40 m) and may have been open to the sky (Fig. 3.2, middle plan). This was the solution proposed by Butler and supported by a few other scholars mainly on

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118. To add to this roster, excavations at the southeast corner of the Synagogue and the Marble Road in 2014–19 revealed no less than twenty fluted drums of the temple reshaped as voussoirs for what has been named the Monumental Arch, some three kilometers away from the temple.
119. Although the proportions would be wrong, the sculpted pedestal bases articulating the high podium of the early Antonine Temple of the Deified Hadrian in Rome come to mind.
120. Sardis I.1, p. 106; Sardis VI.2, pp. 39–40, no. 21, pl. ix.
121. Uncharacteristically, Gruben missed that his pedestal blocks were recomposed from original fluted column drums. He believed that these in antis columns had stood on high pedestals that were dismantled and brought forward to the positions they occupy now (columns 11 and 12) sometime in the second century B.C. (his “Pergamene period”). The move and reassembly of the fluted columns and their capitals might be plausible, but this cannot be so for their unique pedestals, which we know were created by recutting and reshaping discarded fluted drums (probably from the cela interior). Gruben 1961, pp. 166–67, 181. Gruben missed the telltale marks of cut-through flutes on the pedestal blocks. The creation of high pedestals (ca. 1.60–1.70 m in height) was a typical Roman solution—not a part of the Hellenistic building—in order to facilitate the reuse of the cela interior columns, which were shorter by about that amount. The original in antis columns must have been regular, full-height specimens.
structural grounds, but this theory also leads to significant architectural and spatial consequences.\footnote{Sardis II.1, pp. 92–95, ills. 101a–b; see also Robertson (1954, p. 150), who followed Butler but proposed on structural grounds the possibility of “perhaps unroofed” east and west porches surrounded by columns. The similar but larger pronaos area of Temple “GT” at Selinunte is commonly judged to have been open to the sky (Sardis: 17 × 13.40 m vs. Selinus: 20 × 17 m). See Dinsmoor 1973, p. 100; Berve and Gruben 1963, pp. 428–29.}

Excavations in 1972 and 1996 inside these porches failed to reveal any material identifiable as foundations for these hypothetical \textit{in antis} columns\footnote{In 1972, “trench 2” and “trench 4” aimed to locate the foundations of the hypothetical \textit{in antis} columns of the east and west porches. See Sardis R1, pp. 82–83, fig. 120. In 1996, the area between the eastern anta piers was re-investigated. It had been excavated down to the level of the temple foundations by Butler, who left no stratigraphical details of the excavation except to say that no structural remains and no column foundations were found, after “the entire space within the western portico was cleared out to a depth of 3 m or more, and then filled up again” (Sardis II.1, p. 27).}. T. Asena’s 1996 trench inside the southern part of the east porch yielded large quantities of marble architectural elements from the temple: fragments of shafts, capitals, ornament, roof tiles, and the lower half of a colossal bearded head identified as the emperor Commodus (Figs. 3.60, 3.61). The pottery was predominantly Late Roman, but this mixed with some earlier material including some Lydian wares. Asena concluded that the area had been excavated in late Roman times, no earlier than the late fourth or early fifth century a.D., and that this was when the imperial portrait was buried.\footnote{This is a roughly rectangular block with rounded edges split in two; see Ferhat Can, “AT 11.1 Final Report” (Sardis Expedition field report), pp. 3–4.} In order to clarify these speculations unsolved by the limited trench of 1996, a larger area extending between the northeast and southeast antae of the east porch (and its extension between the northeast anta pier and column 16) was excavated in 2011 (Plan 6; Fig. 3.42). This new archaeological effort, supervised by F. Can and N. Cahill, brought forward new information and new proposals suggesting major changes in the building history of the temple and its phases, mainly based on ceramic evidence. In the following discussion, our goal is to represent these views and clarify where we consider alternative readings of the evidence.

The Results of the East Porch Trench of 2011

The east porch trench of 2011 produced the first reliable evidence that the Hellenistic temple originally had columns between the northeast and southeast antae: cuttings datable to the Hellenistic period in appropriate spots in the bedrock, impressions of the stepped foundations in the mortared rubble bedding of the Roman stairs, and a large sandstone block that could have belonged to the foundations of the southern \textit{in antis} column.\footnote{Answering this question concerning the \textit{in antis} columns was one of the primary goals of the 2011 excavation in this area and led to ancient bedrock at *98.40, ca. 1.60 m below the surface. Tumay Asena, “AT 96.1, Final Report” (Sardis Expedition field report), pp. 4–5, 7–8.} Based on the stratigraphical evidence, Can and Cahill concluded that the only digging and filling activity in this area belonged to the fourth or early fifth century a.D., resulting in the removal of the \textit{in antis} columns.\footnote{The dimensions and the location of cut-}
tings in the trench (ca. 4.0 × 4.80 m) are appropriate for the block foundations of these columns in antis, datable to the Hellenistic period. Their spacing, reconstructed at ca. 8.35–8.40 m, matches the axial distance of the columns located between the anta walls of the west porch (numbers 77–80) but not the cella interior columns at ca. 9.40 m.\(^\text{127}\)

Additional findings from Can and Cahill’s excavations could be helpful in determining when these columns were removed. The east face of the mortared-rubble foundations of the Roman stairs retains impressions of the upper two courses of the stepped marble foundations of the Hellenistic column in antis. This observation led to the hypothesis that “after the columns were removed, the stair had sagged into the resulting void” (Figs. 3.43, 3.44).\(^\text{128}\) Consequently, the removal of the supporting column foundations, which resulted in the “sagging,” must have happened some time during the Late Roman period because the pottery evidence from these trenches, with bedrock cuttings, dates predominantly to the fourth and fifth centuries a.d., although it also includes Hellenistic sherds and “a significant amount of earlier residuals.”\(^\text{129}\)

Hence the in antis columns were left in place during and throughout the building’s mid-second century phase when the east door was opened and the stairs built in front of them; they were not removed until late antiquity, when the mutilated head of Commodus was dumped. In addition, these trenches of 1996 and 2011 also produced evidence that lead to the conclusion that these columns in antis were being dismantled and broken up in Late Roman times.\(^\text{130}\)

The fact that these foundation blocks must have been removed at some point in the history of the building is not questioned (though the column foundations could have remained in the ground until their final removal, while their columns were removed at an earlier date, as discussed below). Still, other questions and possibilities remain, and the “sagging” of the south end of the stair foundation is a subject for reconsideration.

First, it is difficult to declare that this sagging was unequivocally and solely the result of failing static conditions after the removal of a support. It could have happened due to natural causes, such as earth settlement or the earthquakes common to the region; there is considerable and uneven sagging in the foundations of the temple walls, as recorded in measurements for curvature; the partially measurable curvature of the east wall at euthynteria level (the center 9 m stretch could not be measured), however, revealed no distortions. Contrary to common opinion, the clay deposits upon which the east end of the temple was founded would

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\(^{127}\) Cahill and Greenewalt 2016, p. 486.

\(^{128}\) Cahill and Greenewalt 2016, p. 486 and fig. 17. Asena’s trench in 1996 also identified a larger Roman pit that could have accommodated the southern column of the in antis pair; he did not find a wide cutting in the bedrock into which the column foundation was set, nor the remains of any fill that might show that the cutting was Hellenistic.

\(^{129}\) Cahill and Greenewalt 2016, p. 487.

\(^{130}\) Cahill and Greenewalt 2016, pp. 486–87. Among the few numismatic finds from this area is a coin of Constantius II Caesar (ca. a.d. 310) found in 1972, Sardis coin 1972.1001; see Sardis M7, no. 297.
have offered no greater stability than the gravel and sand under the western part of the temple; geologically and physically, clay is even less resistant than gravel and sand to seasonal inundations or just wetting; it is also not a stable support for shocks and movements caused by settlements and earthquakes. In fact, softer clays—the kind in which our temple’s foundations would have been laid—are liable to swelling and slippage.

Secondly and more importantly, hardened, mortared rubble is well known for its capacity to retain its structural form and function even after its immediate support is removed, especially when carrying a relatively minor load; mortared rubble does not “sag.” When supporting material is removed, such as the marble column foundations against and over which it was built, mortared rubble cantilevers remarkably well, and if the external forces are large enough, it cracks and eventually collapses. In this case, the “unsupported,” “moment arm” of the undermined mortared rubble was so small that any sagging, slumping, or cracking would have been highly unlikely; furthermore, any stones taken from under the mortared rubble would have been immediately replaced by earth.

The contextual, architectural indicators for the removal of these in antis columns in the fourth–fifth century A.D., rather than in the second century as a part of the larger Roman redesign of the temple, is credible but not conclusive.

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131 From the second to the fifth centuries A.D., Sardis endured at least eight massive earthquakes, any of which could have affected the buildings there: Laodicea in 138; Bithynia/Mysia in 160; Smyrna in 178/9; Aphrodisias in 240; Ephesus in 262; Nicomedia in 370 and 378; Nicea/Bithynia in 388; Cyzicus in 460; and again in Nicomedia in 478. From late antiquity to the end of the nineteenth century there were dozens more severe earthquakes in western Anatolia. Considering only the strongest, which would have destroyed buildings throughout Sardis and the Hermus valley, these were: Gediz in 1593; Meander valley in 1653; Izmir in 1688; Kėmalpaşa in 1852; Bursa in 1855; Menemen and Manisa in 1880; Banaz in 1887; and Aydin in 1899. See Ambroseys 2009.

132 For this general information on clays, earthquake behavior, and soil engineering I thank earthquake specialist Dr. M. Çelebi, Senior Research Civil Engineer and Manager at the USGS; private communication, June 29, 2017.

133 It is normal to expect that the stepped block foundations of the column offered partial support for the wet, mortared-rubble foundations (a form of opus caementicium) of the Roman stairs when the mortar had not yet set, but not after it had solidified. The prospect of a centuries-old thick, hardened mortared-rubble mass “sagging” or collapsing once its partial support was removed is unlikely. Like the relieving arches of Roman concrete construction, the ashlar foundation blocks would have offered “an active and useful part [only] during the actual construction . . . and to a diminishing degree during the period of its drying out. Once the concrete had hardened, however, they served no structural purpose whatsoever.” After that, it would be up to land movements and earthquakes to move, crack, or fail that slab of mortared rubble. Moreover, by my measurement there is no sag at all on the trimmed stone foundation blocks of the stair, which itself is supported by the mortared rubble. For the static behavior of Roman concrete (and the above quote), see Ward-Perkins 1977, p. 99.

134 Cahill and Greenewalt 2016, p. 486.

135 At this point one might recall the circumstantial evidence provided by the Roman construction marks (such as lewis holes) on top of the remaining southeast anta capital. These features could not have been there if these original Hellenistic capitals were not removed, recut, and replaced at some point during the Roman era, possibly in the process of removing the original architraves across the east pronaos porch that they carried (hence their in antis columns). This would make more sense if it were a part of a deliberate architectural scheme, not a fourth- or fifth-century dismantling of the temple (see above). N. Cahill, in private conversation, also alluded to the possibility of changing the cella wall heights at this time; possible, of course, if it was not too drastic a change.
tant desire to explore an unconventional design in the face of structural improbability. Removing the columns was an architectural option predicated on deliberate architectural and spatial considerations, as well as a presumed preference on the part of the Roman architect for an unorthodox design—something we cannot prove.

By definition, a reconstruction must take some risks. As one scholar of antiquity put it, “there is a delicate balance in taking . . . a few steps beyond the bounds of knowledge . . . and in completing the unknown according to culturally (and architecturally) accepted rules.” Accord- ing to the sixteenth-century French philosopher and essayist Michel de Montaigne, a reconstruction of the ancient city of Rome was made possible by piecing together “pictures”—a mosaic of physical evidence composed of real or derived images and impressions, all with their own restrictions. Walking through our temple and considering the architectonic possibilities of an open pronaos porch—against practical and conventional sense—allows such a picture to emerge, one, for all its limitations, that is too valuable to ignore; as mentioned earlier, this is an argument which should have its day in court. Thus, we wish to retain this picture, contrary not to any hard evidence that disproves it, but to the conventional thinking that discourages it.

**Consideration of the Evidence from the Area between the Northeast Anta Pier and Column 16**

The excavations of 2011 inside the east porch produced further information and dating proposals for the first major Roman rebuilding activity of the temple. As an extension of the larger trench between the eastern antae piers, this new area (AT 11.1) was small, located between the northeast anta pier and the independent block foundations of column 16 in front of it (ca. 1.20 × 2.10 m on top, narrowing to ca. 0.30 × 2.0 m at bottom; maximum depth ca. 1.0 m, with a volume of ca. 0.90 m$^3$; Fig. 3.45). Only the top 0.30–0.50 m of the west face of the mortared rubble encasing column 16 was exposed (Figs. 3.46, 3.47). Below a top layer of soil and sand (ca. 0.20 m), the trench was filled with an indiscriminate mixture of building debris, rectan-

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137 Ammerman 2006, pp. 300–303; see also Greene 1982, p. 52.
138 Our support from architectural comparanda, however, is thin. We can count no open pronaos–associated roofs from Asia Minor (to be separated from roof openings over the cellas, or hypaethral arrangements), and there is only one from Italy, where such deep porches are common, namely the compluviate roof over the front porch of the third- or second-century B.C. Capitoline Temple on the Arx at Cosa; Brown 1980, pp. 3–4, figs. 66, 67. One should also consider that in all but a very few cases, the nature of the evidence for an open roof is conjectural; roofs are usually not preserved. It is possible that some of the temples we know only from remains on the ground (their footprints) had open roofs. Indeed, it is the presence of a pronaos cistern that allows us to propose an open roof for the Capitolium at Cosa.
cular and round bricks, roof tiles, terracotta pipe segments, chunks of rubble, and heavy lime mortar—all mixed with a rich collection of fragmentary pottery containing a few well-preserved and mendable pieces, such as a large, nearly complete lamp and fragments of four other restorable vessels. Some of the architectural debris and pottery was found cemented to the mortared rubble of the column foundation (or rather to the external face of a rubble-and-mortar wall encasing the block foundations), indicating that the rubble wall encasing the block foundation of column 16 was laid at the same time that this ceramic and construction fill was dumped. Pottery recovered included some Hellenistic and Lydian wares (4 percent and 1 percent by weight, respectively), but it was overwhelmingly early Roman, representing a chronological spread from the Augustan period to the middle of the first century A.D.

The indiscriminate and varied nature of the building material filling the space between the anta and column 16 demonstrates a lack of clear, chronological layering and suggests that this mix originated from a building dump, probably from multiple sources. Recognizing the heterogeneous and unstratified nature of the material, E. Can commented that "[t]his deposit is brought from somewhere else, a destroyed building." Although dating discarded building debris is difficult, some of the fill could be late Hellenistic or early Roman; however, there was also some material broadly datable to the second century A.D., such as rectangular and square bricks, two courses of a brick wall preserved as a chunk with thickly mortared joints, and particularly the crudely shaped pan and cover roof tiles. The coarse, round bricks, may also have come from late Hellenistic or early Roman contexts at Sardis where round bricks have been found, or, as likely as not, from hypocaust pilae typical of the second century A.D.

In view of its importance, the pottery that was excavated from this trench was carefully studied by a team of specialists. As noted by E. DeRidder in her excellent final report, the overwhelming majority of the ceramics found in this small trench (some 94 percent by weight) was judged to be early Roman (Augustan to the first half of the first century A.D.), but a few pieces were assigned to a wider chronological range. The majority of the pottery consists of small- to medium-sized plainware body sherds, some Lydian and Hellenistic sherds, "transitional" pottery produced during the late Hellenistic and early Roman periods, lamps (Brunner types 19 and 21 and red-on-white [ROW]), finewares, transport amphorae and Eastern Sigillata B (ESB), and local imitations of ESB, as well as a few pieces of Western or Italian Sigillata. Of particular interest are a large, hand-some lamp found on the second east-facing foundation step of the northeast anta pier (Sardis inv. L11.22, missing only about one-quarter of its bottom); part of a one-handled jug (Sardis inv. P12.182); part of a basin or krater with interior slip (Sardis inv. P12.185); and some pseudo-Koan amphora fragments (Sardis inv. P12.180) (Fig. 3.48). Due to their better preservation and closely datable typology, these vessels were classified as "diagnostic" and firmly dated to the first half of the first century A.D. The majority of plain and utility wares, "if judged to be 'non-diagnostic,' were given

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139 What could possibly be the source or sources of such a mixed fill, amounting to less than one cubic meter? Sardis, like all western Anatolian cities, suffered many earthquakes and destructions. Destruction debris is, in some ways, an impediment to rebuilding. Some of this debris, which would have contained household pottery indiscriminately thrown in, might have been dumped at various locations across the city and its hilly perimeter as landfill. When mortared-rubble fills for foundation and floor platforms were in high demand during the second-century phase of the temple, this material could have been reclaimed, retrieved from whatever valley or gully it had lain in for some seventy to eighty years. That this particular batch filling our small trench overwhelmingly contained early first-century material must have been the luck of the draw. See Can, "AT 11.1 Final Report" (Sardis Expedition field report).


141 The nature of this debris resembles the mortared rubble fill (or foundation platform or pad) that covers most of the east end of the temple, between the columns of the east peristyle and the pronaos porch. Although the platform fill is mainly rubble and mortar, the shallow trench excavated in 2012 between columns 3–4 and 10–11 produced some bricks and a few tiles similar in size and typology to those from the northeast anta trench. The discovery at Sardis of baked brick from late Hellenistic and early Roman contexts is important to the larger study of the history of baked brick in Asia Minor; it deserves credit and should be better known. As a general consideration, the use of baked brick, even specially designed bricks, for column shafts (round, half-, and quarter-round shapes), engaged col-

142 The round bricks from this trench, reconstructed ca. 36–39 cm in diameter, are almost identical in type and size to those of the hypocaust pilae of the Hadrianic Baths in Aphrodisias, which vary between ca. 34–36 and 37–39 cm in diameter. Our round bricks display “finger holes,” which are details closer to the round bricks from independent deposits from Sardis and dated earlier than the hypocaust bricks from Aphrodisias. Yet “finger holes,” representing a fairly common and sporadic practice in Roman brick and tile production, is not by itself a “type” assignable to a date or limited to those earlier bricks from Sardis.

143 This team of specialists included E. DeRidder, J. Hayes, S. Rotroff, U. Outschar, A. Berlin, and M. Rautman. The material comes primarily from AT11.1, lot 3, baskets 19, 21, 13. See Elizabeth DeRidder, “The Artemis Temple at Sardis: Three Ceramic Horizons, August 2012” (Sardis Expedition field report), with especially useful tables that summarize the results and include different points of view in analysis and dating, pp. 4–6, 8–9, tables 2 and 3; Raubolt 2018, pp. 347–66. Taking the two carefully documented groups as a whole, “Finewares” (table 2) and “Lamp Fragments” (table 3), the overall dating spread assigned by the Sardis specialists covers ca. 25 B.C. to the mid-first century A.D., with two sherds possibly dating as late as A.D. 157. In the tables, individual, nonconforming views are also noted.

3. Building History and Chronology

an early Roman date. Consequently, the “diagnostic” ceramic deposits from this area were judged to be contemporary with the foundation of column 16, which in turn dates this foundation to the first half of the first century AD, “[built] perhaps, a generation or two after the devastating earthquake of 17 CE.” This same argument posits that this phase of early Roman construction applies not only to the foundation of column 16, but also to all column foundations of the temple’s east end. Hence, the pseudodipteral arrangement of the temple was assigned to the same Julio-Claudian design effort, a fundamental change from what I believe to be a Hadrianic undertaking associated with the emperor’s visit to Sardis and the granting of a second neokoros to the city (see in this section below).

I agree with the dating of the great majority of the ceramic evidence from this trench (especially the larger, more complete pieces) to the first half of the first century AD; no arguments are presented here contesting that judgment. However, upon closer examination of the ceramic evidence it becomes clear to us that among the ceramics from this trench (besides the Lydian and Hellenistic material, which are earlier and viewed as “residual”), a few smaller pieces could be later, probably late first or even early second century. Two ROW lamp fragments were tentatively assigned to the “mid-first into second century” by the Sardis specialists, while one expert believed they could date later. New evidence from Ephesus (Prytaneion and Insula 2, “Slopehouses”) established the origins of the ROW lamp type in the late Augustan period, a fact of which Outschar was aware. Still, according to many specialists, ROW belongs overwhelmingly in later periods and contexts, predominantly Flavian to Hadrianic. The new information from

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Cahill and Greenewalt 2016, p. 501.

This interpretation is presented as phase “Roman 1b” of the “Phase plans of the Temple of Artemis,” Cahill and Greenewalt 2016, pp. 496-501, fig. 74.


As noted by DeRidder: “Outschar believes this a 2nd c example of the type” (“The Artemis Temple at Sardis: Three Ceramic Horizons,” p. 9, table 3, items 5 and 6).
Ephesus, taken at face value, indeed requires us to consider our ROW fragments within a larger chronological window, extending from the late Augustan to the Hadrianic period; however, it does not follow that the ROW fragments found in the Sardis trench must belong to the earlier, Augustan date.\(^{152}\)

Outschar also viewed some of the Hellenistic-type Eastern Sigillata B pottery (particularly one dish rim fragment of the thicker ESB) as local production “that could easily go on to late first century or early second century A.D.”\(^{151}\) It is important, however, to underline that J. Hayes, a leading expert in this type of pottery, thought that the rim fragments belonged to the first half of the first century A.D.\(^{154}\) While the first half of the first century A.D. is the established opinion of pottery specialists for the majority of ESB in the Sardis trench and in the eastern Aegean in general, production of ESB did not end in the region after it “peaked” ca. A.D. 50–60; it slowed down and “dwindled” all the way into the end of the first and early second century A.D.\(^{155}\)

\(^{151}\) In an interpretive article on Early Imperial Roman pottery from Ephesus (Ladstätter 2007, pp. 211–12), S. Ladstätter describes the late Augustan period (especially related to Insula 2 of the “Slope houses”) as a time when the late Hellenistic variety and diversity in ceramic forms, types, and sources were being replaced by an expansion in local production and standardization, initiating the transition to the Roman period. According to Ladstätter, the emerging ROW technique in Ephesus during the late Augustan period followed this Ephesian experimental phase of lamp production, achieving a fine, glossy appearance; hence, the development of ROW during the late Augustan period at Ephesus was a part of this experimental effort. By the second half of the first century A.D., production had spread to centers outside Ephesus in a more standardized, less creative manner. If this interpretation is correct (and I find it so), it would be unlikely that a type which started in Ephesus as a special, experimental ceramic technique in Ephesus during the late Augustan period followed this Ephesian experimental phase of lamp production, achieving a fine, glossy appearance; hence, the development of ROW during the late Augustan period at Ephesus was a part of this experimental effort. By the second half of the first century A.D., production had spread to centers outside Ephesus in a more standardized, less creative manner. If this interpretation is correct (and I find it so), it would be unlikely that a type which started in Ephesus as a special, experimental production during the late Augustan period (and which spread to other production centers only later) should be represented at Sardis at the same time as its initial Ephesian production. It should be mentioned that Outschar, clearly familiar with the earlier dating of ROW, is not willing to state that her later dating of the ROW fragments is necessarily wrong; Outschar to Yegül, Oct. 26, 2018.


\(^{154}\) DeRidder sums up the difference: “Hayes believes this is likely to be an early example (first half of the 1st c. A.D., Atalanta II, Form 19), while U. Ojutschar believes that this rim fragment is 2nd c. A.D. [Atalanta II, Form 60]” (DeRidder, “The Artemis Temple at Sardis: Three Ceramic Horizons,” p. 6, table 2, item 6). For a wider study of chronological and geographical distribution of terra sigillata in the Aegean and eastern Aegean regions, see next note.

\(^{155}\) Other Western, Italian terra sigillata fragments were assigned a wider chronological range within the first century A.D. (or “second to fourth quarters of the first century A.D.”); see DeRidder, “The Artemis Temple at Sardis: Three Ceramic Horizons,” p. 6, table 2, items 8–10. After wide consideration of ESB (“Type 1”) in the eastern Aegean and western Anatolia, P. Bes asserts that “ESB remains (fairly) common terra sigillata in several Aegean regions until the mid-2nd c. A.D. This pattern, if it is a pattern, requires further study.” Bes reminds us that “we cannot simply ignore this [continuation of ESB both Types 1 and 2 into the second century A.D.], and consider this residual” (Bes 2015, pp. 74–75, 40–41, esp. charts 24, 56).

\(^{156}\) This is apparent in the chronological leeway that is acknowledged and accepted in the ceramic identification and dating tables given in DeRidder, “The Artemis Temple at Sardis: Three Ceramic Horizons.”

\(^{157}\) The sherds and construction debris that could be assigned a later (or earlier) date share the same structural context as the rest (larger, better-preserved, diagnostic pottery). As observed by one consulting field archaeologist, who also works in Asia Minor, “the size or completeness of the material or the majority represented does not matter, what matters is the latest datable material . . . that is the date, at least, terminus post quem” (B. Rose, message to author, July 13, 2018).

\(^{158}\) Considering the varied and strong evidence for the second-century dating of the major Roman rebuilding of the temple, Cahill accepts the possibility that actual work on the superstructure of the east end columns, the division of the cela, the east door with its Hadrianic ornament, and the testimony of the inscription around column 4 (the “talking column”) might date to the second century,
ple’s design and history by asking an important question: If the pseudodipteral scheme had truly originated under the Julio-Claudians, what was the purpose of this fundamentally redesigned, repurposed, double-cella temple? What was the programmatic event that could explain the division of the cela and the focus on an elaborate, new east front in the early first century A.D. while the original west front lay incomplete and unattended? Moreover, why was the rare convention of using complex, intercolumnar contractions applied to the east peristyle (an application used only on the principal facade of a temple, based on the Archaic and possibly Late Classical examples we know; see Ch. 4, pp. 238–239) unless it was intended to be a new front? And how can we accept the east side as a new front, unless it had become the facade of a divided cela housing a new, important cult? I believe that the impetus for this ambitious new program was the granting of imperial cult privileges to Sardis under Hadrian and the consequent preparation of the city's major temple for the new imperial masters; the new front is programmatically linked with the imperial cult. The evidence provided by six or eight full or fragmentary colossal cult images of the Antonine family (possibly also of Hadrian and Sabina, see below) establishes the Artemis temple as a joint temple subsuming the imperial cult. Other historical and epigraphic considerations surrounding this event makes the granting of the second neokorate to Sardis and the rebuilding of the temple under Hadrian a logical proposal.

Can we replace this scenario with a Julio-Claudian double-cella pseudodipteros? Could Sardis have received its imperial cult privileges under any one of the Julio-Claudian emperors and redesigned its primary temple in order to incorporate this cult? The Julio-Claudian era was a period when ties with Rome were strong. Since Sardians honored Tiberius as Founder of the City and described themselves as Kaisareis Sardiani ("Emperor's Sardis"), it is suggested that "already in the first century Sardians intended to dedicate this part of the building to the imperial cult." However, there is no evidence that Sardians were intending or planning to alter their temple in a major way as a response to the needs of a cult, nor to dedicate any part of it to such a cult at this time. They competed for the neokorate honor in A.D. 26 but did not get it.

Archaeological evidence is often not absolute, but rather it supports particular interpretations. Here I have presented an overall interpretation of the evidence as I see it—I am prepared to accept error in some parts, but I trust that the overall picture is reliable. I believe that the strength of the evidence that supports an issue should be in proportion to the significance of that issue. In architecture, if evidence leads to fundamental, consequential (sometimes irrevocable) changes in the design and history of a building, there should be little room for doubt; when the stakes are high, the burden of proof should proportionally be high. Moreover, I feel that our job is not to provide our readers with a "proven" thesis but to present the materials and circumstances as we see and interpret them, as well as to represent the alternatives and different readings—to offer a "marketplace" of ideas and possibilities in a disciplined but open-ended discourse.

Inspired by the idea that the spirit of inquiry is that "spirit which is not too sure that it is right," I offer the following modification scenario to bridge the gap between different viewpoints and to represent the possibility of some early Imperial construction in the east porch (a "what if" scenario, though my argument and preference for an early to mid-second century A.D. date remain unchanged). If the foundations of column 16 were begun sometime in the first half of the first century A.D., this column (and its southern counterpart column 17) would have been a logical place to begin the long-delayed peristyle, no matter what the larger design was going to be, or whether it had yet been determined. This much we will accept as an alternative interpretation of the field evidence, as a technically possible alternative, but one that is not provable without declaring that the entire pseudodipteral, double-cella scheme is Julio-Claudian.

Other cities that assumed similar titles include Myrina in Mysia, Cibyra in Phrygia, Hadrianopolis in Paphlabonia, and many more. At Ilion, the people and emperors were "kinsmen"; in Aphrodisias, the letter of Augustus displayed in the theater virtually shouted, "You are my favorite city of all Asia Minor." Such politically motivated honorific titles were common among the cities of Asia Minor and their use continued unabated into the third century. Sardis's close ties to Tiberius is a manifestation of this pattern, occasioned, even necessitated, by Tiberius's earthquake relief, but in no way does it indicate that they had any reason to dedicate their Artemis temple to him. Even if they had been successful in obtaining the neokorate they sought under Tiberius, it does not follow that the neokorate temple was going to be the Temple of Artemis. There are no grounds to imagine that Sardians were planning or preparing their temple for the imperial cult at any time before the second century. If indeed these honorific titles indicate a special closeness to an emperor, Hadrian was twice honored at Sardis as "Neo-Dionysus." I am grateful to B. Rose and K. Rigby for bringing some of this material to my attention.

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159 This proposal, first suggested by me in 2013 (Yegül 2014, pp. 218–19), is now strengthened by the careful rereading of an important inscription from Sardis, IN00.4, by G. Petzl in Sardis M14, p. 65, no. 373. See also in this volume, pp. 220–221, and pp. 236–238.


161 Special honors paid to Tiberius, including the title Kaisareis Sardiani, reflect the city's acknowledgment of the emperor's generosity after the A.D. 17 earthquake—and possibly its desire for more generosity in the future. The title and the occasion seem to be directly modeled after the actions of Tralles, a city that renamed itself Caesarea Tralles in acknowledgment of the generosity of Octavian Augustus following the severe earthquake of 25 B.C. (Strabo 12.8.18).

162 The inspiration comes from Billings Learned Hand (1872–1961), a U.S. judge and judicial philosopher active in the first half of the twentieth century, whose famous quote is: “The spirit of liberty is the spirit which is not too sure that it is right,” from the speech he gave in Central Park, New York, May 21, 1944.
FURTHER CONSIDERATIONS FOR A CLOSER DATING OF THE ROMAN PHASE

In addition to the technical, archaeological, and stylistic evidence that supports our proposition that second major phase in temple’s history was Roman Imperial (namely, the creation and implementation of the pseudodipteral plan), two major considerations, taken together, help to narrow our chronological framework to the mid-second century A.D.: a building inscription from one of the east peristyle columns; and the discovery of a number of colossal imperial images of the mid-second century A.D. inside or near the temple cella. Likewise, the stylistic evidence provided by the east door ornament strongly supports its Hadrianic date (see in this chapter pp. 167–171). The following is mainly a review of the column inscription and the imperial statues in their archaeological and historical contexts, in order to illuminate further the Roman history of the temple.

The Roman presence in and use of the sanctuary as a major cult center, attested by the large numbers of coins and votive and dedicatory inscriptions from the precinct, hardly needs explication; however, the fact that a majority of these dedications belong to the second century A.D. deserves emphasis. Here our short discussion will be limited to dedications from the Roman period.163

Four marble building blocks with inscriptions on them (numbers 51–54 in Sardis VII.1) were found, along with other unscribed, squared blocks, at the foot of the north-west steps. They appear to be building elements belonging to an extension of the temple, perhaps used as facing for the rubble wall just east of these steps, crossing the north pteroma (Fig. 4.7).164 Because they are made of coarser marble and lack drafted edges, they are unlikely to have come from the cela walls. All are dedications set up by the city of Sardis, its people, and its council to honor “priestesses of the goddess Artemis” for having served her with devotion; they all date from the late first or early second century A.D. Block no. 52 is dated to A.D. 126–27, as it names the proconsul Stertinius Quartus.

Block no. 54 honors Apphion Secunda, daughter of Menandros Lechitas, for having served “with due devotion and lavishness in a manner worthy of the goddess” (Sardis VII.1, no. 52). It is interesting that Apphion Secunda was honored also with a duplicate inscription, engraved on the pedestal of her now-lost statue (Sardis VII.1, no. 53). This tall, inscribed pedestal was set up by Butler at the north-western end of the marble steps, where it still stands today (Figs. 2.152, 2.153). A inscription carved on a different marble statue base honors another priestess and entreats Artemis to “ever preserve Sardis in concord through the prayers of Moschine” (Sardis VII.1, no. 50). The statue of Moschine, represented as a draped young woman (head missing), was found north of the temple in 1929 and is in the Izmir Archaeological Museum. According to Hanfmann and Ramage, the sculptural style, letter forms, and the “stress laid on ‘concord’ suggests a late first century B.C. date for this statue base, possibly the period about 41 to 31 B.C., when Sardis was violently disturbed by civil strife.”165

There is no doubt that these dedications and offerings were representative of many others that littered the precinct around the temple and its altar during or shortly before the Imperial era; they provide evidence for considerable activity concerning the temple and the primacy of the cult of Artemis throughout this period.

The Evidence of Column 4, the “Talking Column”

The most important epigraphic document connected directly to the temple’s Roman history—and particularly the construction of its peristyle—is an inscription in Greek verse carved on the bottom fillet of column 4 in the east exterior colonnade, north of the middle axis of the temple (Fig 2.29). The inscription informs passersby: “My torus and my foundation block are carved from a single block of stone, furnished not by the people [demos] but given by the house [of the temple]”;166 it proudly declares in the first-person singular, “[O]f all the columns [stones] I am the first to rise” (Fig 3.49).

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163 Sardis II.1, pp. 106–7, ills. 106–7; Sardis VII.1, pp. 66–69, nos. 51–54, figs. 42–44; Buckler and Robinson 1913b.
164 Sardis VII.1, pp. 69–70, no. 50, fig. 41; Nock 1930, p. 256; Sardis R7, pp. 164–65, no. 246, figs. 426–27 (Izmir Archaeological Museum inv. no. 381).
165 Indeed, the toruses and the spinae (but not the plinths) of all eight columns of the east colonnade bases are carved from single blocks; the bases of the east and west pronaos porches are carved in three separate pieces: plinth, spina, and torus. In the case of column 4, the bottom piece of the shaft, 30.5 cm high, is also made from the same piece of marble—a block ca. 1.64 m high and averaging 2.30 m in diameter that could weigh up to 12 tons (and equaling 4.28 m³). The monolithic construction of column 7 (spina, torus, and bottom section of the shaft) is even more massive, at ca. 15 tons.
166 ἅ γαίρει καὶ τὸ ῥήτωρ ἐντός ἐλεύθερον ἐπὶ πόλιος ἐπὶ σοῦ πάνταν ἐξ ὢμοι ἀνέστησεν ὑπὸ δημοσίου πέμπτου (with restorations by Buckler and Robinson); see Sardis VII.1, pp. 143–44, no. 181; Sardis I.1, pp. 110–11. In Buckler and Robinson’s reading, ὠχεῖον ἴθθεν is translated as “given by friends,” signifying private donors. Supporting this reading, see also Rumscheid 1999, pp. 31–32. The linguistic refinements of the text required by the subtleties of...
According to an alternative reading by Angelos Chaniotis, the column was “almost certainly given by the temple and not by an individual . . . given by the ‘house’ (oikos) of the (temple),” that is, the stone was furnished by the temple (“our own stones”) or temple funds, possibly alluding to and taking pride in the fact that the quarry (or parts of it) was owned by the sanctuary; this was not unusual, especially in the second century A.D. Given the Roman habit, across the entirety of the Mediterranean region, of indulging in exaggerated literary tropes and metaphors to describe fine building stones and marbles, the clear and modest expression of pride in a locally quarried stone expressed in an inscription from Sagalassus is noteworthy and seems to echo the pride expressed by our column (and temple) at using marble not from a distant famous site, but from its own quarries located virtually a stone’s throw away. The Saga-

Figures 3.49
Inscription on base of column 4 base (letters digitally enhanced). G. Varinlioğlu

quire walking around the column counterclockwise to disclose its meaning—a movement that would have nourished kinetic memory and shown the temple to best advantage, revealing its impressive forest of columns and the ornate bases clustered at its east end (Figs. 2.223, 3.50).

Epigraphers specializing in Anatolian inscriptions, led by the late Peter Herrmann, suggest a broader date from the late first to the mid-second century A.D., based on letter forms, epigraphic style, and content. However, the balance of opinion (particularly Herrmann) strongly favored the Trajanic/Hadrianic period, in contrast to the stylistic interpretation of Buckler and Robinson in 1932 to the “earlier half of the 1st century A.D.” Herrmann’s tentative date received the general approval of many of his colleagues, including Georg Petzl (conservatively), H. Malay, and C. Foss. More recently, Angelos Chaniotis expressed a clear

the poetic form, rich in allusion, obscure certain readings; this inscription merits further study. 


171 σήμα δὲ, κεἰ τέχν[α] Φρύγιον λίθον ἔργῳ ἐλέ[γχει], | ψεύδεται· ἐγ γαίης τῆσδε πέφυκε λίθος (CIG 4377, lines 11–12; IGR 3, no. 362). The pride, in both cases, is that of an intelligent, well-considered builder, engendered not only by the preference for a local resource over distant ones, but also by the skill a local mason would use to create an imitation of these distant, famous, expensive stones by using local (should we say) inferior ones.

172 For a special study of this inscription as a column talking in the first-person singular (objet parlant), its literary, historical, and cultural allusions, and significance, see Yegül 2014. On the nature of the objet parlant and the dynamics between the written word and voice and the identity of the speaking object and its audience, see Tueller 2008; Bal 1997.

preference for a mid-second century, specifically Hadrianic date, noting not only paleographic but also textual and literary considerations.  

The celebratory nature of this inscription—casting the column as a victor in a building competition as the very first column “to rise,” or the first to be completed among a cohort of others—is confirmed by the fact that the torus of the Asiatic-Ionic base is fashioned as a wreath (Fig. 3.51).  

In the center and facing west, the loose ends of a ribbon tied by a broad band flutter to the sides. Pointed, overlapping, horizontal laurel leaves (unfinished except for a single leaf) encircle the torus and converge in the center of the opposite, eastern side, where eight well-preserved radiating cuttings (14 cm in diameter) apparently mark the position of a metal or gilt ornament, perhaps a medallion. In effect, the entire torus was conceived as a victory wreath (corona laurea) to honor the column and declare this honor to the goddess.  

After an independent viewing of the inscription, Hasan Malay, in support of Herrmann, wrote that “based on letter forms, especially ‘omega’ and ‘Xi,’ I could not have assigned a date earlier than 2nd century CE” (H. Malay to F. Yeğül, Sept. 3, 2007). It is interesting that neither Buckler and Robinson nor Butler opted for an early date in their first reading of the inscription. Buckler observed that the “‘cursive’ omega” was “commoner in the 2nd and 3rd centuries than in the 1st” (Sardis VII.1, p. 144); and Butler judged it to be “in lettering of the 2nd or 3rd century A.D.” (Sardis I.1, p. 110). Later he somewhat inconsistently opined that the second-century inscription was “engraved upon an old base which was being reset” (Sardis II.1, p. 106).  

“Some letter forms, such as the Xi and the angular omega, are hardly compatible with a first-century CE date” (A. Chaniotis to F. Yeğül, Nov. 6, 2012); and later: “the letter forms (though not always reliable), exclude the early date” (A. Chaniotis to F. Yeğül, July 4, 2013). Taking the full historical and cultural context of the inscription, Chaniotis confirmed (during a conversation on Aug. 14, 2013): “[In fact] it is impossible before the second century CE.” I would like to extend my thanks to Angelos Chaniotis and R. R. R. Smith for sharing their specialized knowledge and insight concerning the epigraphic significance and implications of the column inscription.  

The meaning of the inscription, centered particularly on the translation of the word ἀνιστάμαι [ἀνίστημι] (anistemi), is crucial to the architecture and building history of the temple. Buckler and Robinson interpreted the word anistemi as “to rise again,” implying that column 4, and the other columns of the east front, were Roman reconstructions or repairs of the already-existing peristyle columns belonging to the Hellenistic period (they rose “again,” or a second time). This interpretation was accepted and encouraged by Butler because it supplied strength to the argument that the undeniably Roman work belonged to the reconstruction of the exterior columns from the existing but damaged parts of the “earlier temple,” which was probably undertaken after the devastating earthquake of A.D. 17—“or “earlier 1st century” (Sardis II.1, pp. 142–143). This idea was readily embraced by Hanfmann (Sardis R1, pp. 75–76). The verb anistemi literally means “to stand up” but it could also imply either “to build for the first time” or “to rebuild.” There are a number of examples from the Greek period, some of which are rhetorical in nature, that support the latter meaning. In the factual, architectural context of an inscription on a column, however, the more direct and literal (and architectural) meaning of the word—as simply “to stand up”—should be favored, as Herrmann, Malay, Petzl, Chaniotis, and other epigraphists agree.
gathered by an elegant *lemnisco* (from the Greek *lemniscus*, meaning ribbon or band) spiraling around the wreath.\(^{177}\)

Although this column does not “speak” in the first-person singular, the base inscription declares the importance of the extensive leveling of the land needed to build Trajan’s forum (a massive engineering triumph orchestrated by architect Apollodorus of Damascus), evocative of the achievement declared by the Sardis column.\(^{178}\) Thus, the assessment of the Sardis column as a “victor” is firmly anchored in the unique kinship between it and the quintessential victory column of the Roman world. If Apollodorus’s column in Rome is indeed the first shaping of a base torus as a victory wreath (as we believe it to be), it is logical that our column followed the unique, iconographic lead provided by the illustrious example in Rome; there is no earlier example of such an iconic type.

Architecture or sculpture that speak in the first-person singular are rare in the Classical, Hellenistic, and Roman periods; those that do speak are almost exclusively reserved for funerary contexts. However, such speaking objects are more common during the Archaic period, from drinking cups to kouroi when the *speaking object* was the “explicit preference.”\(^{179}\) Perhaps the closest comparison our column

\(^{177}\) Yegül 2014, pp. 210–11. One should underline the popularity of the type following Trajan’s column, such as the Column of Marcus Aurelius in Rome, and the columns of Constantine, Theodosius, and Arcadius in Constantinople, all with their toruses decorated by laurel wreaths wrapped in spiraling *lemniscus*.

\(^{178}\) For a study regarding the perception of Roman engineering as a triumphal, victorious achievement worthy of celebration, see Favro, “Arch Triumphus,” forthcoming. See also Coarelli 2000, pp. 21–77; Packer 2001, p. 75. For the base inscription: *CIL* vi.960; Cassius Dio 68.16.3.

\(^{179}\) Tueller 2008, pp. 24–27. Interest in talking architecture seems to have been revived in late antiquity, as Christian monuments spoke of their deliverance from ignorant paganism; the Latin inscription on the tall marble base of the Obelisk of Theodosius in Constantinople declares with pride that once the tyrants were overthrown, “obeying the Master’s orders, I was raised in 32 days towards the upper air” (see Safran 1993; Kilerich 1998). Here one should underline the fact that talking in the first person seems to be a habit of our temple’s columns: the base of column 17 of the east porch (a mere ten meters from column 4) bears two graffiti inscriptions, each reading in linguistic form and message is the monumental kouros from Delos dedicated to Apollo by the Naxians. Much in the same manner as the Sardis column, the marble colossus, nine meters high and set on a monolithic stone base, boasts, “I am of the same stone, statue and base.”\(^{180}\) The conceptual and linguistic parallelism of these two examples could not have been wholly accidental; this suggests a deliberate attempt by the Roman builders of the pseudondipteros at Sardis to recall the distant past, keeping with the archaism in the design of the original structure. A. Chaniotis noted that the verse inscription of the Sardis column was archaising in content (though not letter forms) and described it as displaying an “archaizing ‘couleur,’ or ‘literary flavor,’ which would fit well the Hadrianic/Antonine date.”\(^{181}\)

Rooted in and nourished by the Second Sophistic, the Hadrianic period was a time when the rhetorical underpinning of burgeoning urban architecture was most visible at Sardis and the cities of Asia Minor. Just as the brilliant rhetoricians of the period set the tone for the Greco-Roman *koine* of Asian cities, the archaising declamation of the rising Sardis column alluded to the legitimizing past and proclaimed the rise of the city under its Roman patrons.\(^{182}\) Our epigraphic and literary efforts—simply to read and “translate” the column inscription in order to provide a strict chronology—should be balanced and enriched by taking a broader, longer view of history. Thus the victorious, talking Sardis column does not just commemorate one particular important occasion in the construction sequence of the temple, but in doing so it unearths its entire history and communal memory. It records an event embedded in the city’s distant past; the winner is celebrated both in relation to a specific victory at a specific time and also (as all victors deserve) in reference to all time. To quote J. C. Barrett, the inscription is “not so much a record of history as the means of creating history.”\(^{183}\) Thus column 4 with its unique inscription is not simply an interesting instance among the epigraphic elements of the temple. When taken in the full context of its associations and meanings, it is a powerful tool in providing a viable date for the Roman reconstruction and explication of its architecture.

The message of this talking column and the decoration of its base allow us a glimpse into the minds of its building
ers, for whom the architectural challenge and subsequent gratification of raising a column of this size and scale was worth celebrating. It provides a concrete affirmation of the technological and symbolic importance of monolithic construction that underlies the nature of all monumental Roman architecture. Even though no donor’s name is given in our inscription (the column is provided by the “House of Artemis,” or most probably, the funds provided by the Sanctuary of Artemis or sanctuary-owned quarries, rather than by the people/demos of Sardis), it still reminds us that the enormous financial undertaking represented by this column could encourage generosity in others through its celebratory gesture. One remembers the western Anatolian tradition, from the Archaic period onward, of local individuals and royal patrons donating building columns to establish or maintain their local power and perpetuate their memory, although the practice was widely different among the cities. It reminds us of the power of words and the mythical, regenerative stories they tell.

185 According to the late C. H. Greenewalt, jr., the tradition of donating or dedicating columns to the Temple of Artemis at Sardis started during the first phase of the building, long before the erection of the east colonnade. Two column inscriptions in Lydian, suggesting a late Classical or Hellenistic date, record the names of Sardians as donors. The first, in anat., is carved on the apophyge below the fluting of the shaft of column 12 from the east porch. It reads: “Manes [son of] Bakias [gregorion of] Manes, to Artemis.” For this inscription on column 12, see Sardis I.I, pp. 106–7; Sardis VI.2, pp. 39–40, no. 21, pl. 1x; Gusmani 1984, p. 259, no. 21.

The second is an incomplete text on a similar apophyge fragment found some sixty meters north of the temple in 1978. It mentions one Sarksutus, perhaps denoting the name of the column donor, a resident of Sardis. This piece has been identified as belonging to one of the two pedestal columns from the west pronaos porch. For the second inscription, see BASOR 244 (1983): 24–25, fig. 26; Gusmani 1980–81, pp. 21–25. Greenewalt felt that these nostalgic Lydian “donor” inscriptions, dating from the sixth through the third century B.C., represented a “tradition,” yet for some reason the practice was not continued during the Roman imperial period.

186 For the Anatolian tradition of individuals donating columns, see BASOR 244 (1983): 25 n. 23. Examples include the famous sculptured column bases of the Archaic Artemision of Ephesus, donated by Croesus (Herodotus 1.92; Todd 1921, no. 6, pp. 9–10); the dedicatory texts in Lydian on the columns of the Temple of Athena at Pergamon (Gusmani 1964, p. 264, no. 40; Sardis VI.2, pp. 57–58, no. 40, pl. XIII); and the numerous columns bearing donor’s inscriptions from the mid-second-century Antony temple of Carian Zeus at Euromos (Yegül 2014, p. 216, fig. 24; Bean 1971, pp. 46–47); and the inscription that records the donations of columns to a gymnasion in Ephesus (Wood 1877, app. 3, no. 18). One also recalls the donations of Seleucus I and his son Antiochus I toward the construction costs of the Temple of Apollo at Didyma, some of it from the income of the temple of Apollo at Didyma, some of it from the income of the temple of Apollo at Didyma, some of it from the income of the temple of Apollo at Didyma. Although this temple was not continued during the Roman imperial period.


188 While in Greek temples the cult image could be and often was a freestanding object in the center of the cela, in Roman temples the image was typically positioned directly against the rear wall of the cela, “which is open only at the front, facing towards the person and the area with the altar below”—an arrangement explicated by the augur’s position vis-à-vis the cult image and the templum. On the positioning of cult images see Rüpke 2007, pp. 183–84. See also Gladigow 1990.  

**Colossal Heads**

A number of male and female colossal heads found in or near the temple over a long period of time (1882–1996) and identified as members of the Antonine family help suggest a closer date for the major Roman redesign and rebuilding of the temple, further illuminating its history. Their existence also gives us the opportunity to study cult statuary in its original architectural setting. We have three complete or nearly complete male heads and two female heads. In addition, there are numerous fragments of colossi; at least three of these may represent separate individuals, one male and two females (see Table 3.1).

Restored at about three-and-a-half to four times life-size, they must have belonged to acroliths; this would have limited the use of marble to the exposed parts of their bodies (face, neck, and appendages), while their torsos were completed in wood, molded sheet metal, or bronze, and painted or gilded. Some body parts could have been draped in actual cloth arranged over a wooden armature. As observed on the heads of Faustina the Elder, Marcus Aurelius, and Commodus, the area at the back of each sculpture was hollowed in order to lighten the mass (Fig. 3.61). Metal bars, wooden struts, or marble pegs must have secured them to the cella walls and stabilized them, as the heads have numerous cuttings and large dowel holes at the back. In the case of Faustina, and the head tentatively identified as Lucilla, the back might have been covered with a veil made of painted wood or metal, fitting for their goddess-like appearance in the cella. In accordance with the characteristic display of Roman heroic statuary, these standing or seated figures were not intended to be viewed in the round, but rather frontally or at an angle, placed between the columns and against the walls of the newly created east cella.

Apart from their intrinsic interest as a unique sculptural group of imperial colossi from one site and one building, we cannot overstate the importance of the images in the study of the architecture and iconography of the temple. These imposing portraits, representing six to eight members of the Antonine family and perhaps others not preserved or not found, were clearly objects of worship—proper aqalma—and attest the incorporation of the imperial cult into...
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Figure 3.53. Colossal head identified as Faustina the Elder. London, British Museum 1936.0103

The assumption that the city was awarded its second neokorate under Antoninus Pius (as was generally believed) or Hadrian (as recent scholarship indicates) gives the reason for the division of the cella and the creation of these colossal dynastic icons; it also provides a plausible Hadrianic date for the Roman phase of the monument.

The first head, identified as Faustina the Elder, was found in 1882 in an exploratory trench opened inside the west end of the cella by George Dennis, the British consul in Izmir (Fig. 3.53). Now in the British Museum in London, it is the only fully preserved colossal head (a height of 0.91 m, chin to crown) and was a companion to the partly preserved head of her husband, Antoninus Pius, found inside the cella by Butler in 1911 (Fig. 3.54). During the same year, a badly damaged head and neck of a bearded male (preserved from mid-nose to the base of neck, height 1.05 m) was found in the south pteroma of the temple (Fig. 3.55). Butler wisely refrained from venturing an identification, commenting that it was a “shapeless mass of marble,” but Hanfmann resolutely believed the head to be an Early Hellenistic image of Zeus whose features merged with that of Achaeus, who had briefly usurped rule at Sardis (r. 220–214 B.C.). This view served to justify Hanfmann’s primary hypothesis that the two-cella temple, intended to house the joint cults of Artemis (west) and Zeus (east), belonged to the second Hellenistic phase that he championed (see in this chapter pp. 154–155 and pp. 212–213).

Recent analysis (based on admittedly limited stylistic considerations due to the poor state of the piece) favors the head being Marcus Aurelius, the emperor who succeeded Antoninus Pius to the throne in A.D. 161. In 1914, his last year of excavation at the temple, Butler found a colossal female head—almost intact, except for the nose and back of the head fully shorn away—immediately north of the building (Fig. 3.56). The broad, oval face, wide-set eyes, streaming, wavy hair, plump cheeks, and overall youthful appearance (thought to be “different” from the others) triggered different opinions: Artemis; Lucilla, the daughter of...

189 For a discussion of the Greek terminological and functional differences between honorific and religious images, andρίας, εἰκών, and ἀγάλμα see Price 1984, pp. 176–79; Hepding 1907, pp. 250–51. For a comprehensive consideration of the broadly conceived meaning and terminology of “cult image” in the Greek world, see Donohue 1992.

190 Sardis inv. S61.27.15: Sardis R2, p. 96, nos. 79, figs. 196–97. Another fragment of bearded colossal male, one showing the back side of a head with curly hair and wearing a diadem, might also belong to Antoninus Pius: Sardis R2, 97, no. 81, fig. 199.


192 Sardis I.1, p. 66; Sardis R1, p. 33; Sardis R2, pp. 104–5, nos. 102, 104, figs. 223–25.

193 Greenewalt and Rautman 2000, p. 676. The same view was also expressed by the members of the Butler team; see Sardis VII.1, p. 72.

194 Istanbul Archaeological Museum, inv. no. 4038: Sardis R2, pp. 166–67, no. 252.
Marcus Aurelius and the wife of his co-regent Lucius Verus (Hanfmann); the Younger Faustina (Buckler and Robinson); and recently again Lucilla (Smith, Burrell, and Yegül). Near it, Butler found the fragment of another colossal female head, preserved only with “the nose and mouth and part of the brow with a bit of wavy hair.” Identification is impossible because the present whereabouts of this fragment is not known.

A fragment of a fourth colossal female head was found in 1961 among the ruins of Butler’s expedition house. It is represented only by a partial left eye, nose, and left cheek, and therefore cannot be the same 1914 piece mentioned by Butler above. Hanfmann tentatively suggested that it might be Artemis. Based on the soft, classical modeling of the cheek and the sharp, sensitive outline of the eye, we suggest it might be Sabina, or an idealized Sabina appearing as Artemis; it can be compared favorably to an idealized portrait of Sabina in the Museo Nazionale Romano in Rome (Fig. 3.57).

A fourth male head found near the Butler expedition house is represented by a fragment of the right side of the face: the temple, the corner of the left eyebrow, and curling locks of hair (Fig. 3.58). Noting the fine workmanship, Hanfmann observed that it might be Antoninus Pius. Indeed, the loosely curved locks that encircle the forehead like a crown and are separated by narrow grooves, as well as the fleecy eyebrow, make the identification of this fragment as Hadrian also a possibility (Fig. 3.58).

195 Respectively: Sardis R2, pp. 166–67, no. 252, fig. 435; Sardis I.1, p. 147, ill. 164; Sardis VII.1, p. 72; Burrell 2004, p. 106.

196 Sardis I.1, p. 147.

197 Sardis inv. S61.27.2: Sardis R2, p. 98, no. 88, fig. 201.

198 Sardis inv. S61.27.9: Sardis R2, p. 105, no. 105, fig. 228.

199 Sardis R2, p. 105, no. 105, fig. 228. Based on the superior finish and workmanship, Hanfmann had judged the fragmentary female and male heads (Sardis R2, p. 98, no. 88 and p. 105, no. 105) to be earlier than all other pieces of colossi. The female fragment is distinguished by the subtle modeling of the cheek and eye, recalling the kind of revived classicism that would have been appropriate in the Hadrianic period. I fully concur in this stylistic assessment. However, extra caution is necessary in both cases, since the fragments are very small. A large fragment removed in 1971 from the northwest corner of Church M’s exterior apse represents the crown of a head whose wavy hair is held by a diadem (Sardis R2, p. 97, no. 81, fig. 199). Although Hanfmann suggested Antoninus Pius because of the resemblance of the drill pattern to the better-preserved Pius head, a recent attribution to an unknown female by Annetta Alexandridis is more plausible (author in private viewing and discussion with Alexandridis in 2015 at Sardis). In addition to these heads, six fragments of colossal body parts (a hand with three fingers; a knee; two legs; a chest or shoulder; an abdomen and thigh) were found in 1961 among the ruins of Butler’s excavation house. They must have belonged to the colossi already found, or to others not yet known (Sardis R2, pp. 97–98, nos. 82–87, fig. 200). For comparative typology and dating of the colossal Hadrian head from Sagalassus, see Magele 2013.

200 Close and specific comparisons of hair and curls can be made with the “cuirass type” (“Panzerbüste Imperatori 32”) Hadrian in the Capitoline Museum, assigned a Late Hadrianic date, and with the
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Figure 3.57
Fragment of colossal head (Sardis inv. S610272), identified as Sabina by author (left), compared to portrait of Sabina (right; Rome, Museo Nazionale Romano, Palazzo Massimo alle Terme, inv. 629).

Figure 3.58
Fragment of head with curly hair (Sardis inv. S610279), possibly Hadrian; face and neck are preserved (max. height 1.19 m, max. width 0.69 m, tip of nose to chin 0.40 m). As in the other colossal heads, the back of the head and part of the neck have been carved out to lessen the enormous weight; they are furnished with deep holes for metal clamps to secure the statue to a wall behind it (Fig. 3.61). The deeply drilled, full beard with vertical corkscrew curls is coarser but more vigorous than that of Antoninus Pius; the moustache is thinner, almost sketchy, the cheeks are broader and flatter, and the neck thicker. The neckline is short and evenly rounded, suggesting that the statue was a cuirassed military type (a draped civilian figure would have had a deeper and uneven open neck). R. R. R. Smith’s identification of the head as Commodus, the last of the Antonine emperors, is convincing.

Burrell challenged this identification by noting some of the stylistic differences between our head and typical portraits of Commodus (Commodus’s lips are thinner, and the moustache fuller and more luxuriant) and preferred to identify it as Lucius Verus. She cited two other reservations against a Commodus identification: Lucius Verus, as the co-regent of Marcus Aurelius, should have been in the temple; and Commodus suffered damnatio memoriae late in A.D. 192 or 193 (and although he was rehabilitated and deified by Septimius Severus in 195). It may be difficult to account for the two years during which the image escaped destruction. The first concern is easily explained: indeed, Lucius Verus would have been included, especially if the nearly complete female head in the Istanbul Archaeological Museum is Lucilla (Verus’s wife and Commodus’s sister). We have to assume then that the Verus head (if it existed at all) has yet to be found, or was destroyed in late antiquity along with other parts of the temple. The reason for Commodus’s head to escape destruction after 193 should be sought in mere chance, or possibly the remarkable potency and permanence imbued in cult images—the agalma—as objects of worship and devotion.

Even the recycling of cult portraits of emperors was rare and undertaken with reluctance. Shorn of their pagan, religious context, many portraits survived Christianity to be venerated and honored. Naturally, there must also have been economic considerations against obliterating such costly colossal marble so-called Stazione Termini type in the Palazzo Massimo alle Terme of the Museo Nazionale Romano, both in Rome. See Fittschen and Zanker 1985, nos. 51, 54–57, pls. 58, 59, also 60.53; for the former, see insert 22a, c; 23c, d for the latter.

The last of the colossal heads is a bearded male found in 1996, in a trench excavated within the east pronaos porch (Figs. 3.59–3.61). Along with large numbers of marble architectural pieces from the temple, the head must have been intentionally mutilated and buried in a deep pit dug in late antiquity (see pp. 180–181). It is judged to be roughly four-times lifesize, but only the lower half (below the nose) of the face and neck are preserved (max. height 1.19 m, max. width 0.69 m, tip of nose to chin 0.40 m). As in the other colossal heads, the back of the head and part of the neck have been carved out to lessen the enormous weight; they are furnished with deep holes for metal clamps to secure the statue to a wall behind it (Fig. 3.61). The deeply drilled, full beard with vertical corkscrew curls is coarser but more vigorous than that of Antoninus Pius; the moustache is thinner, almost sketchy, the cheeks are broader and flatter, and the neck thicker. The neckline is short and evenly rounded, suggesting that the statue was a cuirassed military type (a draped civilian figure would have had a deeper and uneven open neck). R. R. R. Smith’s identification of the head as Commodus, the last of the Antonine emperors, is convincing.

Burrell challenged this identification by noting some of the stylistic differences between our head and typical portraits of Commodus (Commodus’s lips are thinner, and the moustache fuller and more luxuriant) and preferred to identify it as Lucius Verus. She cited two other reservations against a Commodus identification: Lucius Verus, as the co-regent of Marcus Aurelius, should have been in the temple; and Commodus suffered damnatio memoriae late in A.D. 192 or 193 (and although he was rehabilitated and deified by Septimius Severus in 195). It may be difficult to account for the two years during which the image escaped destruction. The first concern is easily explained: indeed, Lucius Verus would have been included, especially if the nearly complete female head in the Istanbul Archaeological Museum is Lucilla (Verus’s wife and Commodus’s sister). We have to assume then that the Verus head (if it existed at all) has yet to be found, or was destroyed in late antiquity along with other parts of the temple. The reason for Commodus’s head to escape destruction after 193 should be sought in mere chance, or possibly the remarkable potency and permanence imbued in cult images—the agalma—as objects of worship and devotion. Even the recycling of cult portraits of emperors was rare and undertaken with reluctance. Shorn of their pagan, religious context, many portraits survived Christianity to be venerated and honored. Naturally, there must also have been economic considerations against obliterating such costly colossal marble.

202 Greenewalt and Rautman 2000, pp. 675–76 n. 83, fig. 32. To quote the authors’ summary of features that allowed Smith’s identification: “depth of beard on neck, connection of beard and moustache, thinness of moustache, fullness and relatively wide breadth of cheeks, and tuft of hair under lower lip (which contrast with the narrower face, narrower beard in profile view, and exceptional meeting of beard and moustache in portraits of Lucius Verus; the short beard and heavy moustache in portraits of Hadrian and Antoninus Pius; the thick moustache in portraits of Hadrian’s chosen successor Aelius Verus and of Marcus Aurelius, Septimius Severus, and Clodius Albinus).”


204 On the uncommon permanence of cult images in temples of imperial cult, see Price 1984, pp. 193–95.
statues. Perhaps, the “condemned” head of the acrolith was simply ignored for a while (covered with a cloth?), or taken down in order to be recarved into the likeness of the next emperor, happily reinstalled onto its torso with the restitution of Commodus’s status.205

All of these heads, where sufficiently preserved, display broad, open faces, parted lips, large, deep-set eyes, and slightly dazed and distant expressions appropriate for iconic images. The hair and beards of male portraits exploit luxuriant, baroque treatment with tousled (Antoninus Pius) or corkscrew (Commodus) curls, achieved through the use of the running drill (Fig. 3.60). Dramatic twists of the neck to the left (Antoninus Pius), or right (Marcus Aurelius), and perhaps upward, too, are formulaic poses for a heroic, godlike appearance. These regularizations and generalizations typical of cult images, and their incomplete or poor state of preservation, make the identification of most Sardis heads a challenge. Furthermore, the iconography of colossal portraits is difficult to establish because they are generally outside the stereotypes and standard models created in Rome.206 Exploitation of the distortions created by their sheer size, height, and the sharp, unnatural angle of vision—as well as their dramatic poses and awesome appearance inside a darkened cella interior—places them in a category of their own. As pointed out by Burrell, the colossal head of Titus from the imperial cult temple in Ephesus could be a case study to show the remarkable deviation of the image from the well-known iconography of the emperor.207 The lack of clearly established sequences for imperial portraits from provincial workshops (our colossal heads, probably made of local marble, are almost certainly local products), further complicates the process of identification.

With the cella walls of the temple entirely gone and little of the sculptures’ bodies preserved except for the heads and necks (and a few fragmentary parts), it is difficult to envision how the statues were displayed, whether individually or as a group.208 It is also hard to know if all the royals, deified or mortal, were in the eastern cella or if some of the women, such as Faustina the Younger, shared the west cella with Artemis. Since it is fairly standard for all members of the imperial house to be together, often including their relevant ancestors, we should expect Artemis to have been alone in her west-facing cella (although occasionally, Roman emperors and empresses enjoyed the honor of being displayed together with a deity in the same setting and on the same podium, as is the case of Mars, Augustus, and the deified Julius Caesar honored together in the Temple of Mars Ultor in Rome).

205 In an unpublished graduate student research paper, L. Pfuntner summarizes Smith’s and Burrell’s analyses of the bearded portrait and supported the former’s identification. In particular she noted the half-open mouth of the Sardis head as a unique feature “unparalleled in the portraits of Lucius Verus.” This interesting distinction, however, could have been a peculiarity of colossal icons in general, intended to enhance their appearance as distant deities, viewed dramatically from below. L. Pfuntner, “A Colossal Head from Sardis” (2008), Department of Classics, University of California, Berkeley. For comparisons, see Wegner 1939, pls. 42–43, 45, 54–55.


208 Other than the individual portrait bust, there are three standard categories of cult statues of the Roman emperor: the cuirassed/military image, the nude/god-hero image, and the civilian/togate image (or, in the East, occasionally the Greek dress). See Price 1984, pp. 181–86.
### Table 3.1: Colossal Sculpted Heads Found in Association with the Temple of Artemis at Sardis

<table>
<thead>
<tr>
<th>Inventory No.</th>
<th>Description</th>
<th>Identification</th>
<th>Publication</th>
<th>Year Found / Findspot</th>
<th>Current Location</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Museum 1916,0310.1</td>
<td>Female head (complete)</td>
<td>Faustina the Elder</td>
<td>Sardis R2, no. 251, fig. 434; Sardis I, 1, pp. 7–8, 64, ill. 2</td>
<td>1882</td>
<td>west cella</td>
<td>London (only complete head, H. 0.61 m)</td>
</tr>
<tr>
<td>Istanbul Archaeological Museum inv. no. 4018</td>
<td>Female head (back missing)</td>
<td>Lucilla or Faustina the Younger</td>
<td>Sardis R2, no. 157, fig. 435; Sardis I, 1, p. 147, ill. 164</td>
<td>1914</td>
<td>north of temple</td>
<td>Istanbul (face complete, H. 0.80 m)</td>
</tr>
<tr>
<td>—</td>
<td>Female head (fragment with “wavy hair”)</td>
<td>—</td>
<td>Sardis I, p. 147</td>
<td>1914</td>
<td>north of temple, near “Lucilla”</td>
<td>— Lost fragment: “nose, mouth, brow”</td>
</tr>
<tr>
<td>Sardis inv. S61.27.2</td>
<td>Female head (fragment of left eye, nose, cheek)</td>
<td>“Sabina”</td>
<td>Sardis R2, no. 88, fig. 201</td>
<td>1961</td>
<td>Butler expedition house</td>
<td>Sardis depot (Hanffman: “Artemis” “fine carving, fine surface, crisp eye.” Yegül: “Sabina”</td>
</tr>
<tr>
<td>Sardis inv. S61.27.15</td>
<td>Bearded male head (lower face and neck, mouth, mustache)</td>
<td>Antoninus Pius</td>
<td>Sardis R2, no. 79, figs. 196–97; Sardis I, 1, pp. 63–64, ill. 57; Sardis II, 1, pp. 29, 108–9</td>
<td>1911</td>
<td>main cella</td>
<td>Sardis excavation compound (H. 1.10 m Burrell believes it is Pius in “disguise of Zeus”</td>
</tr>
<tr>
<td>Sardis inv. S61.27.14</td>
<td>Male head (lower half of face and most of neck; mutilated)</td>
<td>“Marcus Aurelius”</td>
<td>Sardis R2, no. 102, figs. 123–25; Sardis I, 1, p. 66, ill. 61</td>
<td>1911</td>
<td>south pteroma</td>
<td>Sardis excavation compound (H. 1.10 m Hanffman: “Zeus/Achaeus”</td>
</tr>
<tr>
<td>Sardis inv. S61.27.9</td>
<td>Male head fragment (“incurling locks, right eyebrow, right temple”)</td>
<td>“Hadrian”</td>
<td>Sardis R2, no. 105, fig. 228</td>
<td>1961</td>
<td>Butler expedition house</td>
<td>Sardis depot (H. 0.34, W. 0.30 m Hanffman: “workmanship finer than Pius” Yegül: “Hadrian”</td>
</tr>
<tr>
<td>Sardis inv. S61.27.1</td>
<td>Male (?) head fragment (“crown of left back head, locks, diadem”)</td>
<td>“A. Pius”? Female fragment?</td>
<td>Sardis R2, no. 81, fig. 199</td>
<td>1971</td>
<td>Church Mapse</td>
<td>Sardis depot (Hanffman: “drill pattern resembles Pius/Zeus.” A. Alexandridis: “unknown female” (if fragment is turned upside down, beard becomes hair, identified as female))</td>
</tr>
<tr>
<td>Sardis inv. NoEx59.52</td>
<td>Male head fragment (locks from right side of head)</td>
<td>“Antoninus Pius”?</td>
<td>Sardis R2, no. 86, fig. 198</td>
<td>— unknown —</td>
<td>Sardis depot</td>
<td>Possibly from the right side of Antoninus Pius head?</td>
</tr>
</tbody>
</table>

The large platform in the east cella (the original image base, foundations ca. 6 × 6 m) could have easily accommodated two but possibly more colossal figures, though this number would depend whether the figures were standing or seated. Counting the spaces between the westernmost pair of columns (partially blocked by the central image base), there are eight spaces available for statuary between the interior columns. Each of these eight spaces (ca. 3 × 3 m) could have accommodated at least one standing or seated figure between the fluted interior columns. A hypothetical reconstruction by Cathy Alexander of the standing, cuirassed Commodus (restored to a standing height of ca. 7.90–8.0 m, i.e., ca. 4 m shorter than the restored height of the east door) gives an idea of scale, which clearly presents a tight relationship between the cult image and the interior space, though perhaps not nearly as tight as that of Phidias’s seated Zeus inside his temple at Olympia (Fig. 3.62).

Thus, with eight colossi in four pairs on either side of the central base, a total of ten colossi (or possibly twelve) could have been housed—though somewhat tightly—inside the east cella.

We have extant material evidence for eight figures, four male and four female. Five of these larger works have been tentatively identified as Antoninus Pius, Marcus Aurelius, Commodus, Faustina the Elder, and Lucilla. Three fragments (two female, one male) are too small for confident identification, but two of these could belong to Hadrian and his wife, Sabina. Even if the actual division of the cel-

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209 Strabo comments that Zeus's seated colossal image was disproportionately large; it was reported to be ca. 13 m high in comparison to our colossal images, standing only ca. 7–7.5 m high. Even though the temple was very large, if the god rose “and stood erect, he would unroof the temple” (Strabo 8.3.30).
la had been completed under Antoninus Pius rather than Hadrian, the latter would certainly have been given a position of honor in the space; he was the one who granted Sardis its second neokorate, and because he was the deified “father” of Antoninus Pius, the Antonine dynasty received legitimacy to rule from him. In the same way, Hadrian, whose colossal image was included along with Trajan and Zeus Philios inside the cult temple of Trajan in Pergamon, received honor and legitimacy from his deified “father.”

If this identification is correct, currently missing from the Antonine family are Lucius Verus, Faustina the Younger (Marcus Aurelius’s wife), and Crispina (Commodus’s wife) (see Table 3.1).

Proposals for the Location of the Cult Images Inside the Cella

It is hard to know how the four (or five) emperors and their consorts were arranged inside the cella at Sardis, because none were found in situ, not to mention that statue groups of imperial colossi are rarely preserved in their original architectural contexts. Sardis is also quite unusual in the sheer number of colossal figures that seem to have gradually accumulated inside a single interior space.

Even though the divided east cella was a vast space by ordinary standards (interior dimensions were ca. 18.40 × 25.16 × 19 m), restrictions imposed by the architecture of the interior (basically a three-aisled basilica with a very wide nave, 6.80 m clear at floor level and wider above) would have limited the options for grouping sculptures. If Sardis had received its second neokorate under Antoninus Pius, we might have had a straightforward arrangement: the founder of the dynasty and his consort (Antoninus Pius and Faustina the Elder) occupying the central podium, with the colossi of other Antonine emperors and their consorts between the tall interior columns flanking them, facing each other across the wide nave (hypothetical alternate arrangements of the colossi inside the cella are given in the reconstruction study plan; Fig. 3.63).

Burrell suggests that Antoninus Pius was on the viewers’ left, “naked, diademed, enthroned, and [he] may have held a scepter, in the guise of Zeus.”

Further Considerations for a Closer Dating of the Roman Phase

Figure 3.62
Restoration study of the colossal statue of Commodus in relation to the artist for scale

Figure 3.63
East cella, hypothetical arrangements of imperial cult statues. Left: A. Pius and Faustina occupy the central podium. Right: Hadrian and Sabina occupy the central podium.

211 For the arrangement of Antonine dynastic groups, see Fittschen 1999, pls. 264–7; Krekenbom 1992, pp. 39–51; Bol 1984, pp. 31–45, 88–89; Pekáry 1985, pp. 92–96, 104–6; İnan 1993; Rose 1997a, pp. 147–49.
212 One could compare the double-rowed, linear arrangements of the Antonine cult figures inside the basilic cella space at Sardis to the theatrical display of their Severan counterparts inside the Temple of the Gens Septimia Aurelia at Cuicul (Djemila), where a wide, rectangular podium (11.1 × 2.85 m) occupies the entire width of the cella’s back wall. On this stage-like setting four Severan colossi were displayed, probably frontally and in a tight arrangement (Severus Alexander, Julia Mamaea, Septimius Severus, and Julia Domna). See Pensabene 1992; McAnn 1968, p. 153, nos. 45, pl. 53; Burrell 2004, pp. 510–21.
213 Burrell 2004, p. 320. The fragment with curls and diadem (Sardis inv. S61.27.1: Sardis R2, p. 97, no. 81, fig. 199) was, with caution, assigned to the Antoninus Pius head, which would support the argument for the divine nudity of the emperor in the role of Zeus. For a different identification of the fragment by A. Alexandridis, see p. 196, note 199. The seated, enthroned pose is supported by the assumption that another fragment, also belonging to Antoninus Pius, shows a figure with “lower abdomen and upper left thigh at right angles to the body” (“conclusive proof that the statue was seated”); Sardis R2, p. 98, no. 87.
3. Building History and Chronology

viewers’ right) would have been Faustina (perhaps as Hera), whose slight gaze to the right would meet the more dramatic turn of her husband’s head. If the identification of the fragments suggested to be Hadrian or Sabina is correct, they would have occupied the spaces between the westernmost pairs of columns (nos. 69–71 and 70–72), Hadrian on the left and close to Antoninus Pius, Sabina on the right and close to Faustina.

Since the neokorate honor was probably received under Hadrian on the occasion of the emperor’s probable visit of Lydia and Sardis in A.D. 124, I suggest an alternative scenario in which Hadrian and Sabina were the main cult figures and the arrangement was reversed: instead of Antoninus Pius and Faustina, they would have occupied the central position in the cella. Naturally, this scenario would have required the reassessment of Antoninus Pius’s identification as a seminude Zeus. The rest of the Antonine emperors and their consorts would have taken up the spaces between the columns, probably men on the left and women on the right, in order of seniority and chronology: Marcus Aurelius and Faustina the Younger (missing), Lucius Verus (missing) and Lucilla; Commodus and Crispina (missing).

From the remains of the heads it is impossible to tell if they belonged to standing or seated figures, or whether the emperors were in toga or military dress. The figures between the columns could not have been viewed as easily and directly as the main platform figures, although slight twists in their placements, and the considerable distance across which they would have been seen, would have alleviated this problem. The overall arrangement could have been reminiscent of apsidal imperial halls, typical of Italy, where dynastic images of imperial family would customarily fill the niches on both sides of a large, central apse of a basilic, often vaulted space. In some, as in the Claudian apsidal hall (“nymphaeum/triclinium”) at Punta dell’Epitaffio, in the Bay of Baiae, the deified members of a dynasty—or a mythological group with special iconographical significance—were presented as a theatrical, apsidal group.

A significant goal of the overall effect could have been the partial obscurity of the laterally arranged colossi between the fluted columns, allowing for a gradual, mysterious “unfolding” as the viewer progressed from the vast, columnar east porch toward the preeminent display of the cult-head on the central platform, as imagined in a digitally reconstructed sequence by R. Pellegrini (Fig. 3.64). The impressive columnar arrangement was a clear allusion to imperial presence and power. The movement forward must have been a calculated part of the cult experience—entering the wide space defined by the columns of the pronaos porch, climbing the imposing porch stairs, passing through the gigantic east door, and edging down the marble nave flanked by some of the most imposing and elegant columns in antiquity, under the watchful, distant eyes of the divine couples who occupied the space. The dim interior of the cella, illuminated mainly through the great door, would have enhanced the sense of drama and inspired devotion.

216 The leftward turn of the Marcus Aurelius head would have directed the figure’s gaze (he is assigned to the left side of the cella) to the senior cult figures on the central platform rather than the person entering the cella. This might have been intentional and could indicate a level of visual interaction among the other figures (the Commodus head, however, appears to be strictly frontal).

217 For the importance of lighting, including artificial lighting, in the celebration of imperial mysteries, see Pleket 1964; Hoepfner 2001.
**INTERIOR ARCHITECTURE OF THE ROMAN EAST CELLA**

It is unclear how extensive the Roman rebuilding of the cella interior was, given that the room is preserved at only ca. 0.30–0.70 m below foundation level and nothing of the floor remains. Some of the fluted interior columns of the cella, as well as their bases, must have been repurposed to build the four pedestal columns of the east and west pronaoi porches (columns 11, 12, 53, and 54), but we believe that those four columns were taken from the west end of the original cella (columns 73–76) and the west porch (columns 77–80), when the area was redesigned as the new west cella with a new roof structure (see pp. 203–205).

Roman work would mainly have consisted of building new east and west crosswalls and obliterating the original west wall to create back-to-back cellas of nearly equal length. The new west-facing cella had a significant difference in floor levels between its east and west ends (ca. 1.60–1.70 m) that had to be resolved, as well as intercolumnar spans that did not match. This must have required a major overhaul of the interior support system and roof. On the other hand, the east-facing cella, with its original four pairs of eight columns (columns 65–72) and the “basis”—now pushed against the east crosswall—must have needed little change. The columns of the east cella, we presume, were structurally sound and visually attractive; there was no real reason for or advantage to removing them.

One of the primary archaeological arguments for a new, column-less east cella is based on the absence of evidence: Butler did not find any parts or drums of fluted columns inside the cella, while many were found at the west end.218 Regarding a structure that was destroyed and plundered over two millennia, with the floor of its cella completely and deeply demolished, there can be no rational expectation that its elements should have remained where they had fallen. As impressive as the existing ruins of the temple are, we probably have no more than 7–8 percent of the original superstructure.219 The near-total absence of the thousands of marble blocks comprising the walls does not imply that the walls never existed—the time and circumstances that swallowed the walls must have swallowed the 120 or so fluted drums of the east cella, too.

In a 2016 article on the archaeology of the Temple of Artemis, Cahill posits that all twelve interior columns of the original cella neatly provided the material for the four pedestal columns and “the voussoirs of a monumental arch at the western entrance to the city [. . .] which would account for the majority of the cella and pronaoi column drums [. . .] since it took three [fluted] Hellenistic columns [. . .] to build one [Roman] pedestal column.”220 Thus, in this scenario the entire temple interior was cleared of supports during the Roman rebuilding to create a large, open hall. The proposal that the short pedestal columns of the east and west porches must have come from the cella interior is well taken. The creation of a large space unchuttered by columns for the display of the imperial colossi may also have had practical advantages. As a parallel, Cahill proposes the Temple of Apollo in Corinth; its interior colonnade was removed sometime in the first half of the first century A.D. and rebuilt, complete with Doric capitals, as the so-called Archaic Colonnade between the west end of the South Stoa and the Central Shops of the Roman Agora in Corinth.221 It has also been suggested that the cella of the Archaic Temple of Apollo was originally undivided, and its dividing crosswall was an early Roman reconstruction.222

This new reading was proposed as a replacement for earlier studies going back to the time of Dörpfeld in 1886 (followed by O. Broner, C. Williams, R. Stillwell, W. B. Dinsmoor, G. Gruben, C. Mee, and A. Spawforth), which held that the subdivided cella was an original feature of the Archaic temple, an arrangement that reflected the use of the smaller western chamber (with a platform base) as the repository of the sacred image and/or a treasury, not unlike the later arrangement of the Parthenon in Athens. C. Pfäff, who conducted the first investigations of the Corinth temple bedrock and foundations in 1993, considered the removal of building materials and marble blocks across long distances easy, in the destruction of archaeological remains across western Anatolia, see Greenhalgh 2013, pp. 298–320; for those effects on Sardis, which got its station (on the Izmir–Ankara line) in 1875, see pp. 319–20.223 Cahill and Greenewalt 2016, pp. 502–4. Another ancient instance when a cella was emptied of its columns comes from a story told by Pliny about the removal of the columns—probably the smaller interior columns—from the cella of the Olympeion in Athens by Sulla in 85 B.C. This also provides a poor precedent for Sardis. If the columns removed by a victorious, conquering Sulla (interested in bringing war spoils to Rome) were to be used in the reconstruction of the Capitoline Temple in Rome (or any of the temples on the Capitoline Hill), the aim was a lofty one; the removal of columns from the cella of the Temple of Artemis at Sardis would have served no such grand purpose. See Pliny, *Natural History* 39.4.45; Dinsmoor 1973, pp. 280–81; Stamper 2005, pp. 81–83; Abramson 1974, pp. 17–19.

218 Another argument for the removal of the columns is Butler's observation that the “cement” floor (I presume he meant “mortared rubble”) was continuous across the cella, while if the columns had been removed only after the temple went out of use, this would have swallowed the 120 or so fluted drums of the east cella, too.219 The combined cellas, with a length of over 44 m, and the walls, rising to ca. 18–19 m, would have yielded, at a rough estimate (taking average block sizes and not counting foundations), some 3,000–5,200 marble ashlar blocks. Almost all of this material is gone without a trace, except for the comparatively small portion of the cella walls that remains on the east end. For the role of railroads, which made
division of the cella as a part of the Roman rebuilding as a “strong possibility,” but because of the highly equivocal nature of the evidence, this was “not decisive.” 223 In a recent study, J. M. Frey presents a stronger case for an undivided cella, mainly through a close reading of the column spacing of the relocated Archaic colonnade upon what is an early Roman stylobate. This arrangement is carried back to the cella of the Archaic temple, producing internal colonnades perfectly matching the original cella length and its own faint bedrock markings, and resulting in a proposal for an early Roman date for the subdivision. Even with the best of efforts, the evidence is equivocal, incomplete, and allows for multiple readings; still, it is a good hypothesis. 224

More importantly, neither Frey nor any of the scholars who have concerned themselves with the Roman history of the Temple of Apollo at Corinth question the reason, purpose, and function of an alleged Roman double cella—why would the Romans have divided the cella in even the most cursory way?

223 Pfaff’s observations were based on a series of notches in the bedrock (already observed in Stillwell’s 1932 publication of the temple in Corinth I.1) that helped to establish the outlines and alignment of the continuous foundations of the main walls and interior columns. Well below stylobate level, they do not mark the positions of the columns above them. Although Pfaff questioned whether the division of the cella into two distinct chambers could have been a part of the Roman renovation, he concluded that without “decisive evidence,” he would stay with the traditional view that the two-chamber cella was the original one. Pfaff 2003, pp. 114, 115–16; C. Mee and A. Spawforth also support the view that the “arrangement of the interior is uncertain because the Roman colonists collapsed the two rooms inside one.” (Mee and Spawforth 2001, p. 151). G. Gruben (in Gruben 1996, pp. 94–96) likewise preferred to regard the divided cella as original. See also Bookidis and Stroud 2004; Corinth I.1, pp. 115–19.

224 Frey walks the reader through a series of calculations regarding the interior columns and their distances from each other, the cella crosswall, and the end walls, which are all still partly based on bedrock notches, but mainly on the application of the calculated column spacings from the Archaic colonnade (2.85 m) to the cella interior. The argument for an original single chamber (with two rows of perfectly fitting eight columns) predicates a remarkably “well-organized” arrangement of column distances, though these distances themselves are not free of metrological interpolations and speculations. Any new arrangement of the same columns with slightly different speculative distances could also give a “well-organized” arrangement for a cella scheme with a divided wall. Frey 2014, pp. 157–60; Bookidis and Stroud 2004, pp. 411–12. It is also crucial to note the slightly shallower foundations for the crosswall with respect to the longer walls; and three ashlar blocks from this foundation displaying anathyrosis (facing different directions, and hence judged nonfunctional). These, in my opinion, represent false positives. In our temple, the foundation depths of the Hellenistic and Roman walls and columns vary; plenty of blocks reused in the foundations display anathyrosis (and other nonfunctional features) that face every which way. Frey also points out that the temple must have been more or less completely destroyed (no roof, no walls) during the Roman sack of the city, leaving little real evidence except for indirect, circumstantial indicators.

In sum, there is much to be said about the arguments, pro and contra, concerning the possible Roman origins of the cella division at Corinth, but it is difficult to say that this case is settled with certainty. Furthermore, whether the Roman intervention and redesign of Corinth’s temple provides a cogent parallel for Sardis’s temple is not of critical importance to our question; they are very different temples with very different setups, contexts, and religious histories. The removal of the interior columns of a Greek temple at Corinth during its Roman rebuilding does not ipso facto require the removal of interior columns of a temple at Sardis during its Roman rebuilding. The more cogent and critical question yet to be addressed is whether the removal of the columns and the redesign of Apollo’s temple, with or without a cella division, was solely motivated by the desire to find cheap and convenient spolia for the building of the Archaic Colonnade in the Corinth Agora—and whether the temple was not “re-designed” as such, but just left to lie as a partial ruin without a roof (considered a possibility by Frey). Even more critically, if the Roman colonists introduced the divided cella, what was their purpose and program in doing so? This is a question for which, unlike the division of the Temple of Artemis at Sardis, we do not know the answer. 225

Leaving the question of the Corinth temple aside, we see the situation differently with respect to the removal of all interior columns of the east cella of our much larger temple as a source for the Roman rebuilding of the four pedestal columns and the numerous voussoirs of the Monumental Arch. In the second-century Roman redesign of the temple with a divided cella, the area subsumed by the new west cella (which incorporated two-thirds of the original west pronaos) contained eight columns, four short columns at the upper level of the original cella (columns 73–76) and four of regular height at the lower level—what used to be the Hellenistic pronaos (columns 77–80). These eight, and possibly the four in antis columns of the east and west ends (between the east and west anta piers), were removed during the Roman rebuilding. 226 Therefore, with a total of eight (or possibly twelve) fluted columns at their disposal, Roman builders had no need to dismantle the eight columns of the newly fashioned east cella. 227

225 Interestingly, neither Frey nor any of the scholars who have concerned themselves with the Roman history of the Temple of Apollo at Corinth question the purpose and function of an alleged Roman double cella—why would the Romans divide the cella, even in the most cursory way?

226 The four dismantled short columns of the new west cella (columns 73–76) would have been the right height to supply the material needed for the shafts of the four Roman-rebuilt pedestal columns. The additional “rutedicated” upper zones of the pedestals could have been provided by the columns of the west pronaos porch (columns 75–80). See also useful arguments about the dismantling and reuse of columns from the new west cella in Weber 2013, pp. 269–70.

227 At an average of fifteen drums for the shorter and eighteen for the taller columns, the total number of drums available would have
There are other considerations that argue against the motives for dismantling the east cella columns. Dismantling eight columns (ca. 120 drums) inside a cella with walls 18–19 meters high and cramped by other columns would require removal of the original roof—a task that would give any engineer pause. Normally, Roman construction that involved the lifting and moving of heavy loads (like the 2–4 ton drums) would have engaged many cranes and lifting devices connected to a mass of ropes and capstans stretching in all directions—hard to do inside a cella with fully standing walls. The process of lowering the delicately fluted shafts drum by drum and rolling them out of the newly constructed (or still under construction) east door would not have been impossible, but still expensive and challenging.\(^\text{228}\) Separating large column drums in good shape, connected vertically by dowels set in lead, would not have been an easy job.\(^\text{229}\) Even if all columns were removed, the new space, without any internal supports, would have needed a structurally challenging roof system. The wall-to-wall span of the cella, at ca. 18.40 m (nearly three times the ca. 6.70 m clear span of the existing nave between the columns), would have required a massive wooden truss! It would have been an undertaking not beyond the capacity of a local engineer or architect—much less our putative architect Dionysius, famed for his skill in covering large spans with roofs—but difficult, expensive, and unnecessary.\(^\text{230}\)

A (rare) visitor who entered the cella would be confronted by an impressive vision: two rows of monumental, fluted marble columns carrying perhaps the most exquisite Ionic capitals of the ancient world, rising before and partly screening the vast, elegant sixteen-meter marble walls, a breathtaking experience (Fig. 3.64). In Roman architecture, columns were not mere structural expedients to carry a roof. Together with their capitals and set against a wall, they were powerful architectural elements invested with aesthetic and symbolic meanings and messages.\(^\text{231}\) A row of columns marked distance, commanded perspective, created and ordered space, and imbued it with significance. Their measured architectural parataxis, reflected in the repetition and sequencing of imperial images alternating with columns inside a unified room, enhanced the pacing and kinetic perception and ordered spatial experience.\(^\text{232}\)

The spatial and thematic iconography of columns was particularly meaningful and appropriate for imperial halls and cult spaces in Roman architecture. In spaces for imperial and religious purposes, sculpted cult figures were typically placed between freestanding or engaged columns, or in niches and aediculae defined by columns. In effect, columns and statuary exploited and enhanced reciprocal powers, unifying them into one magnificent visual experience; their combined presentation alluded to and reinforced the imperial and cultic themes such as strength, stability, probity, and continuity. In short, the empire’s far-reaching might was subsumed by the iconography of its columns. What the Roman architects found in the spectacular, columnar interior of the Hellenistic cella they inherited was much in line with the kind of space they would have wanted to create for the newly established imperial cult. If there was reason to take advantage of this powerful iconography and symbol, then why destroy it?

**INTERIOR ARCHITECTURE OF THE ROMAN WEST CELLA AND ITS ROOF STRUCTURE**

When the main cella was divided into two chambers a serious structural problem emerged in the support system of the roof for the newly created west chamber. While the four columns in two pairs at the east end of this chamber (columns 73–74 and 75–76) belonged to the old cella and had a uniform central span of ca. 9.30–9.40 m, the pair on the west end of the cella (columns 77–78) and the two built over by the west crosswall (columns 79–80) belonged to the original west pronaos porch; they had a narrower central span of ca. 8.40 m (Fig. 2.28). The closer spacing of these porch columns would have created a discrepancy of ca. 1.0–1.10 m, awkward and difficult to reconcile visually and impossible

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\(^{228}\) MacDonald 1986, pp. 107–9, 201; MacDonald 1982a.

\(^{229}\) S. Barker’s informative and detailed study (2010) delineating the economic advantages of the demolition and reuse of ancient buildings gives little consideration to the work involved in taking apart large marble columns composed of many drums vertically connected by dowels. His test case, the deconstruction of the Pantheon in Rome, sidesteps this issue, given that the granite porch columns of the Pantheon are monoliths, with one dowel at the bottom and one on top; deconstructing a Sardinian column, with its fifteen to eighteen fluted marble columns carrying perhaps the most exquisite Ionic capitals of the ancient world, rising before and partly screening the vast, elegant sixteen-meter marble walls, a breathtaking experience (Fig. 3.64). In Roman architecture, columns were not mere structural expediants to carry a roof. Together with their capitals and set against a wall, they were powerful architectural elements invested with aesthetic and symbolic meanings and messages.\(^\text{231}\) A row of columns marked distance, commanded perspective, created and ordered space, and imbued it with significance. Their measured architectural parataxis, reflected in the repetition and sequencing of imperial images alternating with columns inside a unified room, enhanced the pacing and kinetic perception and ordered spatial experience.\(^\text{232}\)


\(^{231}\) MacDonald 1986, pp. 107–9, 201; MacDonald 1982a.
to reconcile structurally. The east–west architraves of the new west cella could not keep continuous, straight alignment. They would have to be narrowed down by making ca. 0.50 m right angle returns on each side in the middle of the room, and there are no intermediary supports to allow for such rebates. Furthermore, the floor of the west half of the new cella (originally the west porch) was some 1.60–1.70 m lower than the east half and thus required filling, which would have made the use of the taller pronao columns impractical or impossible. Therefore, the Roman builders must have been faced certainly with the need for a new support system but perhaps also for a new roof and tiles for the new west cella—although, one imagines, if carefully overhauled, most of the sturdy and finely made original marble roof tiles could have been reused (Figs. 1.14, 1.15).

A pair of rather crude pier foundations (“rough piers”) made of large ashlar blocks encasing small rubble cores, located in the center of the west cella immediately east of the original west wall, seems to point to a solution, or at least give an idea of one.233 These foundations are preserved for ca. 0.60–0.70 m, two or three courses below the intended cella floor. They have a center-to-center central span of ca. 11.30 m and a clear north–south span of ca. 8.40 m. As first suggested by Gruben, they might have been the newly created supports for the roof, conveniently positioned more or less at the center of the room; they spanned ca. 12.20 m from pier center to the east crosswall face and ca. 13.54 m to west crosswall face, indicating that they are closer to the east wall than they are to the west by about ca. 1.30–1.34 m (Fig. 3.65).234 This difference in a room measuring 25.74 × 18.36–18.40 m is close enough; still, the columns supported by these rough pier foundations could have easily shifted toward the (submerged) west wall, resulting in equal spans toward east and west.

If a 2.40 m square column base were positioned in the center of the new west cella, it would have straddled the rough piers and about one-third of the west wall, giving equal clear spans of ca. 11.67–11.70 m toward the east and the west walls, face to face. This span could have been reduced to ca. 11.0 m if we reconstruct half-columns or half-piers projecting ca. 0.60–0.70 m from the east and west walls, though there is no physical evidence for it (Fig. 3.65 illustrates the former choice with engaged piers; Figs. 4.1, Roman phase, with half-columns). This is still a large span that would have required a timber truss system. The clear distance of 8.40 m between the piers in the north–south direction (and ca. 2.60 m from piers to north and south wall faces) would have presented no difficulties for timber beams or trusses.

Casting doubt on this hypothesis is the rather shabby appearance of these piers and the entire lack of clamps—contrary to common Roman building habit—to secure blocks to each other. However, one should note that their ashlar construction of reused blocks is fairly substantial, since what we see is all the subfloor work of some one or two courses below floor level; column plinths carried by them might have looked better. If there was a different support system, we have no evidence for it. We do not know if the supports carried by the “rough pier” foundations were masonry piers, marble columns, or wood. If they were piers they could be ca. 2.0 × 1.30 m, a fairly slender proportion for stone rising to a height of ca. 18 m or more. Regular columns would be less likely since such columns would have favored square foundations. Hefty wooden uprights carrying wooden trusses might have worked, but, at least to our eyes, this would be awkward inside such a voluminous cella intended for the

233 For a detailed description of the “rough piers,” see pp. 67–68; Figs. 1.12, 2.101–2.103; Plan 6; pls. 1, ix, xii.
In the light of an important late fourth-century B.C. inscription from Ephesus, the so-called Sacrilege Inscription, the affiliation of the early Sardian cult to the even earlier Artemis cult of Ephesus is indicated. However, quite apart from the main cult of Artemis, well established in the sanctuary by the Archaic era, the Sanctuary of Artemis, the preeminent religious heart of Sardis, must have been the focus of its people’s ancestral cults, with overlapping, evolving syncretic beliefs and timeless traditions, its multivalent sanctity offering a welcoming ground for all that was safe, significant, and sacred—including, by the middle of the second century A.D., the imperial cult.

The question of the Roman imperial cult in the Temple of Artemis is not solely a general concern about the history of religion at Sardis; it is an issue that casts light specifically on the history, date, and usage of the temple. Hence, I present a consideration of religions and cults at Sardis that is limited to their historic presence in the Sanctuary of Artemis and to their role in creating a welcoming syncretic atmosphere that could have made the inclusion of the imperial cult seem natural. There is no evidence—and thus no assertion—that these cults shared space with Artemis in the temple itself, nor can their presence in the larger sanctuary be connected directly and unequivocally with the establishment of the imperial cult. My goal is narrowly focused on cultic associations and activities relevant on the history of the temple and the sanctuary (with special consideration of Cybele cults). Religion at Sardis requires and deserves its own study.

The installation of the imperial cult in the temple, which transformed its architecture, must also have altered its meaning as a place of worship. Despite our possession of Sardis of the greatest number of imperial cult portraits (see above) from a single building in ancient Asia Minor, not all is clear about the establishment and practice of this important cult. I cannot argue for any meaningful correlation between the ancestral gods of Sardis and the cult of the emperors, but it is plausible that some earlier cults, such as Hellenistic ruler cults, continuing their traditional associations with the sanctuary, prepared the way for a smooth reception of that new cult and eventually assumed a new identity and new life by merging into the powerful presence of the imperial cult that moved into the temple itself (see below on the complex sociopolitical concerns surrounding the establishment of the imperial cult in the temple).235

The introduction of emperor worship in the cities of the Hellenized East during the early empire was slow and often required the pairing of the Roman cult with certain local cults and patron deities (a “veiled” process, as P. Talloen effectively names it), often in the same sanctuary and temple space, though never in separate chambers at that early stage.236 Even when emperor worship had become a commonly accepted, widespread phenomenon across the cities of Asia Minor, by the second century A.D., the process was complex and dialectic, and always required negotiations between the local elite and their Roman overlords.

Even as we acknowledge and celebrate the firm presence of the imperial cult taking up half of Artemis’s temple at Sardis, there is no avoiding the question: What did the ordinary Sardians think of the imperial cult and imperial masters, apart from the usual, formulaic ceremonies, offices, and titles? In an outstanding cultural and administrative metropolis like Sardis, with its own unique history, there must have been persons, groups, and factions against the housing of the imperial family in the temple—boldly conceived: giving up half of the venerable temple to Roman patrons, the new faux-gods.237 The specific dynamics of this all-con-

235One should also consider the continuity evident among the Roman imperial cult, various forms of Hellenistic ruler cults, and cults of Roma, which were widely represented in the cities of western Asia Minor. Sardians honored Laodice, the first wife of Antiochus III, with a cult and a festival in 213 B.C. There is ample epigraphic evidence from other Anatolian cities for the existence of cults honoring Seleucid and Attalid royalties. For Hellenistic ruler cults as potential forerunners of imperial cult at Sardis, as well as discussions of Sardis inv. IN63.118–121, now in Petzl, Sardis M14, pp. 2, 10–14, nos. 507, 507–10, see Hanfmann, SRT, pp. 110–13; Gauthier 1989, pp. 47–67; Habicht 1970, pp. 823–85, 91–105; Nock 1972a, pp. 143–44; Nock 1972b, pp. 213–14; Mellor 1975; Yegül 1982, pp. 13–14. See also Price 1984, pp. 23–40, with the cautionary argument against a simple and direct connection between the imperial cult in the East and Hellenistic ruler cults, pp. 40–47; and Ma 2013, pp. 37, 119–126, esp. 202–5.

236For a perceptive essay on the meaning and reception of the imperial cult in the Roman colonies of the early Imperial period in Pisidia and its long-term, protean meanings and presences across non-colonial Asia Minor, see Talloen 2007 (“The imperial cult, like any other institutional phenomenon, was not only materially diverse but also meant different things to different participants and observers . . . [it was not] a monolithic institution.” [Talloen 2007, pp. 318–35]). Concerning this last observation, I would like to add that the imperial cult, aside from its showy cult centers and colossal cult images, was less a material than a literary phenomenon—at least, as far as the second-century elite culture of western Anatolia was concerned. See also Yegül 1982b, pp. 13–15, esp. n. 19; Bowersock 1973.

237Religious and cultural plurality and tolerance, which should have been a Sardian hallmark given the city’s cosmopolitan past, might not have been regarded with equal ardor by all sectors of its society; con-
3. Building History and Chronology

Overlapping Identities of Artemis and Cybele

A long-standing aspect of the cult of Artemis at Sardis is its apparent connection with the cult of Cybele/Kybebe, the great Anatolian mother and mountain goddess. In the days of the early travelers, some misidentified the temple as the Temple of Cybele (William M. Leake, 1824; Charles Texier, 1869; Gertrude Bell, 1902), and the association still crops up occasionally in popular guidebooks today.

In some of the earlier scholarship, the cults of Cybele and Artemis are conflated; however, starting with Radet—writing in the early twentieth century—Cybele came to be seen as having become the lesser element of this amalgam over the course of the Classical period (or even earlier) and was “interpreted as the alternative aspect of the main deity,” Artemis.239 This relationship was never clear-cut, at least in the minds of the scholars of religion who wrote about it. Kuvava, the Archaic goddess of the Lydians, maintained a presence at Sardis and enjoyed revivals during the Hellenistic and Roman periods. Views and theories about the nature and process of syncretism and amalgamation are well articulated in some of the writings of G. M. A. Hanfmann.240 For J. Keil, studying the Ephesian Artemision, Artemis was one among many later manifestations of the original goddess.241

It is true that in their identity as ancestral female deities Artemis and Cybele/Kybebe played similar and important roles in the Lydian establishment of sovereignty and selfhood, but although overlapping, they were also different. The relationship is at its closest in the conceptualization of the religious geography of Sardis: Cybele, Mother of the Gods, Mother of the Mountains, “who dwells by the gold-bearing Pactolus,” looking upon the great mountain range surrounding the site—precisely the landscape described for Artemis’s sanctuary in Sardis.242 One might say that Artemis’s land is Cy-

239 Radet 1909; Rein 1993, p. 49.
240 Hanfmann, in the first article on modern research at Sardis, wrote: “Lydian Artemis . . . is probably the same ‘native goddess’ as Cybele Kubaba” (1958, p. 63) (I am grateful to N. Cahill for bringing this important reference to my attention); see also Hanfmann and Balmouth 1965. Literature on the similarities between Artemis and Kybebe, starting from the second millennium B.C., is rich. For a short but focused study that articulates thematic and iconographic similarities in the context of Anatolia, see Özdemir 2007; see also Çapar 1979.
241 Keil 1923, p. 162. For a more recent discussion of the revival of the cult of Kubaba at the Artemision of Ephesus, see Banmer 1982.
242 The “fearsome power” of the Sardian Kybebe is invoked to punish the arrogant in Sophocles’ chorus: “Mountain-goddess, all-nourishing earth, Mother of Zeus himself, who dwells by the great gold-bearing Pactolus: there we call upon you, O Mistress Mother” (Sophocles, Philoctetes 392–402); while Euripides’ chorus mentions “Artemis, Huntress of the Pointed Mountains!” (Euripides, Iphigenia in Tauris 173) (see also Munn 2006, p. 126). Cybele’s affinity with mountains is a commonplace: she is associated with Mount Ida in her Phrygian homeland; in Ephesus her sanctuary is on the northeastern slopes of Panayır Dağ, at Metropolis she was worshipped in extraurban caves; in Lydia,
It would be natural that she embrace the mighty Tmolos, from its craggy summits, down its serrated foothills, and to the Pactolus valley.

The triple focus of religious life in ancient Sardis and Lydia was Artemis, Cybele, and Bacchus (Baki), while the former two were “the most significant gods from the point of view of the Sardian citizens” (Pedley 1968, p. 131). Pausanias, in his Description of Greece (7.17.8–9), traces the Lydian cult of Cybele to great antiquity and declares her “protector and promoter” of cities. See also Anth. Pal. 7.799 (Sardis M2, p. 18, no. 39). The ancient association of Cybele with Lydia, a land infused with numerous and changing manifestations of her cult, concept, and name, is probably as old as her connection to Phrygia. As pointed out by Borgeaud, the second-millennium Old Assyrian goddess Kuba encountered the Anatolian “Cybele” “by way of Lydia,” where she was known under the name of Kuvav-, with a qualifying, broad generic description as the “Mountain Mother” (Borgeaud 2004, pp. 3–5, 13, 40). In contrast, the earliest mention of the Artemis cult at Sardis is from the late sixth or early fifth century B.C., according to archaeological evidence from the Artemis precinct, and matches the dating of the Lydian altar (LA 1) and the basis. Cahill argues that there was also a sanctuary to Artemis on the Acropolis dating from the late seventh and early sixth centuries (Cahill 2008, pp. 66–67). On the origins of the Cybele cult and its variations, see Roller 1999, pp. 44–46, 128–129; Vermaseren 1977, pp. 13–12; Gallart Marqués 2019, pp. 121–22.

Twelve ashlar anta blocks, four of them inscribed (and thus dated to 213 B.C.), that were reused in the Synagogue, belonged to another altar. The general opinion is that the building was located somewhere near the synagogue. For the Sardis Metron, see Gauthier 1989; Hanfmann, SPRT, pp. 74, 118, 150; Sardis R1, pp. 79, 186–81 n. 44; Sardis R2, p. 53. More recently, see Cahill 2019c.

The argument for the worship of Cybele and the presence of a center city cult shrine in Sardis during the Hellenistic era is bolstered by the discovery under the cavea of the Hellenistic theater of a large number of terracotta figurines of the goddess, many accompanied by her lions. Molded in unmistakable Hellenistic style, these figurines offer, in the words of F. Gallart Marqués, “a compelling testimony to the lived cult of the goddess [Kybele] at Sardis” and the emergence of a new, Hellenized Cybele mirroring Sardis’s change from a Persian-controlled Lydian city to a Hellenistic polis. These finds underpin the durability of Cybele worship at Sardis, and the geographic spread of her cult and image.
If these figurines formed thematic groups illustrating cult ritual and activity, we are not aware of it, and they were probably votive objects at a shrine. However, another stele discovered during excavations in the Sardis synagogue, in 1968 (Sardis inv. 68.6; Fig. 3.66), that depicts Artemis and Cybele standing next to each other could represent a meaningful relationship between the two kindred deities and may possibly offer a clue to the overlapping identities of Artemis and Cybele. In this relief Artemis, on the left, holds a fawn while Cybele, slightly shorter, holds a lion cub. The goddesses are dressed alike and in similar, if not identical, poses. The pairing of the goddesses, approached by two worshippers, underscores the sense of physical, religious, and thematic closeness of the two deities but also their separateness—or at least, that is how Hanfmann and Waldbaum, who dated the relief to ca. 400 B.C., saw it.\footnote{Hanfmann and Waldbaum 1969.} The two goddesses, whose iconography was occasionally conflated in Anatolian religious contexts, have separate bodies, attributes, and identities, but they wear the same Greek dress and polos, or tall crown depicting city walls. Following the discovery of this relief, Hanfmann revised his original belief in the merging of the Archaic Cybele with Classical Artemis, reasoning that: “Our relief proves that [the goddesses] were different [i.e., they were not amalgamated].”\footnote{Sardis R2, pp. 58–60, no. 20, figs. 78–81; SPRT, p. 221. For a broad review of Sardian cults and their relation to Artemis (and reiterating that it was Artemis who was the principal “goddess of Sardis,” not Demeter, Kore, or Kybebe), see de Hoz 2016, pp. 186–89. For an early association (and confusion) of Cybele and Artemis in the context of the Temple of Artemis, see Radet 1909. Underlining the deeply rooted presence of the two goddesses in Sardis, Roller offers a variant on the “difference” or identity issue presented by the Sardis relief: while the depiction of Artemis as taller and more substantial may indicate that “hers is the more important cult,” their near-equal representation and implied joint worship leave little doubt that the cult of Meter-Cybele lost none of her important status and presence in reference to Artemis’s newer, post-Persian cult. Roller 1999, p. 196 However, noting that the two small (male and female) figures of worshippers are also a part of the composition and share the same obviously sacred space under the same pediment (typically the shorthand for a temple or naos), he wondered whether the deities could have been worshipped in the same temple\footnote{Hanfmann and Waldbaum 1969, p. 266.} and concluded against such a likelihood solely because there was no epigraphic indication that they were; inscriptions in Lydian and Greek that come from the temple mention only Artemis, not Cybele.\footnote{Privileging “written evidence,” or epigraphy, over the evidence of images, or iconography, is standard practice for classics scholars. For an art historian the situation is reversed: in the work of identification the language of images and symbols bears a cogency and strength equal to the written word (sometimes more so). The absence of epigraphic evidence naming Cybele/Kybebe from Artemis’s sanctuary is troublesome, but one might say it is to be expected, given that Artemis is the honoree of the sanctuary. Dedications to Cybele/Kybebe under a variety of names and disguises (some overlapping with Artemis) in Greece and Asia Minor have been listed by Robertson (1996, pp. 323–4 for Sardis). An interesting suggestion made at the Milas symposium on the cults of Karia (“Karia’nın Kültleri,” August 23–24, 2019) is that votive objects with graphic, sculptural reliefs were just as accessible to and popular with the less literate or illiterate segments of the population as those with inscriptions.} Discovered in 1913, a monument north of the Artemis temple consisting of two lions (one seated and one recumbent) and an eagle, set on a broad, plain base between a pair of taller marble pedestals (probably once holding statues), invites a further consideration of the Artemis–Cybele relationship (see Figs. 3.67, 3.68, 3.69). \footnote{Sardis I.1, pp. 15–27, illus. 146–158; Metropolitan Museum of Art, butler archeological archive, research photograph a.279}
bases carries a bilingual inscription in Greek and Lydian (not necessarily belonging to the original base, the lions, or the eagle) mentioning a dedication to Artemis by one “Nannas, son of Dionysikles.” The inscription was given a date in the late fourth or early third century B.C. 255

The lions and eagles, dated to ca. 520–500 B.C., were likely re-composed as a group during the Roman period. 256 It is possible to know neither the original composition and the elements of the Archaic group nor its putative re-composition during the Hellenistic, Roman, or late Roman period. 257 What we do know is that lions are specific and quintessential attributes of Cybele, though occasionally shared by Artemis. They also—for many cultures across the globe, including the Lydians—serve as symbols of power and kingship. 258 Reasoning backward, the distinct presence of the lions allows one to argue for some link to Cybele in the earlier and later lives of these statue groups, and also supports the proposition that along with her lions Cybele could have been included in the arrangement. 259

Although one of the pedestal bases of the so-called Nannas monument carries a bilingual dedication of Nannas to Artemis, the likelihood that Cybele’s cult was still honored in the sanctuary, along with Artemis, during the Roman period (or revived in the late Roman period) deserves serious

255 T. L. Shear, who published the Nannas monument in a short article in 1931, reconstructed the found elements with the recumbent lion upon the long, plain base flanked by the sitting lion and the eagle on the lower side, square pedestals, right and left. This is a simple, symmetrical, geometrically pleasing composition with no consideration of other figures that might have been a part of the group. It is curious that Shear restricted his rather linear iconographic search entirely to Near Eastern, Assyrian, and Hittite sources—the potential relationship of the lion and the eagle to Artemis and Cybele is not even mentioned. The rough field reconstruction in 1913 (Fig. 3.67) places the sitting lion and the eagle behind the recumbent lion, on the same long base, although there is not sufficient room, and leaves the taller pedestals empty—presumably for other possible figures. Cahill reminds me that it might be time for further field investigation of the findspot and a new restoration effort.

256 This dating was provided by Hanfmann on stylistic grounds. Having seen the lions in Istanbul and New York recently, I suggest a slightly wider chronological spread between the two: the sitting lion (New York) can be dated later, ca. 450–480 B.C., meaning that it could have been introduced to the original group a generation later—hence adding to the complication of the phases of the overall composition of the group or groups.

257 For the myth of Herakles as the founder of a long line of Lydian kings and the symbolic significance of lions for Lydian kings, see Lucian 8.13.2, 25.10. In my opinion, it is reasonable to consider the mythical allusion of the original “Nannas lions” to royal Lydian past, but the conclusion that this rules out a specific connection to Cybele/Kuvava is not reasonable. Multiple symbolisms are the bread-and-butter of art historical interpretation. Hanfmann, reasoning entirely on the basis of the inscription, with its dedication to Artemis (not original to the monument), was reluctant to see a connection to Cybele in the lions of this group; Hanfmann and Waldhaussen 1969, p. 269.

258 My anonymous reader observes, “At this stage of preservation of
3. Building History and Chronology

did not have a joint shrine in the temple, but it seems to me that a subtle conflation of the two (at least in the minds and hearts of the worshippers, like the ones shown on the stele) is possible.261

For Hanfmann and scholars of his generation, writing five decades ago (and ostensibly “revising” the assimilation theories of an older generation of scholars, such as Radet), the insularity and separation of Artemis and Cybele (at least in the interpretation of the limited but crucial evidence provided by the two-goddesses relief [Sardis inv. S68.6]) became paramount. Despite Hanfmann’s assertion that Cybele and Artemis were separate goddesses at Sardis, I feel that it is worth returning to the question of the fluid relationship of these two deities in the light of recent and emerging sensibilities about identity and the perception thereof. The intervening years have placed us in a more flexible position to view questions of selfhood and identity in changeable, porous ways. Such multiviewing and multining of deities with overlapping selves would only strengthen their cults and expand their popular worship. A marble relief from Lydia (possibly from Kula, now in the Louvre; Fig. 3.71) shows a tall goddess in the center flanked by a pair of crouching lions, their paws resting on bulls’ heads; the goddess, wearing a polos, is crowned with a wreath by Nike, standing on her left, and attended by Demeter, pouring a libation at an altar, on her right—all framed within a large arch.262 Decorated with crescent moons, snakes, and an eagle (recall the eagle of the Nannas monument), shared symbols all, the handsome relief is the product of just such a deliberate desire to offer a multiviewing opportunity, and present mixed identities of Cybele and Artemis (to whom the stele is dedicated).263

I should also mention a group of similar marble reliefs from western Anatolia that depict Cybele standing or sitting enthroned within a shrine, flanked by her crouching lions (whose resemblance to Nan-
For G. R. H. Horsley, who offers a critical assessment of Hanfmann’s argument for separate identities of Cybele and Artemis/Cybebe, this crude but expressive relief (dated to the beginning of the third century A.D.), despite its nominal dedication to Artemis, is an important example that illustrates the assimilation of Cybele and Artemis in Lydia during the Roman Imperial period.264

To return to the two-goddesses relief (which inspired my questions regarding identity), even though the two goddesses are “distinguishable” and have different bodies and identities, they appear to be worshipped in the same shared sacred space separately but, as the relief makes abundantly clear, together. Although Hanfmann took an uncharacteristically narrow view regarding the interpretation of the lions of the Nannas monument (believing that they could belong only to Artemis), he recognized the uncertainty of his position concerning the overall relationship of the two goddesses; he was willing to concede that, although no epigraphic evidence for a cult of Cybele has been found in the Artemis precinct, the two goddesses possibly were “ideally combined” (my emphasis) for appeal to a greater community of worshippers.265

For us, to echo philosophical views prevalent in the early twentieth century (and later), the self can be described as “insubstantial” and “constructed” rather than natural.266

The constructed nature of body schema—which emphasizes conceptual roles of the self and the other as a game of changing places, or being in two places—may be the implication behind an exceptional representation of double Cybeles, or Cybele and Artemis, in a late Hellenistic votive relief with near-identical figures occupying separate spaces under the same pedimented votive shrine in the National Archaeological Museum in Athens (inv. no. 1546).267 They could be perceived to be the same in essence but different in name and notion, as illustrated by the two Artemises decorating the main alcove of cubiculum E of the Augustan Villa Farnesina in Rome: Artemis (Diana) the Huntress and Artemis the Moon Goddess = Selene/Luna/Anahita.268

In the same vein, insular and finite views tend to be antithetical to the prototypic nature of ancient sanctuaries, whose historical (though not physical) geographies emphasized the “betweenness” of place. The sacredness of sanctuary space is not invested in its permanence through exclusiveness and immutability, but rather through the opposite, inclusiveness, mutability and fluidity, and tolerance, whether for political or for spiritual reasons. Physical separateness of bodies viewed in a physical context, as in the two-goddesses relief—where each body is wed to its own physic, fenced by its own definition, opting for an “either/or” rather than “both”—can be overpowering. But in the world of religion and poetry, ancient or modern, bodies can share and fuse identities across time and place.269 Even when some forms of changeability and mutability (such as occupying the same space with different identities at the same time) may engender feelings of disbelief or discomfort in most of us trained

264 Horsley, in a discussion of the long history of assimilation of these goddesses in Anatolia (with many supporting examples), declared in reference to the Kula relief that it is useless to force on her an “identification as Artemis” (Horsley 1991, pp. 135–139); see also above, note 241. For arguments concerning the close representation and perception of these two deities at Sardis, see Fleischer 1971, pp. 198–199; Naumann 1983, pp. 112–113; see also, for the subtly changing and fusing identities of Cybele (“the Mother”) and Artemis, in some cases with other female deities, Seiler 1987, pp. 433, 440.

265 Sardus R1, pp. 62, 64; Sardus R2, pp. 17, 20–21, 33–35 n. 16; SPRT, p. 50. For the marble relief representing the enthroned Cybele with two lions found in the sanctuary in 1958 (NoEx 58.27), see note 259. Such retention of the Cybele cult (along with other cults) at Sardis and in the Artemis sanctuary—albeit subsumed and “marginalized” but not displaced by Artemis—can be seen as a partial revival of the position taken by Radet and his generation of scholars—or, to adopt a larger view, the Hellenization of religion in Sardis and Asia Minor. Rein 1993, pp. 13–14; Raja 2017b.


267 The goddesses share characteristics and display subtle differences: they have the same body type, they have long hair, they wear city crowns, they each hold a patera, and they are accompanied by lions (one has a lion seated by her side, and the other holds a lion cub in her lap and raises a large tympanum). The fact that the two figures are presented within a traditional pedimented shrine, but in separate chambers, tricks the imagination (at least, modern imagination) into believing that this is a representation of multiple identities and roles. See LIMC VIII.1 (Suppl.), 753; VIII.2, p. 516, no. 42; Naumann 1983, p. 134, no. 137, pl. 30.1. On body schema, identity, and multiple dimensions in the same body image, see Campbell 1994, pp. 140 and 141–47.


269 Christian beliefs regarding Christ’s worldly and godly being may still be ambiguous; variants of the Virgin Mary are famously worshipped in many Latin American countries. West African masquerades inextricably connect not only past and present, but also personal identities in a spiraling confusion of being and becoming, “I am not myself!” (see Cole 1985) and mirror, in a sense, the Sufi sense of transcendence over self and the other, as in the modern Rabiat of Ümit Yaşar Oğuzcan, the Turkish poet, “İnanma gözlerine, ben ben değilim [Do not believe your eyes, I am not I]” (see Oğuzcan 2004, p. 199). For a collection of essays that widely explore the fluid concept of the sacred in geographical, physical, and symbolic settings, see Wescot and Ousterhout 2012 (esp. Ousterhout 2012, in that same volume), which underlines the changeable and mutable nature of the loca sancta and the universality of sanctuary.
in rational thought, we may be willing to accept a certain magic espoused by ancient religion and its magically inclusive settings. The acceptance of the Roman imperial cult as well as many earlier cults inside the sanctuary and the Temple of Artemis was no doubt smoothed and facilitated by just those inclusive contexts and traditions in popular as well as established religion.

Ultimately, it is hard to know if Artemis and Cybele (and a variety of other traditional cults; see below) could occupy the same space at the same time in the wonder of a Greek sanctuary. But, given the close and overlapping relationship between them and the overall religious culture of syncretism of the land of Anatolia and the Near East, that is what I suggest. To some, these changing selves and shared identities (if not supported by hard evidence) might be puzzling and contradictory, as they were for Alice—and we do not have the helpful advice of the Caterpillar about eating mushrooms, though it has been tried. We could remember that Lewis Carroll’s remarkable realm of mutable selves and meanings, disguised as Wonderland, actually reflected something deep and real about this world.

The Menogenes Inscription and the Sanctuary of Zeus Polieus and Artemis

An important inscription found in the Artemis temple in 1912 honors Menogenes, a prominent Sardian who went to Rome on behalf of the city and the koinon of Asia to congratulate the emperor Augustus on his grandson Gaius’s assumption of the toga virilis (5–1 B.C.).

As he was completing the uncovering of one great temple, the clarity and specificity of this passing message induced Butler to assert that there was “somewhere near another [temple] . . . waiting to be . . . brought to light.” Much of the large area excavated in 1911–14 in successive terraces to the north and south of the Temple of Artemis was motivated by this strong desire. Work produced buildings and settlements in rubble stone, but no “Temple of Zeus.”

Half a century later, the problem of the missing “Temple of Zeus” absorbed Hanfmann no less than it did Butler, and the precinct was explored sporadically from 1958 through 1972. Hanfmann’s theory pivoted on the stylistic identification of the severely mutilated, fragmentary colossal head found in the south pteroma in 1911 (see Fig. 3.55 and pp. 154–155, 194 above). He viewed this sculpture as a Hellenistic work depicting Zeus, in whose battered image he recognized the features of Achaeus (rebellious brother of Antiochus III), the usurping general who held Sardis from 220 until 214 B.C.

In Hanfmann’s words, the cella was divided into two chambers and “it was to accommodate this portrait statue that the temple plan was redesigned [during the reign of Achaeus]. . . . The Zeus/Achaeus image was installed in the new east cella facing the Acropolis. Artemis continued to face the west, watching over the Necropolis.” In Hanfmann’s view, it was much later, under the Antonines, that the colossal statues of Antoninus Pius and Faustina were introduced into the temple; in effect, the imperial couple was received by Zeus and Artemis and shared the relative realms of their divine counterparts.

Recent studies of the temple refute this explanation (as well as the idea of Zeus sharing the divided temple with Artemis) on the strong evidence provided by technical details, construction methods, ornamental style, and historic probability. In concept, design, and execution, the pseudo-dipteral plan with peristyli columns, the crosswall dividing the cella, the opening of the east door, and the reorganization of the west cella and its new image base all belong to the Roman phase of the building, not the Hellenistic.

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270 Sardis I.1, p. 114; Buckler and Robinson 1914b; Sardis VII.1, pp. 16–27, no. 8.
271 Sardis I.1, pp. 114–115; Sardis II.1, p. 105, ill. 105. Further encouragement was provided by a large bronze coin of Sardis from the time of Elagabalus (c.A.D. 218–221) depicting two octastyle temples side by side; above each is shown a cult shrine with an image of the deity inside: Zeus Polieus (left) and Artemis (right); see Head 1901, pl. 27.10. The question has been posed as to whether these two temple facades are represented as such due to a special type of short-hand numismatic representation and could be conflated into one temple.

272 There is no direct or clear evidence for this except for Hanfmann’s own interpretation of the evidence and the Elagabalus coin mentioned in pp. 270–271, note 118, which probably shows two different temples, but see note 228 above.
273 Sardis inv. S61.27.14; see Sardis R2, pp. 104–5, no. 102, figs. 221–24. The argument for facial similarities between Zeus and portraits of Achaeus was based on the coinage of the latter. Hanfmann, SPRT, pp. 113, 120; Bank Leu 1978, no. 1608. Polybius 4.48.8–10, 7.35–37, 8.15–21.
274 Hanfmann, SPRT, p. 120; Sardis R1, pp. 75, 86.
275 Hanfmann was aware of the technical arguments against his proposal of a Hellenistic period “crosswall” dividing the cella, as published in 1961 by Gruben, but he considered them less convincing than his portrait identification and the evidence for a double-cult sanctuary provided by the Menogenes inscription. Hence, he unquestioningly assumed the inscription to mean a “double-cella” temple, and he expressed his reasoning thus: “The inscription of Menogenes which speaks of ‘residents in the Sacred Precinct of Zeus Polieus and Artemis,’ together with the existence of a subdivided temple [sic] . . . shows that this was a double-cult temple. . . . The fact that the wall existed in learning about the cult and worship of Zeus Polieus (“of the city”) than in discovering an independent temple (which the inscription did not name) in or near the Artemis precinct. He accepted that the sacred precincts of Zeus and Artemis were one and the same, and he believed that the cult of Zeus had been absorbed into the Sanctuary and the Temple of Artemis. Hanfmann’s dual-cult idea presented an ingenious and seemingly simple solution to Butler’s quandary and implied that Zeus might have been brought in to share the temple with Artemis.
Not many agree with Hanfmann’s stylistic identification of the colossal bearded head as Zeus/Achaeus. The contextual evidence speaks against this identification; the “Zeus” head was found in or near the temple along with six or seven similar heads firmly believed to belong to members of the Antonine family. Additionally, the head in question has been identified by R. R. R. Smith as Marcus Aurelius on specific iconographic grounds. Still, the severely damaged state of the head makes any identification a matter of educated opinion at best.

How can we reconcile the strong testimony of the Menogenes inscription (and other inscriptions found at or near the temple that also record the continuing presence of various cults of Zeus at Sardis: Lydios, Polieus, Baradates, and Olympios) for the association and perhaps conflation of the “sacred precinct of Zeus Polieus and Artemis” with the archaeological facts on the ground? There was no temple of Zeus inside the precinct of Artemis, and the Hellenistic temple of Artemis had a single cella until the Roman imperial period. The simple solution might be that the popular cult of Zeus Polieus was introduced into the Sanctuary of Artemis at some point during the late Hellenistic period and remained without an independent temple. However, we have no idea when this might have happened (the Menogenes inscription is Augustan). Less likely but still worthy of consideration is the possibility that the dual cult images of Artemis and Zeus shared the same temple cella—probably the same image podium—and were worshipped together. Two or more deities sharing a temple (without any architectural division) was not an unfamiliar scenario in Roman tradition.

It is impossible to know what happened to the cult of Zeus Polieus when the temple was redesigned and became the center of the imperial cult during the Roman era, certainly by the mid-second century. It is unlikely, though not impossible, that the independent cult of Zeus (as opposed to some emperor’s identification with Zeus) was in some way conflated with imperial cult inside the crowded cella. In the cosmopolitan world of post-Hellenistic and Roman Sardis, religion could be inclusive and accommodating; the city’s sophisticated Lydian past and privileged position under the Persian satrapal administration may have made such heterogeneous religious practices unremarkable. Furthermore, conflating and overlapping sacred spaces and honors between the “old gods” and “new gods” was not a theological problem for the Romans. Apart from many other Greek and Anatolian cults, such as that of Cybele/Kybebe with its special relationship to the sanctuary, Sardis had several local, regional, and foreign cults of Zeus starting with its own venerable, Archaic Zeus Lydios, Less. These cults tended to borrow rituals from each other and assumed each other’s identities over the passage of time due to changing perceptions, the pressures of political expediency, or mere mood and fashion. In a focused study of Lydian and Anatolian

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277 The images of Roma and Augustus shared the cella of their Augustan temple in Ankara; see p. 215 with Fig. 4.25. On temple-sharing: Robert 1975, p. 311; Bowersock 1976, pp. 112–21; Nock 1972b. On potential evidence for Roman emperors and members of the imperial family in partnership with deities and heroes (and traditional sanctuaries that came to include the imperial cult), see Nock 1972b, pp. 233–34; Talloen 2007, pp. 237–38. Epigraphic evidence on this subject is rich, but we must consider Nock’s justifiable caution on “temple-sharing,” with the significant exception of Asia Minor, where the emperor and native deities entered into “intimate associations” more readily (1972b, p. 211; see also Nock 1972a). Yegül 1982b, p. 14. The idea of a dual cult of Artemis-Zeus is also supported by Howe (1999, p. 264 and n. 166). All things considered, Cahill’s cautious and sensible comment on the subject is well taken: “The case . . . for a shared statue base [and temple] is circumstantial at best. . . . Is there any evidence left for the presence of Zeus in the temple, as opposed to the precinct? If not, why worry about it?” (Cahill, “Comments on Yegül, Temple of Artemis, April 6, 2009,” p. 14). On whether the elusive figure/deity QAdns, whose cult was honored together with Artemis in her sanctuary, could have been related to Zeus Polieus, see Cahill 2019b, p. 26.

278 Not only did the primary religion of the Roman state require what in essence could be called temple-sharing among three gods (Jupiter, Juno, and Minerva, often in separate, side-by-side cellas), but minor gods and their images could be worshipped in the same cella, such as the arrangement seen on a shop-sign depicting a Roman temple with the goddesses Roma and Annona peering out between the Corinthian columns (Musei Vaticani, inv. no. 471; see Rüpke 2007, p. 146, fig. 13).


280 Questions concerning the exceptionally diverse cultural and
The late Rose L. Bengisu, underlined the cogency of the cult of Carian Zeus at Sardis and observed that “Lydian identification with the cult of Zeus Karios provided[d] a broad base . . . regarding its applied relationship to the local cults of Zeus, Cybele, Artemis, Apollo and Mên.” She observed the continuity of these cults in the countryside, even though the broader acceptance of religious syncretism, characteristic of urban cultures of the Hellenistic (and Roman) periods, saw the decline of the Anatolian element at Sardis.282

There are several inscriptions dating from the late Hellenistic to the Roman era that bear dedications to Zeus “from the servants of Zeus” that attest to the continuing observance of some aspect of Zeus cult at Sardis.283 Apart from these, of particular interest is the so-called Droaphernes inscription, found on the east bank of the Pactolus, relatively near the temple; it is a second-century a.d. copy of a fourth-century b.c. Achaemenid original carrying a dedication of a statue to “Zeus of Baradates.”284 Neither the nature of this cult (except for its early date and Iranian origin), nor the name and identity of this deity are clearly known, nor is its presence in the Temple of Artemis established. However, the presence and continuity of Zeus cults at Sardis, even with a Persian “twist,” supports the larger reality of the continuing cosmopolitan, heterogeneous religious life and syncretism of imperial Sardis—a thesis supported by many scholars, including the late L. Robert and P. Herrmann.285

What is significant here is not so much the “linear continuity” of a particular cult, but rather the reception, sincere or superficial, of old and new ways of belief in Lydian, Persian, and a plethora of Anatolian cults and their overlapping identities, some of which were celebrated in their new incarnation through emotional rites and mysteries even under Roman rule. Thus, we do not have a simple cultural issue of “change” but a hermeneutic problem of the signification and interpretation of change—a change dictated by society at large, negotiated by its leaders and followers alike and subject to its unwritten laws and traditions. This is a change rooted in the memory-politics of the city, an “imaginary Sardis” shaped by its mythical past and remembered as it wished to be remembered.286 As pointed out by A. Berlin in her assessment of ceramic diversity in late- and post-Achaemenid Sardis, the strength of the system seems to have been rooted in the flexibility of cultural choices and variability in social, cultural, and religious frameworks.287

In a 1950 essay, Lionel Trilling, the prominent literary critic, mused that “literature is the human activity that takes its fullest and most precise account of variousness, possibility, complexity, and difficulty.”288 If we substitute “religion” for “literature” (a multiple view of religion and cult) in Trilling’s perceptive quote, we could come close to expressing the multiple and variable choices available to Sardis and its Artemis sanctuary throughout their memorable lives. While staying faithful to the core concepts and structures of past religions, the various and changing cults, primarily the cults of Zeus associated with the Temple of Artemis, must have been selected and scripted as relevant responses to the city’s civic and religious need to fashion an image of itself and perpetuate a plausible, flexible, and filtered memory of such an image.289

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demographic nature of Sardis (“a Janus—one face a ‘free city,’ the other a royal residence, a seat of the satraps and the strategos of Lydia, and a center under the Seleucids of royal power . . . with the royal archive and the Royal Mint” [SPRT, p. 113]), see Hanfmann, SPRT, pp. 74, 90–96, 112–14, 128–35; Hanfmann 1987.

282 Bengisu 1996. The same volume contains many essays that underlie the flexible nature of Anatolian cults (with particular reference to the dynamic kinship between the cults of Cybele and Artemis). This might be the appropriate moment to honor the memory of Rose L. Bengisu, whose deep interest in the history and archaeology of Lydia, especially the Tmolos/Bozdağ region (where she and her late husband, Üğur, spent their summers), and knowledge of its many hidden gems could serve as a model for responsible and enlightened amateurs everywhere, especially Turkey. See Robert 1964, pp. 15–16; Hanfmann, SPRT, p. 98. For further evidence of the presence of Carian Zeus at Sardis, see Mètraux 1971; see also de Hoz 2016, pp. 211–12; Foss 1979, pp. 21–60, 178–205.


284 Sardis inv. IN74.1; Petzl, Sardis M14, pp. 106–8, no. 434; Sardis R2, pp. 176–77, no. 273, figs. 463–64; Hanfmann, SPRT, pp. 104, 137; Mellink 1975, p. 216, pl. 42, figs. 18–19.

285 Robert 1975; Herrmann 1996, p. 329–35. For serious skepticism on the nature and extent of Iranian religious influence at Sardis, see Briant 1983; Briant 1998; Frei and Koch 1984, pp. 19–21. See also Chaumont 1990, p. 585; Gschinitzer 1986. E. Dusinberre follows Briant’s interpretation only in a general way and considers, at least as far as the Achaemenid period is concerned (she does not deal with the significance of the “copy” for the Roman period), that the city presented a heterogeneous picture in which multiple cultures, peoples, and religions were mixing and creating “something fully new and idiosyncratic to Sardis itself” (Dusinberre 2001, pp. 118, and see also p. 213 n. 40); for the existence of similar religious dynamics at Sardis in connection with the cult of Artemis during Achaemenid rule, Dusinberre 2011, pp. 216–30. For the similar phenomenon of pantheism and syncretism of overlapping religions and cults and the proliferation of parallel, faith-based belief systems in the Sanctuary of Demeter in Pergamon during the Roman period, see Radt 1999, pp. 184–85.


287 Noting that at least some of the locals at Sardis had begun to enjoy table settings displaying hybrid, Lydian-Greek-Persian wares through the fourth century b.c., Berlin observes that “Alexander’s advent may have spurred local citizens to assert a new-found pride in their socio-political [and I add ‘religious’] identity, but this identity existed side by side with other cultural innovations. Pottery is various, just like the people who use it” (Berlin 2016, p. 358).

288 Trilling 1950, “preface.”

289 Yegül 2000. The intolerance of the Sardians toward the Ephesian envoy of Artemis (and being put to death for this transgression as a
A relatively obscure and fragmentary inscription found at Sardis in 1914, dated around the middle of the second century A.D. (about the same time the temple was being rebuilt or had recently been rebuilt to accommodate the imperial cult), records a dedication in Greek by an association to honor a "priest of the Augusti and (hierophant) of the [imperial] mysteries." This evidence is crucial not only for recording the existence of mysteries of imperial cult—which well attested at other sites and in a variety of civic contexts—but as a testimony to the remarkable continuity of the mystery nature and structure of Sardian religions. Could this underlying mystery structure—and this is a long shot—embedded within the "cult of the Augusti" have formed a backbone, a bridge, that facilitated the full-blown establishment of the imperial cult in the temple itself by the second century A.D.?

IMPERIAL CULT AND THE ARTEMIS TEMPLE

A central matter in our understanding of the Roman history of the Temple of Artemis is when Sardis was awarded its neokorate ("temple-warden") status or honors, especially its second one. Was it under Antoninus Pius, or slightly earlier under Hadrian? Recent evidence—epigraphic, literary, archaeological, and architectural—favors Hadrian (see below). It is a working hypothesis (and a well-published one) that the renewal of major Roman construction in our temple, including the division of the cela, represented a direct response to earning a second neokorate; the city needed to prepare Artemis’s temple for its new imperial guests.

It is also logical that the choice of the city’s venerable Artemision as the shared seat of the imperial cult was triggered by more complex concerns about public skepticism regarding the nature of the imperial cult in the city and its relationship with Rome, rather than the simple exigency of providing an ample and appropriate space for the new cult in short order. Still, it would be economically feasible to use such an existing facility, which could, with reasonable changes, accommodate both divine functions. Those concerns bring to mind, at the everyday level, how and why the venerable goddess would vacate a good part of her temple for imperial newcomers, and in the process lose some of her prominence, at least architecturally speaking. For us, to have been able to eavesdrop upon the politics of the day, such as they might have been, would be worth far more than the masses of theories we could air and reams of sources we could quote.
Considerations for an Imperial Altar

Another fundamental question related to both the architecture and the ritual of the new double-cella temple concerns the presumed presence, position, and usage of the altar for the imperial cult. If the great altar of the sanctuary served the west-facing cela of the goddess Artemis as usual, where was the altar for the imperial cult? Would one not expect a separate altar facing the east side—where none was found and no archaeological evidence observed? Among Hadrian’s many imperial cult temples in Asia Minor, was a “neokorate temple of the koinon of Asia” or a municipal temple of the city gains significance in regard to the economics behind the gigantic, unfinished building. Hard evidence on this score is lacking—Burrell states that “this happy situation is rare or nonexistent”—in respect to all imperial cult temples.

An important point to remember is that cult ritual and sacrifices “on behalf of the emperor” could and often did include other deities formulaically preacing the declaration “to the ancestral gods and the lord emperors.” Or, as S. Price demonstrates with many examples, the wording could be ambiguous as to whether the offerings were to the emperors, alive or dead (sebastoi), or on behalf of them. Or, in rare examples, even the “imperial cult could be closely based upon a pre-existing cult of a god.”

318 As Rüpke pointed out bluntly, despite the widespread popularity of the cult, “constant effort was required in order to render the [questionable] divinity of the emperor plausible.” (Rüpke 2018, p. 189).

The theory that a koinon temple received funds from the province and a municipal temple relied on a city’s slimmer budget may favor the latter situation for Sardis, given the significantly unfinished state of its construction (although for an extraordinary large project, temple or not, being unfinished was not such an uncommon thing). Indeed, Cahill poses the question of whether the Sardis temple was indeed a provincial temple of the koinon of Asia and suggests that it might have been only a municipal temple (Cahill and Greenewalt 2016, p. 502). Yet, in that special period of generous granting of imperial cult temples under Hadrian, where the old Senate neokoros rules were in disregard, the difference between a neokoros provincial temple and a municipal one could have been blurred and minimized. Even if a temple like the Temple of Artemis at Sardis, which had its own quarries and used them for construction (and was its own economic entity) were municipal, it could have received some seed money from the generous emperor formally visiting Sardis. It should be underlined that the Sardis temple, unlike many others, appears to declare joy and pride in its ability to be a master of its money (up to a point to be sure!) and own marble from local sources (see pp. 190–193). Perhaps there was no single hard rule about these financial arrangements, and cities and temples (and other large imperial projects, such as the great imperial baths) negotiated and established their economic relationship with Rome on a case-by-case, politically inspired basis.

319 Price 1984, pp. 210–17, Livingston 2018, pp. 4–5. For further examples of the association of the imperial cult with local Zeus or Apollo cults (or as precursors) at Adala, Selge, Termessus, and Sagalassus, see Talloen 2007, pp. 235–38.
A small altar without deep foundations (making it possible to easily disappear without leaving archaeological traces) is a plausible consideration. Such an altar would have been the first to go, completely destroyed, during the early days of Christian dominance. Unlike the lavishly decorated, massive Antonine altar at Ephesus (the "Parthian Altar"), and even smaller than the Domitianic altar (ca. 6.5 x 6.5 m) for the Flavian cult temple in the same city, this hypothetical Sardis altar could have been a simple but elegant marble structure raised on several podium steps. Expanding on this hypothesis, it could have been conveniently and functionally located even in the wide open space within the east pronaos porch, in front of the steps of the east door.

The First Neokorate of Sardis and the Wadi B Temple

Before we consider the question of Sardis’s second neokorate, under which mandate the imperial cult would have entered the grand rebuilt and reorganized Artemis temple, let us summarize the city’s first neokorate and an earlier temple understood to be the candidate for it.

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302 The Great Antonine Altar at Ephesus was a monument celebrating mainly Lucius Verus’s Parthian victory (A.D. 163–66; triumph celebrated jointly with Marcus Aurelius in 166), with rich and varied relief representations of popular imperial themes such as adoption, apotheosis, battles, personifications, select gods, and state sacrifice, but centered upon the adoption of the Antonine family by Hadrian. It was almost certainly a monumental imperial altar with a U-shaped design comparable to the Pergamene altar. Its original location (foundations) is not known, but some of its extensive relief panels were reused as a parapet for the late antique pool and fountain in front of the Library of Celsus. In its complete destruction and dislocation, probably during the early Christian era, it presents a similarity to the hypothetical imperial altar in Sardis. See Eichler 1971; Hannestadt 1988, pp. 201–4; Price 1984, pp. 158–59, fig. 8; Kleiner 1992, pp. 309–12, figs. 279, 280. For the altar of the Flavian imperial cult temple, see Wiplinger and Wlach 1996, pp. 56–57, figs. 74, 75. While we support the notion that altars were natural elements of imperial cult temples (as they were for other temples), there are in fact very few imperial cult temples with preserved altars. Nonetheless, the assumption that imperial altars existed but were not preserved is shared widely. To take one example, the description and reconstruction drawings of the Trajaneum at Pergamon include a small altar, presumably one without substantial foundations, as it would have been supported by the deep, vaulted substructures of the temple terrace. After all, smaller altars were nothing more than glorified tables. Radt 1999, pp. 213–14, figs. 157, 158.

303 I am grateful to Professor Serdar Hakan Öztaner, the director of the Nysa Excavations in Turkey, for expounding on this idea during the discussion following my lecture on "The Temple of Artemis at Sardis: A Sacred Place Shaped by Dividing and Uniting Religions" (March 13, 2019) at Ankara University. Öztaner’s observation that such a location for an altar, bringing to mind smoke ascending to the sky during cult services, is cogent and underlines the functionality of an open roof, which is my design proposal for the area.

We do not know under which emperor Sardis received its much-coveted first neokorate honors and its first provincial imperial cult temple. Since the policy was one temple per emperor, per province, until Hadrian, some emperors can be ruled out. The temples for the first three emperors—Augustus, Tiberius, and Caligula—were elsewhere.
3. Building History and Chronology

The periods of rule of Galba, Otto, and Vitellius were too short for the relatively lengthy procedure of establishing a provincial cult. Vespasian, Titus, and Domitian are possible, but the well-established pseudodipteral temple of Domitian in Ephesus, rising on a high, vaulted terrace, had subsumed the official Flavian cult. Trajan’s great temple, shared with Zeus Philios (and later with Hadrian), was in Pergamon. That leaves Claudius and Nero as possible neokorate honoraries at Sardis, under whose reign an imperial cult temple may have been established.

The so-called Wadi B temple may be within our reach. During the 1981 and 1982 seasons, what turned out to be the northeastern corner of a temple was excavated on one of the steep northern slopes of the Acropolis, a commanding location in the center of Sardis, immediately west of the stadium (Figs. 3.72, 3.73). More work in the area of the temple and the large, rectangular, porticoed artificial terrace in front of it (named Field 55) in 2002, 2004, and 2005 revealed the northwest corner of the temple with three columns. Axially positioned in the center of the north side of the terrace, oriented north–south, a monumental flight of stairs gave access to what must have been a colonnaded, marble plaza surrounding the temple on three (east, north, and west) or possibly four sides. This arrangement was succinctly described by C. H. Greenewalt, jr., as an “axially-coordinated temple, terrace, and monumental approach [that] belongs to a precinct characteristic of Roman design, occupying a space of approximately two hectares [ca. 4 acres] in the heart of Sardis.”

At its stylobate level, this temple can be reconstructed as ca. 23 × 39 m, with an interaxial distance of ca. 2.66 m, a plinth width of 1.35 m, and an interplinth distance of ca. 1.30 m, suggesting that its colonnades were based on plinth width. It is restored as a Corinthian pseudodipteros, probably octastyle with a pronaos porch of four columns. The architectural design and the size of the temple appear to be close to the Temple of Augustus and Roma in Ankara or the Flavian temple of Zeus at Aezane (Figs. 3.75, 3.76). The overall setting—with its large, colonnaded artificial terrace—argues for a neokorate temple.

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104 Keil 1919. For the complicated and controversial issue of the first neokoros privilege of Ephesus with Nero and its extension under the Flavians, see Burrell 2004, pp. 60–63.

105 Ratté, Howe, and Foss 1986. Further studies on this temple are in progress.


107 Ratté, Howe, and Foss 1986, p. 44.

108 For the Temple of Augustus in Ankara, see Akurgal 1978, pp.
naded enclosure, approached axially and dramatically by monumental stairs—resembles the nearly coeval precinct at Aezane (Fig. 3.74).

Excavations at the temple and around its elevated terrace produced copious architectural elements, ornament, sculptural reliefs, and whole or fragmentary inscriptions, most of which must have belonged to the temple but were reused as spolia in later buildings during the late antique period. Noteworthy among them were some fragmentary and whole Corinthian capitals, one decorated by four muscular male torsos (one on each side) wearing lion-skins knotted over their chests, and with their arms lifted and holding lion cubs (or bulls), merging into the corner volutes of the capital—the figure is under study but tentatively linked with Herakles (Fig. 3.77). There are also Attic-Ionic bases with guilloche and vertical, laurel-leaf torus decorations (much like the bases of the Artemis temple, though the latter has Asiatic-Ionic bases), sculptural reliefs, and floral frieze fragments, cornice pieces with modillions and lion-head spouts, and a fragment of the pediment tympanum with severely mutilated egg-and-tongue top ornament (Figs. 3.78, 3.79). Considering the use of massed, mortared-rubble construction in its foundations, refined ornamental style, and archaeological artifacts found in association with the original terrace, a date for the Wadi B temple can be suggested as at or around the mid-first century A.D.

The original excavators had identified the Wadi B temple as a provincial imperial cult temple on epigraphic grounds. A number of the inscriptions typically honor
priests and priestesses of Sardis, in the “Province of Asia and the Thirty Cities,” strengthening the association of this temple with the imperial cult. A pair of matching architrave fragments, ostensibly from the temple but found among blocks reused for a foundation in Field 55, support this possibility. The cuttings for bronze letters on the architrave fragments have been read by Georg Petzl to refer to the Roman Senate.112

In view of its imposing size, rich, high-quality ornament, and commanding position, elevated on an artificial terrace (as well as the possible reference to Heraklid decorative iconography), I concur with Ratté, Howe, and Foss, who proposed that this temple was associated with the city’s first neokorate; the emperors who were honored could have been Claudius or Nero, but less likely Vespasian.113

The Second Neokorate of Sardis and Hadrian

An inscription on a statue base of Lucius Verus found in situ in the Bath-Gymnasion Complex (and likely to have been set up in honor of his return from Parthia in a.d. 166) indicates that Sardis had been awarded its second neokorate at the latest by the time of that victorious emperor, though the point is moot since I am convinced that the privilege had already been granted under Hadrian (see below).114

The first appearance on coins of the title “twice neokoros” dates to the time of Septimius Severus.115 We know, however, of an inscription of the mid-second century that indicates that the title could have been conferred earlier. Its text refers to Lucius Julius Libonianus, who was the “high-priest of Asia [and] of the temples of the Sardians in Lydia” (I emphasize the plural, which almost certainly must have included the Temple of Artemis), and who had served as strategos during the reign of Trajan.116 Assuming that Libonianus’s position as the high priest of the Sardian temples, which would have included the imperial cult temples, could not have lasted more than twenty-five or thirty years, a time during the later years of Hadrian (a.d. 130–38) becomes likely.

Support for the theory that the second neokorate of Sardis was awarded under Hadrian is provided by an undated and fragmentary inscription from Field 55 that mentions the city of Sardis as the “keeper of two Koinon temples of [the] Augusti [by virtue of the] decrees of the sacred Senate.” In his discussion of this text, G. Petzl refers to an inscription of the time of Hadrian from Hierapolis, recently published by Tullia Ritti, that lists Lucius Julius Libonianus as “High Priest of Asia, of the temples which are in Sardis.” Ritti concludes that in the time of Hadrian Sardis already been granted its second neokorate, and Petzl agrees that this is possible.117 The city’s third neokorate came under Elagabalus ca. a.d. 221.118

The presence of numerous Antonine cult portraits in the temple may still provide an argument for an Antonine rather than a Hadrianic cult. However, this argument is not nearly as strong, considering Hadrian’s almost certain visit to Sardis and the probable identification of Sabina and Hadrian among the fragments of colossi. Further consideration is due to two epigraphic hints that Sardis received the honor early in Antoninus Pius’s reign: a dedication to the emperor after his death in a.d. 161 as “hero” that still uses the titulature from the beginning of his rule;119 and another dedication that continues to name him Olympos, an epithet normally used for Hadrian, his adoptive father.120 Neither can establish it as fact. In the light of the newly published inscription from Hierapolis, discussed above, my preference for a Hadrianic date for Sardis’s second neokorate remains firm.

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112 Sardis VII.1, pp. 61–64, no. 47; Hanfmann, SPRT, p. 144.
113 Sardis M14, p. 87, no. 197; Ritti 2017, pp. 372–77. For Lucius Julius Libonianus see previous note.
114 The third neokorate is represented by large bronze coins showing the cuirassed bust of Elagabalus on the obverse and four temples, three for imperial cult and one for the Lydian Kore, on the reverse (coin type 6: BMC, no. 171). Two almost-identical, six-column temples are shown on the bottom; one smaller six-column temple with the emperor in military dress and a four-column shrine with Kore under a “Syrian pediment” are above. No independent temple of Elagabalus has yet been found on the site, although the cult might have moved into the temple of another deity. Sardis lost its third neokorate honor when Elagabalus suffered damnatio memoriae. It was not before a.d. 250–60 that the city regained the title and the honor, under Valerian. Sardis M7, pp. 9–10, 12; Kienast 1996, pp. 177–79; Burrell 2004, pp. 110–15, fig. 91; Hanfmann, SPRT, pp. 145, 277 n. 81; Robert 1976, pp. 52–53.
115 Sardis VII.1, pp. 71–72, no. 58. Compare this to the two separate inscriptions that record dedications to Hadrian as the “New Dionysus”. Sardis VII.1, pp. 51–53, nos. 13–14.
As demonstrated in greater detail below, I believe that the second neokorate title was granted when Hadrian and Sabina visited Sardis in A.D. 124 during their Asian trip of A.D. 121–25. It is significant that Antoninus Pius never visited Sardis or Asia Minor, nor was he generous with his neokorate grants. Along a parallel line of support, we observe that Hadrian's hand is historically and stylistically visible in the unusual design, rebuilding, and decoration of the temple. Upon Hadrian's death in 138, the title and distinction of the Temple of Artemis as the neokorate seat of the imperial cult would have continued under his adopted son and successor, and in due time other members of the Antonine family would have smoothly and properly crowded into the east-facing cella as partners in the Cult of the Augusti.

A striking parallel of a broadly based Cult of the Augusti, which was established under Hadrian and incorporated the Antonine family, is the group of the six spectacular colossi of the young Hadrian, Antoninus Pius, Marcus Aurelius, and their wives found in 2007 and 2008 in the imperial bath complex at Sagalassus—all clearly indicating the presence and importance of neokorate honors awarded early in Hadrian's reign when the city was recognized as center of imperial cult for all of Pisidia.322 In their last incubation, early in the fifth century A.D., the six colossal images of Sagalassus were displayed neatly inside the six niches of the southern arm of the great ambulacrum-frigidarium of the bath, probably brought there from a separate honorific hall in the same complex (the so-called Marmorsaal); by then, they may have been objects of a lingering civic devotion rather than holding any active association with the imperial cult.323

In the next section, I would like to explore the subject further in connection to Hadrian's probable visit to Sardis during his Asian trip of A.D. 123–24 and his particular relationship with the Lydian metropolis.

Hadrian in Asia Minor

Cogent support of the proposal that Sardis was granted its second neokorate by Hadrian can be found in a review of the emperor's special relationship with the cities of Asia Minor, particularly the city of Sardis and its Sanctuary of Artemis.

No emperor traveled more extensively in Asia Minor, visited more cities, or entered into more intimate and effective relationships of patronage and partnership in promoting their interests and well-being than Hadrian. The roster of temples, religious structures, and civic monuments that were started, completed, or restored under Hadrian is unmatched. O. Gülbay, author of a comprehensive study of Hadrian in Asia Minor, broadly identified two engines of a religious and administrative nature that provided the conceptual underpinnings for this exceptional relationship: first, the revival and promotion of Panhellenism as a privileged association for Greek cities (to which no less than thirty-eight Asian cities, including Sardis, belonged); second, the birth and expansion of the Second Sophistic movement in Asia Minor, reflected in the competitive promotion of philosophy, art, architecture, and urbanism.324 Both of these driving forces had close and fundamental ties to the promotion of imperial cult and its neokorate temples as the focus of religious and urban life.

Aware of its full political implications, Hadrian was the chief promoter of the cult and also the first to break its restrictive rules (“one temple per emperor, per province”) and establish more neokorate temples in Asia Minor than any emperor before or after him.324 Although the closest personal ties that the philhellene emperor formed were with Smyrna, Ephesus, and Pergamon—whence came the leading philosophers of the Second Sophistic, such as Polemon—Sardis, a privileged Panhellenic city with a kingly past and venerable, quasi-romantic associations, a city literally under the shadow of the Tmolos Mountains, could not have escaped Hadrian's attention and fascination.

Hadrian traveled widely in Asia Minor in A.D. 123–24 (his so-called First Grand Tour was 121–25) and 128–29, and he granted many neokorate temples dedicated to him “as god,” including the behemoths in Cyzicus and Tarsus,325

323 Marc Waelkens, former director of the Sagalassos Archaeological Research Project, suggested that these six cult colossi were all originally housed in the official Hadriantic cult temple (formerly known as the “Antonine Temple” on the south hill). The very small cella of this temple (6.80 × 9.40 m, with an even smaller display “podium” encircling the interior) would have made the job challenging, if not impossible. I maintain that these colossi originally occupied the so-called Marmorsaal of the original bath complex, a grandiose space (ca. 14 × 16 m) which would have created just the right kind of setting for the imperial images—not as an official cult center, but as an honorific hall whose associations with the imperial cult at popular level would have been wholly appropriate; this would have made the final transportation to the ambulacrum-frigidarium a lot easier; see Waelkens 2011. For the imperial cult in the civic context of Roman baths, see Keil 1929, pp. 35–36; Yegül 1982b; Yegül 1992, pp. 57, 751, 472–23, 473 nos. 9–12; Yegül 2010a, pp. 164–67.

324 Burrell 2003. The cities of Asia responded in turn with enthusiasm and gratitude to their benefactor, honoring him with special honors and titles such as “Restitutor Asiae,” “Restitutor Nicomediae,” “Restitutor Phrygiae,” etc. Thirty-two cities had official altars dedicated to him, while thirty-three dedicated statues. This Asiatic phenomenon was a reflection of the Panhellenic honors paid to Hadrian in mainland Greece, where at Athens alone ninety-four altars and other statues were dedicated to honor him and his flourishing cult; one of these statues was a colossal cult image. See Benjamin 1963, pp. 58–59; Jones 1996, pp. 35–36; Livingston 2018, pp. 1–3.

as well as the temples in Smyrna, Ephesus, Nicaea, Nicopolis, and Sagalassus. Smyrna and Ephesus were granted their second neokorates under this emperor. An inscription from Sardis documents the resolution of the “Sacred Guild of Artists” and honors Dionysus and Hadrian as the neos Dionysos. An important discovery in 2000 at Sardis was a tall, inscribed marble statue base carrying an eighteen-line dedication to Hadrian in Greek “from the Council and [the People] of the Sardians” and naming the superintendents and the chief stratēgos of the city. This is a crucial addition to other, already strong evidences of the emperor’s travels through Lydia (as I argue) in A.D. 123–24. The dedication and the statue almost certainly must have been occasioned by his visit to Sardis, a statement supported by the late P. Herrmann.

To this must be added a coin from Saittae (modern Kula, ca. 40 km east of Sardis, on the Royal Road) that was struck to commemorate the emperor’s visit, depicting a laureate bust of Hadrian on the obverse and on the reverse a standing Hadrian in toga, shaking hands with Tyche, the personification of the city, wearing the mural crown. There is also an inscription honoring Hadrian and Sabina from Caesarea Troketta (a small hamlet near Turgutlu, ca. 30 km west of Sardis and directly on the Saittae–Sardis–Smyrna road), making it an almost foregone conclusion that because Hadrian passed through Saittae and Caesarea Troketta on the way to Smyrna, it would have been inconceivable for him to bypass Sardis.

New studies of Hadrian’s Asiatic itinerary in 123–24, especially a new reading of the Arabic translation of Polumen’s Physiognomica—in which Sardis is included in the itinerary (named as-Srws, “the Sardis”)—also make it all but certain that Hadrian visited Sardis in his travels through Phrygia and Lydia. After he crossed from Spain to Asia, Hadrian traveled from north to south (from Phrygia to Lydia) with minor detours to Thyatira (modern Akhisar, northern Lydia) and Saittae (Kula, northeast of Sardis). Coming from the north, it is at Saittae that he would have connected with the Royal Road, visited the wondrous volcanic region known as Katakekame, and traveled a short distance west to reach, inevitably, Sardis. The path from Thyatira to Saittae by way of today’s Gül Marmara (Gygean Lake) would virtually pass through the middle of Bin Tepe, the ancient Lydian royal cemetery of “a thousand mounds,” described by the sixth-century B.C. historian-poet Hipponax; omitting this legendary monument would have been unthinkable for the erudite emperor. From Sardis, Hadrian and Sabina probably turned southwest, up and around the slopes of mythical Mount Timolos, the highest peak in the region (Bozdağ); this would have appealed to Hadrian’s curiosity about history and mythology as well as his well-known taste for climbing heights. He then would have come down the northern slopes to the Hermus valley to visit Caesarea Troketta, and, then crossing the Belkahve Pass, he would have come down directly to Smyrna. The dedication to Hadrian and Sabina was found on the north-west slopes of the mountain, near the Smyrna road, and seems to support this itinerary.
It would have been fitting that Croesus’s golden city received neokorate honors, its second, from the historically minded, generous emperor. Cities of comparable size and importance, such as Pergamon, Smyrna, Ephesus, and Miletus, long had theirs—even distant Neocaesarea in the Pontus had its first neokoros temple under Trajan. On the other hand, it is all but certain that a cult center (though not necessarily an official temple) honoring Hadrian at the municipal level had been established in an unknown location at Sardis, because a Hadrianeion is mentioned in a stele reused as a water basin in the Byzantine Shops (Sardis inv. IN59.4). We should also keep in mind, however, that since the first neokorate honors for Sardis had been awarded before Hadrian, it would have been highly unlikely for another to be awarded under Antoninus Pius. Historical record shows that after the easy neokorate policy of Hadrian, the Antonine dynasty was tight-fisted in granting this privilege, preferring to confer the coveted title to one city per region. The visit of Hadrian and Sabina to Sardis, on their first grand tour, would have occasioned the second neokorate—as it did for Ephesus and Smyrna—and its grand establishment in Artemis’s own temple. Equally important, it would have provided the logic and reason for the colossal (but peripteros-less) temple’s grand rebuilding after centuries of relative inactivity.

Aside from the title *neos Dionysos* awarded to Hadrian by the “Sacred Guild of Artisans” of Sardis and the inscribed statue base, we do not know how Hadrian and Sabina were greeted at Sardis and what they did there. However, on this hypothetical issue we can start a new hare. We know that during his second Asian trip in a.d. 129, Hadrian and his entourage stayed in Ephesus for a long time—long enough to cause some victualing problem for the city, which received the unprecedented privilege of importing grain from Egypt and other gifts to make life easier for the Ephesians. During this long stay he was honored by a statue in recognition of his “unsurpassed gifts to Artemis... [H]e granted the goddess rights over inheritances and deposits and her own laws.” Knowing that these major sanctuaries (including that of Sardis) were complex legal and financial entities, all of this sounds familiar. It is illogical to assume that Hadrian, known for his respect for local sanctuaries and religious tradition and his lavish gifts and privileges to the Ephesian Artemis, might not have done the same five years earlier for the Sardian Artemis and her sanctuary, one closely related to the Ephesian one.

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335 Burrell 2004, pp. 184–86; Millar 1983. Perhaps it was the parsimonious nature of new neokoria under Antoninus Pius that caused the cities of Asia to boast more and more of their already existing neokoros honors and titles on coins and inscriptions. The emperor’s parsimonious nature is well illustrated in the letter he sent to the Ephesians in which he expressed admiration for local benefactors like his friend Publius Vedius Antoninus, who beautified his city with lasting and useful monuments (such as a great bath-gymnasium complex) instead of spending on cash distributions and spectacles in order to gain instant popularity. Magie 1950, pp. 1.632–33; Hicks 1896, nos. 491, 493.

336 “[H]e provided shipments of grain from Egypt; he made the harbor navigable and diverted the river Caystros which silted up the harbor” (IvE, p. 12, no. 274). See also next note.

337 Lewis 1974, p. 17.

338 A colleague and historian of Asia Minor with whom I discussed this subject even suggested that Hadrian might have returned to Sardis and the Artemis sanctuary a second time during his Ephesian stay in a.d. 129. After all, the distance between Ephesus and Sardis could be covered on horseback in a day or two, and the land was beautiful, sublime, and full of game. However, on this issue P. Weiss, who firmly believes that “Hadrianus had visited in a.d. 124 the neighboring city of Sardeis [neighboring Saittae-Kula],” considers that the “assumption of another visit at a later date (a.d. 128–29) is unfounded” (1995).
he design of the Temple of Artemis at Sardis is unusual because it represents a mixture of different planning approaches applied over a considerable period of time. In many aspects, it is experimental. Unlike many temples, even those that took a long time to complete or were ultimately left unfinished, the Temple of Artemis does not represent a scheme that was conceived at one instance and realized in orderly phases. One could argue in the broadest, most traditional terms that there was an original Hellenistic phase and a Roman Imperial phase, and probably many smaller stages throughout the building process. The first major phase (here referred to as such because it was the first significant, identifiable stage in the building) was complete, in a sense, since the cella must have been ready and functional by the second half of the third century B.C. It is exceptional, however, because the original design was finished only as far as the cella, including the *in antis* columns of the western front and the eastern back porches; none of the exterior mantle of columns, which gives visual substance and style to a Greek temple, was put in place during the Hellenistic phase. No building could ever be conceived without an end design in mind, and in our case we are confident that it would have been a dipteros, much like the early Classical Temple of Artemis at Ephesus and the nearly contemporary Temple of Apollo at Didyma.

It may be hard to imagine that a building so grandly conceived and beautifully executed was only partially realized. It remained looking unfinished and strange, we think, for some four hundred years before construction was taken up again in earnest, only to look even stranger and more unfinished centuries later when finally, by the middle of the fourth century A.D., its use as a pagan temple was gradually terminated, transformed in substance and spirit with the addition of a Christian chapel at its southeast corner. However, this is what the facts on the ground indicate. Yet colossal temples, like colossal medieval cathedrals, were rarely finished, or they at least took a very long time to complete. This seemingly unending process of construction was actually a source of pride for the community, who often could not come up with the funds to finish the work. Still, continuing work for all to see was an affirmation of collective faith and determination. A temple finished honored the past; a temple under construction honored past and future.

When the building of our temple resumed during the High Roman Empire as a grand pseudodipteros, it was practically a new temple for a new world, with new needs and expectations. Yet, the centuries separating the original building from the finally realized monument did not entirely erase the intentions of the original builders. The core design of the Hellenistic monument was what shaped and inspired the Roman one. What was obvious to see—in ornament, detail, and style—was admired and even imitated. The memory and the intentions of the original builders were probably never fully lost, and they played a significant, even restricting role in shaping the final design and its execution. Technically speaking, the resulting scheme was an anomaly among the pseudodipteroi of Asia Minor; a creative synthesis of Eastern and Western influences in temple design.

The following is a description of the Hellenistic and Roman phases of the temple as conceived, planned, and executed, and an analysis of its design in the larger context of temple architecture in Asia Minor and the greater Roman...
4. Architectural Analysis, Design, and Comparisons

Figure 4.1
Temple of Artemis, Sardis, plans of temple phases, 1:200

- Columns in place or foundations which had columns
- Foundations which could support columns
- Unfinished foundations which could not support columns
- Positions of later columns
- Columns or foundations never put in place
- Hypothetical supports in west cella
- Columns removed or never put in place
- In antis columns later removed
world. Much remains unknown and unknowable about many aspects of this design and the construction “phases” of the temple; therefore, some of these will be presented as possibilities, probabilities, and hypotheses. There are strong alternate views, and as before, these alternate views, interpretations of archaeological data, and varying hypotheses regarding reconstruction and dating will be respectfully represented.

HELENISTIC PHASE DESIGN: THE SHAPE OF THE SACRED

The placement of the Hellenistic temple might have been conditioned and restricted by two venerable architectural elements on site that predated it: a tufa altar (LA 1) dating to the Lydian period (Plans 2, 6); and a sandstone foundation (“basis”) roughly 58–60 m cast of the altar, ca. 6 × 6 m in size, centrally placed at a higher ground level inside the original cella (Fig. 3.5). Butler recognized this platform as an early feature, and this was confirmed by Cahill on architectural, ceramic, and numismatic grounds (see pp. 163–164).1 The present location of the temple, as well as its size and footprint (as either a dipteros or a pseudodipteros), might have been largely guided by the desire to retain these structures; given that the “basis” was placed in the center of the original cella to support the cult image, the present layout represents the largest (i.e., longest) temple that could be achieved around two existing stationary points. As Cahill explained, “Had they moved the temple farther away from the altar, the basis would be left awkwardly at the front of the cella.”2 The solution brought a certain degree of awkwardness; once the temple’s planned peristyle design was put in place, there would be no room left between altar LA 1 and the front of the cella to place the stairs, which were necessary to negotiate the considerable level difference between the two structures. The western front row of columns (of which only the foundations of the southwest corner column 64 was put in place) was virtually jammed up against the altar; any potential design solution, Hellenistic or Roman, would need to incorporate the altar (LA 1 or LA 2) into the body of the stairs, as Butler attempted in a somewhat fanciful reconstruction (see Fig. 3.1 and p. 153, note 8). Although such a tight relation might seem awkward, let us be mindful that it was not an uncommon arrangement between temples and their altars during the Greek and Roman periods.3

With its cella measuring 23 × 67.50 m, the Temple of Artemis at Sardis (Fig. 4.1: Hellenistic phase) belongs to the category of very large Ionic dipteroi of Asia Minor, such as the roughly contemporary second Artemision of Ephesus (ca. 334 B.C.), the Temple of Apollo at Didyma (ca. 300 B.C.), and the fifth-century B.C. (“fourth period”) Temple of Hera at Samos (Fig. 4.2); all except the Sardis temple were dipteroi, and continuations of earlier, Archaic predecessors. The cella of the Sardis temple is distinctive not only because of its exceptional size, but also for its unusually elongated proportions. Its length is roughly three times its width, a proportion strikingly similar to the temple group mentioned above (Sardis 1:2.94; Didyma 1:2.99; Samos 1:3.0; Ephesus 1:3.16). Such a pronounced elongation of the cella is generally considered an Archaic characteristic. Since the design and proportions of these famous Ionic dipteroi were closely derived from their equally famous Archaic predecessors, the Sardinian Artemision could also be linked to those distant-plan prototypes, even though it lacks an earlier predecessor, unlike its Ionian cohort.

The Sardis cella is comparable to those of Samos, Ephesus, and Didyma not only because of its overall proportions but also in its design. The cellas of these temples all display frontal emphasis in their deep pronaoes filled with columns between antae; at Samos there are ten columns in distyle pairs, at Ephesus eight, at Sardis six, and at Didyma an impressive hypostyle of twelve in three tetrastyle rows! Other significant similarities among columnar dimensions and proportions that link the Sardinian Artemision to the Ionian examples emerged when the Sardis temple received its peristyle during the Roman Imperial period. The lower diameters of their average column shafts are the same or very close (Sardis 1.99 m and 1.86 m; Didyma 2.01 m; Samos 1.90 m), as are the lower diameter-to-height proportion of their columns (Sardis 1:8.91, 1:9.61, and 1:9.90; Ephesus 1:9.6; Didyma 1:9.9). Although the column sizes of these three temples are quite close, it is noteworthy that there is considerable difference in their axial spacing. For such a large temple, the Sardinian Artemision displays an uncommonly tight, uniform axial spacing along its long sides (taking the columns of the long sides: Sardis 4.99 m; Ephesus 5.73 m; Didyma 5.30 m).
4. Architectural Analysis, Design, and Comparisons

Figure 4.2
Ionic dipteral of Asia Minor

Temple of Artemis (‘second temple’), Ephesus, ca. 334–300 B.C.

Temple of Apollo, Didyma, ca. 300 B.C. and later

Temple of Hera, Samos (phase IV/Polycrates)

Temple of Athena, Priene, ca. 334 B.C.
The cella design of the Hellenistic Artemision of Sardis displays a particular affinity to the late Classical Artemision of Ephesus: it follows the same cella arrangement, with a square pronaos and an opisthodomos half as deep as the pronaos. Considering the demonstrable cultural and religious origins of the cult of Artemis at Sardis with that of Ephesus, a corresponding architectural affinity is logical (see pp. 10–11, and pp. 205–206). Merely a generation or so earlier than the Sardis and Didyma temples, we see one of the earliest uses of the opisthodomos in the Ionic order in Pytheos’s Temple of Athena at Priene, finished by 334 B.C. (Fig. 4.3). This famous temple also boasts a highly ordered, modular application of the same organizational principle of the cella: a square pronaos and an opisthodomos half as deep as the pronaos. The immense interior spans of the Temple of Apollo at Didyma and probably also the Ephesian Artemision precluded a roof over their cellas, which resulted in hypaethral adytons (in the former it also served to house the sacred grove of Apollo). At Sardis, however, the use of the double row of internal columns allowed for a more conventional roofed cella. The large numbers of marble roof tiles discovered by the Butler expedition (and many fragments by us) assures us that there was a complete roof over the cella.

An important aspect of the cella interior at Sardis is the exceptionally wide central span between the columns in the north–south direction (restored at ca. 9.30 m on axis with a ca. 6.70 m clear span, a distance that could barely be covered by stone, but there were probably wooden trusses, or doubled beams (or a combination), while the spans of the columns in the lateral (east–west) direction (restored ca. 5.40 m on axis and ca. 2.80–2.90 m clear) would have been suitable for stone architraves (as shown in Fig. 4.14). The distance between the east–west colonnades and the long side walls of the cella (ca. 3.30–3.35 m clear, north–south), although appropriate and normal for stone architraves to span (but which then would have required a triple-mitered joint with the east–west architraves of the colonnades), might simply have been spanned in wood. The exceptional width of the cella nave, convenient for this cella’s later, Roman use as a cult chamber housing colossal images, must have been necessary to accommodate the existing base (“basić”); otherwise, the more closely spaced pronaos colonnade (restored at ca. 8.40 m center to center, 5.82 m clear) and the cella colonnades might have been aligned. In any case, this arrangement emphasized the spatial impact of the nave in a way that is rare in Greek temple architecture. It recalls innovative exceptions, such as the wide cella of the Parthenon in Athens.

Hypothesis for a Dipteros: Archaic and Classical Models

Since the first phase of the Temple of Artemis did not go beyond the elongated cella and the pronaos porch columns in antis, strictly speaking, we do not know what the final design would have been. However, in light of the massive size, the unusual proportions and fine workmanship of the finished cella, and the close similarities with some of the nearly contemporary Ionic temples of Asia (especially the Second Artemision at Ephesus and the Temple of Apollo at Didyma), it takes little imagination to say that the Sardian Artemision must have been planned as a dipteros, the going mode of that time and place. Both of these great and prestigious temples must have still been under construction when ground was broken for the Sardis temple. The significance of the favorable political climate following the establishment of Seleucid rule in western Asia Minor has already been underscored, as kings and queens strove to win the approval of their newly conquered subjects by patronizing local cults and temples. Thus, we believe that the original intention at Sardis was to build a dipteros following the general mode and typology of the giant Ionic dipteroi and, like them, harken back to their venerable Archaic predecessors. Simply put, an Archaic-style dipteros was the natural choice for very large, very ambitious temples. Like many of the great Ionian temples, the Sardis temple also must have been intended to be raised on a platform (or given a platform effect by artificially lowering the ground around it) surrounded by steps. Perhaps only the earth embankment, and not the defining outer walls or steps of such a platform, was created. The religious, programmatic, and architectural relationship between the Temple of Artemis at Ephesus and the temple at Sardis promises to reward future study.

1 For Gruben’s idealized and theoretical dipteroi with a 20-foot interaxial spacing and 8 × 15 column arrangement on an idealized 300 × 150-foot stylobate (and with the wholesome proportions of 1:2, for which he took liberties with his measurements), see pp. 155–157 and Gruben 1961, pp. 184–91.

2 The Didymaion is raised on a 3.4 m crepidoma, ascended by seven large steps built over it; indeed, this is a very shabby block-and-rubble platform. The Early Classical Artemision of Ephesus is also reconstructed as raised on a platform (probably a measure against flooding). The Roman period Temple of Augustus and Roma in Ankara and the Temple of Zeus in Aezane both stand on many-stepped podiums. Banmer 1972; Akurgal 1978, pp. 222–30, 268–69, 284–85.

3 If the Hellenistic temple at Sardis had achieved its dipteral scheme as intended, its resemblance in plan to the Second Artemision at Ephesus, its putative contemporary, would have been striking. The three-intercolumniation front and back and two-intercolumniation side scheme of Ephesus was later echoed in the Roman era pseudodipteroi of Sardis. A major difference would have been the sekos arrangement of Ephesus—a gigantic, open hypaethral center (as in the Temple of Apollo of Didyma), not necessary or desired at Sardis, which had an unusually narrow cella that was easily spanned by a double row of columns. One might even say that the open cella of Ephe-

4 The frontality of Asian (or Anatolian) Ionic temples, achieved through making the pronaos deeper than the opisthodomos (or simply omitting the opisthodomos altogether, especially common in small temples), has been noted as a general design characteristic. See Akurgal 1978, pp. 20–21, 29–31, figs. 1–4; Şahin 2002, pp. 77–78.
Noting the 15.60 m distance left between the ends of the west antae and the altar, one imagines that the west end of the hypothetical dipteros allowed just enough space for three rows of columns while the back east end probably had two rows, again like the contemporary Didymaion and Ephesian examples (in the latter, this distance is exactly 15.70 m). The nature of the original topography remains uncertain, especially the level of the land east of the temple toward the Acropolis, and the changing ground levels between the altar and the cella are critical. This relationship, more or less preserved between the ground on the west front of the temple and the cella interior floor (roughly 4.80 m difference; the difference between the ground and the west pronaos porch is 3.20 m), is therefore a rare physical reference point for the placement of the temple in its natural topographic context. The land must have been rising in a general way from low on the west to high on the east, from the banks of Pactolus to the foothills of the Acropolis, with a somewhat steeper rise at the east end of the temple. However, the steep hill close to the east end (the scarp rises about 15–16 m at a distance of 50–60 m from temple east colonnade) was cut down by Butler in a series of four terraces in order to unearth the temple (Fig. 4.3). The entire low-earth terrace upon which the temple naturally sits appears to have been created by successive landslides from the Acropolis heights over time, starting from the pre-occupation period. Geological studies and soil tests undertaken by successive geographers—starting with W. Warfield, geographer of the Princeton Expedition, then G. W. Olson in 1970, and B. Marsh in 2007—all indicate repetitive flooding and silting in the area, and under the present temple by gravel and silt sliding down from the Acropolis. Marsh and Olson concluded that the landscape around the temple was largely built by gravel, silt, and clay deposits that washed down from higher ground over time as seasonal rains and changing streambeds mobilized “debris flows” until the temple was entirely buried (mainly by the ninth century A.D.). As pointed out by Cahill, in all deep sondages at or around the temple, “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 . . . [reaching] bedrock 5–6 m below the level of the temple floor, with no intervening cultural horizons . . . there is nothing . . . later than the later sixth or earlier fifth BCE [when the sandstone basis was built on top of this gravel].”

Although the temple never received its peripteral columns during its original phase, its west-facing cella must have been sufficiently complete by the middle of the third century B.C. to make it a facade for a functioning architectural shrine. The image base was completed, presumably

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8 For a dramatic view of these terraces as they appeared at the end of the 1913 and 1914 seasons, see Sardis I.1, p. 133, figs. 149, 152, and 171.


10 B. Marsh, “Toward a Landscape History at Sardis, 2007” (field report, Archaeological Exploration of Sardis).

11 Cahill and Greenewalt 2016, p. 494 (for the north pteroma trench of 2010, see pp. 475–79, fig. 7).
with the image of the Artemis of Sardis installed on it, with a terminus ante quem of ca. 240–220 B.C. (see pp. 163–164). Rows of columns inside the cells and more between the front and back anta walls must have carried a combination of stone and wood architraves and the wooden trusses of the roof. The roof must have been in place, as it is difficult to conceive of a functioning temple without one, and this is also attested by quantities of handsome marble roof tiles found in both Butler’s and our excavations (see Fig. 1.14). A recently found inscribed roof tile of the temple (Sardis inv. S10.14 = IN10.4) was read by G. Petzl as "phia(λης)̣ Και(σαρείου?)" and identified as a dedication from Sardian tribes with "Sullan" and "Caesarean" names. Based on this evidence alone it may be suggested that the "name and tribe were adopted in recognition of Tiberius’s support after the earthquake of 17 CE." This is supporting but not absolute evidence for a complete overhaul of the building's marble tiles and its whole roof, or an argument for two distinct phases—Hellenistic and Julio-Claudian—for the entire building (see pp. 184–189). Rather, it indicates a major repair and overhaul of the damaged original marble roof—perhaps the most vulnerable structural feature of a temple without peripheral columns (modern buildings have their roof tiles repaired or overhauled every twenty to thirty years even without the catastrophe of an earthquake). Indeed it would be reasonable to expect that the earthquake of A.D. 17 had caused significant damage to the roof tiles. Consequently, during a major roof repair some tiles were newly supplied, others newly "inscribed" on this occasion.

Dedications and Votive Monuments

Large numbers of marble stele, inscriptions, dedications, religious offerings, statuary, decrees, and public monuments dating from the Lydian-Persian period to the third century A.D. have been found inside and around the temple, or in the sanctuary before the establishment of the temple. The majority, however, belong to the period of the temple. Among the roughly one hundred public, honorific, and votive inscriptions found and published by the Butler expedition, some twenty-six come from the temple or are associated with it.1

13 Sardis VII.1, p. 57, nos. 38–39; Cahill and Greenewalt 2016, p. 488; Sardis M14, p. 173, no. 574, translated as "[tile given] by the phyle of Kal[sareis]."

14 Not counting those inscribed directly on the structure, 26 out of 161 of these inscriptions are included in the first relevant categories in Sardis VII.1, pp. 1–102, nos. 3–4, 6–8, 22, 24, 23, 37, 49, 52–54, 58, 72, 85–93. Of these, seventeen are datable to the Hellenistic and late Republican periods and nine to the Imperial period. In addition, there are some sixty or so stele bases and/or other bases for votive monuments and statuary preserved around the altar. Hanfmann assumed that these votive monuments, placed against the walls of the altar or leading up to it in two rows, probably represented a late Roman reorganization; see Sardis R1, pp. 51–73, fig. 181. For the contrary view to the “late Roman reorganization” idea, based on strong new evidence, see Cahill and Greenewalt 2016, pp. 499–500.

From an eye-catching monument of the Imperial era incorporating Archaic lions and eagles on a statue base of ca. 350–320 B.C. dedicated to Artemis in Greek and Lydian by one Nannas15 to long lists of individual families whose names are recorded as trusted keepers or administrators of the temple through the third and second centuries B.C.;16 from high officials and leading citizens of Sardis, like Meno-

15 Sardis VII.1, p. 91, no. 85 and Sardis VI.1, pp. 38–39; Sardis I.1, pp. 125–27; Shear 1931, p. 129, fig. 8. See also pp. 208–209 above.

16 Sardis VII.1, pp. 9–12, 93–94, nos. 3–4, 89.

17 The first king is probably Attalid Eumenes II (Soter), whose dedication is from the spoils of the Battle of Magnesia (ca. 190 B.C.); the plaque was "probably fastened on a wall in the Temple of Artemis" (Sardis VII.1, pp. 92–93, no. 88). The "second king" refers to a record of Sardians honoring the deceased Antoninus Pius (after A.D. 161), but it commemorates the dead emperor as he was in 139, at the beginning of his reign; the text was probably recorded on a pedestal, now lost. As suggested by W. H. Buckler and D. M. Robinson in Sardis VII.1, pp. 71–72, no. 58, "the reminiscence presumably refers to some boon then conferred, and this may well have been the granting by him of the second necorate."

18 Sardis VII.1, pp. 66–69, nos. 51–54, figs. 42–44.

19 Sardis VII.1, pp. 65–66, no. 50, fig. 41.
the second century A.D. and included the worship of Roman emperors and empresses—and that Artemis’s old temple now received their divine images (with enthusiasm or willy-nilly)—is simply the historical confirmation that royal Sardis, city of the Panhellenion and twice neokoros, upheld its proud place among the constellation of Asian cities subsumed by the empire.

Honor and devotion to the goddess continued unabated through the centuries. Still, the physical presence on the ground, the architectural focus of all that devotion, was less than perfect. If we were to encounter the Sanctuary of Artemis at Sardis in the late Hellenistic or early Imperial era, we could be excused for being startled by the bizarre and uncommon appearance of Artemis’s temple: an oddly proportioned, long, tall marble box with shining white walls accented by discrete, exquisite details, covered by a simple roof of marble tiles with gabled ends—rather like a toy house magically transformed into a magnificent marble palace. This white marble box rose on a gentle earth embankment—its hard-edged form in contrast with the natural, lovely roll of the hilly countryside around and the spiky mountains behind—in repose between the banks of the Pactolus and the craggy Acropolis peak that linked the city to the legendary range of the Tmolos Mountains beyond. Beyond the valley of the Pactolus, the land opened toward the north to the wide Hermus plain with its “thousand mounds” of the Lydian kings and nobles, and the famed golden city of Croesus. Around the box of the temple, softening its stark geometry, there must have been trees and bushes and many small votive monuments, inscriptions, stelae, and statues. Sardians must have known and appreciated that their temple was incom-plete without its external columns, although, in the words of a reviewer of this manuscript they might have been “less bothered by the absence of outer columns than an Ionian city would have been. The long hall [with nineteen-meter-high walls] would have provided them with an impressive setting for Artemis.”21 To the followers of the goddess this slightly bizarre and unusual shape set among the hills must have become, over time, acceptable and cherished—indeed, the shape of the sacred. In that sense, there was nothing unusual, nothing bizarre.

The West End and the Northwest Stairs

Today it is easy to be baffled by the clutter of structures occupying the area from LA 1/LA 2 to the west pronaos porch, whose physical, functional, and chronological relationships with each other are confusing and even contradictory (Plan 3). The main question is the nature of the physical connection between the temple and the Archaic and Hellenistic altars (LA 1 and LA 2, respectively) during different periods in their histories and how they relate to the northwest stairs that extend between the northwest anta pier and altar LA 2, some 1.20–1.30 m beyond the outer face of the west peristyle. We will summarize what we know of the original topography of the temple’s west end and the primary level changes and other alterations brought about by Butler’s excavations.22 In the following discussion of the west end I mainly follow N. Cahill’s archaeological interpretation and overall reconstruction, with a few alternative ideas.23 I present this discussion through the Hellenistic and Roman periods in order to retain a more unified picture of this area over time.

The temple cella was built over the course of the third century B.C. atop a relatively low platform of earth that surrounded the cella, so the relationship between the early altar and the temple’s west end must have been a natural one; the nonexistent peristyle of columns was probably evoked by the gentle slope of the earth platform surrounding the cella, made either by building the ground up, digging it down, or both. The drop in the land to the north and south of the temple, which today looks like a trough, was created by Butler’s deep trenching and does not represent the original topography, which we simply do not know. What is certain is that there should have been some form of a natural ptero-

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22 For a scheme portraying such a thoroughly integrated relationship of stairs and columns, see Butler’s fanciful reconstruction proposal. Sardis II.1, p. 86, fig. 97, pl. 7 (here, Fig. 3.1); Sardis R1, p. 101, fig. 180.

ma at *100.0, for a rise of ca. 3.20–3.30 m over a length of ca. 85 m, was mild if not negligible (roughly resulting in a ca. 4 percent slope) as one approached the temple from the west, this level difference had to be negotiated by stairs and/or ramps. Furthermore, this height difference would have to be negotiated within the restricted space between the back of altar LA 2 and the west face of the new temple along its northwest and southwest antae, a distance of ca. 16.60 m.

The obvious solution would have been to build a broad, monumental flight of stairs across the entire west front of the cella porch, rising the full 3.20 m from the base level of the altar at *96.80 to the west pronaos porch at *100.0 (Fig. 4.4, proposal 1). This would have been a massive construction with about fourteen risers (risers at ca. 23 cm and treads at ca. 36–36.5 cm) and extending out beyond the temple’s west face some 4.70–4.80 m. The north pteroma, however rudimentary and berm-like, was at *100.0 (since the foundations of the wall would have to be properly buried in the ground at the very least), making the connection between the north pteroma and the west end of the temple, with this 3.20 m level difference, difficult and awkward, especially where they meet at the northwest and possibly the southwest corners. A straight north–south wall (essentially a retaining wall) or a steep berm to demarcate the west end of the north pteroma could be thought of as the obvious and cleanest solution. On the face of it, this arrangement presents two problems: first, the sheer monumentality and abruptness of the stairs in such a confined, low space, would be visually jarring; second, at the northwest corner of the anta (where the north and west faces of the anta pier meet) the foundations of the anta and of the north wall would have been exposed, with blocks hanging some 1.60–1.70 m over the level of the earth. This could have been revetted neatly in marble, but that is not a structural solution. More importantly, such an arrangement lacks precedent in Greek and Hellenistic temple architecture. Frontal schemes in Roman podium temples are common enough, but that phase of our temple was not Roman. Yet the unorthodox design, elsewhere argued as the reason for other creative aspects of our temple, may well provide the answer for this unusual but impressive arrangement.

An alternative proposal would be to divide the difference in height in half by partially filling and raising the space between the altar and the temple to a height of about 1.50–1.60 m, or roughly to that of the altar top at ca. *98.30; in essence, this would create some sort of a higher open space like a plaza between them. The advantage of this solution would be to reduce the height of the west front stairs and the wall terminating the west end of the north pteroma to a more manageable 1.70 m (leading up from ca. *98.30 to *100.0). A hypothetical reconstruction drawing provides a visual aid for such an arrangement but does not confirm it (Fig. 4.4, proposal 2).

Among possible parallels for the use of high stairs in association with Hellenistic temples are the peripheral steps surrounding the Temple of Apollo at Didyma, rising an impressive 3.50 m, yet this is not a case of stairs leading up directly to the temple front, but rather a step system surrounding the temple peristyle, a crepidoma, which is not the same thing. The Hellenistic sanctuaries at Cos and Labraunda utilize many stair-and-walls combinations similar in appearance to our proposal, but those are structures linking terraces of different levels; the temples within the terraces are traditionally designed. One might remember the Temple of Dionysus located on the steeply rising hill on the north end of the theater terrace at Pergamon (see Fig. 4.21). Dated to the second century B.C., it is an Ionic prostyle temple rising on a podium more than 4 m high, approached frontally by a stair of twenty-five steps, yet all of the visible structure had been rebuilt in toto during the Roman Imperial period.

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25 For an alternate solution with symmetrical stairs from the south and north sides leading up to a more formal, ceremonial plaza, see Gruben 1961, pp. 175–78, fig. 3. For this older argument see also Sar- dis R1, pp. 100–101, figs. 124–25. For a recent cogent view, see Cahill and Greenewalt 2016, pp. 499–501.
The problem with this proposal is the presence of a stele (number 15, assigned by Butler), apparently in situ, at the lower *96.80 level, against the roughly plastered wall of the altar (Figs. 4.5, 4.6). Thus, in order to propose an alternative arrangement for a higher ground level here, one has to assume that stele 15 was not in its original position but was moved there by Butler or by Roman builders of the temple’s west front. Or, alternatively, that LA 2 (whose exact date we do not know) was somewhat earlier than the temple, and its west face was plastered and the stele put in front of this wall before the temple was built, then buried; this is possible but not supported by evidence.²⁷

During the Roman phase, the pseudodipteral plan was adopted and the original west wall of the cella was moved forward, toward the west, to create the double cella; work also started on the six-column pronaoas porch of the west end, reflected in the design of the better-preserved prestyle porch of the east end (Fig. 4.1, Roman phases). The area between LA 2 and the west porch—which today is deeply cut up by Butler’s trenches—was filled to erect the porch columns (columns 48, 53, 54, 55, and 49) and the extensive mortared-rubble construction that encased them. A large portion of the debris in the west porch area, the rubble retaining walls between the altar and the pronaoas porch, and some of the mortared-rubble construction between columns 44 and 55 were all removed by Butler.

It must be emphasized that in our opinion this major Roman phase was a part of an integrated “running design phase” for the entire temple without specific “early” or “late” Roman phases with hard dates. It was a construction process that must have taken a long time and moved from east to west as a succession of stages. It is in this sense that we see the west end—between the altar and the Hellenistic era steps leading up to the pronaoas and then to the cella—as an area where Roman construction might have started almost concurrently with the east end. The north and south pteromas and their peristyle colonnades must have just been begun on the east side but were not yet extended to the west. Since the area between the altar and the extended, columnar pronaoas porch was too narrow for a stair that could negotiate the full level difference, a new staircase on the north side of the porch was created on new mortared-rubble foundations (probably using the blocks of the Hellenistic era stairs discussed above).²⁸ This is what we call the “northwest stairs” (Figs. 2.129, 2.144, 4.5). The area must have been filled with earth to the level of the porch floor (ca. *100.0) that was defined and partially retained by rubble walls ca. 2 m high and extending north and south of LA 2. These walls were largely removed by Butler, though they can be seen on his “actual state plan.”²⁹ The east end of the northwest stairs was delimited by a “crude wall” of small blocks and mortared-rubble construction extending north, connecting the northwest anta pier to column foundation 45. It supported the fill of the north pteroma, which must have been in the process of being built in stages from east to west (Fig 4.7). As Cahill notes, the north peristyle foundations eventually continued to the west end of the temple, and “the [northwest] stairs must have been considered a temporary arrangement.”³⁰

The northwest stairs extend for a length of ca. 16.60 m between the “crude wall” on the east (with a 1.10 m space between the crude wall, which makes an almost ninety degree, 1.20 meter—thick dogleg against the north cella wall and the end of the steps) and the mortared-rubble wall on the northeast corner of LA 2 on the west (Fig 2.139). The stair on its eastern end is preserved in five courses; on the west, only the bottom two courses remain. They can be reconstructed in seven risers that negotiate the total height of ca. 1.70 m, from the bottom at ca. *98.30 to the west pronaoas floor at *100.0. The steps are constructed in white marble blocks varying in lengths of 0.45–2.20 m, and these display excellent workmanship with delicate, “raised” vertical joints. Their fine workmanship and small bar clamps (13–16 cm long, some misaligned and none functional) suggest Hellenistic or early Roman work, but it is clear that they were used here as spolia, reset and refitted, possibly from their original use as the Hellenistic era stairs leading up to the west pronaoas porch.³¹ The stairs are supported (or backed) by mortared-rubble construction similar to what

²⁶ See also the discussion in Sardis II.1, p. 16.
²⁷ It may be unlikely that Butler moved stele 15, although he excavated the area quite thoroughly and did remove some mortared-rubble retaining walls and mortared-rubble foundations, and reorganized many other stelae found in this area. The photograph of the west end of the temple and LA 1/LA 2 (looking south) in Sardis I.1, ill. 100, taken at the end of the 1912 season, shows stele base 15 with the lower part of a stele still in situ behind LA 2; it also shows a great many other stele bases, pedestals, and blocks in the area—as if the blocks were in the process of being moved and the area was being tidied (see also Fig 4.4). The detailed plan of this area as it was freshly dug at the end of the 1910 season (“Plan of Lydian Building and Foundations at the West End of the Temple,” Sardis I.1, ill. 15) does not include this stele, even though this plan seems to be accurate in including almost every stele base placed against the north wall of LA 2 (and that are there now). It is also curious that Butler, who described the excavation of this area as it emerged through the 1910–11 seasons, and carefully included almost every stele and stele base in his description, made no mention of stele 15 as a feature in its present, presumably original position (Sardis I.1, pp. 41–42). Grounds for doubt remain.
²⁸ Misaligned and non-joining clamp cuttings show that these stair blocks were moved from another location . . . that they were already reused in that prior staircases. This is the Hellenistic staircase leading from level *96.80 behind LA 2 to *100.0 of the west pronaoas porch and putative pteroma. Cahill and Greenewalt 2016, pp. 486–81.
²⁹ Sardis I.1, p. 42; Cahill and Greenewalt 2016, p. 550.
³⁰ A minor excavation in 2010 disclosed the full extent and construction details of this wall that connected the east end of the northwest stairs to the north pteroma column foundations. Cahill and Greenewalt 2016, p. 501.
³¹ The heights of the risers of the preserved five courses, from bot-
surrounds the foundations of the peripheral columns. On the eastern end of the steps, between the northwest anta pier and column 48 before it, the marble foundations are preserved at two courses below the paving level and show extensive pedestrian use; the entire western portion, in front of missing columns 52 and 59, plunges down some 1.60–1.70 m to the lower ground level at ca. *97.0, which extends as a kind of “deep corridor” between the exposed foundations of the columns of the pronaos porch (columns 53–55) and the great altar. The deep corridor as we see it today is simply a trench excavated by Butler; this is misleading in appearance, as is the “plunge” behind the stairs, which would not have existed when the stairs were operational (Figs. 4.5, 4.6). 32

The mortared-rubble “crude wall” was excavated in 2010 and found to be bonded into the stairs at its south end; apparently it served as a retaining wall to support the east end of the north pteroma (Figs. 4.7–4.9). Although preserved in rough-rubble construction, it probably had a more presentable stone or marble veneer on its west face. 33

Tom up, are: 23, 23.5, 23.5, 22, and 23 cm; the widths of the treads for the same are: 33.5, 36.5, 36, 37, and 37 cm.

32 This unusual situation baffled Hanfmann, as it did many others: “There is no blinking the fact that the interpretation of the stucco on the eastern wall of LA 2 as stucco suitable for an external wall brings about a head-on collision with the evidence of the northwest staircase. If we accept both assertions, we obtain the peculiar result that a person going up to 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!” (Sardis R1, pp. 101–102).

33 It has been suggested, however, that this might have been the location for some second-century A.D. inscribed marble blocks found at the bottom of the northwest steps in 1911 that honor priestesses of Arte-

northern end of the rubble wall was cut by the mortared-rubble encasing of the north pteroma column foundations, mainly that of column 45; the west face of its south end is visible ca. 1.86 m from the east end of the stair. As observed by Cahill, “The peristyle must therefore postdate the wall and stairs, and these features were never used together;
4. Architectural Analysis, Design, and Comparisons

before the construction of the peristyle column foundations of the west end (numbers 45, 47, and 51, the foundations for column 57 never laid; see Fig. 2.129). The construction of the west-end columns of the north peristyle, which buried the stairs, also could have been undertaken at almost any time between the mid-second century A.D. and the abandonment of the temple in the late fourth century. Yet, since the northwest stairs should logically be associated with the building of the six-column west pronaos porch, we believe that when work on the north pteroma and its columns (or column foundations) had sufficiently advanced by the later second century, the makeshift arrangement of the northwest stairs became unnecessary and unsupportable. Our explanation for the heavily eroded blocks two courses below the surface between the northwest anta and column 48 is less satisfactory (see Fig. 2.107); perhaps the stairs were dug up in late antiquity, when most of the fine marble blocks of the temple, including those of the stairs, had been robbed and this crude, functional passage merely 2.20 m wide served those who had business among the ruins.

**ROMAN PHASE DESIGN: THE SHAPE OF POWER**

The Roman construction of the temple commenced sometime in the Hadrianic era following a loosely conceived, pseudodipteral model with eight columns at the ends and twenty along the sides. Since the impetus for the “new” temple appears to have been to incorporate the imperial cult, the manner in which this was done, obviously, was to divide the cela into two nearly equal parts: the east accommodated the cult statues of the imperial family and faced the Acropolis; the west (further extended some 10.15 m westward), as in the original arrangement, belonged to Artemis. It is a strong possibility that there was an imperial cult altar on the east side, balancing the great altar of Artemis on the west side but far smaller in size, set against the towering east front columns, or possibly set inside the spacious pronaos porch in front of the stairs of the east door; since no remains of such a structure was found, one has to assume that it had shallow foundations and was totally destroyed and demolished during the Early Christian era. With a planned mantle of sixty-four columns, the full project was gigantic and ambitious, arguably the largest “pseudodipteral” temple in the world, and it progressed over centuries. Its peripteros of columns was still largely unfinished when the temple lost its pagan meaning and purpose in the fourth century A.D.

At first glance, it is difficult to imagine that the great temple of the Sardian Artemis existed and served as a cela only for some four hundred years, all the way into the Roman Imperial era. Perhaps that is one of the reasons that theories for a major Hellenistic era rebuilding (Gruben’s and Hanfmann’s “second phase”), even in scholarly publica-

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**Figure 4.8**
Mortared-rubble “crude wall” in north pteroma, with eastern end of northwest steps (looking south)

**Figure 4.9**
Mortared-rubble “crude wall” in north pteroma (the fluted drums in the distance sit on column foundation 45) (looking north)

when stairs were in use, the peristyle foundations had not been laid here; when they were laid, the space between the peristyle and stairs must have been filled, burying the wall and the stairs.”

The northwest stairs and the platform created between the west pronaos and the altar was the primary means of access to the west front of the temple during its early Roman phase, before the north peristyle columns had been extended this far west. Another means of access to the west pronaos area seems to have been provided from the south by stone stairs at the southwest end of the temple (a parallel arrangement), now preserved poorly in two steps. The northwest stairs could have been installed at almost any time

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14 Cahill and Grenewalt 2106, p. 481.
tion, are attractive and will not go away. Furthermore, the desire to explain the present “pseudodipteral” plan of the temple as a development directly influenced and inspired by Hermogenes’s exceptionally successful and timely innovation—hence the desire to connect the Sardis temple with Hermogenes—has been too seductive to resist in some of the published histories of the temple. How could one of the most imposing and renowned pseudodipteral temples of all time not have a connection to Hermogenes, whose magnum opus lies some eighty kilometers southwest of Sardis as the crow flies? Or, uncharitably, to credit the Romans as the creators of this remarkable architectural program and beautiful columns and capitals is too unsettling to accept. Chronologies for the temple’s alleged “late Hellenistic phase” differ from 220–200 B.C. (Hanfmann) to 190–150 B.C. (Gruben); anything resembling general agreement among scholars on the chronology of the Anatolian architect’s productive years (i.e., 225–175 B.C., or possibly even later, ca. 175–115 B.C.) is a fairly recent phenomenon. Yet, as I have tried to show in this study—through technical and construction manner; archaeological evidence; stylistic, architectural, and functional analyses; historical indicators; inscriptions that speak; and reasonable circumstantial deductions based on the meaning and intent—the evidence precludes the interpretation of the pseudodipteral arrangement at Sardis as anything but Roman Imperial, a scheme causally linked to the double-cella plan created for the imperialis cult occasioned by the city’s second neokorate. Our best estimate for this event, which signals the “second major phase” of the temple, is Hadrianic (ca. A.D. 130–60). As mentioned earlier, there is no cogent or compelling evidence for a major intermediary Hellenistic or early Roman phase, unless we conceive of “phases” as a succession of many construction processes in the Roman period and adopt a somewhat minimalist definition of what constitutes a phase in the history of a building. An important event that is tempting to associate with major rebuilding, primarily the design and partial erection of the peripteral columns, was the earthquake of A.D. 17 which devastated Asia Minor and according to sources, caused the worst damage at Sardis. The disaster was partly but generously alleviated by cash grants and tax remissions under Tiberius (Tacitus, Ann. 7.47). However, we have no idea how much damage this earthquake caused in the temple except for, surely, its marble roof. However, if the earthquake had inflicted serious or even minor damage upon the existing temple, the first order of business, in my opinion, would have been to repair this damage, not to start a ruinously expensive new building phase. Periodic and sundry repairs, routine maintenance work, renovations, and even schemes that were started and soon abandoned must have been normal for a monument with a history that spanned many centuries. Such repair and renovation work often leaves little or no evidence—or the evidence is too elusive and confusing to follow cogently—and may be indicated as hypothetical possibilities rather than substantive phases in the building history of the temple. When the second-century Roman building commenced to surround the Hellenistic cella with a peristyle, it roughly followed the pseudodipteral arrangement we have, creating a gargantuan building out of an already very large one, its footprint some 2.7 times larger than its Hellenistic predecessor (Fig. 4.10).

Perhaps the exceptionally long time span between the completion of the Hellenistic cella and its commencement toward a proper peripteros is not as surprising as it first

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35 Following Gruben’s lead, those who subscribe to a late Hellenistic second phase are Akurgal (1978, pp. 127–31), who reproduces Gruben’s plans for the temple’s phases unchanged, Hoepfner (1990, p. 7), and more recently Şahin (2002, pp. 70–71).


For a recent discussion and reassessment of Hermogenes’s involvement in the Temple of Artemis in Magnesia in light of a new donor inscription (of the peristasis columns) datable to the first quarter of the first century A.D., see Bingöl and Dreyer 2018, pp. 61–71. The early date for Hermogenes (as supported by Herrmann) was recently confirmed by M. Kadıoğlu on the basis of ceramic evidence found in 2017 in the foundations of the north crepidoma of the Temple of Dionysus at Teos that is datable at the latest to ca. 230–200 B.C. Further work is planned. I am grateful to Kadıoğlu for sharing this important information (pers. comm., Nov. 7, 2019).

I suggest that a few inscribed marble tiles indicating tribal donations dating from the Julio-Claudian era provides evidence for the post-earthquake repair and restoration of the damaged roof (see p. 231, n. 12 above). See also Ambraseys 2009, pp. 105–71; Sardus R1, pp. 55–56.
appears. For its users, a finished cella housing the sacred image was all that would have mattered in defining the sacred bond between the goddess and her worshippers. As underlined by F. Rumscheid, any classically inspired cella with the cult image inside was a “cult building.”38 The periperal columns adding conventional grandeur could and would come later. Indeed, by delaying their construction—after having spent so much money for so long on the exquisite marble cella—the community could gain some financial respite and divert its funds to other worthy civic projects, such as a theater, a bouleuterion, or a basilica. O. Bingöl extended this logic to Magnesia—also basing his observations on technical and stylistic considerations of peristyle elements of the Hermogenes’s Temple of Artemis there—and made the bold proposition that even this temple might not have advanced beyond the cella stage during the master’s lifetime, but received its external colonnades sometime in the late first century B.C. or even later—now made more plausible with the discovery of a donor inscription for these columns datable to the early Imperial period. In this scenario, Vitruvius’s elaborate description of this iconic temple’s proportional system must have been based not on built-site observations, but rather on Hermogenes’s descriptive treatise.39

Complex Interaxial Contractions and the Importance of the New East Front

Introduced during the Roman rebuilding phase of the temple is a special convention of Archaic Ionic design known as multiple or complex interaxial contractions, present in the frontal row of columns where the axial spacing between them (or their columnar axes) regularly increases, starting from the ends toward the center. The eastern front of eight columns employs four different spatial variations (subtlety noted and admired by the Neoclassical architect C. R. Cockrell). Each interaxial pair flanking the center decreases in width from 7.06 m (the widest at the center) to 6.64 m, 5.45 m, and 5.31 m at the ends; the interaxial spacing of the long sides keeps a uniform, narrow spacing of 4.99 m.40 The locus classicus of this system is at both the Archaic and subsequent Late Classical Artemisia of Ephesus where, according to recent investigations by A. Ohnesorg, the Archaic (“Croesus”) and Late Classical temples shared identical plans and had multiple interaxial contractions with four gradations on their western fronts.41 The evidence for this is not absolute, but it is convincing and suggests that the Temple of Artemis of Ephesus in its distant Archaic version, but more readily in its Late Classical, provided the model for the sophisticated interaxial contractions of the east peristyle columns of the Sardis temple in Roman times. Since only one of the column foundations (number 64) of the west peristyle had been laid, one cannot know if the Roman builders intended to apply multiple interaxial contractions on the west peristyle as well, though it is probably unlikely. At the Heraion in Samos, inter axial spacing is graded down from 8.40 m in the center, to the next pair on either side at 7.04 m, and the outer pair at the ends at 6.35 m (Figs. 4.1, 4.2). The back of this temple (with nine columns) did not employ this system. The Hellenistic Temple of Apollo at Didyma with ten columns in front and back retains uniform spacing all around; it is impossible to know for sure if its Archaic predecessor (completely covered by the later temple) used this system, but neither reconstruction alternative, by Gruben and more recently by B. Fehr, indicates it (Fig. 4.2).42 Thus this particular feature represented in various forms in the Archaic (and possibly Classical) temples at Ephesus and Samos, and so consummately applied at Sardis, represents a deliberate Roman revival of a patently Archaic model. It is also interesting to consider that the Roman temple builders of Sardis ignored the simpler model of equal spacing front and back that had been applied at the Hellenistic Didymaion in favor of more distant historical models.

It is also interesting that this sophisticated, archaizing system was applied only when the east end of the temple (the opisthodomos of the original cella) had become a new front during the Roman rebuilding. We cannot be sure of

38 Rumscheid 1999.
39 I would like to remember fondly many site visits and discussions on this subject with Dr. Bingöl, where we studied the peristasis elements and ornament of the Magnesia temple, judged it to be later than Hellenistic ornament, with a comparative view toward the Hellenistic-and-Roman-phase ornament from the Temple of Artemis at Sardis—our judgment at the time independent of the strong evidence provided by the donor inscription mentioned above. See also Bingöl 2012, pp. 113–20.
40 In some of the Late Hellenistic temples of Asia Minor, starting with Hermogenes’s Temple of Artemis in Magnesia and later with the Roman pseudodipteros at Ankara and Aziane, only the center intercolumniation is emphasized by wider spacing; the front, back, and sides are uniform.
41 New studies indicate that the plans of the Archaic and Late Classical temples were identical. Based on the state of preservation, it could be ascertained that the locations of one of the two northern rows of columns, both of the southern rows of columns, and the walls of the sekos were matching in both temples. The west front of both the Archaic and Classical temples had eight columns; the east has been traditionally restored with nine columns. As indicated on the foundation plan by A. E. Henderson (1915–16) and recent observations of their traces on the stylobate, the spacings of the outer two columns on the front are 6.08 m and 6.16 m (or 6.13 m); the inner two are interpolated to be 7.23 m and 8.60 m. I am grateful to Aenne Ohnesorg for her suggestions; see Ohnesorg 2012, pp. 23–24; Ohnesorg 2007, pp. 98–103; Ohnesorg 2008. See also Weis 2002; Henderson 1915–16. For earlier studies of the Ephesian Artemision, where the complex interaxial contractions were thought to affect only three spatial gradations, from the widest at the center at 8.75 m, flanked by a pair of lesser widths at 7.20 m, down to the two pairs at the ends at 6.16 m, see Bammer 1971; Bammer 1984; Bammer and Muss 1996; and, more recently, Bammer 2008.
if such multiple contractions could have been a consideration for the Hellenistic temple; simply, there are no exterior columns and therefore no evidence. However, if columns had been built, it might have been applied only to the west, which was the proper front of the temple. Among the Archaic and (possibly) Classical examples known to us, this system is always used only on the principal facade of a temple. It is surely an indication of the extraordinary importance of the new east front, created solely for its mid-second century association with the imperial cult, that it received an extraordinary design with its full eight columns and carefully applied, historically conscious, catenated interaxial contractions (and perhaps planned, even if not executed, with a magnificent pediment)—while at the west end, the goddess still awaited a facade. Would the system of complex contractions have been applied also on the west facade if it had been built? Another intriguing and important point: Why did the once-principal west facade leading to the goddess's chamber remain incomplete, or at best, was a truncated-looking tetrastyle porch? Despite arguments for the apparent topographical complications involved in achieving a full west facade, and of course the problems of cost that the political realities of second-century Sardis might have dictated (perhaps after a fight in the city council?), the architectural precedence enjoyed by the imperial gods was at the expense of the old goddess. This is not to say that every significant public dedication in Roman Sardis (such as the Marble Court of the Bath-Gymnasium Complex) did not start evoking the goddess's name; but then one might say, as epigraphic formulas go, that talk is cheap. It also furnishes us with one of our stronger arguments for a second-century date for the construction of the east end of the temple rather than a Julio-Claudian date; only the Hadrianic (and later Antonine) admission of the imperial cult into the temple could have supplied the rationale for making the east end a new, primary front. If prestige and primacy were not conferred upon the east side by the admission of the imperial cult in the east cella in the second century, the Roman builders would have had no reason to turn this end into the primary facade.

The Divided Cella and the Exterior Columns

We imagine that by the mid-second century A.D., the original west-facing cella of the temple was divided by the east crosswall into two chambers of nearly equal length (west cella interior length is 26.74 m, east cella interior is 25.16 m). In order to create sufficient space for the two cellas, the west wall of the original cella was dismantled and rebuilt ca. 10.10–10.13 m toward the west, thus incorporating roughly two-thirds of the original pronaos (Fig. 4.11). The west crosswall (the new western front wall of the temple) extended between the north and south walls of the pronaos porch, not bonding to them, and obliterated porch columns 79 and 80 (Figs. 2.65, 2.67). As discussed above, this operation also involved moving and rebuilding the cella door and stairs in the new location. Since the pronaos floor was ca. 1.60–1.70 m lower than the cella, the floor of the new addition to the western chamber had to be filled to the level of the original cella and a new roof and support structure devised. These operations, especially relating and adjusting the existing gabled roof of the Hellenistic cella to the much wider roof of a temple with peristyle, probably required dismantling and rebuilding the whole roof, even
though much of this peristyle had never progressed beyond foundation stage. The new east and west pronaos porches of the two-cell temple were now equal in depth at 6.0 m, i.e., the depth of the original, east-facing opisthodomos. A monumental door with finely ornamented jambs and lintel was cut into the east wall, the original blank back wall of the temple (Fig. 2.181). Approached by a flight of steps, this door gave access to the new east chamber, which we believe was reserved to house the colossal imperial images and honored the imperial cult (Fig. 3.64). A similar door and stairs must have been made for the new west wall (or moved from their position on the original west wall), but nothing of these elements survived.

Following these operations within the cela (or concurrent with them), there must have been a massive attempt to realize the pseudodipteral scheme by laying out some of the foundations of the peristyle columns. Fifteen, but possibly as many as eighteen columns of the east end, including the eight frontal columns, were completed while only the columns of the pronaos porch of the west end were complete. The foundations and the plinths of five of the six columns of the west pronaos porch have been preserved to varying degrees, leaving the northwest corner column, number 52, missing; it was either never started or completely robbed. All others display smooth, finished tops with construction lines and markings that provide evidence for the columns they carried. Particularly, foundation blocks of columns 53 and 54 provide critical information that these columns had pedestal bases comparable to those of columns 11 and 12; the square plinth of column 53, in situ, shows clear markings of a square upper member, not circular as one would normally expect for the spina (round bottom element) of a regular Asiatic-Ionic base (Fig. 2.157). Corroborating evidence is also provided by C. F. Stanfield’s 1830s watercolor showing a few columns standing in the distant background; these could only be the columns of the west porch (Fig. 1.27). Furthermore, no less than fourteen or fifteen fallen fluted column drums inside and around the west porch were found mainly at the west end and the majority grouped together by Butler between the column foundations 53 and 54.

The appearance of the north and south long sides of the temple must have been uneven and visually disconcerting as well. Of the twenty column positions of the north side, only two (numbers 9 and 15) must have had bases and columns. On the south colonnade only column foundation 18 (third from the southeast corner) is fully preserved; the foundations on either side of number 18 (numbers 14 and 20) probably had columns (Fig. 2.199). Of the fifty-two peri-

...style column positions, only ten or eleven (or, eight or ten) had never been started, even in foundations, which is itself a major undertaking. Almost all of the north and south colonnades were in place, to some degree at least, intended to be completed sometime. Still, by the time the pagen temple was abandoned over the course of the fourth century, only a few foundations had actual column bases, and fewer had columns on them.

We do not know if the construction of the bases progressed concurrently or piecemeal—probably the latter, with several at one time. To erect even one of those massive columns was a laborious and costly task that could have relied on the generosity of a patron or a group of patrons. It is interesting, however, that the epigraphic message of column 4 names no particular donor (nor “public funds”), but rather the temple’s own resources as the source of this exceptional column, possibly the quarries owned by the temple. The erection of the temple columns must have progressed slowly and sporadically as funds allowed. Still, it is curious that none of the finished columns of the temple name a donor; after all, each of these columns must have been conceived as a milestone in the completion of the temple in financial, visual, and symbolic terms. Perhaps the very visible and massive act of constructing a row of columns 18 meters tall, a monumental civic achievement, trumped the naming of donors. It is also true that different cities of ancient Anatolia had different traditions or levels of generosity in public giving; while a city like Aphrodisias or Magnesia presents an unusually rich record of public munificence and donors’ names, Sardis has far fewer.44 However, it is more likely that the temple, a venerable civic and economic entity, owned the Mağara Deresi quarries (or portions of them since they are extensive) and paid for its columns over a period of time. Yet, after the politically significant and well-planned east-end columns that heralded the imperial cult chamber were in place (and recorded in a laudatory manner by a “talking column”), the erection of the six-column west pronaos porch, the minimal architectural gesture of monumental entry for Artemis’s own chamber was achieved, and whatever the reason, enthusiasm for further column erections appears to have waned.

A Pre-Modern Ruin?

The appearance of the unfinished temple, despite nearly two centuries of work since the commencement of the Roman phase, must have been intriguing—at least from some

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41 If foundations 20 and 22 on the south side had columns, then the likelihood that the empty positions of their counterparts on the north side (19 and 21) had foundations and columns above them gains some strength; a clear west-end alignment across the temple east wall would provide for a technically logical and aesthetically pleasing roof structure for the entire east end. The question was approached by the anonymous reader of this manuscript, who suggested that the bases for these empty positions, such as 19 and 21, “were built and then dismantled, e.g., to allow easier access for the construction of the east end columns” (Anonymous, “Review, June 2017,” 7).

44 For an elaborate and detailed list of over forty donors for thirty of the peristasis columns of the Temple of Artemis in Magnesia (all dating from the early Imperial period) studied by B. Dreyer, see Bingöl and Dreyer 2018, pp. 73–75, 83–84.
angles, visually awkward. How could the mighty Romans rule Sardis during its wealthiest period in Asia Minor, one might ask, yet allow such an important project to remain unfinished? Some colleagues, such as R. R. R. Smith, have asked—ostensibly seriously and certainly creatively—if Sardis left its “new old temple consciously unfinished.” The question posed is more intellectual than shocking. Was this, indeed, an intentional and sophisticated desire to experience the building as an artistic “ruin”? While we may disagree with the concept of an outright intentional ruin (especially in the ancient world), it may be worth going beyond the heterodoxy of this view and rethink the question in a broader context, in which the explanation “they never got around to finish it” is not good enough. The lure and pleasure of ruins, a popular theme in the eighteenth- and nineteenth-century Romanticism of Giovanni Battista Piranesi and Hubert Robert, among others, was mockingly revisited in the Postmodernism of 1970s. In a sense, the imagining of a building’s ruins, or imagining a building as a part of a “ruined composition,” is the opposite of its construction/reconstruction cycle, giving license to a greater play of imagination; it is an exercise in restitution. John Pinto quoted Piranesi, a master restitutor of ancient buildings as imaginative ruins, as remarking, “Speaking ruins have filled my spirit with images that accurate drawings would have never succeeded in conveying.” Piranesi might as well have said, with equal cogency, that an incomplete ancient temple could fill one’s spirit with images in a way that a finished one could never do. The motivation behind the visually engaging or simply outrageous modern ruin—such as the set of Best Company stores (especially the showroom at Sacramento, 1977, with its iconic “notched” facade, Fig. 4.12)—founded on whimsical aesthetic and social commentary, was at least partially serious. Although our own explanation for our unfinished temple is mainly based on economy and opportunity (rather than artistic delight in sublunary things), and therefore a lot more practical (and dull), we admire the boldness of such an idea in its capacity to challenge the conventional limits of perception, inspire new horizons of thinking, and start new debates on the nature and meaning of classical art and architecture. Some of our proposals about the temple are impossible to verify on hard evidence, so we, too, rely on just that kind of thinking and reasoning. Some of these concerns and questions have been taken up with penetrating wit by R. Harbison, whose chapter on “ruins” in The Built, the Unbuilt, and the Unbuildable starts: “Ruins are ideal: the perceiver’s attitudes count so heavily that one is tempted to say ruins are a way of seeing” And in reference to the “bizarre design” of Best stores, Harbison observes, “who would have thought that contemporary American shoppers could entertain simultaneously the consumer’s fiction of . . . shiny function and fantasies of decay?” As delightfully imagined, if the great Artemision of Sardis was designed as or allowed to be an artistic, premodern ruin, what fiction of function or fantasy of decay could the Sardians entertain?

The Imperial Outlook: An Unfinished Temple

A late second-century A.D. view of the temple from the east would have been quite impressive and calculatedly deceptive (Figs. 4.10, 4.13). Eight magnificent columns of the east facade, with their tall, unfluted, powerful shafts and possibly a massive pediment, rose against the broad mass of the mountain behind the necropolis hill to the west. An altar dedicated to the imperial cult would be expected here, though none was found. Although no actual remains of the frieze or the cornice have been found, a hypothetical restoration could consist of a cornice decorated with modillions and dentils and a plain frieze like the Pantheon’s—a familiar combination in imperial architecture. The temple must have been raised on a simple embankment or platform like a berm, already proposed for the Hellenistic cella, then regularized and extended out as a proper pteroma, probably not even paved. A crepidoma of six or eight steps built on a mortared-rubble backing, like the ones preserved for the comparable Ionic temples at Ephesus or Didyma—or the early Imperial Wadi B temple at Sardis—must have been intended but was either not constructed or only constructed at a few locations for limited lengths. The plat-

45 In considering the Sardis temple and similar instances of unfinished major projects in Asia Minor, R. R. R. Smith seeks an organic and culturally meaningful explanation for this, to which we, too, mainly subscribe, is fine, but it is only “one possible interpretation.” Smith 2013, pp. 439–81, esp. 479.

46 Piranesi 1743, frontispiece. On the artistic and intellectual reception of ruins, and the differences among the concepts of “restoration,” “reconstruction,” and “restitution” (and the superiority of the latter over the two former), with special reference to ruins and eighteenth-century architects, see Pinto 2014.


48 Besides suggesting similar mortared rubble–backed steps for
form of mortared-rubble construction of the pteroma intermittently and variably projected beyond the line of the peripteral columns. It is on the basis of these possibilities that “idealized,” hypothetical reconstructions of the temple, both inside and outside, have been attempted on paper (Figs. 4.13, 4.14).

In reality, the apparent and quasi-finished grandeur of the east front was an illusion. Along the north and south sides there were only a few isolated columns, the great majority of their places empty with either just a few bases, unfinished bases, only huge foundation blocks, or possibly, in a few locations, nothing at all. The great pediment and the full-width, gabled roof it fronted, if attempted, awkwardly narrowed down and faded out against the narrower cella roof; this might have happened logically along the north-south alignment of columns 21 and 22, with the east wall of the cella in between them. Pteromas must have existed but were not yet roofed, except, as projected, at the east end of the temple. If one viewed the Roman temple from an unfavorable angle, the outlook would have been even more edgy and abstruse than its Hellenistic single-cella predecessor. In contrast to the fully built east front, the west front had a much smaller pediment, or simply an architrave, that was supported by the four front columns of the pronaos porch, resembling a simple prostyle temple writ large—very large. Colleagues have asked, but it is difficult to say how the roof over this mixed shape was configured; the connection between the elongated gabled roof covering just the cella and the wider, full roof of the east end, which partially covered the unfinished pteromas, would have been awkward—although there are a few acceptable ways that this could be achieved with relative visual and structural grace. I present one technical and aesthetic possibility in my reconstruction drawings (Figs. 4.13, 4.14). The most likely hypothesis is a full pediment that covers the east porch at a higher roofline, then continues over the cella with a break (possibly across the line of the cella east wall, as mentioned before) and a separate, simple gabled roof at a slightly lower level. The application (really, grafting) of a larger, wider, but slightly lower Roman era pediment upon the narrow facade of the Hellenistic temple of Demeter at Pergamon demonstrates the solution for a similar problem (Fig. 4.15). Further-

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49 For studies exploring the different roof constructions of Greek temples, some only partially and awkwardly finished, see Ohnesorg 1993; Schulz 2012b; Schulz 2010.

50 The late third–early second century B.C. Temple of Demeter in the Sanctuary of Demeter at Pergamon, with its simple, narrow facade of two columns in antis, was enlarged by a tetrastyle prostyle deep porch during the mid-second century A.D. While the details of the connection between the higher roofline of the original temple and its slightly lower, wider Roman pediment are not known, connecting two rooflines at different heights must have posed problems similar to those of the east porch at Sardis. The new, deep, and spacious Roman porch of the Demeter temple (composed of six columns four in front and two in the returns) also offers a general comparison to the deep pronaos porch of the Sardis temple, albeit at a much smaller scale—an illustration of the Roman predilection for “space” achieved through grafting deep porches onto existing Hellenistic structures. I hasten to add, however, that the similarities here are superficial: at Pergamon, the tetrastyle facade was a simple...
more, one should remember that any sense of the visual and structural abstruseness attributed to the unfinished temple as a building is, to a certain extent, a reflection of our own cultural and visual perceptions and prejudices; a believer of the ancient world would have seen something deeper in the sacred nature of the shrine and its impressive and moving geography than its apparent static, physical shell—perhaps, something that merges the magnificence of appearance with the ethics of purpose.  

A recent digital reconstruction of the pictorial qualities and visual effects of the Temple of Artemis at Magnesia by L. Haselberger and S. Holzman analyzes the exceptional qualities of pseudodipteral temples with rich contrasts of light and shade, associating this experience to the notion of asperitas (propter asperitatem intercolumniorum), which Vitruvius uses in his admiring description of the architectural qualities of Hermogenes’s novel, pseudodipteral arrangement (De architectura 3.3.9). The Latin word and the notion it expresses are imprecise and flexible, quite different from more familiar literary implications of “asperity.” As Haselberger and Holzman argue, Vitruvius might have alluded to rich, scenographic effects and the “illusion of relief” created by the well-lit row of columns set against the dark depth of the hall-like pteromas that are typical of pseudodipteral temples. Digital restorations of light and shadow simulations of the west facade of Hermogenes’s Temple of Artemis at Magnesia as a pseudodipteros (which it is), along with comparisons to simulations as a dipteros or a peripteros, recreate varieties of spatial depth and quality, or grandeur and dignity (Fig. 4.16). While this notion (as well as the modern-day drafting styles it engenders) lacks precision, we have always emphasized the spatial qualities of the Sardis pseudodipteros in architectonic and scenographic terms, though without recourse to the Vitruvian asperitas. Indeed it is the particular strength (and “magnificence”) of our temple, with its immense, hall-like ambulatories where spatial and scenographic effects would have doubled in intensity and certainly in grandeur, as compared to the experience of Hermogenes’s temple in Magnesia (Fig. 4.16). Furthermore, at the east and west ends where the ambulatories wrapped around the cella and merged into porches that (probably) soared to light, the contrasting and changing effects of light and dark would have been stunning (Fig. 4.17). From a distance, the sense of architectural “illusion and grandeur” of this largest of all pseudodipteral temples—whether the Vitruvian asperitas or not—must have been enhanced by the natural grandeur of the craggy Acropolis and the rolling Tmolos Mountains.

The interiors of the double cellas must have afforded a more traditional appearance. On the west, preceded by...
a simple but monumental and possibly unfinished pronaos porch, the old goddess of the Sardians reigned in her new, spacious cela; and judging by the number of votive monuments of Roman date, she continued to enjoy the love and respect she was accustomed to under the new regime. What she might have lacked in terms of a proper temple frontage, she must have made up by the prestige of her venerable altar, which we believe was integrated into the west porch across an elevated “plaza” as in the old days, or the spacious enclosure of the six-column pronaos porch. On the opposite side facing east (Fig. 4.13), the new imperial gods and goddesses enjoyed all the advantages and privileges of politically expedient newcomers inside their traditionally arranged, columnar cela (Figs. 3.63, 3.64). Lords and masters in matters practical, and acknowledged as such in the archaistic and erudite but sometimes bombastic language of Asia’s learned philosophers of the Second Sophistic, their cult and iconic presence were heralded by a suitably impressive temple facade, a shape that served as an effective reminder of the power and circumstance of the new Roman Sardis, even if the facade and what it represented (to some) was an illusion.

If we look at the bigger picture, the apparently untidy impression caused by the centuries-long Roman building and rebuilding of an “always unfinished” edifice, becomes a phenomenon with some positive civic and religious connotations. The roughly textured, unfinished surfaces contrasting against and alternating with the finely finished and polished moldings and joints would have conveyed the image of a powerful, even willful sense of rustication and enhanced the readability of the temple as an integrated whole of variegated marble masses and planes. Furthermore, such a bold and mannered display of architecture in various stages of finish—always “in progress”—could have invoked an underlying sense of appreciation for the skill and effort imbued in the facade and what it represented (to some) was an illusion. Dunn 1915, pp. 318–20. Butcher (2017) discusses the repose of arrival. Dunn 1915, pp. 318–20. Butcher (2017) discusses the passage of time, measurable in detail but immeasurable and eternal in wholeness. Every impeccably carved detail, every perfectly rounded molding teased out of roughly shaped stone by master masons, reflected the community’s homage to its deities and became the visible, tangible proof of it.

Such a chaotic state of construction was a common scene in Rome and in Roman cities, especially in second-century Asia Minor, and a symbol of messy vitality. The signifier of progress is process, which the leaders of Roman Sardis must have been keen to sustain, although there is little evidence for major construction at the temple beyond the late Antonine era, except perhaps the addition of a foundation or two for the columns of the long peristyle. A finished project was indeed cause for pride and celebration (and repose of arrival); but the perpetual state of construction of an exceptional building, polishing and finishing, must have been cause for perpetual celebration in joining the past to the present.

ARCHITECTURAL ANALYSIS AND COMPARISONS

The application of the pseudodipteral plan at Sardis occurred not as a natural development in the wake of Hermogenes’s new and prestigious temple in Magnesia, nor its many prestigious followers in Asia Minor, but rather as a deliberate and historicizing choice centuries after the master’s architectural landmark and its canonization by Vitruvius (3.2.6; 3.3). In Magnesia, Hermogenes created (or planned) an ambulatory of two uniform, interaxial widths all around the cela; all columns are equally spaced, with the exception of the wider-spaced pair in the middle (Fig. 4.20). At Sardis, not only does spacing between the columns vary progressively following an Archaic convention, but also the ambulatories at the ends of the temple are wider than the sides (three-intercolumniation ends versus two-intercolumniation sides). As pointed out by Howe, the Roman era pseudodipteros at Sardis is not a pseudodipteros at all, technically speaking.56 Furthermore, by creating spacious, projecting six-column pronaos porches within the columnar enclosure of the temple’s ends, and pushing them forward into the normal intercolumnar space against the frontal rows (in effect, occupying this pseudodipteral corridor), the Sardis temple violates the basic rule behind pseudodipteral design—or, in terms of scenographic and visual drama, improves upon it.

55 Favro 2011; Favro, “Reading Augustan Rome: Materiality as Rhetoric” (unpublished lecture, American Society for the History of Rhetoric, May 26, 2016, Atlanta, GA). Inveighing against the too-clean and lifeless appearances of typical paper restorations of Roman environments, F. S. Dunn, in an insightful gem of an article penned over a century ago (with the memorable title “Rome, the Unfinished and Unkempt”), underscored the messy life of the almost-endless construction in real Roman cities, and observed that no city, then or now, was without ruins. Yet these shabby, dilapidated urban ruins that always need rebuilding (reratstate corruptum restituit) appear pale and insignificant in view of the impure vitality of a city constantly in the process of building. It may be viewed as the energy of process against the repose of arrival. Dunn 1915, pp. 318–20. Butcher (2017) discusses the “imperfect, emergent nature” of ancient temples. 56 Howe 1999, p. 254.
The Creation of Space

A normal pseudodipteral arrangement (and one in line with other Roman era pseudodipteroi in Asia Minor, such as the temples at Ankara and Aezane; Figs. 3.75, 3.76) would have favored a simple tetrastyle-prostyle internal porch enveloped by a continuous, uniform double-intercolumniation-wide ambulatory. This “logical” and canonical solution, for which there were clear and available models, was obviously never the case for Sardis, where unusual, triple-intercolumniation-deep pronaos porches enclose and capture space like magnificent halls in a way that a straight-front tetrastyle or hexastyle porch arrangement does not and cannot. These large, immensely tall, “cubical halls” defined by the six columns of the porch and the projecting arms of the anta walls might have even been open to the sky (Fig. 4.17). Even if we accept that the original columns in antis were retained into the Hadrianic phase for simple structural expedience, and that this space was covered by a high, timber-trussed roof (which might have contained a more modest sky opening) by carving a void in the heart of the pronaos—as opposed to the forest of even-spaced columns that occupy the same areas in the contemporary Artemision of Ephesus or the Temple of Apollo at Didyma—the Sardian Artemision would have still projected a bold and expanding sense of space, exploited through its unorthodox plan. Space and visual drama, the play of light and shadow and of material and void induced by the great, soaring hole framed by tall, slender Ionic columns of the “pseudo-pseudodipteros”—the “dazzling effect” of propter asperitatem intercolumniorum—would have been overpowering. Consider first the ambulatories that are 9 m wide and 92 m long, defined on one side by the smooth, sheer, stark, unornamented nineteen-meter rise of a marble wall, and on the other a tightly spaced, overlapping rhythm of monumental columns of the same height (Fig. 4.18)—a lofty, hard-edged corridor of rhythmic lights and shadows terminated at each end by single, tall, anthropomorphic, iconic columns merged into the expanding volume of a pronaos, rising to about nineteen meters like a tower of light shot through a mass slashed by shadows. This was an experience of surface and space not commonly found in the orderly, canonical temple architecture of Hermogenes and his followers. In its monumental impact and “dazzling effect,” it went beyond anything that a Hermogenean pseudodipteros could create. I believe the sources and inspirations were hybrid, and although they were anchored at home and in its predecessor, they also lay further afield.

Mixed Sources and Traditions behind the Sardis Artemision

In assessing the nature of Roman architecture in Asia Minor over fifty years ago, J. B. Ward-Perkins identified two broad currents: buildings that followed local, Hellenistic traditions and those that took Italy and the West for inspiration due to a lack of suitable models at home. He found that religious architecture belonged “decisively to the former category.” Undoubtedly there is truth and simplification in this view. Such binary positions, more fashionable in the 1970s than now, have both strengths and limitations. While searching for cultural sources behind traditions is a valid form of analysis, one should be prepared to accept that the end product is often more than the sum of its parts. This is especially true in Asia Minor, where a rich patrimony of cultural resources and vigorous borrowings blur the hybrid origins of architecture, as well as its unusual and unique

57 See Howe 1999 for an expansion on this description and further discussion.

58 For most of us, the visual effect that such a wall could produce is only an abstract notion: marble walls of such dimensions existed in a few colossal temples, but none have been well enough preserved to be experienced. As I write these lines in view of the six-story-high sheer marble wall of the library atrium of the National Gallery of Art’s East Building in Washington, DC (which, at seventy-two feet high, is barely two meters higher than the cella wall of the Sardis temple but has only one-fifth of its length and is without columns), I marvel at the pure visceral effect, the awe (cannot think of a better word) such a physical presence would have induced. There is nothing like it.

results. This is the background against which we should view the Temple of Artemis at Sardis, whose design does not represent the simple following of an idea or a recognizable type, but lots of ideas and types shaped by fortuitous circumstances and deliberate choices—a situation true not only for this one temple, but for Roman architecture in Anatolia in general. There is precedence but also serendipity here—the desire to follow tradition, to re-create memory, but also novelty and the deliberate rejection of memory. We have already emphasized the role of the great Ionian temples in shaping the cella of the first phase of the Sardian temple (Fig. 4.2; see in this chapter pp. 229–231). One must remember the daunting choice faced by the Roman architect(s) who inherited this long, narrow, austere, archaizing cella squeezed tight between a venerable altar at one end and the rising ground hugging the steep Acropolis at the other; the challenge to fashion a mantle of columns around a naked cella that must have been as formidable as it was unique (Figs. 4.1, 4.10). The resulting design, starting from an honored, extant structure and reshaping it into an idiosyncratic variant of a broadly conceived pseudodipteros, benefited from sources rooted in local as well as foreign traditions. The Roman re-creation of the Artemis Temple at Sardis is as remarkable as it is problematic because it has little to do with the familiar and regular Hermogenean tradition of pseudodipteros type that was established in Asia Minor by the middle or end of the second century B.C.

The question lingers as to who was responsible for the exceptional design of Artemis’s temple at Sardis through its historical trajectory from Hermogenes to Hadrian. Who inherited history and reshaped it into a creative variant of a “broadly conceived pseudodipteros?” A vibrant, wealthy, busily building regional center like Sardis must have had many architects and master builders at work during the Imperial period. Yet given the paucity of information on the names and careers of ancient architects, especially for those working outside Rome, the task of finding who is daunting, achieved more through luck than design. Compared to the many questions we are confronted with regarding this great temple, the lack of information about its architect(s) is the one causing the least worry. Still, we may be visited by such luck in a very modest, tentative way.

An Architect from the Vine-Rich Tmolos

Among the various Greek inscriptions Captain Beaufort saw and transcribed in 1811–12 at Patara, in coastal Lycia, was the statue base of an architect identified as Dionysius of Sardis (rather, “Dionysius from vine-rich Tmolos”); it might have stood in the town’s odeion, as it celebrated the architect in reference to this building. It is a posthumous inscription that has been placed in a position of honor by the excavators at the entrance porch of the restored odeion (Fig 4.19). Dionysius describes himself as “skilled in all works of Athena” and hopes for abiding fame for his engineering feat of putting a great roof over the odeion. Then, he wistfully informs the reader that he died in Patara far from home (“the foreign earth of Patara received and holds me”). The words

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the Patarans put into Dionysius’s mouth, and the sentiments in his heart in honoring him with a statue and an epitaph, seem to have been fulfilled in a modest way: we are, after all, talking about this master architect from Sardis. We have no idea who Dionysius the architect was—if he ever worked at Sardis, or whether his engineering skills inspired by Athena, for which he was justly proud, were ever put to test for Artemis in his home city. We do not know whether the architect was ever involved in the design or construction of the Temple of Artemis in any capacity. Since the Patarei project can be dated to the Hadrianic–Antonine period, it is a possibility in chronological terms—and a tempting one. Indeed it would be unlikely for an architect whose fame and skill had traveled well beyond his Tmolos home, not to have had a hand in the most important and prestigious, ongoing architectural project of his city at some point in his career.

Is it possible that Dionysius left Sardis as a young man, never to return? Or if he did visit, the prestigious architectural project of his hometown might have been already assigned to professional rivals with connections to the sources of power and prestige—it often happens that way.

Asia Minor and the Legacy of Hermogenes

Second- and first-century B.C. pseudodipteroi in Asia Minor (Fig. 4.20) are generally characterized by front and back porches with columns in antis, such as the Temple of Artemis at Magnesia, the Temple of Apollo Smintheus at Chryse-Gülpinar, the Temple of Apollo at Alabanda, the Temple of Artemis in any capacity. Since the Patarei project can be dated to the Hadrianic–Antonine period, it is a possibility in chronological terms—and a tempting one. Indeed it would be unlikely for an architect whose fame and skill had traveled well beyond his Tmolos home, not to have had a hand in the most important and prestigious, ongoing architectural project of his city at some point in his career. Is it possible that Dionysius left Sardis as a young man, never to return? Or if he did visit, the prestigious architectural project of his hometown might have been already assigned to professional rivals with connections to the sources of power and prestige—it often happens that way.

62 Considering Dionysius’s fame in engineering, one could imagine that his involvement at the temple, if at all, would have been centered on the great building’s technical challenges, while others could have been responsible for design. He might have managed the erection of gigantic columns, transportation of heavy stones, and indeed, putting a massive roof over the east end and possibly the new west cella, whose 18.40 m width comes close to the 21–22 m clear span the architect mastered at Patara. Although, the short span of the odeion is 16.60 m, when the geometry of the building—its stage, bowing back, and wall thicknesses—is taken into consideration, and the clear span can be reduced significantly. See Patara II.1, for roof reconstruction, pp. 55–56, 89, 93–96, fig. 123.

63 Epigraphic and archaeological evidence indicate a mid-second-century date for the second Roman phase of the Patara odeion; excavators suggest a date soon after the earthquake of A.D. 141; for the renovation of the damaged building with its new, famous roof, see Işık, İkşan, and Aktaş 2011, pp. 62–64; Korkut and Grosche, Patara II.1, p. 73.

64 For underlining this development from “Polecrates to Hermogenes,” see Bingöl 201.
pronaoi" temples uncommon in Anatolian usage. These columnar porches create internalized pockets of space deep within the peristyle and are not characteristic of temple architecture in the Greek East. Notable exceptions, all from the Roman Imperial era, have distinct links to Italy and include the side-by-side temples of Jupiter Heliopolis and the Temple of Bacchus at Baalbek, Syria (see in this chapter). Although he left the idea undeveloped, the late Ümit Serdaroğlu had alluded precisely and cogently to the typological affinity between some of the "deep pronaoi" temples of Asia Minor and the Etruscan and central Italian temples of Italy, and he perceptively noted the rarity of the "deep pronaoi" ["derin pronaoi"] type in Anatolia and clearly enunciated this specialty; "Gerçekte Anadolu'da tripteros ve tetrapteros olarak da uygulamalar vardır; fakat bunlar bir Ege ge-
ter, below), and to a certain extent the Temple of Artemis at Gerasa in Jordan (the six-column “porch” is not within the peristyle but a part of it) and the Severan Temple at Leptis Magna, in Libya—are all imperial projects (Fig. 4.20; see also Fig. 4.22). When such porches—with prostyle projections and columns on the returns—do occur they are invariably found in small, simple prostyle temples, such as the so-called Corinthian temple in Termessus (the largest of the group, a hexastyle prostyle; the rest are all tetrastyle); a very small, unidentified temple in Alakapi in southwest Anatolia (Fig. 4.20); and the early second-century B.C. Temple of Dionysus (later the Temple of Caracalla, though construction and ornament belongs to the late Hadrianic era) scenically located on the theater terrace in Pergamon (Figs. 4.20, 4.21). Among the larger Roman era temples of Asia Minor, the Temple of Artemis at Sardis is the only one known to us that has projecting porches placed within a peristyle.70

**The Italian Connection**

For the genesis, development, and articulation of temples which feature deep, spacious, and internalized pronaos porches, and privilege such porches as distinctive plan organizers, we turn to Italy.71 We start with Vitruvius and his porches, and privilege such porches as distinctive plan organizers.70

Vitruvius describes the Etruscan temple, where he makes clear that the depth of the porch is to be made equal to the depth of the cella(s), with special attention paid to the “forecourt” or the pronaos: “Let the space before the cella be planned so that the corner columns are aligned with the anta walls” (Vitruvius 4.7.2). Vitruvius’s technical prescription—his emphasis of the “space before the cella” or its reasonable variants—finds ample confirmation on the ground.

The twin temples of Fortuna and Mater Matuta in the Sanctuary of Sant’Omobono (ca. mid-fifth century B.C.) are characterized by lateral walls that project from the back like long corridors and enclose space around the cellas (Fig. 4.21). The front porches, deeper than half the length of the temple and each with four wooden interior columns to hold the roof, open onto a very high platform and entirely dominate the design.72 The venerable Capitolium in Rome, dedicated in 509 B.C. and many times rebuilt, however, conforms to the Vitruvian scheme only in a generalized way. It had a triple cella and an exceptionally spacious porch with six frontal columns three rows deep, and the outer rows ran back to the projecting wings (alaec) back wall of the cella.74 While the front of the Capitolium was well emphasized, the forest-of-columns effect, however austere and monumental, must have detracted from the sense of open space. In other words, it is not a model we seek to associate with future deep porch/pronaos schemes, nor with Sardis. Even relatively small and late temples, such as the third-century B.C. temple at Fiesole, or the second century B.C. Temple B at Ordona (Herdonia), represent the continuation of the peculiar arrangement of Sant’Omobono, where the lateral corridors envelop the cella and expand into the open “forecourt”—curiously, like the disposition of peripheral spaces at the ends of the Sardis temple. In this connection the “forecourt” design of the second-century B.C. Temple B at Pietrabbondante, which crowns the great, scenically laid...
Italic sanctuary, is of particular interest (Fig. 4.22). The wide prostyle tetrastyle with two columns along the sides projects before the anta walls of the triple cella—as if the temples shed their side walls to bring their deep, internalized porches out into the open. The grand porch thus created (9 × 16 m), like the pronaos porches of Sardis, defines a spacious, distinctive, hall-like space, still capable of being roofed. Whether these broad porches were roofed or not, the technical challenge to roof them seems to have been a conscious and positive aspect of the program of every “deep porch.”

Late Republican temples of central Italy experimented with endless variants of the Etrusco-Italic models. Two fundamental approaches are recognizable: the first is characterized by frontal emphasis with spacious prostyle porches (no side columns); the second, the *periptero sine postico*, which

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incorporates columnar side corridors with a clearly defined open porch, or “deep porch,” as the distinguishing element of the temple front. The latter tends to be more typical of the Late Republic, perhaps because of its affinity to Greek peripteral temple design. Among the well-known examples in Rome, which combine the Ionic plan with the Greek side colonnades, are the Temple of Jupiter Stator (Fig. 4.22) and the temple in the Forum Holitorium, both dated to the late second century B.C. Both are hexastyle, the front colonnade fully integrated into the structure with the six-column porch, and provide the Italian models for the Temple of Portunus in the Forum Boarium, Rome; the pseudo-dipteral Temple of Apollo on the Palatine, Rome; the Maison Carrée in Nîmes, France; the Temple of Augustus at Pula, Croatia; the Doric temple at Cori, Italy; the Antonine Capitolium in Dougga, Tunisia; and the previously mentioned triple temples at Baclu, Spain. In Asia Minor this type is represented, with a few exceptions, in its Greek form, i.e., a tetrastyle prostyle porch, or simply a pronaos with columns in antis. For the great variety that exists among fundamental types, see comparative plans of Republican temples in Pensabene 1991; Coarelli 1988, pp. 205–63; Castagnoli 1966–67; Boeithius and Ward-Perkins 1970, pp. 108–12; Stamper 2005, pp. 34–67, fig. 91. See also useful charts in Gros 1996, pp. 123–31, figs. 134, 140, and extensive bibliography. I leave out of my discussion the Archaising and Classical West Greek temples of southern Italy and Sicily, with their curious proto-pseudo-dipteral plans and deep, frontal porches set within rambling peristyles. However, we accept the view that promotes the primacy of Italian influence in the formation of experimental schemes, such as the gigantic Temple G at Selinunte or the Temple of Athena (Ceres) at Paestum. Lawrence 1967, pp. 119–29; Barletta 1983; Mertens 1996, pp. 120–22. For a divergent view, see Dinsmoor 1971, pp. 73–105, esp. 75.

I would also like to include with thanks N. Cahill’s observation that south Italian and Sicilian temples with deep prostyle porches within a peristyle, as at Sardis, are “set on stairs surrounding the temple in a properly Greek fashion (while) the ‘Italianizing’ examples . . . are podium temples accessible only from the front . . . an important distinction” (correspondence with the author, May 10, 2017).


For the temple of Jupiter Stator, see Boeithius and Ward-Perkins 1970, pp. 132–33, fig. 73; Stamper 2005, pp. 53–55, fig. 36. For Italian podium temples and the architectonic advantages of podium: MacDonald 1886, pp. 136–40. See also Castagnoli 1966–69; Colonna 1984, See previous note.

74 We simplify our typology in order to identify the lines that are more relevant to the morphology of the prostyle porches of Sardis. One important and popular type, which derives from the Vitruvian-Etruscan model (which we largely ignore), is the small- to medium-size prostyle temple type with a deep and soaring frontal porch and two, three, or even four columns in the returns. Widely diffused in the West, the type includes such well-known examples as the Temple of Portunus in the Forum Boarium, Rome; the pseudo-dipteral Temple of Apollo on the Palatine, Rome; the Maison Carrée in Nîmes, France; the Temple of Augustus at Pula, Croatia; the Doric temple at Cori, Italy; the Antonine Capitolium in Dougga, Tunisia; and the previously mentioned triple temples at Baclu, Spain. In Asia Minor this type is represented, with a few exceptions, in its Greek form, i.e., a tetrastyle prostyle porch, or simply a pronaos with columns in antis. For the great variety that exists among fundamental types, see comparative plans of Republican temples in Pensabene 1991; Coarelli 1988, pp. 205–63; Castagnoli 1966–67; Boeithius and Ward-Perkins 1970, pp. 108–12; Stamper 2005, pp. 34–67, fig. 91. See also useful charts in Gros 1996, pp. 123–31, figs. 134, 140, and extensive bibliography. I leave out of my discussion the Archaising and Classical West Greek temples of southern Italy and Sicily, with their curious proto-pseudo-dipteral plans and deep, frontal porches set within rambling peristyles. However, we accept the view that promotes the primacy of Italian influence in the formation of experimental schemes, such as the gigantic Temple G at Selinunte or the Temple of Athena (Ceres) at Paestum. Lawrence 1967, pp. 119–29; Barletta 1983; Mertens 1996, pp. 120–22. For a divergent view, see Dinsmoor 1971, pp. 73–105, esp. 75.

I would also like to include with thanks N. Cahill’s observation that south Italian and Sicilian temples with deep prostyle porches within a peristyle, as at Sardis, are “set on stairs surrounding the temple in a properly Greek fashion (while) the ‘Italianizing’ examples . . . are podium temples accessible only from the front . . . an important distinction” (correspondence with the author, May 10, 2017).

77 For Greek and Hellenistic influences on Late Republican temple design and the Hellenization of the well-known Italian types, see Boeithius 1960, pp. 58–62; Boeithius and Ward-Perkins 1970, pp. 132–49; Gros 1996, pp. 123–33; Giuliani 1984; Lauer 1979; Stamper 2005, pp. 49–67; for temples in Late Republican sanctuaries in Latium, see Coarelli 1987.

78 For the temple of Jupiter Stator, see Boeithius and Ward-Perkins 1970, pp. 132–33, fig. 73; Stamper 2005, pp. 53–55, fig. 36. For Italian podium temples and the architectonic advantages of podium: MacDonald 1886, pp. 136–40. See also Castagnoli 1966–69; Colonna 1984, See previous note.

79 For all its dimensions, such as the gigantic Temple G at Selinunte or the Temple of Athena (Ceres) at Paestum. Lawrence 1967, pp. 119–29; Barletta 1983; Mertens 1996, pp. 120–22. For a divergent view, see Dinsmoor 1971, pp. 73–105, esp. 75.


82 The irony that the Hermogenian pseudo-dipteral type, despite Vitruvius’s obviously admiring representation, never gained a foothold in Italy, should be noted. Vitruvius 3.3, esp. 3.3.8; Stamper 2005, pp. 51–53.
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the use of the pseudodipteral (or dipteral) system with an octastyle front. Likewise, the monumental height of the existing cella—insofar as the Hellenistic cella of the Sardis temple matched the height of the Roman columns, or close to it—determined the height of the Roman peristyle. In a sense, the Hellenistic temple at Sardis (as an unfinished cella or as an intended dipteros) was the parent of the Roman one.

Even when Roman temple design followed thoroughly hellenized peripteral arrangements, as in the Augustan Temple of Castor in the Forum Romanum—and almost every other variant on Italian soil we care to consider—the native Italian porch dominates. Seen in this light, it is remarkable that the three relevant Asian pseudodipteroi of the Imperial era at Aphrodisias, Ankara, and Aege (the first two started under Augustus) resisted the formation of deep pronaos porches (see Figs. 3.75, 3.76). In Syria and the East, where native versions of Hellenistic temples had neither been as strong nor as persistent as they were in Asia Minor, there was no such resistance, and well-established “Romanisms” could be embraced. The plan of the Temple of Jupiter-Heliopolis at Baalbek, a gigantic decastyle structure which

53 Two other colossal temples in Asia Minor should be mentioned in connection to the Roman phase of the Temple of Artemis at Sardis. The first, the Temple of Zeus and Hadrian in Cyzicus, a close contemporary of the Sardis structure and regarded as one of the Seven Wonders of the World in late antiquity, was an all-marble Corinthian behemoth with 8 × 15 columns, measuring some 92 × 47 m at stylobate level but set on a much larger high platform. Although some suggest that it might have been a pseudodipteros, sketches and a description provided by Cyriacus of Ancona, who visited Cyzicus in 1430 and 1444, do not allow for a clear understanding of its plan. A. Baratollo shows a dipteros with a three-intercolumniation front and back and front and back columns in antis (in an alternative arrangement, the opisthodomos is blank; only the front has a pair of columns in antis). Hypothetical reconstructions include four rows of columns inside the front porch between anta walls, comparable to the arrangement at Didyma.

The other colossal building is a decastyle temple known as Dönüktaş in Tarsus, probably also dedicated to Hadrian/Zeus. Recent investigations indicate that the temple was approached by a massive frontal ramp in concrete, as were the podium, the foundations, and the ashlar-faced walls. The cela, too large to be roofed, was raised on a podium of ca. 107 × 50 m; the columns, probably carrying Corinthian capitals, are reconstructed with a diameter of ca. 2.10 m and a height of 19.95 m. It was probably unfinished. Comparisons to the Temple of Apollo in Didyma or the Temple of Jupiter-Heliopolis at Baalbek (whose columns stand at 19.90 m) are apt.

Neither of these colossal Roman temples, Cyzicus or Tarsus, however, seems to utilize a plan type at all comparable to the Sardis temple or to feature a deep projecting porch. For Cyzicus, see Dinsmoor 1975, p. 285; Boëthius and Ward-Perkins 1970, p. 397; Ashmole 1956. For reconstructed plan studies of the Cyzicus temple, see Ashmole 1956, pp. 182–83; Ashmole 1959; Bodnar 2003, letter 14.3, diary L38–43, 73–81; Bodnar and Mitchell 1976, pp. 25–31, figs. 1–6. See also DeLaine 2002; Gullberg 2009, pp. 22, 72–85; Baratollo 1995, figs. 2–3; Perrot and Guillaume 1894; Koçhan 2011, pp. 77–81. For Dönüktaş see Koldewey 1890, pp. 178–85; Dinsmoor 1973, p. 283; Baydur 2010; Seçkin 2001 and Baydur; Seçkin n.d.

took shape during the first half of the first century A.D., displays a hexastyle prostyle projecting porch of suitably gigantic proportions (18 × 25 m), enveloped by a uniformly spaced, conventional pseudodipteral ambulatory; there is no opisthodomos (Fig. 4.22). The second-century Temple of Bacchus next to it is octastyle and closely follows the design of its larger neighbor, including an internalized, deep prostyle porch (with six columns across and one in the return), but this is placed within the typically tighter confines of a peripteros (Fig. 4.22).

How relevant are these Syrian developments to Sardis? In so far as creating spatially distinct, deep porches contained within the columnar boundaries of an external peristyle—the shaping of a “space within a space”—the Syrian and Sardian schemes are quite similar. Yet they are also substantially different. Both Syrian temples are podium temples, an obvious sign of their Italian origin, while the Sardis temple, almost certainly raised on a crepidoma of several steps over its platform of mortared rubble, was not what one could classify as a podium temple. The wide, continuous, and uniform-width corridor that circumambulates the deep porches of the Temple of Jupiter effectively isolates it, too. The porch and the corridor exist side by side as separate entities. At Sardis, the lateral north and south porteras do not enfold the deep porches; in effect, they dead-end against them, leaving the tall volumes captured by deep pronaos porches as separate architectural entities. The easy continuity of space in one scheme is replaced by the blocked pathways and edgy discontinuities in the other. Hence at Sardis, like two conflicting but overlapping arguments in stone and space, the porch and the corridor share each other’s space and engender an ambiguous, juxtaposed, dynamic, and hybrid relationship—a wide pteroma and soaring marble wall set against tall Ionic columns capped by beautiful capitals, achieving a sense of unruly elegance.

4 Hadrian’s Temples

Surprisingly, one of the closest resemblances to the unique solution displayed by the Sardis porches is none other than the celebrated porch of Hadrian’s Pantheon in Rome (Fig. 4.23). Unlike the other Italian temples, which are mainly variants of peripheral schemes, the columnar arrangement of Pantheon’s octastyle porch mimics a pseudodipteral composition. The middle four columns with rows of three in return, define an area of ca. 15 × 15 m and constitute the

equivalent of the “deep porch” motif (even though in this case the area was roofed daringly by trusses; the pronaos porch of the Sardis building measures ca. 18 × 13.40 m). The side colonnades, two intercolumniations wide, are comparable to the ambulatories that flank the deep porches at Sardis. A comparison of the plans of the two porches demonstrates that the basic morphology of the two columnar systems is almost identical. 85 There are also important differences. The pseudodipterality of the Pantheon porch is only an illusion; the Hermogenian definition of pseudodipterality describes a particular form of columnar arrangement around a cella, not a frontal porch applied onto a building. Another difference is the creation of a true, independent, six-column porch within the larger porch we have at Sardis: this has been achieved by adding two columns (the “pedestal columns”) behind the two central columns of the front colonnade. Without these columns, the Pantheon’s deep porch appears even deeper, but also less differentiated from the lateral ambulatories. In fact, Pantheon’s porch resembles more a basilical arrangement with three covalent aisles rather than a hierarchical order of architectural entities, a spatial core distinctly drawn from its supporting envelope.

At the level of spatial experience, I admit that the similarity between the two designs ceases to be so close and striking. However, the connection was never claimed to be a direct one. Still, it would be hard to imagine that the Greco-Roman architect of the Artemision of Sardis would have been unaware of the great rotunda in Rome—the building was celebrated enough. Furthermore, a circular temple closely and deliberately modeled after it was built on Asian soil not that far from Sardis: the Temple of Asclepius at Pergamon. If my preferred Hadrianic dating of the Temple of Artemis is correct, as construction started at Sardis the great rotunda in the capital would have been the hottest thing on the architectural horizon (or so we might think); it is highly unlikely that the architect(s) of our temple would have been unaware of it.

What we need then is more than a formal similarity of porch plans, but an argument that could furnish credibility to such a comparison at a different level; we need to demonstrate the plausibility of a cognent and particular association between Rome and Sardis. The great decastyle Temple of Venus and Roma comes to mind, another Hadrianic project in the capital whose rectangular cella was divided into two equal, back-to-back chambers, much like the double cells of the redesigned Roman phase of the Temple of Artemis (Fig. 4.24). 86 One must point out, however, that the similarity between the two temples applies to this rare cella configuration, and not to their overall appearance. Recent investigations in the Temple of Venus and Roma indicate that the gigantic temple was not a pseudodipteros as was once believed, but a regular 10 × 22 dipteros with tripteral “forests-of-columns” at the ends, a total column count of 124. 87 An academic exercise in Greek architecture,
Hadrian’s temple in Rome undoubtedly looked back self-consciously to the great Ionian temples of Asia Minor, especially in its ornament, which had supplied the inspiration for Sardis in the first place.\textsuperscript{88} In fact, the “un-Roman” nature of the design allegedly occasioned the criticism of Apollodorus, Trajan’s aging architect, with an unfortunate result if the anecdote by Dio is to be believed: Hadrian, stung by this wise criticism, put the architect to death—unlikely.\textsuperscript{89} So, baldly stated, the architectural gaze here can be said to be not from Sardis to Rome but from Rome to Sardis, at least to Asia Minor in general.

The critical issue with respect to comparisons is not the overall temple scheme; it is the remarkable parallelism between their rarely seen, back-to-back cella designs.\textsuperscript{90} The problem of the double-temple or double-cella temple (ἐφών διπλούν, as Pausanias [2.24.1] described the Temple of Aphrodite and Ares outside Argos)—and as acknowledged by U. Fusco in a preliminary study of the type—is complex and cannot be tackled here.\textsuperscript{91} Whether the Temple of Aphrodite and Ares actually had back-to-back cellas and acted as a source, either immediate or as one of inspiration, during Hadrian’s visit to Greece and Argos in 123/24 is impossible to say.\textsuperscript{92} We simply lack solid information on the Argos temple, its date or any physical remains, besides what Pausanias tells us. Suffice it to say, however, that the back-to-back cella arrangement as we have at Sardis is far rarer than the traditional, Etrusco-Italic side-by-side cellas (or the vaulted subterranean cult crypts), which often pass as a “double-cella” type. The sources of the back-to-back cella arrangement anywhere else in the eastern Mediterranean are obscure. A potential earlier parallel to the Sardis arrangement might be the Temple of Apollo at Corinth, whose back-to-back, double-cella division has re-

\textsuperscript{88} Amply noted is the style of the ornament of the Temple of Venus and Roma and its use of Proconnesian marble, harking back to models from Asia Minor. Judging by the similarity of its decorative moldings and profiles to those used in the Trajanenum at Pergamon, an Anatolian architect (and even workmen) may be imagined. The decorative relationship is fully and convincingly discussed by Strong (1951, p. 133). See also Boethius and Ward-Perkins 1976, p. 266; Sear 1982, pp. 182–83.

\textsuperscript{89} Dio Cassius 69.4.1–5.

\textsuperscript{90} The architectural specificity of a cella physically divided by a wall compared to an undivided cella shared by two deities (as in the Temple of Zeus-Trajan/Hadrian in Pergamon) should, again, be emphasized. A good example of two deities or cults sharing a single cella (“temple sharing”) is the Temple of Roma and Augustus in Ankara, whose handsome yet fantastical reconstruction drawing by Perrot and Guillaume shows the seated statues of Roma and Augustus, back-to-back, facing opposite directions (Fig. 4.25). Perrot and Guillaume 1862, pl. 22; Güven 1998, pp. 36–37 n. 44. Early suggestions that this temple originated as just a cella of Hellenistic date housing the Anatolian cult of Meter Theon, and was later expanded with a peristasis to incorporate the cults of Roma and Augustus, are unsupportable. See Kadoğlu, Görkay, and Mitchell 2010, pp. 79–91.

\textsuperscript{91} Fusco 2015–16, pp. 7–11. At Letoon (in Lycia), the easternmost of the three Hellenistic temples is assigned to Apollo and Artemis, on the iconographical evidence of a cella mosaic. Its cella appears to have been divided in two during the second century B.C. (or else this modification simply represents the creation of an adyton, based on the shaky evidence of an internal wall). This is then a possible “double-cult/double-cella” parallel for our temple; further fieldwork is indicated. I express my thanks for this information to Baki Demirtaş, formerly on the Letoon research team (personal communication, Oct. 2019); see paper by B. Demirtaş, “New Observations on the Letoon Temple in the Light of Hermogenean Architecture,” presented at the Karia ve Karialılar Sempozyumu, Milas, August 2018. See also Courtills 2003, pp. 142–44.

\textsuperscript{92} Even if Hadrian had seen the Temple of Aphrodite and Ares in Argos in 124, the Temple of Venus and Roma in Rome (begun in A.D. 121) might have already advanced beyond its broad platform, establishing its divided-cella plan and its position as the locus classicus of the unusual type by that date. For an early (and mostly outdated) note on the “origins of the plan” of the Temple of Venus and Roma, see Picard 1945. For a loosely defined consideration of temples with multiple cellas in western Asia Minor, see Anabolu 1991.
Recently been proposed to belong to the early Roman empire (when the cella was emptied out of its columns), as opposed to the long-held belief that it was an original feature of the Archaic building. This intriguing theory, which has gained support, has as much evidence against it as for it. More importantly, Apollo's temple was never a two-cult temple; it lacks any programmatic or conceptual links to the Sardis temple to make it a viable and meaningful model at any time (see pp. 201–204).

Temple of Venus and Roma in Rome is possibly the earliest example of a back-to-back double-cella arrangement housing double cults and is the locus classicus. If this is true, the Temple of Artemis at Sardis becomes its closest direct follower. Especially important is the unusual but comparable mode of their programs and ideologies: the imperial mandate to accommodate dual cults of a similar nature. While honoring an ancestral goddess, Venus of the Romans or Artemis of the Sardians (which incorporated the imperial cult), these temples dignify and celebrate the state—in the former through Roma and in the latter through the imperial cult and the deified imperial masters. But in Rome, Hadrian's renewed emphasis on Roman state religion was presented within the imported context of Hellenic/Ionian architecture; at Sardis, the architecture of a genuine Hellenic/Ionian temple set in a genuine Anatolian/Greek cultural milieu was Romanized. The irony of this inversion is validated by the general tenor of Hadrian's policies and personality. This may be our outside example—our control, as it were—for the meaningful association we seek to establish between the Pantheon in Rome and the Temple of Artemis at Sardis, or at a broader stretch, for parallel political and historical themes that play out in Hadrianic Italy and Asian Sardis, as co-opted by Hadrian.

We can further our arguments for such a connection by underlining the experimental and inventive nature of Hadrianic architecture as a fitting source of inspiration for the unusual planning of the Sardis pseudodipteros. We can also garner some historical support for our position by recalling Hadrian's unmatched patronage of Asian cities and personal connection to Sardis: his visit to Lydia and almost certainly to Sardis in A.D. 123/24, and his awarding of the second neokorate to Sardis, also almost certainly, and consequently, the major rebuilding of the Temple of Artemis—all of which makes a conscious and contemporary architectural kinship between the Pantheon porch and the Artemision porch ponderable, as does the divided cellas and cults of the Temple of Venus and Roma and the Sardis Artemision.

We are confident that the architectural character of the Roman temple, as well as its admittedly limited but important ornament, points strongly to a Hadrianic date and design; it is possible, even likely, that much of the continuing Roman era construction of a building of such colossal scale might have occupied the Antonine period. In fact, while the exact dates of Sardis's successive neokorate privileges do matter and could be elucidated further by future generations, whether the character of the temple's remarkable architecture is Hadrianic or early Antonine, a period which famously followed Hadrianic initiatives in art and architecture, hardly does.
CONCLUSIONS

Let us evoke the predicament of our unknown Roman architect and the portion of the community involved in the process of design, such as the members of the city council, sacerdotes of the imperial cult and other cults, etc., facing the problem of reshaping, restructuring, and finishing the city's and the region's most important and spectacular temple, which had been standing unfinished for three to four hundred years. The program for incorporating the imperial cult into Artemis's temple, occasioned by the city's newly attained second neokorate, must have been as exciting as it was economically daunting, technically challenging, and politically and socially demanding, perhaps even confusing.

Certain design decisions had already been made for the architect (the extant single-cella temple, earlier altars, honorific and religious monuments; the limiting conditions of the sanctuary; the limiting conditions of topography and geology, etc.). Since the cela was already established, the height of the Roman peripteral columns, which naturally are related to cela height, must have been predetermined.93 The architect probably knew or inferred that the unfinished temple had been intended as a dipteros. But a dipteros, requiring some one hundred or one hundred two columns, might have been judged as ruinously expensive and too lengthy to build—and probably not so fashionable then. A hexastyle peripteros like the Temple of Athena at Priene, while technically possible, would have been architecturally illogical; this cela was too large and too long for the hexastyle arrangement (see Fig. 4.2). The resulting design would not have been sufficiently grand, as the original builders clearly wished their temple to be. A grand decastyle pseudodipteros (like the Temple of Jupiter at Baalbek or the Temple of Apollo at Didyma) would have been impossible; the cela proper was too narrow to fit the necessary six columns across (Figs. 4.2, 4.22). So an octastyle pseudodipteros scheme must have emerged as the natural choice.

Moreover, Hermogenes's architectural heritage, though distant then, was still valued in its own right and used for many significant temples of the Imperial era in Asia Minor. It could be adopted in a general way. To adopt a specific, elaborate version of complex interaxial contraction in the end colonnades (at least on the new east front), on the other hand, was a deliberate, sophisticated, and idiosyncratic touch—self-consciously looking back. None of the Roman pseudodipteroi, not even their Hellenistic predecessors, used the system. Recalling the Archaic (possibly also the Classical) Artemision of Ephesus, the use of complex interaxial contraction was, indeed, a sophisticated and anachronistic footnote in local history: the city was tipping its hat to its Archaic and Lydian past in general, and to Ephesus in particular, as it appears to have been an inspiring mother sanctuary for Sardis. In the archaistic, Second Sophistic language of temple's talking column, the power of logos and the mystery of mythis actually referred to the era when rich Croesus and his golden city had so lavishly patronized Ephesus, Ionia's most prestigious sanctuary.

Another allusion to the past was the deliberate stylistic copying of the original Ionic capitals of the first temple in the second, Roman one. Given the eminence and the truly exceptional nature of the models before them, this imitation appears not only logical but inevitable and admirable. The old temple was a beloved and important landmark. Its capitals were perhaps its most distinctive part; they must have been admired for their beauty then as they are now. Roman craftsmen and artists, steeped in traditional and local styles, were willing to and capable of achieving that imitation.94 The results for the most part—as witnessed in the few Roman period capitals that we have, mainly capitals A and B on columns 6 and 7—were so successful that generations of scholars have taken the copies for the real thing (see pp. 121–125). It is highly likely, as Cahill has suggested and as supported by evidence, that some of the best originals, such as capital C, were never put to structural use during the Roman period; instead they were set up for proud display as a kind of model, somewhere near or in the temple, probably protected from the elements, given the superb condition of capital C. Memory lived and memory displayed (occasionally, memory rejected), as it historically does, endowed legitimacy and power to the city and its temple.

Work on the cela—dividing the chamber, moving the walls, building new ones, opening doors, changing some of the interior supports, roof beams, and partial roof, engaging in the production of new decorative sculpture—must have been good but routine work. Laying their foundations and raising the exterior columns, among the tallest and biggest of their kind, must have been more challenging—dramatically illustrated by one of the east-end columns standing with undisguised pride that its base was a massive and heavy monolith paid for with the temple's own funds, and that it was the first to be finished. We posit that this proj-

93 Considering that the Roman construction features on top of the Hellenistic anta capitals indicate some overhauling (similar to some of the Hellenistic anta capitals whose top surfaces were recarved)—hence at least the upper parts of the southeast and northeast antaæ during Roman rebuilding—one could ruminate over whether the Roman design altered the height of the original cela walls—perhaps unlikely, certainly unknowable (see also pp. 136–138).

94 I have elsewhere argued that certain decorative motifs of the Ionic capitals of the Severan Marble Court in Sardis were also modeled after the temple's capitals; see Sard R3, p. 117 n. 14, fig. 172.
ect was conceived and begun within the second quarter of the second century (as indicated by epigraphic and literary-cultural grounds), and occasioned by the second neokorate honors granted to the city under Hadrian and associated with his almost-certain visit to Sardis in A.D. 124—with his approval, and possibly his help.

The technical undertaking celebrated by column 4 has received sufficient attention in our discussion here and elsewhere. Now, the financial undertaking that is indirectly celebrated by the same column, by extension, might deserve some emphasis in our concluding discussion. A consideration of the facts and figures related to the cost of building and raising the peripteral columns of the Temple of Artemis might offer a factual explanation as to why this temple (and other Hellenistic behemoths like it) was never finished, and also why the initiation of such a massive pseudodiptero scheme might have been an economic undertaking more in keeping with the relatively wealthier second century A.D.

Let us consider some hard facts about the technical and economic aspects of raising these columns. With a total height of 17.87 m (including base and capital), the total volume of marble removed from the local Mağara Deresi quarries (in the mountains ca. three kilometers south of the temple) for one finished column shaft, not counting the base and the capital, would have been about eighty to ninety cubic meters. This represents an aggregate work of cutting, removing, transporting, shaping, and raising roughly 200–240 tons of marble per column shaft. Since fourteen to sixteen (or even eighteen) columns appear to have been finished, this means some 3,500–3,800 tons of stone for this first attempt! In addition to the work and expense required for the rough shaping and cutting of a column shaft, the shaping and removal of marble for the flutes of each column (although in the Roman case this was never done) would have been startling in its immensity. Based on an average flute (ca. 17–18 cm wide and half as deep), the volume of marble to be removed for just one flute is ca. 0.176 cubic meters, which is almost half a ton; for a single column with the standard twenty-four flutes, about eleven metric tons! The total material to be removed just from the flutes of the fifty-two peripteral columns of the Roman pseudodipteros (not counting any of the pronaos porch columns) would have been a staggering 772 tons of stone—hard to imagine unless you do the math—and goes a long way toward explaining why none of the Roman columns were fluted except for their very tops.95

Based on the records of payment kept during the building of the Temple of Apollo at Didyma, the production of a single, unfluted column in material and labor costs was estimated at ca. 40,000 drachmae (ca. $2.3 million today), a figure that would have been close for the Sardis columns (which are less than two meters shorter). This financial outlay is conservatively estimated to be equal to the temple’s construction budget for one whole year.96 With some sixty-four columns to build, it would have taken more than a half-century to complete just the peristyle, not counting other significant building costs, provided that the construction of a column was undertaken each year, and provided that all years were economically good ones.97

The situation might have been barely tenable in the best building era for the cities of Asia, the famously wealthy and ambitious decades of the second century A.D., especially under Hadrian, and decidedly less so under the parsimonious Antonines. I believe it would have been an unlikely undertaking to even conceive of during the Julio-Claudian period, when the city was reeling under the devastation of the A.D. 17 earthquake and must have been forced to use its funds for its primary, numerous civic needs—not wholly restricted to building projects (notwithstanding generous imperial help under Tiberius, and accepting that the situation might have improved substantially by the second half of the century). If Tacitus’s detailed description of the scope of the devastation, physical and financial, upon the empire’s budget caused by the great fire of Rome in A.D. 64 could be used as a measure, the “great earthquake” of Sardis must have placed an even more devastating burden upon the city. The task of removing the construction debris must have been little known and little appreciated; it would have been taken to receptacles outside the city and probably used at some later date(s) as convenient fill for other architectur-

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95 I owe this idea about the effort expanded in just fluting the columns and these related statistics to Amanda Claridge, who some time ago calculated the figures for the columns of the Temple of Hadrian in Rome, a project contemporary with that of Sardis whose columns are about three-quarters the size of ours; fluting the marble of one column shaft of the Hadrianeum would have been at just under seven tons to our eleven tons; Claridge 1983, p. 119. The “ton” we use here is the weight equivalent of 1,000 kg, or 2,240 lbs, sometimes called the “metric ton” or the “long ton.”

96 Converting the figure for Didyma to its near-equivalent in modern Germany for the year 2000 (at 100 euros per day per worker; the euro officially went into use on Jan. 1, 2002, but it was officially adopted on Jan. 1, 1999), G. Gruben estimated the cost of each Didyma column to be around 2 million euros (more now); Gruben 2001, pp. 5, 406. See also Voigtlander 1975, pp. 74–82, 92–102; Bingöl 2004, pp. 150–62, esp. 161–62; Yegül 2014, pp. 219–20.

97 The study of costs undertaken above is limited to materials, labor, and transportation costs of the Artemis temple’s peripheral columns. Other expenses—such as the massive foundations for these columns and the skilled labor that carved the ornament (bases and capitals)—have not been considered. A thorough economic study of the temple’s construction must be reserved for a future study, one that could benefit from the excellent research on similar subjects collected in a volume focused on Hierapolis and southwestern Anatolia (Ismaili and Scardozzi 2016). The cost study of the “Marble Stoa” at Hierapolis by D. Maschek could be singled out in this collection as a relevant model (Maschek 2016).
al or landscaping projects; in Rome, Nero’s efforts on this subject are specifically mentioned by Tacitus.\(^98\) The city of Sardis and the temple must have made some good efforts towards repairing any damage the temple might have suffered, such as the roof, but probably did not start a new project of known, mammoth economic proportions.

The Sardis temple in its Roman re-creation followed an unusual, unorthodox, and unique variation of the pseudodipteral scheme. The foremost design motif that takes the Temple of Artemis outside the regular Hermogenean tradition of Hellenistic pseudodipteroi and makes it exceptional is the six-column pronao porches placed within the peristyle enclosure, described as the creation of a space within a space. If these spaces were open to the sky (though the spatial analysis would hold even if they were not, or if they were roofed with large skylights—a plausible alternative), the dynamic sense of interior space formed by these tall, boxy volumes juxtaposed against the lofty lateral corridors would have been entirely alien to the conservative Hellenistic canon (see Fig. 4.17). With its soaring pteroma, set off by the simple whiteness of an austere, undecorated expanse of marble walls rising some nineteen meters (“shining walls,” as Cyricus said) and with minimal use of ornament—in contrast to the ornamented articulation of cella walls admired in the work of Hermogenes—the Sardis temple must have had some sense of timelessness in architecture, of severity and permanence enhanced by its natural setting.

We know of no major temple in Asia Minor that parallels such an arrangement and projects such a sense of magnificent, even terrible purity and austerity. What is surprising is that the unknown architect of our temple probably admired but rejected not only the distant original Hermogenean models (then some three centuries old), but also its contemporary or nearly contemporary popular Roman era followers—canonical types with modular plans, uniform column spacing, and academic and correct use of orders that had become the common manner and the serviceable, successful, and standard Roman issue from Ankara to Aezane. If followed, this quintessentially orthodox Roman pseudodipteral model would have allowed for a simple, prostyle tetrastyle porch encased by a uniform and continuous ambulatory, without the awkwardness of the Sardis solution. Indeed, as admired in Hermogenes’s Magnesian masterpiece, though not by its numerous and somewhat mechanical imitations, this ambulatory could have been articulated through decorative enhancement. Recently, concepts of the “visuality of the pteron,” or the “visual feast [provided by] the pteron,” applied to the Magnesian temple were underlined by H. Drerup and O. Bingöl, and to an extent by L. Haselberger (see Fig. 4.16).\(^99\) Following the less-articulate but more-available models of orthodox Asian pseudodipteroi, with “four prostyle columns in front of the ante porches, and pairs in antis front and back,” could have been the easier thing to do, avoiding all anxiety of measuring up to distant, articulate, and challenging models.\(^100\) Instead, the Roman rebuilding of the Sardian Artemision, while retaining its old, ultimate anchor, must have turned to the West for new design inspiration in Rome and Italy; it is there that we see these spatially articulated, deep porches as integral to the native Italian tradition. We are even able to relate the design particulars as well as programmatic themes of our recreated, double-cella temple to specific Hadrianic projects in Rome. And what emperor and period would have been more attuned to creative experiments and unorthodox distortions in architecture than Hadrian and his times?

Thus the Roman rebuilding of Artemis’s temple at Sardis can be seen as a credible and logical consequence of Hadrian’s almost-certain visit to the site in a.d. 123/24 attendant on the awarding of its second neokorate (in addition to the Wadi B temple, strongly presumed to be the seat of the first neokorate). The major Roman construction (or reconstruction) of the temple to accommodate the imperial cult must have subsumed much of the second century a.d., with little evidence of major work beyond that period except, perhaps, for adding more column foundations along the long north and south peristyles, as attested by their incomplete, roughed-out states. The decision to rebuild and set aside a full half of Artemis’s temple for the imperial cult might not have pleased some, but others, obviously, responded with practical and realistic considerations. In a world mostly tolerant of religious syncretism, it is possible to imagine that Artemis shared her temple with the new gods and old cults and allowed peaceful worship in her sanctuary, either separately or together, in ways and upon altars we may not know.

Architecturally, the Temple of Artemis at Sardis is an experimental, mannered, and eclectic building that is not necessarily the “end” of a popular pseudodipteral system that had been established in Asia Minor by Hermogenes and soon achieved a remarkable prescriptive authority—it

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\(^98\) Tacitus, \textit{Annals} 15.38–43. See also MacDonald 1982a, pp. 25–31.

\(^99\) For the light manipulation of the Temple of Artemis at Magnesia, see Drerup 1964; contra Wesenberg 2012. For an analysis and a development of the notion of Hermogenes’s decorative, or visual, pteron, see Bingöl 2013, pp. 107–11. For a sophisticated argument on the dramatic lighting and spatial qualities of the same temple, see Haselberger and Holzmann 2015. One would also like to point out the conspicuously decorative treatment of the cella walls of the pseudodipteral Temple of Zeus at Aezane.

had little to do with the academic version of that tradition, as previously indicated. Instead, it was one that refused to follow contemporary and orthodox manners and went beyond, either because of informed and creative design decisions, or sheer historical chance—or both. Set in the magical landscape of the Tmolos, there were neither equals to nor clear followers of our temple. Perhaps one should not expect progeny from an exceptional monument shaped by the uniqueness of circumstance and talent—genius does not bargain with its powers.

101 I am in agreement with Howe, who described the architecture of the Sardis temple as “not so much a late continuation of the Hellenistic tradition . . . inherited from Hermogenes, as the end of that tradition” (Howe 1999, p. 210), but by maintaining the view that our temple was not an “end” of that tradition because it never was a part of it, I prefer to place this finer point on it. It is instructive and ironic that over half a century ago, H. Drerup summed up Hermogenes’s masterpiece pseudodipteros in Magnesia in similar terms: “Hermogenes and his pseudodipteros was not the beginning of a development [Archaic and Classical] but its conclusion” (Drerup 1964, p. 19).
Throughout this volume, all bibliographical abbreviations used for the titles of periodicals and other frequently cited works follow those adopted by the *American Journal of Archaeology*; these are listed at https://www.ajaonline.org/submissions/abbreviations.

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*Corinth* I.4

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Theodor Wiegand and Hubert Knackfuss, *Die Baubeschreibung* Didyma I.3 (Berlin: G. Mann, 1941).
Bibliography

I. Didyma
Theodor Wiegand and Albert Rehm, eds., Die Inschriften, Didyma II (Berlin: G. Mann, 1958).

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Kaibel, Epigr. Gr.

Labraunda I.3

Milet I.1
Theodor Wiegand et al., Ergebnisse der Ausgrabungen seit dem Jahre 1899: Karte der Miletischen Halbinsel (1:50 000) mit erläuterndem Text, Milet I.1 (Berlin: Staatliche Museen zu Berlin, 1906).

Milet I.7
Theodor Wiegand and Hubert Knackfuss, Der Südmarkt und die benachbarten Bauanlagen, Milet I.7 (Berlin: Schötz and Parryius, 1924).

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———. 1914a. “Greek Inscriptions from Sardes, IV.” AJA 18: 35–74.


270 Bibliography


Yıldırım, Bahadir H., and Brianna Bricker. 2016. “Possibly the Largest Roman Monumental Arch (Sardis, Western Anatolia).” Paper read at the 117th Annual Meeting of the Archaeological Institute of America, Jan. 6–9, 2016, San Francisco.
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This book is set in PERPETUA, a typeface designed by English sculptor and stonemason Eric Gill, who found inspiration in the inscribed letters of monuments. His more widespread creation, GILL SANS, is found in the plans. Captions and headings are set in JOSEFIN SANS by Santiago Orozco, imitating the geometric forms of 1930s font styles. Greek text is set in ALPHABETUM UNICODE, designed by Juan-José Marcos.