

Report 6

CHURCHES EA AND E AT SARDIS

Archaeological Exploration of Sardis

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Report 6

CHURCHES EA AND E AT SARDIS

By Hans Buchwald

with a contribution by Anne McClanan

Archaeological Exploration of Sardis

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CONTENTS

FOREWORD	VII
A NOTE FROM GRAZIA BUCHWALD	XI
SUMMARY	XIII
ÖZET	XIX
CHAPTER 1: CHURCH EA: THE ORIGINAL BASILICA	1
1 Architectural Remains	1
2 Construction	4
3 Interior Decoration and Furnishings	5
4 Chronology	9
5 Comparable Evidence	11
6 Functional Considerations and Conclusions	26
CHAPTER 2: CHURCH EA: ADDITIONS, CHANGES, AND REPAIRS	29
1 The Atrium	29
2 The Entrance Bay	33
3 The North Courtyard	35
4 The North Chapel	37
5 The Northwest Unit	40
6 The West Unit	40
7 The Northeast and Southeast Units	45
8 The East Building	49
9 Church EA Changes and Repairs	49
10 Masonry Summary	51
11 Carved Architectural Elements	53
12 Rooms Accessible from an Atrium	57
13 Chronological Summary and Functional Interpretations	57
CHAPTER 3: CHURCH EA: MEDIEVAL ADDITIONS, RECONSTRUCTIONS, AND REPAIRS	61
1 The West Chapel	61
2 The Major Medieval Reconstruction	62
3 Later Medieval Repairs and Changes	69
4 Summary	71
CHAPTER 4: CHURCH E	73
1 Description	74
2 Masonry Fragments	79
3 The Foundations	87
4 The Pseudocrypt	92
5 The Period of Turkish Occupation	95
6 Comparable Evidence and Chronology	97
7 Church E Reconstruction	102

CHAPTER 5: ARCHITECTURAL SCULPTURE AND FURNISHINGS	105
1 Column Bases	106
2 Column Shafts	107
3 Double-Engaged Columns	109
4 Impost Blocks	111
5 Architectural Moldings	114
6 Doorjambs	117
7 Closure Slabs	119
8 Chancel Barrier Supporting Members	123
9 Chancel Barrier Lintel Blocks	126
10 Reconstructions of the Chancel Barriers of Churches EA and E	128
11 Miscellaneous Carved Architectural Members	135
TABLES	141
APPENDIX: GRAVES ASSOCIATED WITH CHURCHES EA AND E	153
<i>By Anne McClanan</i>	
ILLUSTRATIONS	169
BIBLIOGRAPHY	305
INDEX	331

FOREWORD

Sardis is famous today for two reasons: as the capital of the Lydians, especially of King Croesus, and as one of the Seven Churches of Asia, addressed by John of Patmos in his Book of Revelation. For centuries, the possibility of discovering one of the buildings associated with this early Christian community has enticed travelers and archaeologists. Early travelers visited Sardis on tours of the Seven Churches, often remarking on the beauty and desolation of the site, and modern pilgrims regularly all but bypass the colossal Temple of Artemis to pay respects to the tiny chapel at its southeast corner.

The two churches published in this volume are not, of course, contemporary with John's letter to the Sardians, but date to the late Roman and Byzantine periods. The ruins of the later church were identified by the first large-scale excavator of the site, Howard Crosby Butler, who described "a mass of rather good brickwork, . . . the crowns of several small domes and half domes. I presume that excavations would show this to be a small church of the later Greek plan with a larger central dome and four smaller domes at the angles of a square about it."¹ Butler himself did not excavate the church, but his conjecture has proved entirely correct, and we still employ his designation as Building "E."

Excavations in this sector were initiated in 1960 by Prof. G. M. A. Hanfmann, founder of the present Sardis Expedition, following the discovery of a fragment of a marble kouros nearby. The sector along the banks of the Pactolus River, known as "Pactolus North" to distinguish it from the excavations further south at "Pactolus Cliff," is perhaps near where Herodotus describes the agora of Sardis during the Ionian Revolt in 499 BC, and the aims of excavation here were to understand the history and archaeology of this area,

then believed to be the heart of Lydian Sardis. Excavation subsequently revealed important remains from the Lydian period including workshops for separating electrum into its component elements of gold and silver, rare occupation remains of the Persian period at Sardis, important Hellenistic deposits, and a late Roman villa with fine mosaic floors and a private bath. We now understand that this area was always outside the walls of the Lydian and Roman lower cities, but it remained an important extramural district throughout the life of Sardis, on the road into the Tmolus, and on the sacred way leading to the Sanctuary of Artemis.

Church E was largely cleared in 1961, 1962, and 1963 by archaeologists Donald Hansen, Mario Del Chiaro, and William Kohler. Henry Detweiler, dean of the architecture school at Cornell University and Associate Director of the Sardis Expedition, supervised much of the work and undertook a preliminary architectural study of the building, published in the report for the 1963 season.²

Prof. Hans Buchwald first visited Sardis to look at Church E in 1965. Following the death of Prof. Detweiler in 1970, Hanfmann invited Prof. Buchwald to study and publish its architecture. Further excavation, cleaning, consolidation, and recording by Buchwald, Hanfmann, and Andrew Ramage in 1972 and 1973 revealed that walls, rooms, and mosaic floors uncovered in the 1960s belonged to an older, apsidal basilica under the Byzantine structure; they realized that Church E had been built within the ruins of an earlier and much larger church and that Christian worship in this area had a longer history than they had suspected. This earlier church, designated "EA," could not be completely exposed, as the modern village road and other features cover parts of the building. Further limited

1 Butler, *Sardis* 1, 33, map 1 and ill. 18.

2 In Hanfmann, "Sardis 1963," 14–20.

excavation, cleaning, and studies were undertaken by Buchwald and Barbara McLaughlin in 1980 and by Kieran Hendrick with Pamela Vandiver in 2000.

Prof. Buchwald, a practicing architect and a renowned architectural historian, taught at Harvard University and, from 1970, at the University of Stuttgart. He worked at Sardis over a number of seasons between 1972 and 2001, and his own notes and personal photographs are often the best records of these buildings. Buchwald's thorough and detailed studies of every fragment of wall, vault, and carved architectural piece from the excavations, his encyclopedic knowledge of architecture throughout the Byzantine world, and his devotion to this project over many years allowed him to reconstruct the complex architectural histories of these two important churches, to restore the superstructure of Church E, and to place these churches in the diverse traditions of late antique and Byzantine architecture throughout Asia Minor and the Byzantine world. His manuscript was largely completed by 1986, but he continued to revise and actively rework and develop his ideas in the following years; the text grew with each round of editing. The manuscript was in the last stages before publication at the time of Prof. Buchwald's tragic and unexpected death in 2013. He therefore did not have an opportunity to make changes he may have envisioned, to update the bibliography, or to incorporate recent developments.³ Final editing was done by Katherine Kiefer, who had corresponded and worked closely with Prof. Buchwald over many years, and by Marcus Rautman, whose knowledge of late antique and Byzantine Sardis was essential to doing justice to Buchwald's work. We all wish that Prof. Buchwald had seen the fruits of his many years of labor and hope that this final product is the one he wished for.

The excavations of the early 1960s and 1970s uncovered these buildings but were not conducted with the careful stratigraphic control of later seasons. This report, therefore, is primarily an architectural study rather than an archaeological one and must rely largely on architectural phasing and stylistic analysis for conclusions about the construction and history of the two churches, with very limited evidence from coins or other finds. It is to be regretted that so few sondages were made beneath the floors of Church EA, as material from sealed contexts might have shed light on the difficult problem of its construction date. The coins from the apse of Church EA offer important evidence for this basilica, but more recent study of late Roman coinage elsewhere at Sardis, which Buchwald did not have a chance to respond

to completely, has shown that these coins are often found in later strata and offer a *terminus post quem* rather than an absolute date. Buchwald did his best to make sense of the complex geomorphology and depositional history of the area, but again without the aid of detailed stratigraphy or datable artifacts. Like all archaeological publications, some of the results presented here must be taken as the best and latest interpretations of necessarily imperfect remains and records, but always subject to revision as new evidence becomes available.

The excavations also uncovered a series of more than 100 graves probably associated with these churches. Again, the absence of very clear stratigraphic information often makes it difficult to assign them to specific phases, and for many graves, only field readings of the bones by non-specialists are available. Anne McClanan's catalogue of graves and their finds from this sector represents the first large-scale publication of Roman graves from the site, and we hope it will be followed by further studies.

At an early stage, this publication was intended to incorporate other Christian structures at Sardis, including Church M at the corner of the Temple of Artemis, the cave chapels on the Acropolis, and the magnificent but unexcavated Building D. It was decided, however, to focus on the primary presentation of the important churches at Pactolus North and leave discussion of the other monuments, and a broader treatment of the churches of Sardis, for another study. Readers are referred to the synthetic chapter on "Christianity: Churches and Cemeteries" by Profs. Hanfmann and Buchwald in *Sardis from Prehistoric to Roman Times* and to the more recent synthesis of Roman Sardis by Marcus Rautman. Building D is now published in excellent treatment by Nikos Karydis.⁴

As with any such project, this has been a collaborative effort from the beginning, involving dozens of archaeologists, architects, draftsmen, photographers, numismatists, and other specialists. Prof. Buchwald created many of the drawings of the churches and took many of the photographs published here. Sardis Expedition architects including Catherine S. Alexander, Katherine A. Ellsworth, Thomas Howe, Brian Jan, Jennifer Lathrop, Dasha Mikić, Edward D. Russell, James Toris, R. Lindley Vann, and K. Paul Zygas contributed to the drawings in this volume.

3 Such as Veronika Scheibelreiter-Gail's publication of mosaics from Sardis: *Die Mosaiken Westkleinasiens: Tessellate des 2. Jahrhunderts v. Chr. bis Anfang des 7. Jahrhunderts n. Chr.*, Sonderschriften des Österreichischen Archäologischen Institutes 46 (2011). The bibliography was not updated after 2006 and contains only a few references after 2000.

4 Church M: Butler, *Sardis* 1, 90–92, 112–13; S. Jacobs in Hanfmann, "Sardis 1961," 49–54; Hanfmann, *SPRT*, 195. Cave chapels on the Acropolis: Butler, *Sardis* 1, 24–25, and Hanfmann, *SPRT*, 44, identify the chambers as possible cisterns. They are discussed in unpublished manuscripts by C. H. Greenewalt, Jr., and L. Majewski. Building D: N. D. Karydis, "A Monument of Early Byzantine Sardis: Architectural Analysis and Graphic Reconstruction of Building D," *Anatolian Studies* 62 (2012), 115–39. M. Rautman, "Sardis in Late Antiquity," in *Archaeology and the Cities of Asia Minor in Late Antiquity*, edited by O. Dally and C. Ratté, Kelsey Museum Publication 6 (2011), 1–26, gives an up-to-date account of this fascinating era and its archaeology.

The architectural fragments were drawn by Catherine S. Alexander, Elizabeth Wahle, and Fikret K. Yegül. Among the Expedition photographers who contributed to the book are Donna Alberico, Elizabeth Gombosi, Susan Lezon, Michael W. Totten, and Vincent Wickwar. J. Wilson and Eleanor Myers took the balloon photograph, and Alison Frantz contributed two general views of the excavation area. The manuscript was improved by the helpful comments of anonymous readers.

A number of scholars have studied the important numismatic finds from the excavations over the years. Theodore Buttrey was responsible for the publication of Roman coins found before 1972. The important finds from 1973 were identified by Clive Foss, whose wisdom has informed so many aspects of research at Sardis. Ken Harl provided further identifications and historical and numismatic context. Jane DeRose Evans, charged with the publication of coins found since Buttrey's volume, provided final identifications of the coins. Where the broader interpretations of these scholars have differed, the editors have tried to incorporate a few more recent findings, while remaining true to Buchwald's opinions. Further results of some numismatic questions, not available to Buchwald, will be presented in the forthcoming publication of coins by Prof. Evans.

At the Sardis office, Jane Ayer Scott, longtime editor of the Sardis publications, worked closely with Prof. Buchwald on editing the early stages of the manuscript. Brad Kirkegaard, Rachel McGinley, Sheila Nightingale, Michael O'Grady, Andrew Rasanen, Richard Swartz, and Michael Weishan contributed in many ways to the editing and preparation of the volume. Güzin Eren translated the Summary into Turkish, with further editing by Ayşin Yoltar-Yıldırım and V. Macit Tekinalp. The text was proofread by Julia Gaviria and Kate Mertes assembled the index. Print production at Puritan Capital was managed by Richard Denzer and Tina Rotondi, layout and design by Chistyann Rothmel, and image quality by Tom Longval. All are gratefully acknowledged.

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The home base of the Sardis Expedition is at the Harvard Art Museums, and to its director, Thomas Lentz, we owe a debt of gratitude for his hospitality, his continuous wise advice and support, and his deep interest in the welfare of the Expedition. Susanne Ebbinghaus, curator of Ancient Art and head of the Division of Asian and Mediterranean Art at the Harvard Art Museums, has likewise been a trusted advisor and constant inspiration, and we are very grateful for her careful attention and good will.

The work of the Sardis Expedition is made possible by the support of the Harvard Art Museums and Cornell University and by many generous individuals and foundations, including the Bollingen Foundation, the Ruth Covo Family Foundation, the Ford Foundation, Dr. and Mrs. David Greenewalt and the David Greenewalt Charitable Trust, Dr. Richard Hamilton, the John M. Kohler Foundation, Dr. Edwin H. Land and Mrs. Land, Mr. Thomas B. Lemann, the Loeb Classical Library Foundation of Harvard University, the Charles E. Merrill Trust, the Old Dominion Foundation, Mr. Donald I. Perry, the John and Emma Quint Memorial Fund, Mr. John J. Roche, the Billy Rose Foundation, the Rowland Foundation, the Eleanor Ransom Swift Trust, Richard and Genevieve Tucker, the Vila B. Webber Charitable Trust, and the estate of W. C. Burriss Young, as well as anonymous donors. Between 1962 and 1965 fieldwork was supported by grants from the U.S. Department of State, and between 1966 and 1990 by grants from the National Endowment for the Humanities.⁵ The Samuel H. Kress Foundation supported conservation at Sardis for many years. The J. M. Kaplan Fund has generously sponsored a number of recent site conservation projects.

The Supporters of Sardis, a generous group of friends and colleagues, has provided essential encouragement, financial help, and friendly advice, for the excavation, study, and publication of these and many other monuments of the city over the years.

Finally, we wish to acknowledge the contributions of Grazia Buchwald, who, as she relates below, spent their honeymoon at Sardis when Prof. Buchwald first began this undertaking and was a partner in Prof. Buchwald's scholarly pursuits throughout their married life.

Nicholas Cahill
Director, Archaeological Exploration of Sardis
Madison, Wisconsin

⁵ Department of State grants in Turkish funds to Harvard under the Mutual Educational and Cultural Act Public Law 87-256 and Agricultural Trade Development and Assistance Act, Public Law 480 as amended (SCC 29-543). National Endowment for the Humanities grants to Harvard for work at Sardis and general publication work in the Cambridge office: H67-0-56, H68-0-61, H69-0-23, RO-111-70-3966, RO-4999-71-171, RO-6435-72-264, RO-8359-73-217, RO-10405-74-319, RO-20047-81-0230, RO-20607-84, RO-21414-87.

A NOTE FROM GRAZIA BUCHWALD

In 1972 Hans was invited to participate in an investigation of Church E, constructed inside the nave of Church EA, by the director of the excavations, George M. A. Hanfmann. Our short, two-day honeymoon in June 1972 was spent at the excavation site in Sardis. The manuscript of this book has followed us during our 40 years of marriage.

When Hans died the manuscript was completed and he was making some corrections in the last chapter together with his editor Katherine Kiefer. He was very much looking forward to seeing the book in print.

I am deeply grateful that this work, which was so important for Hans during his lifetime, is now being published and I would like to thank the staff at the Sardis Expedition, especially director Nicholas Cahill and editor Katherine Kiefer and numerous other colleagues of Hans who have supported him and made this publication possible.

Grazia Buchwald
Stuttgart, Germany
Vienna, Austria

SUMMARY

INTRODUCTION

Sardis was home to one of the earliest known Christian communities and was one of the Seven Churches of Asia in the mid-first century AD. Four churches have been identified at the ancient site. Between 1962 and 1980, the Sardis Expedition excavated two superimposed churches, one early Christian, one Byzantine. The earlier church, known as Church EA, an aisled basilica with narthex and atrium, had a long and complicated history, starting in the fourth century and continuing into the ninth century (Figs. 3–10). Built over its remains was a Byzantine church (Figs. 11, 12) dating to the thirteenth century, the Lascarid period in western Asia Minor, when Constantinople had fallen to the Fourth Crusade. This building's standing remains and fallen domes and vaulting fragments allow for the reconstruction of an inscribed-cross church with six columns and five domes, enriched on the exterior by brick and terracotta decoration.

Churches EA and E at Sardis are located in the sector known as Pactolus North or PN, outside the walls in the Pactolus valley southwest of the city (Fig. 1, no. 11). Church EA was approached from the city through an extant city gate (Fig. 1, no. 8) by way of a road (the "Street of Pipes," Fig. 3) that may have continued to the south, along the Pactolus River, to the Temple of Artemis. Church E was built within the ruins of Church EA as its successor and the two may have been thought of as "the same church" by the builders of Church E.

Two other churches have been identified at Sardis. The unexcavated Building D is the largest of the four known churches and the only one within the city walls. It is located in the Hermus plain near the eastern edge of the walled late Roman city (Fig. 1, no. 29). Although no

trace of an apse is visible, its six preserved piers indicate that it was a vaulted church and suggest a date in the sixth century. Church M, the smallest of the known churches of Sardis and the best preserved, is located at the eastern end of the Temple of Artemis, southwest of the ancient city (Fig. 1, no. 18). Church M was discovered by the Princeton excavators under Howard Crosby Butler in 1911 completely buried in clay and earth deposits. It was excavated in its entirety in the following season, its walls and two vaulted apses almost perfectly preserved. It may date to the late fourth or early fifth century.

The dedications of these churches are unknown and the nomenclature used in the excavations is based upon that begun by Howard Crosby Butler, who assigned letters to standing ruins at the site, including D and E.

The visible remains of Church E were identified by Butler as those of a five-domed church, but the building remained unexcavated until it was cleared by Mario Del Chiaro and Henry Detweiler of the Sardis Expedition in the campaigns of 1962 and 1963. Consolidation, further excavation, cleaning, and recording, particularly of the "Pseudocrypt," foundations, and masonry fragments buried in debris, were carried out by Andrew Ramage and Hans Buchwald in 1972. During the excavation around Church E in 1962 and 1963, some of Church EA was exposed: the north aisle, Entrance Bay, North Chapel, and parts of the nave, narthex, atrium, Northwest Unit, West Chapel, and North Courtyard were cleared. However, none of these features were fully identified as part of a church complex until the apse and other portions of Church EA were excavated by Ramage, Buchwald, and George Hanfmann during the 1972 and 1973 seasons. Limited but important further excavation

by Barbara McLaughlin and Buchwald was carried out in 1980, particularly to the east and west of Church EA. Because of various obstructions, the building complex was only partially excavated.

CHURCH EA: THE ORIGINAL BASILICA

The partial excavation of Church EA provided sufficient evidence to reconstruct the building as an aisled basilica with a narthex to the west and a projecting semicircular apse to the east (Figs. 3, 4). The exterior length of the church including the apse is 40.93 m; assuming it was symmetrical, its width would be 21.09 m and the interior dimensions of the narthex would be 19.29 × 4.85 m. It is preserved only in floor plan: none of the walls are preserved more than approximately 1.3 m above the floor level and none of the features of the elevation may be reconstructed with certainty. The walls are built of mortared rubble faced on both sides with untrimmed or slightly trimmed rounded field or river stones as well as occasional marble blocks; brick is preserved only in a three-course band in the apse masonry (Figs. 13, 14). Doorways that must originally have led into the church from the exterior are preserved in the west wall of the narthex as well as in the east and north walls of the north aisle; doorways connecting the narthex with the nave and the north aisle were also found (Fig. 4). The floors were paved with mosaics whose patterns included interlace, geometric configurations, meanders, and vine scrolls (Figs. 32–39). The walls were surfaced with marble revetments, at least in the lower zones (Figs. 28, 29), and fragments of fallen wall plaster with two layers of paint were found in the fill within the apse as were a few pieces of modeled plaster ornamentation, including a vine scroll and a cross with splayed arms (Figs. 30, 31, 40). However, there is no way to determine when in the history of Church EA these decorative elements were applied. Remnants of a marble chancel barrier consisting of pillars carved with typical late antique moldings and closure slabs, some carved with lozenge and scale patterns, some with crosses in relief (Figs. 286–306), were found as well as numerous double-engaged columns (Figs. 241–46). These columns may belong to the first construction phase, but if so, their original location is uncertain; they may have been the major nave supports, or they may have served to support a gallery arcade.

The church was probably designed upon a simple modular grid using ratios from the harmonic (musical) numeric proportions of 1:2:3:4 (Fig. 17). Similar modular grids were also used in the design of Ionic temples in western Asia Minor, and the same proportions occur in several other early churches, including a group of fourth-century churches in Syria, S. Apollinare in Classe near Ravenna, Church No. 1 in Ayatekla in Cilicia, Columnar

Church No. 1 in Hierapolis in Phrygia, and the church south of the Gymnasium in Assos. The floor plan of the church may have been developed in Rome before the middle of the fourth century. Numerous other examples, frequently with only slight variations, exist in Asia Minor, Syria, the Holy Land, North Africa, Corsica, Italy, the southern Balkans, Greece, and Constantinople.

Numismatic evidence suggests that the basilica may have been constructed as early as the middle of the fourth century. The style of remaining features does not contradict the numismatic evidence; although the building cannot be dated on the basis of its stylistic character alone, none of its known features make an earlier or later date compelling. Even though it is poorly preserved and incompletely excavated, Church EA therefore provides invaluable evidence because it may be one of the earliest churches of its kind in Asia Minor.

The functions of the church are not entirely clear, but its relatively large size, early construction, and numerous ancillary facilities, many of which are grouped around a western atrium, suggest that it may have been, at least initially, the bishop's church, or cathedral. Because it was located in a Roman burial ground it could have been constructed near or at a martyr's grave; several Christian martyrs are documented in Sardis. Two burials in the nave of Church EA may perhaps be seen in the same context; even though in their excavated form the graves were probably medieval, they may be related to the late antique period. A residential building across the street from the church could have included a bishop's palace. Only the location of the building outside the city walls speaks against the suggestion that the basilica was the church of the bishops of Sardis.

CHURCH EA: ADDITIONS, CHANGES, AND REPAIRS

Numerous ancillary features, including pastophories, and an atrium probably surrounded by rooms, some of which may, at least eventually, have been vaulted, were added to the original basilica in the fifth and sixth centuries (Figs. 3–8). As in the basilica proper, the masonry in these additions is constructed of a mortared rubble core with facing of stone, including ashlar; however, the facing is more varied and reused brick fragments are common. Mortar was used in Church EA and its major additions but not in the medieval reconstructions of the basilica.

The atrium and adjoining spaces to the north seem to have been the first of these additions, perhaps early in the fifth century (Fig. 5). Only small portions of the northeast corner and west side of the atrium were excavated. It measured 19.70 × 20.60 m and was at least partially paved in mosaics (Figs. 48–51). A doorway approximately in

the middle of its north side may have been the primary entrance to the complex. The Entrance Bay, a small mosaicked space, was added to the north of this doorway after construction of the atrium (Figs. 5, 58, 59) but may have been part of the original design of the church complex: initially, worshippers probably entered the complex from the north by way of the Entrance Bay. From here baptized Christians could have continued into the church through the atrium and narthex, which, like the Entrance Bay, were paved with mosaics, while catechumens probably walked to the doors leading directly into the north aisle via the North Courtyard, an unpaved narrow enclosed space north of the atrium.

Somewhat later, probably when the number of catechumens had decreased in the latter part of the fifth or early sixth century, a small apsed space, the North Chapel (Figs. 6, 62), was constructed in the North Courtyard adjoining the Entrance Bay and atrium and blocking the approach into the north aisle probably previously used by the catechumens. The chapel may have served as a diaconicon, where worshippers placed their offerings upon entering the church complex. Probably at this time the door between the street and the Entrance Bay was relocated to between the Entrance Bay and atrium, so that the North Chapel remained permanently open to the street. Still later, probably in the course of the sixth century, the Northeast Unit, a room east of the north aisle, appears to have become the diaconicon, and the Entrance Bay was blocked from the street, suggesting that another, currently unknown, major entrance to the EA building complex was created elsewhere (Figs. 7, 8). Rooms along the west side of the atrium (the West Unit, Fig. 8) were added perhaps at this time.

Repairs to the basilica in the fifth and sixth centuries include an opus sectile floor, which covered portions of the original mosaic paving (Fig. 82), and steps from the north aisle to the North Courtyard (Figs. 25, 26), which probably facilitated entry from the North Courtyard after the ground level there had risen.

CHURCH EA: MEDIEVAL ADDITIONS, RECONSTRUCTIONS, AND REPAIRS

The church complex was destroyed, perhaps in the seventh century, and abandoned. A small chapel was constructed within the rubble of surrounding buildings, over the mosaic floor at the northern edge of the atrium (the West Chapel, Figs. 9, 85–87), possibly in the late seventh century. A floor of stone slabs and an altar, which was rebuilt at least once, were found in the West Chapel.

The nave and aisles of Church EA were reconstructed, perhaps in the ninth century. The nave was partially separated from the side aisles by walls (Figs. 3, 10, 15, 21,

83). The functions of the separated side aisles, which were only partly open to the nave, are not clear, but similar arrangements may be found in other basilicas in Asia Minor and Greece. The reconstruction included frescoes, a chancel barrier of high quality, and perhaps stucco ornamentation. The new altar screen included capitals, closure slabs, and lintels decorated with arcades, interlace, geometric configurations, and stylized vegetal motifs typical of the ninth to twelfth centuries in Asia Minor and Greece as well as Italy and elsewhere in western Europe (Figs. 307–13, 333–51).

The ancillary facilities east and west of the church do not seem to have been restored, and the atrium seems also to have been abandoned by the eleventh or early twelfth century. Perhaps after the Seljuk invasion in the late eleventh century, the church and narthex were repaired and changed in a makeshift manner. The major portal between the church and narthex was reduced in size, and the north door was blocked. A short wall extending into the narthex from the narthex east wall created a semienclosed space in the north end of the narthex (Figs. 3, 10). The building must have been in disrepair when it was finally demolished to make way for a new church building, almost nine centuries after its initial construction.

During the medieval reconstruction two important graves were located at the southern edge of the nave. Both graves are reburials probably taken from earlier venerated graves somewhere in the EA complex and were perhaps thought to be those of saints; one contained a late Roman glass bottle. In the thirteenth century the graves and the frescoed wall next to them were integrated into the fabric of Church E, and the Pseudocrypt, a masonry pit in the south aisle of the later church, was apparently created to preserve the remains of the earlier graves and associated frescoes (Figs. 94, 95, 130, 211–13). The graves therefore may represent continuity from the first phase of Church EA in the fourth century until the loss of Sardis to the Turkish invaders almost a millennium later. The saints whose bones were, apparently, preserved in the grave may well have provided the motive for the construction and reconstruction of Church EA and for the construction of Church E.

CHURCH E

Church E was constructed within the eastern portion of the nave of Church EA (Figs. 2, 3, 186), probably between about 1230 and 1245, on a foundation that raised its floor about two meters above that of its predecessor (Figs. 102, 127–30). It was a well-built, fully vaulted, and richly decorated church of the inscribed-cross type, with a central dome and four small domes over the corner bays (Figs. 103, 215–19). The cupolas were supported by a system of pendentives, arches, six columns, and the outer

walls of the building. Available evidence does not permit reconstruction of the narthex vaulting.

The floor plan of the church was designed using *quadratura*, a geometric construction of squares inscribed diagonally in larger squares (Fig. 105). *Quadratura* is also found in a small group of medieval Byzantine churches.

Courses of well-squared marble blocks alternating with two to five courses of brick formed the lower exterior facing, but not enough of the walls remains to determine if the builders used a consistent pattern of alternating courses (Figs. 106–10). Occasionally a single vertical brick is inserted between two ashlar blocks, in a manner reminiscent of the *cloisonné* technique (Fig. 109). The lowest course of marble blocks rests on a single course of brick, perhaps a leveling function. This course, in turn, rests on a stylobate of large, well-cut marble blocks that, on the exterior, crowns the high foundation walls (Figs. 106, 107, 109).

Remains of a network of wooden tie beams were found in Church E just below the level of the floor and stylobate (Figs. 187, 195, 196). The beams appear to have been used somewhat like steel tie rods or reinforcement bars inside the concrete of modern buildings. While the wood itself was not preserved, the wooden fibers left imprints in the hard, fine mortar that encased them in some places, and numerous iron spikes used to fasten the beams to each other were found at intersections.

On the exterior the building was richly ornamented with stepped blind arcades and complex brick patterns in regular sequences, including meander bands, chevrons, checkerboard and herringbone brickwork, and rows of hollow ceramic quatrefoils, which provided a rich, chiaroscuro surface (Figs. 132–41, 152–54, 171–76). On the interior Church E was decorated by frescoes, colored glazing, carved stone furnishings including spoils from Church EA, a stone slab floor, and probably select areas of *opus sectile* floor and mosaic.

Frescoes were also recorded in Church E, in one of the extant cupolas (Fig. 183) and in the Pseudocrypt (Figs. 205–9), and the numerous glass tesserae found in the excavation suggest that the central dome and/or the apse contained mosaics. Fragments of thin, flat glass (rose, yellow, pale blue, blackish blue, blackish purple, olive, and green in color) suggest that some of the windows may have had colored glazing.

The graves that were probably relocated in the nave of Church EA during the medieval reconstruction continued to be important in Church E, where their veneration was made possible by the Pseudocrypt (Figs. 94, 95, 130, 211–13).

After the end of the thirteenth century, Sardis fell to the Turkish forces. Church E was divided by rough masonry walls into two discrete units and rooms were

added to the west (Figs. 12, 200, 201). The eastern part may have been used for industrial purposes, centered around a fire underneath the main cupola, which, without glass in the windows of its drum, would have provided an excellent flue. The narthex, together with the new additions to the west, appears to have served domestic functions. The fact that Church E was not converted into a mosque suggests that perhaps another, larger and more important church was in good condition in Sardis during the thirteenth century. Church E was utterly destroyed, most probably by the earthquake of 1595, some 350 years after its construction.

Stylistically, Church E may be attributed to the brief revival of prosperity in western Asia Minor during the rule of the Lascarid dynasty in the thirteenth century. It can be related to other buildings probably constructed during the same period, such as the palace in Nymphaeum (Nif, Kemal Paşa), and churches in Alaşehir, in the Latmos area, and on Chios.

ARCHITECTURAL SCULPTURE AND FURNISHINGS

Double-engaged columns, closure slabs decorated with lozenge and scale patterns, and chancel barrier pillars, all carved in simple, standard late antique forms, can be attributed to the fourth-century construction of Church EA (Figs. 241–46, 286–98, 320–29). Less well-executed columns, impost blocks, and bases should probably be attributed to fifth- and sixth-century repairs and additions to Church EA, although their context remains undetermined (Figs. 222–24, 228–36, 247–53). Capitals, closure slabs, and lintel blocks carved with typical medieval motifs including interlace, arcades, geometric configurations, crosses, and palmettes were probably created for the medieval reconstruction of Church EA, perhaps in the ninth century (Figs. 307–13, 333–51). In the thirteenth century, pieces of the ninth-century screen, together with new pieces carved in imitation of earlier styles (Figs. 352–54), were used in the chancel barrier of Church E.

GRAVES ASSOCIATED WITH CHURCHES EA AND E

More than 100 graves were excavated in the area in and around Churches EA and E, cutting into the floor and the abandoned walls of the Church EA complex. Most of these burials, and others to the north in the Street of Pipes, are associated with the final phases of Church EA and with Church E (Fig. 3).

Most of the graves were simple pits lined and covered with stone and tile, although some were unlined and without cover slabs. Several of the burials included sets of nails indicating the presence of wooden coffins. The bones

were often in poor condition, but when preserved, bodies followed the alignment of the churches and were supine and oriented with their heads to the west. Arms were often crossed over the chest or abdomen. The burials included men, women, and children, in some cases accompanied by bronze rings, earrings, beads, and buttons.

A few graves were exceptional. Two secondary burials found below the Pseudocrypt of Church E (Figs. 130, 211–13) appear to have been relocated during the major medieval rebuilding of Church EA. Access to these burials

was maintained in Church E, suggesting that they may have been thought to be martyrs. Adjacent to these burials, just outside Church E to the south, was a child's grave that contained a gold earring and a rock-crystal bead. A reused Lydian sarcophagus set up against the north side of the church (Figs. 3, 130, 198, 199) contained bones of three individuals, only one of which was complete, four gilded bronze beads, and 13 nails, evidence that a coffin had been used inside the limestone sarcophagus.

ÖZET

GİRİŞ

Sardis, MS 1. yüzyılın ortalarında bilinen en erken Hristiyan topluluklarından ve Anadolu'nun Yedi Kilisesi'nden birine ev sahipliği yapmıştır. Sardis'te dört adet kilise saptanmıştır. Sart Amerikan Hafriyat Heyeti, 1962 ve 1980 yılları arasında, biri erken Hristiyanlık, diğeri Bizans Dönemi'ne ait, üst üste inşa edilmiş iki kilisenin kazısını gerçekleştirdi. EA Kilisesi olarak bilinen daha erken tarihli kilise, narteks ve atriumu bulunan nefli bir bazilikadır ve 4. yüzyıldan başlayarak 9. yüzyılda devam eden uzun ve karmaşık bir tarihe sahiptir (Şek. 3-10). Batı Anadolu'da Lascarisler'in hüküm sürdüğü 13. yüzyılda, Konstantinopolis Dördüncü Haçlı Seferleri'ne yenik düştüğünde, bu yapının kalıntıları üzerine bir Bizans kilisesi inşa edilmiştir (Şek. 11, 12). Yapının ayakta duran kalıntıları ile kubbe ve tonoz çöküntüsü, dış tarafında tuğla ve pişmiş toprak bezemelerle zenginleştirilmiş, altı sütuna ve beş kubbeye sahip kapalı-haç tipinde ve bir yapının rekonstrüksiyonuna izin vermektedir.

EA ve E Kiliseleri, kentin güneybatısındaki Paktolos vadisinde, Paktolos Kuzey ya da PN olarak bilinen sektörde şehir duvarları dışında yer alır (Şek. 1, no. 11). EA Kilisesi'ne günümüze ulaşmış bir kent kapısından geçilerek erişilmekteydi; bu kapıdan (Şek. 1, no. 8) geçen yolun ("Künkler Yolu," Şek. 3) Paktolos vadisi boyunca güneye doğru Artemis Tapınağı'na kadar uzanmış olması mümkündür. E Kilisesi, EA Kilisesi'nin ardılı olarak yapının kalıntıları içine inşa edilmiştir. E Kilisesi'ni inşa edenlerce "aynı kilise" olarak düşünülmüş olması muhtemeldir.

Sardis'te iki kilise daha saptanmıştır. Henüz kazısı yapılmamış olan D Binası, bu kiliselerin en büyüğü ve şehir surları içerisindeki tek kilisedir. Hermus Ovası'nda inşa edilmiş yapı, surlarla çevrili Geç Roma şehrinin

doğu kenarının yakınında yer alır (Şek. 1, no. 29). Apsisin varlığına dair herhangi bir kanıt bulunamamış olsa da korunagelmiş altı payesi, yapının tonozlu bir kilise olduğuna ve 6. yüzyılda inşa edildiğine işaret eder. Sardis'te yer alan kiliselerin en küçüğü ancak en iyi korunmuşu olan M Kilisesi ise, antik kentin güneybatısındaki Artemis Tapınağı'nın doğu ucunda konumlanmıştır (Şek. 1, no. 18). M Kilisesi, Howard Crosby Butler başkanlığındaki Princeton kazı ekibi tarafından kil ve toprak dolgular ile tamamen örtülmüş olarak 1911 yılında keşfedilmiş ve bir sonraki sezonda duvarları ve tonozlu iki apsisi neredeyse mükemmel olarak korunmuş şekilde tümüyle açığa çıkarılmıştır. Kilise, muhtemelen 4. yüzyılın sonlarına ya da 5. yüzyılın başlarına tarihlenir.

Bu kiliselerin kimlerce tahsis edildikleri bilinmemektedir. D ve E Binaları da dahil olmak üzere, yapılar şu anda kazılarda verilen isimler, Howard Crosby Butler kazılarında kullanılmış isimleri takip eder.

Butler, E Kilisesi'nin görünür durumdaki kalıntılarını beş kubbeli kilise olarak tanımlamış, ancak yapı, Sart Amerikan Hafriyat Heyeti üyeleri Mario Del Chiaro ve Henry Detweiler tarafından 1962 ve 1963 sezonlarında açığa çıkarılıncaya kadar kazılmamış olarak kalmıştır. 1972 yılında özellikle "Sahte-Mahzenmezarında" olmak üzere, yapının sağlamlaştırma ve ilave kazı, temizlik ve belgeleme çalışmaları Andrew Ramage ve Hans Buchwald tarafından gerçekleştirilmiştir. E Kilisesi civarında 1962 ve 1963 yıllarında yapılan kazılarda, EA Kilisesi'nin şu kısımları açığa çıkarılmıştır: kuzey nef, Giriş Sahanı, Kuzey Şapel ile orta nefin, narteksin, atriumun, Kuzeybatı Birimin, Batı Şapelin ve Kuzey Avlunun bazı kısımları. Ancak, EA Kilisesi'nin apsisi ile diğer kısımları 1972 ve 1973 sezonlarında Ramage, Buchwald ve George Hanfmann

tarafından kazılıncaya kadar, bu öğelerin hiçbiri bir kilise kompleksine ait olarak tanımlanmamıştır. 1980 yılında Barbara McLaughlin ve Buchwald tarafından EA Kilisesi'nin özellikle doğusu ve batısında sınırlı ölçüde kazılar yapılmıştır. Ancak yapı kompleksi muhtelif engeller nedeniyle sadece kısmen açığa çıkarılmıştır.

EA KİLİSESİ: ÖZGÜN BAZİLİKA

EA Kilisesi'nin kısmi kazısı yapının, batısında narteksi ve doğusunda çıkıntılı yarı-dairesel apsisi bulunan nefli bir bazilika olarak canlandırılmasına yetecek derecede kanıt sunmuştur (Şek. 3, 4). Kilisenin dış uzunluğu, apsisi de kapsayacak şekilde 40.93 metredir; simetrik olduğu varsayılırsa, kilisenin genişliği 21.09 metre ve narteksin iç ölçüleri 19.29×4.85 metre olacaktır. Yapı yalnızca zemin katında korunmuş olup duvarları en fazla 1.3 metreye kadar korunmuştur. Dolayısıyla kesitte bulunabilecek hiçbir özellik kesin olarak bilinmemektedir. Duvarlar moloz taşların harçla örülmesi ve her iki yüzünün tıraşlanmış veya hafifçe tıraşlanmış yuvarlak çakıl ve kaba taşlar, ve yer yer mermer bloklarla kaplanması ile oluşturulmuştur. Tuğlalar ise sadece apside üç sıradan oluşan bir bant halinde korunmuştur (Şek. 13, 14). Özgün halinde kiliseye dışardan girişi sağlayan kapı aralıkları narteksin batı duvarı yanı sıra, kuzey nefin doğu ve kuzey duvarlarında korunagelmiş; narteksi orta nefe ve kuzey nefe bağlayan kapılar da ayrıca keşfedilmiştir (Şek. 4). Tabanlar, geçme, geometrik şekil, menderes ve sarmaşık gibi desenleri içeren mozaiklerle döşenmiştir (Şek. 32–39). Duvarların en azından alt kısımları mermer ile kaplanmıştır (Şek. 28, 29) ve apsisin iç kısmındaki dolgularda, duvardan düşen iki kat boyalı duvar sıvasının yanı sıra içlerinde sarmaşık deseni ve üzerinde haçların da yer aldığı alçıdan bezemeler bulunmuştur (Şek. 30, 31, 40). Ancak bu bezeme öğelerinin EA Kilisesi'nin tarihi süresince ne zaman uygulandığını tayin etmek mümkün değildir. Geç antik dönemin tipik silmeleri ile bezenmiş mermer templon levhası balusterleri, kimi baklava dilimi, kimi balık pulu, kimi de kabartmalı haç (Şek. 286–306) yontulu templon levhası kalıntıları ve çok sayıda çift sütun bulunmuştur (Şek. 241–46). Bu çift sütunların ilk inşa aşamasına ait olması muhtemeldir, ancak özgün konumları belirgin değildir. Bunlar orta nefin temel destek öğeleri olabilir ya da bir galerinin kemerlerini desteklemek için yapılmış olabilirler.

Kilise muhtemelen armonik 1:2:3:4 oranını temel alarak basit birimsel ızgara planına göre tasarlanmıştır (Şek. 17). Benzer birimsel ızgara tasarımı Anadolu'nun batısındaki İyon tapınaklarının tasarımında da kullanılmıştır. Aynı armonik oranlar pek çok diğer erken kilisede de karşımıza çıkar. Bunlar arasında Suriye'deki bir grup 4. yüzyıl kilisesi, Ravenna yakınlarındaki S. Apollinare in Classe kilisesi, Kilikya'daki Ayatekla 1 No'lu Kilise, Frigya Hierapolis'i'ndeki

1 No'lu Sütunlu Kilise ve Assos'taki Gimnazyumun güneyinde bulunan kilise yer alır. Sardis'deki kilisenin zemin katı planı, 4. yüzyılın ortalarında Roma'da geliştirilmiş olabilir. Çoğunlukla çok küçük oranda farklılık gösteren sayısız örneğe, Anadolu, Suriye, Kutsal Topraklar, Kuzey Afrika, Korsika, İtalya, Balkanların güneyi, Yunanistan ve Konstantinopolis'te rastlanır.

Nüvizmatik deliller bazilikanın 4. yüzyılın ortalarına kadar erken bir tarihte inşa edildiğine işaret eder. Diğer öğelerin üslubu nüvizmatik belgeler ile uyumsuzluk göstermez. Ancak yapı yalnızca biçimsel karakteri temel alınarak tarihlenemez çünkü yapının bilinen hiçbir öğesi daha erken veya geç bir tarihin önerilmesine engel teşkil etmemektedir. Her ne kadar iyi korunagelmemiş ve tamamıyla kazılmamış olsa da, EA Kilisesi Anadolu'daki kiliselerin muhtemelen en erken örneklerinden birini temsil etmesi bakımından çok önemlidir.

Kilisenin işlevi tam olarak anlaşılamamıştır fakat nispeten geniş ölçülerine, erken tarihli inşasına ve bir çoğu batı atrium çevresinde gruplanmış sayısız ek mekanlara bakılarak yapının en azından başlangıç aşamasında bir piskopos kilisesi ya da katedral olarak işlev gördüğü söylenebilir. Kilisenin Roma mezarlık alanında bulunmasından ötürü, başlangıçta bir şehit mezarının çok yakınında inşa edilmiş olması muhtemeldir. Zira Sardis'te Hristiyan şehitlerine ait çok sayıda belge bulunmaktadır. EA Kilisesi'nin orta nefindeki iki defin, her ne kadar muhtemelen ortaçağa ait olsa da, geç antik dönem ile ilişkilendirilebilir. Dolayısıyla aynı bağlamda değerlendirilmelidir. Kilisenin karşısındaki konut yapısı piskopos sarayı olabilir. Bazilikanın Sardis piskoposlarının kilisesi olmaması yönündeki tek engel yapının şehir surları dışındaki konumudur.

EA KİLİSESİ: EKLENTİLER, DEĞİŞİKLİKLER VE ONARIMLAR

Kilisenin pastoforya da dahil olmak üzere sayısız ek mekanları ile en azından son aşamasında tonozla örtülmüş bir dizi odanın çevresini sardığı atrium, bazilikaya 5. ve 6. yüzyıllarda eklenmiştir (Şek. 3–8). Bazilikada olduğu gibi ek mekanların duvarları harçlı molozla örülmüş ve kısmen kesme taşlarla kaplanmıştır. Ancak öncekine kıyasla duvar yüzünde daha fazla çeşitlilik yaratılmış ve devşirme tuğla parçaları sıklıkla kullanılmıştır. EA Kilisesi'nin ilk inşasında ve sonraki eklentilerinde harç kullanılmış olmasına rağmen ortaçağdaki yeniden inşasında harca rastlanmaz.

Atrium ve kuzeyindeki komşu mekanlar, binaya yapılan eklentilerin ilkinden biri gibi gözükmemektedir ve muhtemelen 5. yüzyılın başlarına tarihlenir (Şek. 5). Atriumun kuzeydoğu köşesinin ve batı kenarının küçük bir kısmı kazılabılmıştır. Atrium 19.70×20.60 metre ölçülerindedir ve en azından bir kısmı mozaik ile döşenmiştir (Şek. 48–51). Kuzey kenarının

ortalarına yakın, yapı kompleksinin ana girişi olabilecek bir kapı aralığı bulunmuştur. Mozaikli küçük bir alan olan Giriş Sahanlığı atriumun inşasından sonra bu kapı aralığının kuzeyine eklenmiştir (Şek. 58, 59), fakat bu ögenin kilise kompleksinin başlangıçtaki tasarımının bir parçası olması da mümkündür: ibadetçiler ilk aşamada da Giriş Sahanlığını kullanarak yapıya kuzeyden girmiş olmalıdır. Vaftiz edilmiş Hristiyanlar buradan, Giriş Sahanlığı gibi mozaik döşemeli olan atrium ve narteks yoluyla kilisenin içine devam ederken, kateşizm talepleri atriumun kuzeyindeki dar, döşemesiz bir alan olan Kuzey Avlu yoluyla kuzey nefeye doğrudan giriş veren kapılardan geçmekteydi.

Daha sonra, muhtemelen kateşizm talebelerinin sayıca azaldığı 5. yüzyılın sonlarında veya 6. yüzyılın başlarında apsisli ve küçük bir alan olan Kuzey Şapel (Şek. 6, 62), Kuzey Avluda Giriş Sahanlığı ile atrium arasına inşa edilmiştir. Bu sebeple önceden muhtemelen kateşizm talebelerince kullanılmakta olan kuzey nefeye erişim de kapanmıştır. Şapel, ibadetçilerin kilise kompleksine girdiklerinde adaklarını yerleştirdikleri bir diakonikon olarak işlev görmüş olabilir. Cadde ve Giriş Sahanlığı arasındaki kapı, muhtemelen bu zamanda, Kuzey Şapeli kalıcı olarak caddeye açacak şekilde Giriş Sahanlığı ve atrium arasına yerleştirilmiştir. Daha sonra, olasılıkla 6. yüzyıl boyunca, kuzey nefin doğusunda yer alan Kuzeydoğu Birim diakonikona dönüştürülmüştür. Giriş Sahanlığının caddeyle bağlantısı kesilmiş gibi gözükmektedir. Ancak her ne kadar bugün nerede olduğu bilinmese de, EA yapı kompleksine başka bir ana girişin açılmış olduğuna işaret eder (Şek. 7, 8). Atriumun batı kenarı boyunca odalar (Batı Birim, Şek. 8) da muhtemelen bu dönemde eklenmiştir.

Bazilikanın 5. ve 6. yüzyıllarda onarım gören kısımları arasında özgün mozaik döşemenin bir kısmının üzerini örten opus sectile taban (Şek. 82) ve yükselen zemin seviyesi nedeniyle muhtemelen Kuzey Avlu'ya girişi kolaylaştırmak için yapılan kuzey neften Kuzey Avluya çıkan basamaklar (Şek. 25, 26) yer alır.

EA KİLİSESİ: ORTA ÇAĞ EKLENTİLERİ, REKONSTRÜKSİYONLARI VE ONARIMLARI

Kilise yapısı muhtemelen 7. yüzyılda yıkılmış ve terk edilmiştir. Yapının yıkılmış molozları arasına ve atriumun kuzey ucundaki mozaik tabanın üzerine olasılıkla 7. yüzyılda küçük bir şapel inşa edilmiştir (Batı Şapel, Şek. 9, 85–87). Bu Batı Şapelde, taş levhalardan bir taban ve en azından bir defa yeniden inşa edilmiş bir altar açığa çıkarılmıştır.

EA Kilisesinin orta ve yan nefleri muhtemelen 9. yüzyılda yeniden ayağa kaldırılmıştır. Orta nef, yan neflerden duvarlar yardımıyla kısmen ayrılmıştır (Şek. 3, 10, 15, 21, 83). Kısmen orta nefeye açılan bu ayrı yan neflerin işlevi belirgin değildir ancak benzer düzenlemeler Anadolu ve Yunanistan'daki diğer bazilikalarda da bulunabilir. Yapının

yeniden inşası freskolar, yüksek kaliteli bir templon ve muhtemelen alçı bezemeler içermiştir. Yeni templon, 9 ile 12. yüzyıllar arasında Anadolu ve Yunanistan'ın yanı sıra İtalya ve Batı Avrupada da tipik olarak kullanılan stilize bitkisel motifler, kemerler, geçme ve geometrik desenlerle bezenmiş sütun başlıkları, levhalar ve sövelerden oluşmuştur (Şek. 307–13, 333–51).

Kilisenin doğusu ve batısındaki ek mekanlar tekrar ayağa kaldırılmamıştır. Ayrıca atrium da 11. veya 12. yüzyılın başlarında terk edilmiş gibi gözükmektedir. Muhtemelen 11. yüzyılın sonundaki Selçuklu istilasından sonra, kilise ve narteks onarım görmüş ve geçici çözümler bulacak şekilde yenilenmiştir. Kilise ve narteks arasındaki ana geçişin genişliği azaltılmış ve kuzey kapısı kapanmıştır. Narteksin doğu duvarından narteksin içerisine uzanan yeni bir kısa duvar ile narteksin kuzey ucunda yarı kapalı bir alan yaratılmıştır (Şek. 3, 10). Bina, özgün inşasından dokuz yüzyıl sonra yeni bir kilise yapısına alan yaratmak için yıkıldığında muhtemelen bakımsız durumdaydı.

Yapının ortaçağdaki yeniden inşası esnasında orta nefin güney kenarına iki adet önemli mezar yerleştirilmiştir. Mezarların ikisi de yeniden defindir ve bunlar muhtemelen EA kompleksinin bir yerinden taşınmış, önceki dönemde de itibar edilen azizlere ait mezarlar oldukları düşünülmüş olabilir. Mezarlardan bir tanesinde Geç Roma cam şişesi bulunmuştur. 13. yüzyılda mezarlar ve yanlarındaki freskolu duvar, E Kilisesi'nin örgüsüyle bütünleştirilmiş ve E Kilisesinin güney haç kolunda bulunan taşlarla kaplı bir çukur olan Sahte-Mahzenmezar, görünüşe göre daha erken dönemli mezarlar ile ilişkili freskoları korumak için inşa edilmiştir (Şek. 94, 95, 130, 211–13). Dolayısıyla bu mezarlar, EA Kilisesi'nin 4. yüzyıldaki ilk evresinden, neredeyse bin yıl sonra Sardis'in Türk akınlarına uğramasına değin bir devamlılığı temsil edebilir. Görünüşe göre kemikleri mezarlarda korunmuş olan azizler, EA Kilisesi'nin inşası ile yeniden inşası ve E Kilisesi'nin inşa edilmesi için bir gerekçe sağlamış olabilirler.

E KİLİSESİ

E Kilisesi, EA Kilisesi'nin tabanından yaklaşık 2 metre yüksekte bir temel üzerine (Şek. 102, 127–30) ve onun orta nefinin doğu kısmı dahilinde, muhtemelen 1230 ve 1245 yılları arasında inşa edilmiştir (Şek. 2, 3, 186). Yapı, iyi inşa edilmiş, tümü tonozlu ve zengince bezenmiş, merkezi bir kubbe ile dört köşesinde küçük kubbeleri bulunan kapalı-haç tipinde bir kilisedir (Şek. 103, 215–19). Kubbeler, pandantifler, kemerler, altı sütun ve yapının dış duvarlarından oluşan bir sistem ile desteklenmiştir. Mevcut veriler narteksin tonozlu bir yapı olarak canlandırılmasına izin vermez.

Kilisenin zemin planı, *quadratura*—geniş karelerin içine çaprazlama yerleştirilmiş daha küçük karelerden

oluşan geometrik düzen—kullanılarak tasarlanmıştır (Şek. 105). Quadratura ayrıca küçük bir grup Orta Çağ Bizans kilisesinde gözlemlenmiştir.

Birbirini takip eden kare mermer blok sıraları ile iki sıradan beş sıraya değişen tuğla sıraları duvarların dış alt kısım kaplamalarını oluşturur. Ancak yapı ustalarının bu düzeni duvarların her yerinde devam ettirdiklerini belirleyemeye yetecek kadarı korunmamıştır (Şek. 106–10). Mine tekniğini andıran şekilde, yalnızca bir dik tuğla yer yer iki kare bloğun arasına yerleştirilmiştir (Şek. 109). En alt taş sırasındaki mermer bloklar, muhtemelen tesviye amacıyla bir sıra tuğla üzerine oturtulmuştur. Bu sıra ise düzgün kesilmiş geniş mermer bloklardan oluşan ve dışarıda yüksek temel duvarlarını taçlandıran stilobatin üzerine oturur (Şek. 106, 107, 109).

E Kilisesi'nde ahşap bağlantı kirişlerinden oluşan bir ağ, taban ve stilobat seviyesinin hemen altında bulunmuştur (Şek. 187, 195, 196). Kirişler, modern beton yapıların içindeki çelik bağlantı ya da destek çubuklarına benzer şekilde kullanılmış gibi gözükmektedir. Ahşabın kendisi korunmasa da, bunları saran sert ve kaliteli harç üzerinde ahşap liflerinin izleri kalmış; kesişme noktalarında ise kirişleri sabitlemek için kullanılmış çok sayıda demir mih bulunmuştur.

Binanın dış tarafı kademeli sağır kemerler ve düzenli devam eden karmaşık tuğla desenleri ile çok zengin bir bezemeye sahiptir. Desenler arasında tuğladan menderes hatları, zikzaklar, dama tahtası ve balıksırtı motifleri ile seramikten dört yaprak motifinin kısa sıraları yer almaktadır. Bunlar dış duvarda bir ışık-gölge oyunu etkisi yaratmıştır (Şek. 132–41, 152–54, 171–76). İç tarafında ise E Kilisesi, freskolar, renkli pencere camı, arasında EA Kilisesi'nden devşirilmiş olanların da bulunduğu taş liturjik eşyalar, taş döşeli taban ve olasılıkla bazı alanlarda *opus sectile* taban ve mozaikler ile bezenmiştir.

E Kilisesi'nde, günümüze ulaşan küçük kubbelerden birinde (Şek. 183) ve Sahte-Mahzenmezarda (Şek. 205–9) freskoların varlığı kaydedilmiştir. Kazılarda bulunan sayısız cam mozaik parçası merkezi kubbenin ve/veya apsisin mozaik içerdiğine işaret eder. İnce ve düz cam parçaları (gül rengi, sarı, uçuk mavi, siyahımsı mavi ve mor, zeytin yeşili ve yeşil renklerdeki) bazı pencere camlarının renkli olabileceğini düşündürür.

Orta Çağ'daki yeniden inşa sürecinde EA Kilisesi'nin orta nefine tekrar yerleştirilmiş olan mezarlar, E Kilisesi için de önemini korumaya devam etmiştir. Sahte-Mahzenmezardın varlığı mezarlarda yatan kişilerin önemini korunmasını sağlamıştır (Şek. 94, 95, 130, 211–13).

13. yüzyılın sonunda Sardis, Türk güçlerinin eline geçmiştir. E Kilisesi, kaba taş duvarlarla iki münferit birime ayrılmış ve batısına odalar eklenmiştir (Şek. 12, 200, 201). Pencerelerinin camsız tamburuyla mükemmel bir

beca görevi görmüş olması muhtemel ana kubbe altındaki ateşi merkez alan doğu kısmın endüstriyel amaçlarla kullanılmış olması mümkündür. Narteks ile batıdaki yeni eklentiler konut amaçlı kullanılmış gibi gözükmektedir. E Kilisesi'nin camiye dönüştürülmediği gerçeği, belki de 13. yüzyıl Sardis'inde daha büyük ve daha önemli ve iyi durumda olan başka bir kilisenin varlığına işaret edebilir. E Kilisesi, inşasından 350 yıl sonra, muhtemelen 1595'teki deprem ile tamamen yıkılmıştır.

Üslup bakımından E Kilisesi, 13. yüzyıldaki Lascaris Hanedanlığı'nın egemenliği boyunca batı Anadolu'da refah düzeyindeki kısa dönemli canlanma ile olduğu kadar, aynı dönem boyunca inşa edilen Nymphaeum Sarayı (Nif, Kemal Paşa), Alaşehir, Latmos ve Sakız Adası Kiliseleri gibi yapılar ile de ilişkilendirilebilir.

MİMARİ ELEMANLAR, MİMARİ SÜSLEME VE LİTURJİK EŞYALAR

Basit, standart geç antik formda yontulmuş çift sütunlar, baklava dilimi ve balık pulu desenleri ile bezenmiş templon levhaları ve balusterleri EA Kilisesi'nin 4. yüzyıldaki inşasına tarihlenebilir (Şek. 241–46, 286–98, 320–29). Daha özensiz hazırlanmış sütunlar, impost blokları ve kaideler muhtemelen 5. ve 6. yüzyıl onarımlarına ve eklentilerine ithaf edilmelidir, fakat bunların kontektleri hala tam olarak belirlenememiştir (Şek. 222–24, 228–36, 247–53). Geçmeler, kemerler, geometrik desenler, haçlar ve palmiyeler gibi tipik Orta Çağ motifleri içeren sütünce başlıkları, templon levhaları, ve söve blokları, EA Kilisesi'nin muhtemelen 9. yüzyıl Orta Çağ'ındaki yeniden inşasında yapılmıştır (Şek. 307–13, 333–51). 13. yüzyılda, 9. yüzyıl templonun parçaları ile birlikte yeni parçalar erken üslupların taklidi olarak yontulmuş (Şek. 352–54) ve E Kilisesi'nin templonunda kullanılmıştır.

EA VE E KİLİSELERİ İLE İLİŞKİLİ MEZARLAR

EA ve E Kiliselerinin içinde ve çevresindeki alanda, EA Kilisesi'nin tabanı ve terk edilmiş duvarlarının içine açılmış yüzden fazla mezar bulunmuştur. Bu mezarların çoğu ile kuzeyde Künkler Yolunun içerisinde bulunan mezarlar EA Kilisesi'nin son evresi ve E Kilisesi ile ilişkilidir (Şek. 3).

Mezarların birçoğu basit çukurlardır; taş ve tuğla ile çevrelenmiş ve örtülmüştür. Ancak çevrelenmemiş veya kapakları olmayanlar da vardır. Mezarların bir kısmında, ahşap tabutların varlığına işaret eden bir dizi çivi bulunmuştur. Kemikler genellikle iyi korunmuş durumda değillerdi ancak iyi durumda bulunanların başları batıda sırt üstü durumda ve gövdeleri kilisenin hizasını takip etmekteydi. Kolları göğüs veya karın üzerinde çapraz olarak birleştirilmişti. Bazı durumlarda tunç yüzük, küpe, boncuk ve düğmeler içeren definler arasında, erkek, kadın ve çocuklar bulunmaktaydı.

Bazı mezarlar sıradışıydı. EA Kilisesi'nin Orta Çağ'daki yeniden yapım aşamasında, E Kilisesi'nin Sahte-Mahzenmezarının altında bulunan iki tane ikincil definin (Şek. 130, 211-13) yakın bir yerden getirildiği gözükmektedir. Bu mezarlara erişim E Kilisesi'nden sağlanmaktaydı. Bu da mezarların şehit mezarı olduğunu düşündürmüştür. E Kilisesi'nin hemen dışında güneye doğru, bu mezarlara

komşu, içinde altın küpeler ve nefes taşından boncuk içeren bir çocuk mezarı bulunmuştur. Devşirme bir Lidya lahti, kilisenin kuzey kenarına dayandırılmıştır (Şek. 3, 130, 198, 199). Lahitte ancak bir tanesinin kalıntıları tüm olan üç birey ile dört yıldızlı tunç boncuk ve on üç çivi bulunmuştur; çiviler kireçtaşı lahtin içine bir tabutun yerleştirildiğinin kanıtıdır.

Chapter One

CHURCH EA: THE ORIGINAL BASILICA

Church EA (Fig. 1, no. 11) is located immediately west of the paved road leading south from the former Izmir-Ankara highway, up the Pactolus valley, to the expedition compound and the Temple of Artemis (Fig. 1, no. 17). The excavation sector in which the church is located is designated Pactolus North (PN; Fig. 1, no. 10), and includes, in addition to the Church complex, an excavated late Roman villa and, at a lower level, Lydian structures, both situated west and northwest of the church foundations. The Pactolus River lies about 100 m west of the church complex, flowing down from Mount Tmolus south of Sardis toward the Hermus River in the plain north of the city. The site is located on the lower slopes of the Acropolis, which rises to the southeast; the rather extensive accumulation of earth that covered the PN sector, in large part from these slopes, was no doubt augmented by earthquakes as well as rainfall. The ground level at the start of excavation was approximately *93.00–91.80.¹

At least the western part of the nave of Church EA appears to have been constructed on land that had not been occupied for an extended period. The remains of Church EA were covered by the ruins of Church E and by late medieval, probably Turkish, village houses that continued beyond the confines of the church complex particularly to the north and west. A late Roman street, the “Street of Pipes,” next to the church complex on the northwest, appears to have connected the area with a gate in the city wall, located about 200 m to the northeast (Fig. 1, no. 8); Church EA was laid out to be approximately parallel with this street (Figs. 2, 3).

1 SFR Del Chiaro, 1962 Mid-Campaign, 1. Elevations for the excavations at Sardis are indicated by an asterisk (*).

1 Architectural Remains

The core of the Church EA building complex, and its earliest element as far as can be determined at present, is a basilica with a single apse, a nave, two aisles, and a narthex (Figs. 2–4).² The excavated portions of the basilica include the apse, the north aisle, the west part of the nave, and the north part of the narthex. None of the walls are preserved more than about 1.30 m above the original floor level of the church (Figs. 14–16).

Large areas of Church EA could not be studied because various obstacles preclude further excavation in the foreseeable future. The paved road to the Temple of Artemis skirts the southeast side of the site; a village road cuts diagonally through the narthex; and Church E occupies the chancel area, the nave, and parts of the north aisle.

1.1 Floor Plan

It is possible to reconstruct the major features of the floor plan of Church EA in spite of the lacunae (Fig. 4). The building is oriented with its apse approximately, but not exactly, toward the northeast.³ On both the interior and exterior, the apse is

2 The excavations were published in: Hanfmann, “Sardis 1962,” 13–22; Hanfmann and Detweiler, “Sardis 1962,” 28–29; Hanfmann, “Sardis 1963,” 14–24; Detweiler and Mitten, “Sardis, 1963,” 12–14; Hanfmann, “Sardis 1972,” 60; Greenewalt, “Sardis 1972,” 17–19; Hanfmann, “Sardis Campaign 1973,” 33–41; idem, “Sardis 1973,” 20–21; idem, “Sardis 1975,” 116–17; Greenewalt, “Sardis 1975,” 50; Hanfmann, “Roman and Late Antique,” 26, n. 37; Buchwald, “Church E”; idem, “EA and E”; Kraabel, “Synagogue,” particularly 69–71; Scott, “Sardis,” particularly 75–77, 82–84.

3 The descriptions below ignore the divergence from the exact compass points and assume that the apse is in the east. The north wall of the church is oriented 73.467° east of north. The latitude and longitude of Church EA (roughly at its center) is 38°29' 11"N, 28°2' 7"E.

semicircular in plan; it is reinforced on the exterior by heavy buttresses that were apparently intended to counteract the thrust of the apse vault. The long sides of the buttresses were built at an angle of about 120 degrees with respect to the east walls of the church, and their short sides are at right angles to their long sides. All extant walls are flat on the interior and exterior: pilasters, engaged columns, and blind arcade articulation were not used in the construction of the church. Thus the building must have had a simple and geometrically pristine character.

Doorways that must originally have led directly into the church from the exterior are preserved in the east and north walls of the north aisle and near the north end of the narthex west wall. Doors connecting the narthex with the nave and the north aisle were also found. No evidence of windows was uncovered.

The exterior length of the church including the apse is 40.93 m.⁴ If the church was symmetrical about its east–west axis, then its exterior dimensions, excluding the apse, are 21.09 × 36.35 m. The overall interior dimensions of the church, excluding the apse and narthex, are 19.29 × 29.05 m. The nave width, measured to the edges of the stylobates that supported the nave colonnades, is 9.55 m. The distance between the axes of the colonnades is 10.17 m. The interior north aisle width, measured to the edge of the stylobate, is 4.25 m. The dimensions of the north aisle, measured between the axis of the colonnade and the axes of the walls, are 5.01 × 29.95 m. The interior width of the narthex is 4.85 m. The inside radius of the apse is 3.65 m, and the long sides of the apse buttresses measure 3.20 m.

All of the walls, including the foundation underneath the stylobate of the nave colonnades, are uniformly 0.90 m thick, with the exception of the apse wall, which is 0.93 m thick. The stylobate of the nave columns, which is 0.62 m wide, is not centered on the underlying foundation wall, but rather is flush with the nave side of the foundation.

Although later modifications have obscured the original width of the door between the nave and the narthex on the major axis of the church, it was probably about 2.34 m wide. The north door in the west wall of the narthex is 1.73 m wide, and the door between the narthex and the north aisle is 1.36 m. The two doors in the north wall of the north aisle are each 1.15 m wide, and the width of the door in its east wall is 1.10 m.

4 In the descriptions below the *width* is the shorter dimension and the *length* the longer dimension of each unit, regardless of how it is related to other components. Owing to the poor preservation of the remains, inaccuracies in the construction, and the roughness of the masonry, all dimensions are approximate and may vary several centimeters depending upon where and at what level the dimension was measured.

Most of the chancel features are located underneath Church E⁵ and remain unexcavated. However, the partially excavated, well-constructed masonry, perhaps with faces on its north side (0.90 m north of the main axis of Church EA) and on its east side (1.80 m west of the chord of the apse) could be the foundation of the church's altar. The top of this masonry is at *89.39, about 0.20 m below the level of mosaic floor of the nave; its maximum excavated dimensions are 1.50 × 0.70 m.⁶ If the masonry was the foundation of the altar it may have measured about 1.80 × 1.80 m;⁷ however, the masonry could predate Church EA and have been leveled before the construction of Church EA.

1.2 Proportional System

The major dimensions of Church EA can be reduced to simple arithmetic proportions (Fig. 17, Table 6). The ratio 1:2 was used to relate the width of the aisle to the width of the nave, measured to the axes of the walls and columns, and the width of the church to its entire length, including the narthex and apse, measured to the axes of the walls. The ratio 1:3 related the width of the nave to the length of the nave. The ratio of the interior width and length of the narthex is almost 1:4. The ratio 2:3 related the width of the church to its length, measured to the axes of the walls and excluding the apse and narthex. The ratio 3:4 related the length of the nave to the length of the church, including the apse and narthex, measured to the axes of the walls. Thus, the church was apparently planned with dimensions related to the proportions of the harmonic scale, 1:2:3:4.⁸

5 Chapter 4, below.

6 A segment of north–south wall with its top at approximately the same level was located slightly farther east, Fig. 3; SFB 1973 PN/E V, 109.

7 Kirsch and Klauser, "Altar," 336–43, and Wessel, "Altar," for locations and forms of altars of the period; also Wieland, *Altar*; Braun, *Altar*; Peschlow, "Altar."

8 Table 2 and section 1.3, below, for the dimensions and the discrepancies between the measured and the apparently ideal dimensions. The discrepancies between the dimensions and the ratios are usually small and may be explained by lack of precision in measuring techniques and construction technology at the time of construction. Similar discrepancies between designed and actual dimensions are common in contemporary buildings, even though measuring techniques and construction practices are far more sophisticated. While initial dimensions appear to have been measured in feet (for instance the axial length of the nave), the possible use of ropes to derive other dimensions could have caused further discrepancies. Section 5.2.2, below, for the ratio that may have regulated the height of the Church EA nave, 3:4. For general discussions of the harmonic scale and its use in architectural proportions, and extensive further references, see particularly Kayser, *Harmonik*, 98–119, 243–304; Wittkower, *Architectural Principles*, passim; Padovan, *Proportion*, 40–79; Narudi-Rainer, *Harmonie*, particularly 11–25; Kidson, "Proportions"; Musgrave, "Proportions"; Langhein, "Proportion." Section 5.2, below, for comparable evidence and further discussion of the proportions of Church EA.

1.3 Unit of Measure

The unit of measure used in the construction of Church EA may be deduced from the thickness of most walls, 0.90 m, and the length of the nave, measured to the axes of the walls, 29.95 m. These dimensions indicate that the builders of the church used a foot of 0.30 m, giving the nave, measured to the axes of the walls, a length of 100 feet (Table 2). Based on these dimensions, the ideal axial width of the nave would be one-third the length of the nave (34 feet) and the ideal axial width of the aisles one-sixth the length of the nave (17 feet). The total axial width of the church would be two-thirds the length of the nave (67 feet).⁹ The divergence between these ideal dimensions and the measured dimensions is 0.17 m for the width of the nave, 0.01 for the width of the aisles, and 0.19 for the width of the church. Other units of measurement could have been used in the design of Church EA, but do not fit its dimensions as well;¹⁰ Table 2 provides comparisons between the dimensions of Church EA employing a foot of 0.30 m, and the Roman foot of 0.296 m given by Robertson.

9 These dimensions are given in whole feet, assuming that fractions or subdivisions of the foot (dactyle) were avoided in the initial layout of the building.

10 Here, too, the limitations in the accuracy of dimensions, as noted in ns. 4 and 8, above, must be considered. In early Byzantine buildings, distances between “parallel” walls measured at different heights or locations seldom provide the same dimensions. According to Underwood, “Measure,” court architects during Justinian’s reign preferred basic dimensions in units of ten feet, each foot measuring 0.315 m, although a foot of 0.309 or 0.320 was apparently also used. Underwood goes on to suggest that in basilicas the clear distance between colonnades provides the basic dimension from which others can be derived. Dimensions that fail to meet all of Underwood’s criteria are obtained if his observations concerning sixth-century buildings are applied in detail to Church EA. Schilbach, *Metrologie*, 13–17, provides examples of the Byzantine foot that differ somewhat from building to building; idem, “Masssystem”; idem, “Measures,” suggests that the Byzantine foot measured 0.3123 m during and after the reign of Justinian I. In most examples, Schilbach uses the same method to obtain his dimensions for the Byzantine foot that we have applied in Church EA. See also Restle, *Kappadokien*, 89–135; Robertson, *Architecture*, 149, for the Roman (or “Attic”) foot of 0.295 or 0.296 m, which is much closer to that used in Church EA than the foot that may have been used during the reign of Justinian; ibid., 149, 154–56, for the use of axial, rather than clear dimensions in Hellenistic temples; Hellenkemper, “Baumass,” for a critical review of previous metrological scholarship and its divergent conclusions, as well as arguments for the frequent use of the Roman foot (0.2942 or 0.296 m) in the early Byzantine period and discussion of a straight vertical line 0.586 m long incised into the wall of a church in Cilicia Trachaea, which Hellenkemper interprets as a bipedal construction line, leading to the conclusion that a (Roman) foot measuring 0.283 m was used in the design of the church. As Underwood points out, because of limitations in measuring techniques and building materials, accuracy greater than about one-half foot was seldom achieved and, therefore, the definitive determination of the measuring unit used is almost impossible. These observations, and the poor preservation of most buildings, clearly speak against the kind of accuracy assumed by many scholars of Byzantine metrology.

1.4 Nave Supports

The available evidence for the supports of the nave permits conflicting interpretations. The stylobate preserved no evidence regarding the form of the nave supports or their interval. Only two of the 21 column bases found in the excavations have plinths whose dimensions are appropriate to the width of the stylobates.¹¹ These two bases were not found in situ and could have been brought to the site at any time. Their dimensions indicate that they would have supported columns with a maximum diameter of about 0.50 m. Assuming proportions between 1:6 and 1:8, the columns of the nave colonnade would have had a height of about 3.00–4.00 m;¹² such columns could have supported capitals with a diameter of 0.50 m if the shaft lacked taper, and somewhat less if the shaft was tapered.¹³ However, of the 31 column shaft fragments found in the excavations, only one approximately fits these dimensions.¹⁴ Furthermore, not a single appropriate capital was found among the various carved architectural elements excavated in the PN sector. Thus the excavated remains offer only minimal evidence that the nave colonnades consisted of standard columns and capitals.

The possibility that double-engaged columns served as nave supports in Church EA must also be considered, because similar solutions are used in other churches in Asia Minor. Nine double-engaged column fragments that were found in the excavations may be attributed to Church EA, but their original deployment in the church is uncertain.¹⁵ The dimensions and detailing of some of these fragments indicate that their use as window mullions is unlikely. Since they differ somewhat in size, the columns may have been used in different locations—but the differences in size are not sufficiently distinctive to make this explanation compelling. The double-engaged columns attributed to Church EA could have been used as supports both at the nave level and the gallery level. If, at nave level, they are reconstructed with heights between about 1.60 and 2.00 m,¹⁶ they must have supported an arched, rather than a trabeated system to provide adequate headroom

11 Chapter 5, bases 1.1.1, 1.1.2 (Figs. 220, 221).

12 Section 5.2.2, below, for further evidence concerning possible column heights.

13 Chapter 5, section 2, for column taper.

14 Chapter 5, column 2.1.3.

15 Chapter 5, section 3, for descriptions and function of the double-engaged columns associated with Church EA; section 5.7.1, below, for comparable examples and further discussion.

16 Based upon the proportions of well-preserved double-engaged columns from other buildings at Sardis and Miletos, typical low reconstructed heights of the EA double-engaged columns range from about 1.03 to about 1.79 m; however, the lowest reconstructed heights are unreasonable as nave supports and the range should be limited to columns reconstructed with heights between about 1.60 and 1.79 m.

at the clerestory wall between the nave and side aisles. However, some of the double-engaged columns may also be reconstructed with heights up to about 3.27 m.¹⁷ At any rate, their heights may have been augmented by pedestals or imposts—although no suitable remains of such features have survived. The archaeological evidence suggests that if double-engaged columns were used at the gallery level, they may have been positioned on parapet walls, a solution that is unusual but possible.

2 Construction

2.1 Walls

Since neither joints nor fissures were found in the excavated walls of the basilica, except near the bottoms of the apse buttresses, the church and narthex were constructed in a single building campaign.

The construction of the walls is the same throughout the basilica, except in the apse (Fig. 4). The walls are built of mortared rubble faced on both sides with about 0.20 m of untrimmed or slightly trimmed rounded field or river stones, and with occasional marble blocks (Figs. 18, 19, Masonry Type A-1, Tables 3, 4).¹⁸ The maximum dimension of the stones usually ranges from about 0.06 to 0.20 m, although large, irregularly worked stones are used in the foundation of the northeast corner of the north aisle. In some areas, for instance, under the north wall of the church, Masonry Type A-1 continues unaltered to the bottom of the foundation (Fig. 18). The appearance of the masonry on interior and exterior surfaces usually differs. On exterior surfaces, the stones are very carefully ordered and laid in horizontal courses; each course is built of stones that are roughly the same in size, and courses of relatively flat stones usually alternate with courses built of larger, rounded stones. Variation in the colors of the stones is exploited to give the masonry a rich and attractive polychrome effect that is best preserved on the north face of the north wall of the church (Fig. 18). The courses are often not as neatly ordered on the interior wall surfaces, and roughly worked ashlar is more common there than unworked field and river stones (Fig. 19); in some places, however, the interior wall surfaces are similar in appearance to the exterior.

The mortared rubble core is composed almost entirely of untrimmed field or river stones similar to those used in the facing: spoils, bricks, and ashlar seem not to have been

used. The mortar is fine grained and hard and contains little or no crushed brick except in the rubble core.

2.2 The Apse

The masonry of the apse differs from that of Type A-1 primarily in that three courses of brick were used at a level about 0.90 m above the original church floor (Figs. 4, 14, 20, Masonry Type A-2; Tables 3–5). Masonry of the same character as Type A-1 was used above and below the brick courses, and large field stones were used at both ends of the apse. The brick courses are not used as a facing; they run through the entire thickness of the wall. The buffish-pink bricks, very regular in size and color, do not appear to have been reused. The size of the full bricks is 0.07 × 0.36–0.37 × 0.36–0.37 m; half-bricks manufactured in that size were also used (Table 5). The bricks are laid with their vertical joints very approximately one-third of a brick length to the right of the vertical joints below them, although near the center of the apse on the exterior the joints are occasionally centered over the brick below. The mortar is the same as in Masonry Type A-1, and the mortar joints, which are usually 0.03–0.04 m high, are slightly raked. The height of all three brick courses together is 0.30 m.

The foundation beneath the apse is built of uncoursed stones. The bottom of the apse foundation is at *88.20–*88.13, about 1.40–1.50 m below the level of the church floor.¹⁹ The masonry of the apse buttresses is not joined to that of the apse in its lowest portions. Thus the buttresses could have been added after construction of the apse wall began. However, although the buttresses may not have been included in the original design, they must have been added early during the construction of the apse: their masonry is bonded with that of the apse at a level only slightly above the original church floor.

2.3 Stylobate

The stylobate was constructed of reused well-squared marble blocks 0.62–0.64 m wide and 0.15–0.20 m high (Fig. 21). The upper surface of the stylobate was about 0.15 m above the level of the original floor.²⁰ It contained no slots for holding closure slabs. The occasional, irregularly spaced dowel holes in the upper surface of the preserved stylobate cannot have been used to stabilize the columns of the basilica; they probably relate to earlier uses of the blocks. The short side of one of the stylobate blocks is carved with an egg-and-dart ovolo and a bead and reel (Fig. 22). The stylobate may have been revetted.²¹ The stylobate blocks rest

17 Based upon the slender proportions of well-preserved double-engaged columns probably used as gallery supports in the Temple Church at Didyma, typical reconstructed heights of the EA double-engaged columns range from about 2.71 to about 3.27 m.

18 Chapter 2, section 10, particularly 10.8, for a summary and explanation of masonry type designations; the designations do not necessarily indicate chronological sequences; they frequently reflect the sequence in the text.

19 SFB 1973 PN/E I, 81, and II, 167.

20 Hanfmann, "Sardis Campaign 1973," 35.

21 Chapter 2, section 9.2, for the evidence; no remains of revetment were found.

on a mass of mortar and flat stones 0.10–0.15 m high that is as wide as the stylobate; this mass rests on the foundation wall, which is constructed of uncoursed mortared rubble and stones. As noted above, the stylobate is flush with the nave side of the wider underlying foundation. The bottom of the foundation of the south stylobate near the west end of the nave is at *88.35–*88.24, about 1.25–1.36 m below the level of the original mosaic floor.²²

2.4 Thresholds

The threshold of the central door between the nave and narthex was made from a classical spoil, apparently a cornice (Fig. 23). The top of the threshold was just above the level of the original church floor (*89.61).²³ Two cavities, 0.15–0.17 m square, intended to hold door jambs, doorposts, or the sockets of door pins, are located 2.34 m apart at both ends of the threshold, indicating that each door leaf was about 1.17 m wide. A small cavity, 0.02 × 0.03 m, located slightly north of the center of the threshold probably held a vertical locking bar. Deep curved grooves in the upper surface of the threshold indicate that the doors opened inward and probably ran on wheels. A marble threshold was also found in the north doorway in the west wall of the narthex; however, since the top of this threshold was somewhat higher than the Church EA floor, it may not have been located in that doorway originally (Fig. 24).²⁴ The other doorways in the original basilica did not contain stone thresholds when they were excavated. At least some of the doorways may have contained a narrow threshold, since the mosaic floor continued around the revetment doorframe into the doorway in the east wall of the north aisle.²⁵

3 Interior Decoration and Furnishings

3.1 Marble Wall Revetment In Situ

Fragments of profiled marble revetment door frames were found in situ on both interior jambs of the west door in the north wall of the north aisle, as well as on the south interior jamb of the door in the east wall of the north aisle (Figs. 25–27, 92). All three fragments are carved with the same profile and are made of the same marble.²⁶ When excavated, the profiled door frames on both sides of the west door were flanked by simple but

plastically conceived vertical moldings that extended the profiles of the revetment door frames.²⁷

Other remnants of the original marble revetment were found in situ on the lower walls of the church (Figs. 28, 29, 33). The dado consisted of marble plaques of almost uniform size, 0.015 m thick; remains of two courses, 0.22 and 0.24 m high, are preserved. The revetment seems to have been entirely flat, without paneling or other plastic articulation, and the marble has no veining. These characteristics are consistent with the clear, simple floor plan and unarticulated walls of Church EA.

The marble plaques were set in a thick bed of mortar that was made with crushed and broken brick and tile chips as aggregate. The mortar surface was grooved in order to create a better bond between the mortar and the revetment plaques. Similar marble plaques left clearly discernible imprints in many areas of the north and east walls of the north aisle (Fig. 28); a number of iron pins for fastening the revetment were attached to the wall in the same areas.

3.2 Other Carved Elements and Stucco Decoration

None of the other numerous carved marble elements found in and near Church EA can be attributed with certainty to the initial construction of the church.²⁸ Two curved cornice pieces could have been created for the apse of Church EA.²⁹ Two pieces with moldings could have been used at the edge of the bema, one where the bema met the apse,³⁰ and the other where the bema met the solea (if one existed);³¹ however, the dimensions of these two pieces are not compatible with each other, and no dowel holes or slots for closure slabs or pillars are cut into either of these fragments. Pedestals that were found in the excavations could also have been created for or reused in Church EA.³²

The nine fragments of doorjambs found in the excavations belonged to at least four different doorways, each of which had a somewhat different profile.³³ The use of simple but classically conceived profiles on four of the jamb pieces suggests that these jambs may have been produced for the initial construction of Church EA.³⁴ Their decorative

22 SFB 1973 PN/E IV, 25; Hanfmann, "Sardis Campaign 1973," 35.

23 Hanfmann, "Sardis Campaign 1973," 35.

24 Chapter 3, section 3.2, for evidence that the floor of the nave was raised about 0.16 m during an unknown period after the medieval reconstruction of Church EA and chapter 3, section 3.1, for medieval changes to the narthex.

25 Section 3.3.1, below, for the mosaic floor.

26 Chapter 5, section 5.1.

27 Chapter 5, moldings 5.3.4–5.3.6 (Figs. 268–72); which of these moldings—which are very similar in form and dimension—originally flanked the revetment door frames is unknown.

28 Chapter 5 for detailed descriptions of all carved pieces that may be related to the church. See also section 1.4, above, for a discussion of column bases, shafts, impostes, and double-engaged columns.

29 Chapter 5, moldings 5.2.5, 5.3.3 (Figs. 261, 267).

30 Chapter 5, molding 11.6 (Fig. 362).

31 Chapter 5, molding 11.9 (Fig. 366).

32 Chapter 5, pedestals 11.2–11.4 (Figs. 114, 122, 359, 360).

33 Chapter 5, doorjambs 6.1–6.9 (Figs. 275–85).

34 Chapter 5, jambs 6.1–6.4 (Figs. 275–78), section 5.7.3, below, and chapter 2, section 11.3.

profiles would have faced the exterior, with the doors opening inward. The width of these jambs (0.175 m) would have reduced the clear openings of the north aisle doors to 0.75 and 0.80 m, rather narrow dimensions for entrances into a monumental building; if the jambs were used in Church EA, it was most probably in the wider doorways of the narthex. However, the doorjambs could also have been brought to the site from elsewhere.

Fragments of richly modeled plaster ornamentation, including a vine scroll and an outlined cross with splayed arms, were found in the fill inside the apse of Church EA (Figs. 30, 31). Since it is not possible to recognize a broad decorative context or a distinctive stylistic character in the extant fragments, this ornamentation cannot be linked with certainty to the initial phase of Church EA; it could have been added during a repair or renovation of the church or during the extensive medieval reconstruction.

The original chancel barrier of the church was probably U-shaped in plan. The remains of pillars and closure slabs found in the excavations, along with the evidence provided by comparable barriers in other churches, allow for an approximate reconstruction of its appearance.³⁵ Carved elements associated with the barrier include three fragments of chancel barrier pillars and one pillar that is almost fully preserved.³⁶ Each of these pillars is decorated with a simple horizontal profiled molding at the top and bottom,³⁷ and one is also carved with a cross on the front face. One pillar was designed for use next to an opening, two pillars were designed for use at right and left hand corners, and one was designed for use between two aligned closure slabs.

Of the many fragments of closure slabs found during the excavations, several dozen pieces of at least five slabs should probably be associated with the original construction phase of Church EA. These fragments are decorated with lozenge and scale patterns in openwork and in relief; their borders are the same as those of the pillars and they may be attributed to the same chancel barrier.³⁸ Fragments of one or two smaller pillars and of seven closure slabs carved with crosses³⁹ may have been created for the initial construction of Church EA, but it is more likely that these pieces were carved for a later repair or renovation, or for another location in the church complex.⁴⁰ Church EA probably had an ambo, a ciborium,

and perhaps a solea, but no trace of them has survived.⁴¹ While no carved pieces that can be attributed to the altar were found, a foundation that may perhaps have supported the altar was located in front of the apse.⁴²

3.3 Floor Mosaics

Remains of the mosaic floor of Church EA were uncovered in the north aisle and in the narthex; small fragments were also found in the west part of the nave.⁴³ The mosaic floor rests on a subfloor of two distinct cemented layers. The lower layer, which is 0.04 m thick, is quite coarse, and its admixture of stone chunks with crushed brick has a strong pinkish color. The upper layer, which is 0.03 m thick, is much finer and harder, with less crushed brick aggregate; it is almost white in color. The subfloor rests on a layer of flat stones and broken bricks 0.12 m thick, which rests on rather clean earth fill.

Remains of a somewhat similar subfloor were found in the apse: it consisted of gray cement, 0.07 m thick, on a stone bedding 0.13 m thick, with a layer of smaller stones, cemented earth, and brick pieces 0.15 m thick below. The top of this cement subfloor in the apse is at *89.70, about 0.13 higher than the mosaic floor near the east end of the north aisle, and 0.10 higher than the mosaic floor at the west end of the nave, suggesting that the floor of the chancel area was raised above that of other areas by a low step.⁴⁴ Since the subfloor and the mosaic tesserae abut and cling to the stylobate, the marble wall revetment plaques, and the marble revetment door frames, all of these furnishings must have been in place before the mosaic floor was installed.

3.3.1 The North Aisle

The north aisle contains the most extensive mosaic floor surface uncovered in Church EA and its ancillary facilities (Figs. 3, 32). It is preserved, with a width of up to 3.00 m, along the entire north wall, for a length of 29.05 m. The floor level ranges from *89.63 near the west door in the north wall to

35 Chapter 5, section 10.2, for a reconstruction of a chancel measuring approximately 8 m (north–south) by 7 m.

36 Chapter 5, pillars 8.1–8.4 (Figs. 320–29).

37 The bottom is preserved only on one pillar.

38 Chapter 5, closure slabs 7.1–7.5 (Figs. 286–98).

39 Chapter 5, closure slabs 7.6–7.12 (Figs. 299–306), pillars 8.5, 8.6 (Figs. 330–32).

40 Chapter 5, section 10.2.

41 Chapter 5, molding 11.9 (Fig. 366), possibly from a solea. See Sodini, “Dispositifs,” 448–51, for soles and ambos in Greece and the Balkans; *ibid.*, 451, points out that the solea is rare on the coast of Asia Minor but was used in the church of St. John at Ephesos. A ciborium is mentioned in the Temple Church at Aphrodisias (Cormack, “Temple,” 82: it is unclear if remains were found). The solea found in situ in the Lower City Church at Amorium is medieval but could have replaced one of similar form in the earlier church (Lightfoot and Ivison, “Amorium 1995,” 293–96). Remains of a ciborium and ambo, but not of a solea were recorded in the Temple Church at Didyma (Knackfuss, “Heiligtum,” 33–35, Zeichnungen pl. 3); see Peschlow, “Didyma,” 236–49, for ambo fragments from Didyma, and comparable examples in Asia Minor and elsewhere; also Delvoye, “Ambo.”

42 Section 1.1, above.

43 Section 5.8, below, for comparanda.

44 SFB 1973 PN/E I, 47; SFR Hanfmann, 1973, 15, 17.

*89.57 in the northeast corner.⁴⁵ As far as can be determined by the preserved areas, the mosaic has a primarily geometric composition. Three continuous, relatively wide borders provide a frame, with the inner border crossing the aisle to divide the central surface into at least five panels. The outer border consists of a grid with superimposed pitched squares; the second border is a vine scroll; the inner border is a meander (Figs. 33–35). The eastern and western panels are so poorly preserved that their designs cannot be determined. The second panel from the east contains a pattern of circles and leaves (Fig. 34), the third panel is decorated by superimposed circles and squares (Fig. 35), and the fourth consists of an interlace pattern of circles and a diagonal square grid (Fig. 36). Because the preserved mosaic decoration occupies two-thirds the width of the north aisle in some areas, it is unlikely that significantly different motifs existed in those portions of the north aisle floor that were either not preserved or not excavated.

The mosaic, which was executed in irregularly cut, often square, tesserae 0.01–0.015 m on a side, is brilliantly colored.⁴⁶ The predominant colors are black, white, gray, blue, blue gray, yellow, bright yellow, brown, brown black, pink, and red; the numerous red tesserae are made of red porphyry, a material not usually found in Sardis mosaic floors. The quality of the workmanship is consistently high, and details are carefully conceived and executed.

The outer border fits tightly against the revetment of the north and east walls and turns the corner at the east wall. The border probably turned the corner at the west wall, as well; however, the tesserae in the northwest corner of the aisle are lost. The border pattern is composed of a square grid formed by a single row of brown black tesserae upon which polychrome pitched squares are superimposed (Figs. 33, 35, 36). In some areas the pitched squares meet at the intersections of the square grid and become a second, diagonal grid, while in other areas the pitched squares are slightly smaller and do not meet. The colors of the pitched squares are blue and white in alternation, and brown and white in alternation. The background of triangles between the square grid and the pitched squares is white, but it is gradually shaded gray in the areas with the larger pitched

squares. The great care used in the execution of the mosaic is demonstrated by the fact that all of the tesserae are almost square, nearly equal in size, and oriented with the church, creating regular, stepped edges at the diagonals.

Like the outer border, the middle border runs the entire length of the north aisle and continues along the east and west walls. It is composed of a vine scroll with heart-shaped leaves that alternate in orientation (Figs. 33, 35, 36). The leaves' main axes are perpendicular to the wall except at the northeast corner, where the leaf is placed on the diagonal. The main vine stem and the leaf edges consist of two rows of black tesserae; the stems that join the leaves and the tendrils extending from each leaf are delineated with a single row of black tesserae. The subtle shading within the leaves varies from light yellowish buff to dark brown. The background is white, and its tesserae follow the curves of the leaves and the vine. The pattern fits tightly into the space, leaving only one or two white tesserae at the edge.

The more poorly preserved inner border turns to cross the aisle and frame the central panels (Figs. 35, 36). It is composed of a swastika meander of three rows of black brown tesserae enclosing rectangles and squares, each of which contains two concentric lozenges. The background and the larger inset lozenges are white.

Only small fragments of the central panels are preserved. The second panel from the east⁴⁷ is composed of white tangent circles on a dark background (Fig. 34). Inside the circles, heart-shaped leaves made of dark tesserae are positioned along an east–west axis, tip to tip and back to back. Above each leaf is a small pelta in dark tesserae, and at the top of each leaf is a small cross pattern executed in light tesserae.

The third panel is very fragmentary, but the remaining portions of one row of tangent white circles probably provide the pattern of the entire panel (Fig. 35). Each circle encloses a polychrome lozenge within a dark square. Small white squares that contain still smaller concentric dark squares are placed between the tangent circles. White tesserae fill the space between the large dark squares and the inside edges of the circles, and dark tesserae fill the space between the small white squares and the outside edges of the circles. The resulting complex pattern of superimposed circles, squares, lozenges, and bands produces a carefully conceived, subtle, visually ambiguous play of figure and ground.

The fourth panel is composed of a diagonal grid and interlaced circles (Fig. 36). These alternating large and small circles are formed of five rows of tesserae (black, two brown, white, black). The large circles are interwoven with

45 Ms62.4. Partially excavated in 1962 (Hanfmann, "Sardis 1962," 15, 18, 20–21) and described by William Kohler (*ibid.*, 28); the designation "Long Mosaic Unit" (LMU) was used because the building was not identified as a church until 1973. The east part was excavated in 1973 by G. M. A. Hanfmann, who dated the mosaic to the fourth or early fifth century on stylistic grounds: Hanfmann, "Sardis Campaign 1973," 37–40; Buchwald, "EA and E," 197, fig. 290. SFR Majewski, 1973, identifies the materials of the tesserae. In 1980 only the area near the west doorway in the north wall was reexposed (SFR McLaughlin, 1980).

46 The technical descriptions, and particularly the colors of the mosaics, are partially based upon SFR Majewski, 1973, 4. I am grateful to Jane Ayer Scott for her help with the description of some of the mosaics, which I was unable to inspect.

47 The first panel was destroyed by the insertion of medieval graves in the east end of the north aisle.

the diagonally positioned square grid formed of four rows of tesserae (two inner rows polychrome—blues, yellows, browns—outlined with brown black). The grid divides each large circle into four segments that have a brown background outlined with two rows of white tesserae. The same color scheme is used for the areas between the circles. In the small circles, a white circle encloses a brown center.

Only the northwest corner of the westernmost panel is preserved. There a white circle is tangent to a lunette next to the meander border; within the circle is a square framing a curvilinear motif. At the corners are concentric squares.

3.3.2 The Narthex

A mosaic floor is preserved, at a level of approximately *89.50, in the northeast corner of the narthex and in an area near the north door from the narthex to the atrium (Figs. 3, 37–39, Table 1).⁴⁸ Repairs made with reused inset marble revetment pieces now obscure the original pattern near the atrium door;⁴⁹ later graves also destroyed portions of the design.⁵⁰ The mosaic fragments permit a reasonably reliable, if still incomplete, reconstruction of a large circle containing elements of square frames, wave crest, and interlace within a rectangular panel that is framed by several borders. The colors are primarily black, white, slate blue, and red porphyry. The tesserae are 0.01–0.015 m on a side.⁵¹

Portions of the outer border are preserved along the east, west, and north walls; the pattern consists of a shaded three-strand guilloche on a white ground, surrounded by black bands (Figs. 38, 39). Each strand of the guilloche is made of seven parallel rows of tesserae outlined in black; here and in all other borders of the narthex mosaic the flanking bands are made of four rows of tesserae. The tesserae of the guilloche strands are shaded from white to slate blue and red. At the walls, the outer border is framed by alternating bands of black and white tesserae. The second border is composed of a sawtooth frieze of red triangles on a white ground, next to a white band on the outside and a black band on the inside. Within this is a third border composed of a row of outlined red pitched squares on a white ground, with black bands on both sides. On the west, a fourth, inner border composed of a second sawtooth frieze may be discerned. This inner border is the same as the outer but faces the opposite direction; it is flanked by a black band on the outside and a white band on the inside.

The central panel contains a narrow frame of red and black that encloses a field with red pitched squares superimposed on a square black grid; the pattern is similar to the outer border of the north aisle but is somewhat larger in scale. In the center of this panel, approximately on the axis of the door leading into the north aisle, is a large, poorly preserved roundel. This roundel, 1.80 m in diameter, is defined by an outer circle of two rows of black tesserae outlined by one row of red tesserae, and an inner circle of three rows of white tesserae. Within the circle is a square frame, 1.20 m on each side, composed of a band of three rows of white tesserae. A two-strand guilloche, wave crest, and additional fragments of white bands and guilloche can also be detected, some on a diagonal inside the large square, suggesting that the configuration was one of squares and overlapping, pitched squares.⁵²

3.4 Wall Painting

The evidence for wall painting in Church EA consists of more than 400 fragments that were found in the fill within the apse of Church EA (Fig. 40).⁵³ These fragments of painted plaster represent a combined area no greater than two square meters. Two fragments are attached to bricks or brick fragments. One of the attached fragments is painted *a secco* with a flat tone of green earth color, on what appears to be a single layer of plaster about 0.03 to 0.05 m thick; the plaster consists of lime and fine straw filler. The second is painted *a secco* on plaster like that described above, but in two layers, bright blue on top of black; the granular, rather transparent blue has the general appearance of the pigment azurite.

More than one-fourth of all the fragments are painted in varying shades of rich blue over black, perhaps the background color for figures. Many areas of blue are modeled into light and dark tones, with purple areas suggesting folds of drapery. Other colors modeled to suggest drapery include reds with pinks and browns with purple and yellow. There are also white “pearls” on a purple field adjacent to yellow geometric forms that suggest jeweled robes.

Two distinct layers of painted decoration were applied to some fragments, indicating that the walls were repainted, at least in some areas. On the repainted pieces, a thin layer of lime plaster about 0.015 to 0.02 m thick was applied over the first fresco layer. Some fragments had a first layer

48 Ms73.2. SFB 1973 PN/E V, 87, 172–92, for the excavation of the narthex.

49 Chapter 3, section 2.3, and chapter 5, moldings 5.2.1–5.2.3.

50 SFB 1973 PN/E V, 174.

51 SFR Majewski, 1973, 4.

52 SFR Majewski, 1973, 4, describes a circle within the square that forms the border around an octagon; however, the octagon probably is the inner portion of the overlapping squares, one pitched, as described above.

53 WP72.1.1 and WP72.1.2. The descriptions of the wall painting fragments, but not the conclusions, are based upon SFR Majewski, 1973, 1–3.

of plaster, or *arriccio*, composed of lime, sand, and brick dust up to 0.04 thick. This layer apparently was applied directly to the masonry to provide a smooth surface for the *intonaco*, which was to carry the design. The thicker *arriccio* is not present on the fragments attached to bricks. The first layer could have been the original decoration of Church EA, but that conclusion is not compelling because the initial decoration could have been entirely destroyed or removed during a later renovation or reconstruction. The second layer was probably applied during a medieval reconstruction of the church.⁵⁴

4 Chronology

4.1 Numismatic Evidence

In the absence of historical or epigraphic documentation, the clearest evidence for the date of Church EA is provided by coins found in the excavations (Table 9). Coin C73.70 was found in cemented earth underneath the floor of the apse at *89.28.⁵⁵ It is an AE4 nummus of divus Constantine, probably struck at an eastern mint such as Constantinople or Antioch, on the authority of Constantius II, 347–348.⁵⁶ Coins of this type were in circulation when Constantius II reformed the billon currency in 348.⁵⁷ Coin C73.71, a billon AE3 fraction issued 348–351, was found in the bedding stones beneath the apse floor at *89.52.⁵⁸

The subfloor of the apse, in which both coins were sealed, is similar to the subfloor of the original mosaic floor at the west end of the nave, and must have been installed at about the same time:⁵⁹ there is no reason to believe that the subfloor is not part of the original construction of Church EA. The floor of the apse, in turn, must have been installed when structural work on this part of the building had been completed, because work on the floors would have been disruptive to the construction of the walls and the apse vault. The evidence of these two coins provides only a *terminus post quem* (348) rather than a precise construction date.

Other coin finds tend to support this interpretation (Table 9). C73.114, dated ca. 331–335, was found just above

the floor level of Church EA in earth between the bricks of the east wall of the north aisle.⁶⁰ Coin 73.104, dated 378–383, was found 0.20 m east of the Church EA apse, 0.25 m above the floor level of Church EA.⁶¹ C73.85 and C73.99, dated 383–392 and 393–395, were found outside the apse in earth about 0.25 and 0.40 m above the level of the church floor.⁶² One coin was directly against the east face of the apse, and the other was about one meter farther east. C73.102, dated 395–401, was found in the same area about 0.60 m above floor level, and C73.101, dated 435, was found in earth against the apse south buttress, about 0.45 m above floor level.⁶³ When the church was built, the ground immediately to the east of the church was probably at the same level as the church floor, or slightly below it: this area could be reached directly through the door at the east end of the north aisle, and probably also from the south aisle. Even though these coin findspots may be fortuitous and other interpretations are possible, the progression of levels at which these coins were found could represent the accumulation of earth in the decades following the construction of the building.⁶⁴

Similarly, coins dated to the periods 364–375 (C62.1365), 395–408 (C62.505), and 401–403 (C73.136) were found in various contexts in additions to the original building, suggesting that building activity had shifted from the construction of Church EA to the expansion of ancillary facilities by the end of the fourth century.⁶⁵

Only the two fourth-century coins underneath the apse floor were found in a sealed context. The other coin finds cannot be used to date Church EA. However, all of the coins, considered together, present a coherent sequence that suggests that the building was probably constructed during the fourth century and that construction may have been initiated as early as the 340s and completed around 350.

60 SFB 1973 PN/E III, 109. It is unclear whether the masonry belonged to the original wall of Church EA or the medieval reconstruction; if the latter, then the coin is irrelevant in this context—it was then probably in earth, probably obtained from nearby, that was used instead of mortar in this type of medieval masonry.

61 SFB 1973 PN/E II, 125.

62 SFB 1973 PN/E II, 27; SFB 1973 PN/E II, 107.

63 SFB 1973 PN/E II, 109 and 107; Hanfmann, “Sardis Campaign 1973,” 38.

64 Chapter 2, section 9.1, for another example of a rise in ground level outside Church EA, next to the north wall, with surprisingly different results; however, rate could have differed in different, even nearby locations. For soil accumulation generally at Sardis, see Olson, “Landslides,” with analyses of soil types and special cases of accumulation; Olson and Hanfmann, “Soils”; and Greenewalt et al., “Sardis 1978,” 7–15.

65 The 1962 coins are Buttrey et al., *Coins* (Sardis M7), R 583 and R 903 respectively; Hanfmann, “Sardis 1962,” 19–20. For C73.136, SFB 1973 PN/E IV, 133. Chapter 2, sections 1–8, for the addition of ancillary facilities to Church EA.

54 Chapter 2, section 9, for later renovations of Church EA, which may have included wall painting even though direct evidence is lacking; chapter 3, section 2, for the major medieval reconstruction of Church EA, and section 2.4, for its wall painting.

55 SFB 1973 PN/E I, 47; Hanfmann, “Sardis Campaign 1973,” 38.

56 SFR Hanfmann, 1973, 11–12, summarizes the coin finds discussed in this section. These coin dates are by Jane DeRose Evans, who is publishing the recent coin finds from Sardis in a forthcoming volume. I am also grateful to Clive Foss for his initial identification of these and other coins, and other support on the numismatic evidence.

57 Personal communication, Kenneth W. Harl to Crawford H. Greenewalt, Jr., dated September 9, 1996.

58 SFB 1973 PN/E I, 51; Hanfmann, “Sardis Campaign 1973,” 38.

59 Section 3.3, above, for the mosaic subfloor in the nave and apse.

4.2 Masonry

The masonry of Church EA cannot be dated by comparison with that of other, firmly dated walls.⁶⁶ At Sardis, the masonry of the city wall is similar to Type A-1, although it is not quite as regular and shows extensive patching. Still, the city wall is not reliably dated and has been attributed to periods between the third and late fourth centuries.⁶⁷ The walls of fifth- and sixth-century residential buildings at Sardis—as well as those of the Byzantine Shops—are more poorly constructed, with less regular courses, than those of Church EA.⁶⁸ These later walls are more similar to the masonry used in additions to Church EA.⁶⁹

4.3 Glass

Fragments of glass vessels were found in the stone bedding underneath the apse floor of Church EA at *89.56, not far from the coins described above.⁷⁰ They were published by Axel von Saldern and identified as two Type 1 shallow bowl

lamp fragments with out-turned rims; one Type 2 deep bowl lamp fragment with out-turned rim and attached handle; a second handle perhaps from the same vessel; the ring base of a bowl; and the folded foot of a (high?) vessel.⁷¹ When Saldern categorized these finds as “Early Byzantine” (dating from 400 to 616) in his Sardis *Monograph*, he was not aware of the mid-fourth-century coins found near the glass. Later, Saldern noted that “many of the vessel forms go on forever and ever, i.e. in this instance from the late fourth to the early seventh century. Therefore, it is quite possible to have forms 1 and 2 starting in the second half of the fourth and ending in the seventh century.” He also cited comparable examples from other excavations, including those from Cimitile “dated early fourth to sixth or seventh century.”⁷² He concluded, “This all means that glass of this sort cannot be used for precise dating.”⁷³

4.4 Pottery

Much of the pottery found during excavation was from levels above the original floor level of Church EA or from unsealed contexts. This material therefore provides no evidence for the date of the church. The western part of the nave, the north aisle, and the narthex contained medieval graves above, and occasionally below, the floor level of Church EA, making finds there unusable as evidence for the original church.

Most of the excavated material below the floor level of the nave (and below the graves that were built into the nave floor) appears to have been relatively clean fill, without sherds, down to *88.45, the approximate level of the bottom of the stylobate foundation (*88.35). Deposits that include Lydian, Attic, Rhodian, East Greek, and other sherds and pottery fragments datable to periods much earlier than the construction of Church EA were found between levels *88.50 and *87.40. These finds suggest that the church was built from the foundations up on land that had not been occupied for an extended period.⁷⁴

4.5 The Use of the Cross

Crosses are carved on two architectural pieces attributed to the original construction of Church EA.⁷⁵ One of these crosses was incised into the surface of a double-engaged column; it could, possibly, have been added after the

66 Tunay, “Tekniğine,” for a survey of Byzantine masonry in Turkey combining brick and stone. However, even though the “Summary,” 1–4, may be useful as a very general guideline, the geographic area is too large, and the provinces and buildings are too diverse, to make the conclusions useful for determining the date of a specific building; the description of fourth-century construction (p. 2) does not, at any rate, conform with the masonry of Church EA. Deichmann, *Architektur*, 21–33, traces the use of comparable masonry types from the first century to the sixth in Asia Minor and elsewhere. Ward-Perkins, “Structure,” for a review of building materials and methods in Constantinople and Asia Minor during the early Byzantine period. See also Ousterhout, *Builders*, 169–73. Reusche, “Sichtmauerwerk,” includes early examples from Istanbul and Thessaloniki. See Hill, *Cilicia*, 11–13, for a review of roughly contemporary construction techniques in Cilicia and Isauria, some very generally similar to those of Church EA; and Folk and Valastro, “Radiocarbon Dating,” for a description of mortar composition and production and an experimental attempt to chemically date mortars of the same general period. Construction forms in Greece, Istanbul, Cilicia, or Macedonia need not be relevant to buildings in western Asia Minor, and even at relatively nearby sites local conditions may be responsible for masonry techniques that differ from those used at Sardis during the same period.

67 Hanfmann and Waldbaum, *Survey* (Sardis R1), 35–52, for the primary publication of the city wall and fourth-century comparisons; Foss, *Byzantine and Turkish Sardis* (Sardis M4), argues for late third century based on the construction of similar city walls in other cities in Asia Minor during a period of incursions and invasions. Ramage, “Sardis 1971,” 31, fig. 21, gives dates either in the mid-third or the mid-fourth century. Hanfmann, *SPRT*, 140, favors 350–400, and 194, suggests that the wall and the “Christian quarter” in which Church EA is located are contemporary. See Yegül, *Bath-Gymnasium* (Sardis R3), 37–44, fig. 74, for a parallel example, an east–west wall in LNH-1, a room in the corner of the Marble Court of the Bath-Gymnasium. The masonry is similar to that of the Church EA apse (Type A-2), with bands of brick courses that extend through the wall; however, the date of this masonry is unknown and it is attributed to Phase IIa, between the late third and late fifth century.

68 For instance, Rautman, “Townhouse”; Greenewalt and Rautman, “Sardis 1994 and 1995,” 471–87, figs. 7, 8; Crawford, *Byzantine Shops* (Sardis M9), 10, 123–25, figs. 51, 52, 55, 61, 65, 70, 161, 187.

69 Chapter 2, section 10, for a summary of masonry used in Church EA and the additions.

70 Section 4.1, above, for the coins.

71 Saldern, *Glass* (Sardis M6), nos. 236, 246, and 400; SFB 1973 PN/E I, 49. Henderson and Mundell Mango, “Glass,” 334–38, for a brief overview of glass of the period and further references.

72 Stiaffini, “Vitrei.”

73 Saldern, personal communication, 1998.

74 SFB 1962 PN II, 135, and III, 50–110. The Church EA nave was excavated below the floor level only west of Church E.

75 Chapter 5, column 3.2, pillar 8.3 (Figs. 242, 326).

column was worked. However, a Latin cross with splayed ends in raised relief that was carved into a pillar of the EA chancel barrier must be an original feature, because the face of the cross is in the same plane as parts of the profiled molding at the top of the pillar. Similar crosses are common in architectural carving of the fifth and sixth centuries, but scholars have questioned when, in the fourth century, they first appear. Because of these uncertainties, the form of the cross can be used to establish neither the date of Church EA nor that of the Church EA chancel barrier.⁷⁶

4.6 Stylistic Evidence

The numismatic evidence allows a closer dating of the construction of Church EA than the scant available stylistic evidence. The comparisons outlined below (5.1–5.9) are useful only in demonstrating that the forms of the church do not require a later attribution and that there is no need, on the basis of the stylistic evidence, to doubt the evidence of the coins.

5 Comparable Evidence

We know almost nothing of the superstructure of Church EA. We do not know whether the major nave supports carried an arcaded or trabeated system, or whether the church was provided with galleries or with a clerestory. The forms of the nave supports, the fenestration, and the height of the building cannot be reconstructed on the basis of the known archaeological evidence. Since excavation has revealed little beyond the floor plan of Church EA, it is impossible to analyze the building in terms of its architectural style.

Therefore, the purpose of this overview is not to analyze the style or establish the date of Church EA, but to set the building into the context of other buildings of its time, and to present the evidence available for the reconstruction of features that have not been preserved in the church at Sardis. With the aid of comparable evidence, we can obtain a clearer image of the original appearance of Church EA than the scant remains permit. Only occasionally does the comparable evidence provide indications of chronology.

Unfortunately, Asia Minor is not rich in comparable evidence and for the most part lacks reliably dated buildings. There is no well-preserved church of the late antique period such as S. Sabina in Rome, S. Apollinare in Classe, the Cathedral of Poreč, or the Acheiropoietos in Thessaloniki. Moreover, the basilicas currently known

in western Asia Minor probably represent only a small portion of those that once existed, and many that are known were not properly excavated or adequately published. Thus future additions to the evidence may change our understanding of church architecture in this region. Also, only very few basilican churches extant anywhere can be attributed reliably to the period when Church EA was probably built, and the character and appearance of later churches may have been somewhat different.⁷⁷

5.1 The Simple Aisled Basilica

The original floor plan of Church EA consists of a nave with two aisles but no transept and a single projecting apse that is neither inscribed nor flanked by exedrae or chambers (Fig. 4). I will use the term *simple aisled basilica* to designate this type of church.⁷⁸ More than 60 churches in Asia Minor,⁷⁹ Constantinople,⁸⁰ Cyprus,⁸¹ Greece,⁸² the Balkans,⁸³ Italy,⁸⁴

77 Section 4.1, above, for the numismatic evidence that suggests a date for the church in the fourth century.

78 See also Buchwald, “Basilicas”; idem, “Style,” 34–39, for the architectural character of these buildings. The following publications provide a partial overview of early Christian basilican churches with further examples and references: Mango, *Architecture*, 38–44; Delvoye, “Basilika,” particularly 526–48; Krautheimer, *Architecture*, 39–282; Orlandos, *Βασιλική*, passim; Sotiriou, “Βασιλικά,” 161–220.

79 See discussion, with further reference, below.

80 Mathews, *Churches*, 11–41, 67–75, and n. 107, below.

81 Papageorghiou, “Chypre.”

82 For instance, Orlandos, *Βασιλική*, 206–10; idem, “Fouilles,” 61, fig. 5; idem, “Monuments,” 110–14; idem, “Ναοὶ Καλυβίων,” 165–71; idem, “Glyphada”; idem, *Μνημεῖα*, 153–54; idem, “Βασιλικά Λέσβου”; idem, “Βασιλικά της Κω”; Sotiriou, “Βασιλικά,” 161–212; idem, “Θήβαι,” 18–137; Pallas, *Monuments*, passim; idem, “Chios”; idem, “Ἄργος”; Pennas, “Basilica”; Lamb, “Chios,” 146; Sodini and Kolokatsas, *Aliki*, passim; Mallwitz and Schiering, *Olympia*; Koder, “Hellas,” 1099–140; Travlos, “Athen,” 362–76; Bakhuizen et al., *Demetrias*, 239–42; Karagiorgou, “Thessaly,” 1, 63–65; Stikas, “Amphipolis”; Kotzias, “Ἀνασκαφαὶ Οὐλύμπου,” 92–93; Vocotopoulos, “Μύτικα” (1981); Pelekanides, “Βασιλική Φιλίππων”; Bakirtzis, “Κητιά”; Marki, “Ἀνασκαφὴ Λουλουδιῶν”; Mentzos, “Δίου.”

83 For instance, Soustal et al., “Makedonien”; Hattersley-Smith, *Public Architecture*, passim; Hoddinott, *Churches*, 161–68, 179–86; Sas-Zaloziesky, *Baukunst*, 1–11, pl. 1; Snively, “Stobi,” passim; Aleksova, “Stobi”; Kondić and Popović, *Caričin Grad*, 86–89, 332–34; Mesesnel, “Suvodol”; Aleksova and Mango, “Bargala,” 265–73; Nikolajević Stojković, “Doclea”; Ivanov, “Basilika”; Angelov, *Tarnov*, fig. 15; Parnicki-Pudenko, *Novae*, passim; Stričević, “Archaeology”; Egger et al., *Salona*, passim; Barnea, *Romania*, 40–163; idem, “Monumenti,” 23–44.

84 For instance, Blanck, “1959–1967,” 614–16; Angelis d’Ossat, *Studi*, 18–28; Roberti, *Grado*; idem, “Monumenti”; Pozzetto, “Grado”; Bovini, “Classe”; idem, “Grado,” fig. 1; Zovatto, “Grado”; Gerber, *Kultbauten*, 23–30 (with a plan of the Cathedral of Grado in which the chambers flanking the apse are also later additions); Rusconi, “S. Maria”; Grossmann, *S. Michele*, 1–19, fig. 2; Cortesi, *Sant’Apollinare*, 7–19; idem, “Scoperte”; Mazzotti, “San Severo”; idem, “Casa Bianca”; idem, “SS. Giovanni e Paolo”; Farioli Campanati, “Classe”; Deichmann, *Rom*, passim; idem, *Ravenna*, 171–75; Krautheimer, *Corpus*, vol. 4, 72–98, pls. 5, 6; *ibid.*, vol. 5, 243–53, pl. 14; Brandenburg, *Kirchen*, 136–37, 152–53; Ermini and Giordani, “Isola Sacra”; Testini, “S. Ippolito”; Bauer et al., “Bischofskirche”; Jurlaro, “Brindisi,” 683–86; Agnello, “Sicilia,” 53–66, figs. 1–3; Orsi, “Siracusa.”

76 Dinkler and Dinkler-v. Schubert, “Kreuz,” 26, state that the cross type with splayed arms was particularly current in the East “since the latter part of the fourth century,” allowing greater chronological leeway than the earlier argument of Dinkler, “Siegeszeichen”; they suggest that this form may have been derived from letter forms.

and, more rarely, Corsica,⁸⁵ North Africa,⁸⁶ Syria,⁸⁷ and the Holy Land⁸⁸ have similar floor plans. Although very few of them can be dated with firm evidence, most have been attributed to the fifth and sixth centuries.

Preserved simple aisled basilicas in Asia Minor include a church in the Lower Agora of Pergamon;⁸⁹ two churches at Assos (the Gymnasium Church and the church south of the Gymnasium);⁹⁰ the church built into the Temple of Apollo (Temple Church) at Didyma;⁹¹ probably the Large Church at Miletos;⁹² a basilica at Heracleia (Latmos);⁹³ the early phases of the Basilican Church at Priene;⁹⁴ (probably) the basilica near the eastern gate of Iasos;⁹⁵ phase I of Church C at Knidos;⁹⁶ phase I of Columnar Church No. 1 at Hierapolis in Phrygia;⁹⁷ the large basilica known as St. Paul's at Pisidian Antioch;⁹⁸ the Lower City Church at

Amorium;⁹⁹ the East Basilica at Xanthos, as well as other churches in Lycia;¹⁰⁰ a basilica at Döşembe;¹⁰¹ Basilica No. 2 in the Upper Town of Anavarza;¹⁰² the first phase of Church No. 1, and most other churches at Binbirkilise.¹⁰³

In spite of the relatively large number of simple aisled basilicas in western Asia Minor, the early date that the numismatic evidence suggests for Church EA (second half of the fourth century, or perhaps as early as the 340s)¹⁰⁴ makes it unlikely that local tradition determined the choice of the floor plan. At present, no simple aisled basilica in western Asia Minor is known to be older than Church EA. The large basilica at Pisidian Antioch is the only other basilican church in western Asia Minor plausibly dated to the fourth century.¹⁰⁵ Conversely, although a large portion of Ephesos, the urban center of the region, has been excavated, no church with a simple aisled basilican floor plan has been uncovered there. The Church of the Virgin, probably the cathedral of the city, has an inscribed apse with integrated side chambers.¹⁰⁶

85 Morracchini, "Corse."

86 For instance, Duval et al., *Algérie*, 24–25, pl. 29 (Tipasa Church 2), 37–44, pl. 39 (Tipasa Church 8, St. Salsa), 49–52, pl. 45 (Ain Tamda), 61–62, pl. 52 (Tizgirt Church 2), 122–23, pl. 78 (Kherbet Bou Hadeif Church 2), 192–94, pl. 96 (Biar El Kherba), 274–78, pls. 131, 132 (Timgad Church 7); Ward-Perkins, "Cirenaica," 646–47; Widrig and Goodchild, "Apollonia"; also Gsell, *Algérie* 2, 164–72, 179–80.

87 For instance, Butler, *Churches*, 39; see also n. 111, below, for additional comments and references concerning this example and other apsidal solutions in Syria.

88 For instance, Ovadiah, *Churches*, passim; Dauphin, "Dor"; Crowfoot, *Jerash*, 16–20; Delougaz and Haines, *Khirbet al-Karak*, passim.

89 Dörpfeld, "Pergamon," 31–34, fig. 4, pl. 2, including an attribution of the church to the fourth century by J. Strzygowski; Conze et al., *Stadt*, 304–5; Rheidt, *Stadtgrabung*, 182–84.

90 Clarke et al., *Assos*, 183–87.

91 Knackfuss, "Heiligtum," 29–43, Fotografien pls. 59–66, Zeichnungen pl. 3.

92 Wiegand, "Milet," 28–32; Müller-Wiener, "Grosse Kirche," for the later addition of the outer apse wall; idem, "Milet," 365–72, fig. 2; Feld, "Grosse Kirche"; Kleiner, *Milet*, 135–41, identifies the building as the cathedral; n. 163, below, for dating attributions.

93 Peschlow, "Latmos," 658, fig. 3.

94 Westphalen, "Priene," 279–94.

95 Levi, "Iasos 1962–64," 403–18; idem, "Iasos," 539–44; neither the plan nor the date of the church is certain.

96 Love, "Knidos 1971," 395–97; idem, "Knidos 1972," 101–2; the church has been tentatively attributed to the period around 500, but the date remains uncertain because the single coin found was not in a sealed context and the only capital, found in modern masonry, need not have been created for the first construction phase.

97 Verzone, "Hierapolis" (1965), 627, suggests that it was the cathedral, a reasonable attribution because of the church's size; idem, "Hierapolis," *RbK*, 1220–21, dates phase I to the fifth century; idem, "Hierapolis 1961, 1962," 639–41; Bernardi Ferrero, "Hierapolis," 87–89, with an improved floor plan.

98 Robinson, "Antioch," for the excavation report; Kitzinger, "Antioch," for a detailed review of the evidence, earlier studies, and the plan, which need not be contemporary with the mosaic floor dated about 381 by inscription; Mitchell and Waelkens, *Antioch*, 210–17, for recent excavations and an updated floor plan; Taşlıalan, "Pisidia," for recent excavations and the observation that the basilica was probably

dedicated to St. Paul, based upon an inscription on a font reported to have come from the church. The church appears to have been the Cathedral of Antioch.

99 Lightfoot and Ivison, "Amorium 1994," 105–20; idem, "Amorium Excavations 1995," 92–97; idem, "Amorium 1995," 292–94; Lightfoot et al., "Amorium 1996," 324–26.

100 Metzger, "Xanthos," 64, fig. 7; Harrison, "Lycia," 138–48; Peschlow, "Myra," 831–39, figs. 9–13; Cook and Blackman, "Archaeology," 55; Diler, "Caurus," 20–21; Kupke, "Kyaneai"; Grossmann and Severin, "Lykien."

101 Rott, *Denkmäler*, 27–28.

102 Bell, "Notes," 7:20–24; Gough, "Anazarbus," 114–16; Hill, *Cilicia*, 90–91, fig. 7. The church, dated by inscription to 516, is partially cut into the natural rock. The chapel east of the south aisle appears to be a later addition; if the chapel had a predecessor, this church is probably not a simple aisled basilica.

103 Ramsay and Bell, *Churches*, 41–99, 117–25, 130–44, 151–64, 176–82; Holzmann, *Binbirkilise*, pls. 3–6; Restle, "Binbirkilise"; Eyice, *Karadağ*, passim; idem, "Binbirkilise"; Lienhardt, "Bin Bir Kilise."

104 Section 4.1, above.

105 N. 98, above, particularly Mitchell and Waelkens, *Antioch*, 210–13, for a summary of the dating evidence, which is based upon a mosaic donor inscription. Although Bishop Optimus, who is mentioned in the inscription, attended the Council of Constantinople in 381, the mosaic floor could be somewhat earlier or later and must have been installed after the construction of the church walls and roof had been completed. The excavated basilican remains are attributed to a later reconstruction of the church, and the floor plan of the original church is unknown but appears to have been similar to that of the later reconstruction.

106 Knoll, *Marienkirche*, 27–62, for the excavation report; neither the original basilica nor the later phases are reliably dated; Foss, *Ephesus*, 52–54, for a summary of the evidence and earlier references; Deichmann, "Ephesus," 551–52, n. 4, for a summary of previous datings and carefully considered arguments for a fourth-century date; Fasolo, "Efeso," 1–13, also proposes a fourth-century date; Karwiese, *Marienkirche*, 17–21, proposes a date after 474 based upon numismatic and ceramic evidence, argues that the dedication of the church to the Virgin was possible only after 511, and suggests that the council of 431 met elsewhere, or possibly in the Roman stoa into which the church was later inserted; idem, "Church," proposes a date for the basilica not before 500 and states that the lateral church walls were erected as part of the south stoa of the Olympeion, which may

In Constantinople, the earliest known simple aisled basilica is the Church of St. John of the Stoudios, built in 453.¹⁰⁷ Though churches could have been constructed as simple aisled basilicas earlier, Constantine's city was inaugurated only in 330; with rare exceptions, such as the Church of the Holy Apostles, it seems unlikely that Constantinople was a source of new architectural models before the late fourth century.¹⁰⁸

On the basis of written sources, it has been suggested that the Christian basilica originated in the Eastern Mediterranean region.¹⁰⁹ Indeed, the system of proportions discussed below seems to support the conjecture that Syria was the source for the plan of Church EA.¹¹⁰ That possibility is also supported by the early date, perhaps in the fourth century, assigned to the Large Church at Zebed, which was apparently a simple aisled basilica.¹¹¹

have been constructed under Hadrian and which was probably destroyed ca. 400; idem, *Ephesos*, 126–42; idem, “Konzil,” 81–83, proposes a date in the late fifth century or around 500; Karwiese's chronology makes the solution with integrated apsidal side chambers more readily explainable, but it does not adequately address Deichmann's observations; Hueber, “Ephesos,” 251–64, rejects Karwiese's chronology and emphasizes the changes and reconstructions that took place in Ephesos after the major earthquake of 358.

107 Mathews, *Churches*, 19–27; *ibid.*, 11–41, for a summary of Christian basilicas in the city; idem, *Istanbul*, 143–58; Mango, *Architecture*, 36–39; idem, “Stoudios,” 115, for the date; Van Millingen, *Churches*, figs. 12–19, for useful sections and details.

108 Dagron, *Constantinople*, 48, notes that many contemporaries believed that Constantinople would not survive its founder and, 85, describes the rebirth of the city ca. 380 or after 395; Taft, *Byzantine Rite*, 23–24, outlines the parallel slow rise of Constantinopolitan ecclesiastical influence in the late fourth century and points out that its see was not promoted to the second rank, after Rome, until 381 and that the jurisdiction of its patriarchate was not recognized until 451; Delvoye, “Constantinople,” for a summary and textual evidence; Deichmann, “Konstantinopel,” 479–86, notes that Constantinople was not the permanent residence of the emperors until the late fourth century and that it is unlikely to have taken a lead, architecturally, before the end of the century; idem, *Einführung*, 245, states that new architectural forms were introduced at Constantinople in the 340s with the construction of the Church of the Holy Apostles, which appears to have been an exception and had a cruciform plan; Mango, “Mausoleum”; idem, *Architecture*, 35; Krautheimer, *Architecture*, 68–73, 103–6.

109 Mango, *Architecture*, 35–38, with references to Eusebius and other sources for the early construction of basilican churches in the eastern Mediterranean region; Kleinbauer and Mango, “Ecclesiastical Architecture,” 528–41, for overviews; Deichmann, *Einführung*, 68–88, 236–50, assumes that basilicas with flanking aisles were used in many parts of the Empire already in the first half of the fourth century; White, *God's House*, 4–139, for a useful account of pre-Constantinian church forms that continued to be used in the fourth century in many regions. Scholarship concerning the origin of the Christian basilica and its dispersion is considerable, for instance, Ward-Perkins, “Basilica”; Krautheimer, “Foundations”; idem, “Basilica”; idem, *Architecture*, 41–67; Delvoye, “Basilique”; idem, “Basilika”; Lassus, *Sanctuaires*, 45–47, 78–100.

110 Section 5.2.1, below.

111 Butler, *Churches*, 39, *ill.* 38, observes that the Large Church at Zebed was one of the first churches constructed in the region, and compares the moldings with those of a nearby tomb dated by inscription 337. He states that there was no trace of flanking apsidal chambers but that foundation walls of such chambers could, perhaps, be found by

Nevertheless, churches built with a projecting apse and no flanking apsidal chambers are only rarely found in the eastern Mediterranean region:¹¹² the fourth-century basilicas mentioned in the written sources need not have been simple aisled basilicas.

On the other hand, it has also been suggested that the simple aisled basilican church type originated in Rome at about the middle of the fourth century.¹¹³ Two churches near Rome that are probably Constantinian—S. Ippolito on the Isola Sacra¹¹⁴ and the large basilica recently discovered at Ostia¹¹⁵—were constructed using this floor plan, and it is

excavation; he also notes that the plan with a single projecting apse is unusual in Syria. Mouterde and Poidebard, *Chalcis*, 162–66, pl. 6, make corrections to Butler's report but confirm the date of the nearby funerary monument and its chronological proximity to the church based upon the similarity of moldings; *ibid.*, pl. 6, for a floor plan that clearly shows that all portions of the chambers flanking the apse are hypothetical; in this plan the door in the east wall of the south aisle is wider and more elaborate than that shown in the plan based upon existing evidence by Butler. Tchalenko, *Bema*, 231, proposes an inscribed apse with integrated side chambers and dates the church to the end of the fourth century or the beginning of the fifth; however, Tchalenko was not able to inspect the church because it had disappeared, and he does not provide reasons for altering the date proposed by Butler; Tchalenko and Baccache, *Eglises*, pl. 557, with a reconstruction with integrated side chambers. Apart from the paucity of examples in Syria without chambers flanking the apse, the argument for the solution proposed by Tchalenko is based upon the wide door in the east wall of the south aisle; in the plan shown by Mouterde and Poidebard, the door in the east wall is much wider than that shown in the plan based upon existing evidence by Butler, and it contains a reduced south jamb that is a hypothetical reconstruction, apparently an attempt to make the flanking chambers more convincing. Butler's plan does not show walls attached to the exterior of the (then) extant east wall of the south aisle, nor to the apse exterior, making Tchalenko's reconstruction improbable. Other features of the Large Church at Zebed, such as the use of architraves in the nave rather than the archivolt usually employed in Syria, also distinguish it from most churches of the region. For additional information concerning Syrian churches and their apsidal forms, particularly Lassus, *Sanctuaires*, *passim*; Sodini, “Syrie”; Naccache, *Décor*, *passim*.

112 Descoedres, *Pastophorien*, with references; Altripp, *Prothesis*, 5–38; Sodini, “Syrie,” 351–63; Naccache, *Décor*, *passim*; Lassus, *Sanctuaires*, 56–66; Butler, *Churches*, 175–203; Delvoye, “Apsis.”

113 Deichmann, *Rom*, 38–40; idem, *Einführung*, 68–88; Krautheimer, “Basilica”; Delvoye, “Basilika,” 522–24, for a survey of simple aisled basilicas in Rome. Brandenburg, *Kirchen*, 20–291, with references, for the Church of St. John of the Lateran (the cathedral of Rome), the Church of St. Peter, and a number of other churches constructed in the fourth century in Rome, most of which, however, are not simple aisled basilicas.

114 Testini, “S. Ippolito,” 82, 120, tentatively dates the church to the late fourth century or the fifth based upon general architectural similarities to churches in Rome but observes that the preserved original floor in the apse is very similar to that of S. Marco in Rome, probably completed before 350; *ibid.*, 52–67, 119, argues plausibly that the church was the Cathedral of the Diocese of Porto, which was established 314, but provides an unconvincing account (119) concerning a “provisional” cathedral in an unknown location before the construction of S. Ippolito. A simpler and more convincing explanation posits that S. Ippolito was constructed somewhat earlier in the fourth century, perhaps not long after 314, as the original Cathedral of Porto; also Ermini and Giordani, “Isola Sacra.”

115 Bauer et al., “Bischofskirche,” for partial excavations that support the documentary evidence attributing the building to Constantine.

common in Italy.¹¹⁶ The plan of Church EA may, therefore, have been brought to Sardis directly from Rome.

The earliest known examples of the simple aisled basilica share several features with Church EA: the semicircular interior plan of the apse, the circular exterior plan of the apse, and walls that lack articulation or pilaster buttressing on the interior and exterior.¹¹⁷ Clearly, these characteristics cannot by themselves be used to attribute Church EA to an early date: they occur at least occasionally in churches of the fifth and sixth centuries. Buttresses comparable to those flanking the apse of Church EA are found occasionally in later basilicas, for instance in the church of St. Leonidas at Corinth-Lechaion, attributed to about 450–460;¹¹⁸ such buttresses, however, were clearly thought to be structural requirements and may have been used during different periods. Doors in the west wall of the nave on the major axis of the church, such as the one excavated in Church EA, are typical of numerous churches dating from the fourth to the sixth centuries in western Asia Minor, where the tribelon, used frequently in Greece, does not seem to occur.¹¹⁹ Thus the characteristics of other early churches allow Church EA to be attributed to the fourth century, on the basis of numismatic evidence, without reservations arising from stylistic evidence.

5.2 Proportions

5.2.1 Floor Plan

Proportions similar to those of the Church EA floor plan seem to have been used only rarely in Rome from the fourth to the sixth century.¹²⁰ If the plan of the church in Sardis did, indeed, originate in Rome, it must have been transmitted in a schematic manner that was given its final form locally. On the other hand, according to Howard Crosby Butler, five of the six basilicas in north central Syria that he dated to the fourth century have the proportional scheme that we have noted in Church EA.¹²¹ More recently

scholars have attributed some of these churches to other periods.¹²² However, the church at Fafartin in the Jebel Siman, dated 372 by inscription, was also built using the same proportions,¹²³ and thus demonstrates that these proportions were used in Syria in the fourth century. Butler's observations could therefore support a fourth-century date and, perhaps, a relationship between the Sardis floor plan and Syrian sources. However, the same proportions were also used at S. Apollinare in Classe,¹²⁴ for instance, in the sixth century; the use of this proportional scheme does not, therefore, provide firm dating evidence.

The proportions of Church EA also occur in several other church plans in Asia Minor (Table 6).¹²⁵ They are found, for instance, in the church in the Lower Agora at Pergamon,¹²⁶ the church south of the Gymnasium at Assos,¹²⁷ and the East Basilica at Xanthos,¹²⁸ all of which are undated, as well as in Church No. 1 at Ayatekla, which is usually attributed to the fifth century, but has also been assigned to the fourth.¹²⁹ In several churches

for the date), Serdjilla (Butler, *Syria*, 113–18, fig. 132), the South Church of Ruweha (idem, *Architecture*, 99–102, fig. 37), and the main church of Il-Barah (ibid., 97–99, fig. 36). Some of these churches have also been redated, but the new chronologies do not invalidate Butler's core observation, that this proportional scheme was used in Syrian churches in the fourth century.

122 Tchalenko, *Bema*, 313–24, for chronological attributions with an emphasis upon bema solutions; Naccache, *Décor*, passim, for chronological attributions based upon string course profiles and carved ornamentation; Strube, *Baudekoration*, for attributions based upon the style of decorative details.

123 Butler, *Syria*, 327–29, fig. 370; idem, *Churches*, 33–34, fig. 32; Jalabert and Mouterde, *Inscriptions*, 222, no. 389, for the date; Tchalenko, *Bema*, 41–45; Tchalenko and Baccache, *Eglises*, fig. 82, with a dimensioned floor plan. The north side of the church is cut into the natural rock and the floor plan is therefore not entirely symmetrical; the north aisle width is measured to the center of the columns and to the rock face; the south aisle is 0.08 m wider; the nave and aisles together are measured to wall centers and to the rock face.

124 Section 5.2.2, below.

125 Buchwald, "Basilicas"; idem, "Geometry," 300–302, for a brief overview of these proportions in Byzantine churches with further references.

126 Dörpfeld, "Pergamon" 31–34; Conze et al., *Stadt*, 30.

127 Clarke et al., *Assos*, 186–87.

128 Metzger, "Xanthos," 64–67, fig. 7.

129 Herzfeld and Guyer, *Meriamlik*, 4–46, fig. 7. The church is not a simple aisled basilica. The site that was formerly known as Meryemlik or Meriamlik is now known locally and on maps only as Ayatekla; the designation Church No. 1 is taken from the initial publication, Bell, "Notes," because the dedication to St. Thecla, which is generally accepted, may also have been used in other churches on the site. Hellenkemper et al., 228–35, for a summary of the evidence, references, and a suggested date ca. 375; Hellenkemper, "Wallfahrtsstätten," 262–64; Hill, *Cilicia*, 217–25, for a review of the archaeological and documentary evidence, an attribution to the late fifth century, and evidence of a fourth-century predecessor. The numerous capitals found by Herzfeld and Guyer (*Meriamlik*, figs. 3, 11–13, 24–30) are stylistically appropriate in the fourth century but not in the late fifth, when precisely worked spiny acanthus capitals are common in the region; it would be surprising, in

116 N. 84, above.

117 For instance Ermini and Giordani, "Isola Sacra"; Testini, "S. Ippolito"; Bakhuizen et al., *Demetrias*, 239–42 and passim, pls. 21, 31, 49, for the Church of Damocratia, dated ca. 400–410, one of the earliest known churches in Greece; also Delvoye, "Apsis."

118 Krautheimer, *Architecture*, 131–33.

119 Sodini, "Dispositifs," 453–56, fig. 7.

120 Deichmann, *Rom*, 39; Brandenburg, *Kirchen*, 69–73, pls. on pp. 269–71, for S. Agnese, founded by Constantine 337–351, which is not a simple aisled basilica; in floor plan, its nave is proportioned 1:4 and its nave and aisles together 1:2, but no other proportions were identified and S. Agnese appears to be the only preserved basilican church in Rome in which such proportions were used in the design of the floor plan. The body of literature on proportions in architecture is vast but most works are not relevant to Church EA.

121 Butler, *Architecture*, 34–36. The churches are those of Khirbit Hass (Butler, *Architecture*, 92–94, fig. 31; idem, *Churches*, 37, for the date), Der Sambil (Butler, *Architecture*, 94–95, fig. 32; idem, *Churches*, 37, 65–66,

in western Asia Minor some proportions are the same as at Sardis, while other proportions differ. For instance, in Columnar Church No. 1 at Hierapolis in Phrygia, which has been attributed to the fifth century, the proportion of the narthex is 1:5 rather than 1:4, and the proportion 2:3 includes not only the nave and aisles, but also the narthex¹³⁰ (Table 6, with other, similar, examples). Thus some of the largest and most important churches known in the region between the Aegean coast and Cilicia have the same or similar proportions to those of Church EA. The relatively large number of churches in western Asia Minor and in Syria with these proportions suggests that their use in the design of buildings could have roots in the pre-Christian architecture of the region.¹³¹ Even so, the question of where and when the exact proportional scheme used in Church EA originated remains open. It is likewise unknown whether the architects of fourth-, fifth-, and sixth-century churches in Asia Minor and Syria employed these proportions because they were thought to have special meanings,¹³² or whether the proportions simply amounted to practical rules for the design of aesthetically pleasing or structurally sound buildings.¹³³

5.2.2 Vertical Dimensions

In a systematically proportioned basilica we would expect vertical dimensions to conform to the overall proportional scheme established by the major dimensions of the floor plan. Unfortunately, most vertical dimensions remain unknown in the churches in Asia Minor that employ the same system of proportions as Church EA.

Cilicia, if an enormous major basilica was furnished with outdated or reused capitals. Hill's valid observations concerning an earlier church on the site therefore require further explanation and new conclusions.

130 Verzone in n. 97, above.

131 For instance, Robertson, *Architecture*, 149, 154–56, for various proportional relationships (that usually differ from those of Christian basilicas) either prescribed for or used in the design of Hellenistic temples; *ibid.*, 155, for the use of axial dimensions in the proportionally designed floor plans of Hellenistic temples, relating Church EA more closely, in this respect, to pre-Christian examples than to the Justinianic churches investigated by Underwood (n. 10, above), in which clear dimensions are used; Coulton, *Architects*, 66, for the use of modular planning in antiquity. Other investigations of proportional relationships in pagan temples are numerous but need not be cited here.

132 This approach to the proportions of the harmonic scale in architecture is best explained, primarily in the context of the Italian Renaissance, in Wittkower, *Architectural Principles*, 104–37 and is particularly well summarized in *ibid.*, 144–55, Appendix IV, “Proportion in Art and Architecture,” which is composed of four previously unpublished lectures and essays; Narudi-Rainer, *Harmonie*, 11–21, with references, provides examples of the use of harmonic proportions in early Christian and medieval architecture, some of which require further substantiation, and proposes reasons for their use; see also n. 8, above, especially Kayser, *Harmonik*; Padovan, *Proportion*, 99–115.

133 As proposed, for instance, by Coulton, *Architects*, 64–66, who does not, however, deal with Christian architecture.

However, the same proportional scheme used in Church EA was used in the well-preserved church of S. Apollinare in Classe near Ravenna (which is not a simple aisled basilica), built between 533 and 549.¹³⁴ In S. Apollinare, which stands to its full original height and retains its original floor level, the ratio between the width and height of the nave is close to 3:4 (1:1.33). If, as at Classe, the ratio of 3:4 was used to establish the height of the nave in Church EA, then its nave (measured to the top of the clerestory wall) would have stood about 12.70 m high.

Church No. 32 in Binbirkilise provides evidence that the proportion 3:4 was also used in Asia Minor to determine the vertical dimension of the nave.¹³⁵ Moreover, since Church No. 32 had galleries, and S. Apollinare in Classe has none, these proportions could have been used in Church EA whether or not it was constructed with galleries.¹³⁶ The churches of Binbirkilise were among the best preserved in Asia Minor at the time of their initial publication¹³⁷ and thus the heights of the clerestory walls of four other churches have also been recorded.¹³⁸ As Holzmann's cross-section drawings indicate, in the naves of these churches the ratio of width to height ranges between 1:0.88 or ca. 8:7 (Church No. 7) and 1:1.125 or. 8:9 (Church No. 1), suggesting that no standard proportion was employed at Binbirkilise.

In S. Apollinare in Classe the proportion 3:4 was also used as the ratio between the axial intercolumniation and the height of the column shafts, and the ratio 2:3 was used as the ratio between the axial intercolumniation and the height of the columns together with their bases and capitals.¹³⁹ If these ratios are applied to Church EA, then

134 Deichmann, *Ravenna*, 257–61; *idem*, “Proportionen,” 446; Trinci, “Geometria,” 530–40, suggests a relationship to Platonic and Pythagorean philosophy but proposes underlying geometric schemes, some of which are improbable or irrelevant. Also Farioli Campanati, “Classe”; Mazzotti, *Sant'Apollinare*; *idem*, “S. Apollinare”; Cortesi, *Classe*, 39–86; *idem*, “Edifici.”

135 The height of the clerestory wall was measured to the bottom of the nave vault. Ramsay and Bell, *Churches*, 209–21, figs. 164, 172–80, and Strzygowski, *Kleinasion*, esp. figs. 14–16, show that the church was preserved to the archivolt of the gallery in ca. 1900; the cross section in Holzmann, *Binbirkilise*, pl. 4, is, therefore, apparently based upon actual site conditions; also Eyice, *Karadağ*, esp. figs. 147–53:b. Numerous dimensions recorded by Bell and Holzmann were remeasured on site by the author in 1989 and found to be accurate. Vertical dimensions that could not be reached were checked by an instrument (used in the forest industry to determine tree heights) that provides approximate accuracy.

136 Section 5.5, below, for the possibility that Church EA had galleries.

137 Particularly Ramsay and Bell, *Churches*; Holzmann, *Binbirkilise*; Strzygowski, *Kleinasion*.

138 Church Nos. 1, 3, 5, 7. None of these churches was designed using the same proportions as Church EA.

139 The ratios were calculated from the published schematic drawings and are only approximate, since the height of each column shaft, base, and capital differs somewhat. Angelis d'Ossat, *Studi*, 34–35, for the

the column shafts (if columns were used as nave supports) would have been about 3.50 m high, a dimension that conforms with the approximate column shaft heights we have adduced,¹⁴⁰ and the columns together with their bases and capitals would have been about 3.96 m high.

5.3 Size

A comparison of the dimensions of Church EA with those of other basilican churches in western Asia Minor permits observations concerning the scale, and thus perhaps the importance, of the church in Sardis. Even though Church EA is not among the largest buildings of its type, at approximately 550 square meters, it is larger than most of them and one of the largest basilican churches in the western coastal plains and valleys.¹⁴¹ Only two published basilican churches in this part of Asia Minor are significantly larger than Church EA: the Church of the Virgin in Ephesos, which was more than twice as long,¹⁴² and the Kızıl Avlu at Pergamon, a Roman temple of the Egyptian gods that was transformed into a church.¹⁴³ The size of Church EA apparently reflects its relative prominence: it was probably one of the most important churches in its region. Larger basilican churches are more common farther inland, in Caria, Phrygia, and Pisidia, and on the south coast in Lycia, Pamphilia, and Cilicia. But even in those regions Church EA would be among the larger basilican churches, although not one of the largest.

5.4 Intercolumniation

The unknown intercolumniation of Church EA may be reconstructed by reference to the dimensions of basilican churches in Asia Minor with known intercolumniations.¹⁴⁴ The ratios between the axial intercolumniations and nave lengths range rather consistently from about 1:3 to 1:21, with

proportions of intercolumniations and column heights in churches of Ravenna which, however, includes the imposts above the capitals and arrives at different conclusions.

140 Section 1.4, above, for the possible column shaft heights, if standard columns were employed in the church, and section 5.4, below, for the intercolumniation.

141 In general, the dimensions of the naves are compared because attached ancillary rooms differ from building to building. For the same reason, churches with transepts are included only as an exception in the comparisons. The comparable churches of the western plains and valleys include the two churches at Assos, the church in the Lower Agora at Pergamon, the Church of the Virgin at Ephesos, the Basilican Church at Priene, the Large Church at Miletos, the church built into the adyton of the Temple of Apollo at Didyma, the Acropolis Church at Iasos, and Church C at Knidos.

142 N. 106.

143 Deubner, "Kızıl Avlu"; Rheidt, *Stadtgrabung*, 193–94, fig. 43, for the floor plan.

144 Buchwald, "Basilicas," for a more detailed account; these ratios are used only as an aid in comparing dimensions and were not used in this form by the builders.

the smallest ratios in buildings with the shortest naves,¹⁴⁵ while the ratio between axial intercolumniations and nave widths varies rather consistently between about 1:1 and 1:5.5, with the smallest ratio being found in the narrowest nave.

These ratios are useful in reconstructing the axial intercolumniations of Church EA (and of other churches). Since the nave of Church EA is 29.05 m long, the ratio of intercolumniation to nave length should lie between that of Binbirkilise Church No. 1, Phase 1 (length 27.40 m, ratio 1:10.5) and the Gymnasium Church at Assos (length 29.40 m, ratio 1:11.8). Interpolating, we obtain a ratio for Church EA of 1:11.4, and an axial intercolumniation of 2.55 m. When this dimension is transposed onto the actual dimensions of the church, we may choose between ten columns 2.64 m on center and eleven columns 2.42 m on center, representing ratios of 1:11.0 and 1:12.0. Because the length of the nave in Church EA is much closer to that of the church at Assos than to that of Church No. 1 at Binbirkilise, the axial intercolumniation 2.64 m appears to be more likely in Church EA.

5.5 Galleries

Among the excavated remains of Church EA, only the double-engaged columns attributed to the original basilica would support a reconstruction of the church with galleries, and the evidence of these columns is inconclusive. The dimensions of at least some of the Sardis double-engaged columns are similar to those of double-engaged columns used as gallery supports in other churches, but the detailing of the Church EA double-engaged columns makes that reconstruction less likely.¹⁴⁶ No trace of a staircase, or of a room that may have been used to house one, was found in the excavations, but the southern part of the church remains unexcavated. If Church EA was constructed with galleries, then they may have been used by the women, but other uses are also possible.¹⁴⁷

The evidence of comparable basilicas in western Asia Minor is inconclusive on this question. Churches with galleries intact have been recorded in western Asia Minor,¹⁴⁸ and other churches have been reconstructed with

145 Buchwald, "Basilicas," tables 5 and 6.

146 Section 5.7.1, below, for the comparisons and chapter 5, section 3, for the detailing.

147 Taft, "Women," particularly 31–63, for the location of women, and also for other functions, in the galleries; Christern, "Emporenkirchen," 423, speculates that in North Africa galleries may have been constructed in some churches to provide more space for worshippers, a reasonable observation that may apply also to Asia Minor and other regions; also Delvoye, "Empore," 130–34.

148 Delvoye, "Empore," 130–37, and idem, "Passage," 459, provide an overview and examples and note that galleries are relatively rare in Asia Minor except in Cilicia. Sodini and Kolokotsas, *Aliki*, for the twin simple aisled basilicas of Aliki (Thasos), one with galleries, one without, thus exemplifying the ambiguity concerning the use of galleries.

them.¹⁴⁹ Churches without galleries are also known,¹⁵⁰ but most of the churches in the region are too poorly preserved to allow for the reconstruction of their interior elevations.

5.6 Clerestory Walls

The known basilicas of Asia Minor provide little aid for the reconstruction of the clerestory walls above the nave supports.¹⁵¹ Although stone lintels that were clearly architraves supported by columns and capitals have been excavated in the Church of St. Michael at Miletos,¹⁵² the lack of such lintels at Sardis does not demonstrate that the nave supports carried arches: lintels may have been made of wood, and stone lintels could have disappeared entirely.¹⁵³ On the other hand, several churches have been recorded in western Asia Minor in which there is clear evidence of arches over the nave supports,¹⁵⁴ and we have already pointed out that if double-engaged columns were

Galleries were recorded, for instance, in Ramsay and Bell, *Churches*, 209–21, and Holzmann, *Binbirkilise*, fig. 4, for Binbirkilise Church No. 32; Forsyth, “Kanlı Divane,” figs. 2, 4; Eyice, “Canbazlı,” figs. 6, 7; Hill, *Cilicia*, 106–10, 187–93. The list could be extended, for instance, with domed basilicas such as the East Church at Alahan and with churches with more complex floor plans, such as St. John at Ephesos. Christern, “Emporenkirchen,” 407–25, for churches with galleries in North Africa; Christern, 410–19, observes that in North Africa the column heights of churches with galleries are lower, when compared to the width of the nave, than in basilicas without galleries, but that this observation is not valid in at least some churches of the Eastern Mediterranean region.

149 For instance, Miletos, the Large Church: Müller-Wiener, “Grosse Kirche,” 132–33; idem, “Milet,” 365–72, fig. 2; Feld, “Grosse Kirche,” 135–36, with a gallery reconstruction based upon the extant lowest step of a staircase and on double-engaged columns and capitals attributed to the gallery. Miletos, Church of St. Michael: Feld, “Michaelskirche,” 118–20, and Müller-Wiener, “Milet 1973–1975,” 101–3, with a gallery reconstruction based on excavated capitals. Didyma: Knackfuss, “Heiligtum,” 32, and Peschlow, “Didyma,” 214–18, 251–52, with a reconstruction based upon double-engaged column shafts and capitals. Krautheimer, *Architecture*, 471 n. 17, argues that the Temple Church at Didyma had no galleries and that the double-engaged columns proposed as gallery supports were window mullions; however, the discussion of double-engaged columns in section 5.7.1, below, indicates that the lengths of at least some of the Didyma double-engaged columns are too short for their use as window mullions, and that some are probably too tall. Krautheimer references Peschlow, “Didyma,” but Peschlow reconstructs the capitals of the double-engaged columns as gallery supports (“Emporenkapitelle”).

150 For instance, Binbirkilise: n. 103, above; also Delvoye, “Empore,” particularly 134–37, and idem, “Passage,” 459, points out that galleries are not common in Anatolia except in Cilicia.

151 Deichmann, “Wandsysteme,” 338 n. 9, for a brief review of clerestory walls of basilican churches with galleries (not in Asia Minor) and an emphasis upon the lack of firm evidence.

152 Müller-Wiener, “Milet 1973–1975,” 103, pl. 31.

153 Feld, “Grosse Kirche,” 136, assumes that brick arcades were used at nave and gallery levels in the Large Church at Miletos because neither architraves nor voussoirs were found, but he does not consider the possibility that lintels could have been made of wood or that stone lintels may have disappeared.

154 For instance, n. 103, above, for Binbirkilise. Kanlıdivane: Forsyth, “Kanlı Divane”; Hill, *Cilicia*, 179–93; Cambazlı: Eyice, “Canbazlı”; Hill, *Cilicia*, 107–10, pl. 24.

the major nave supports in Church EA, then they may have carried arches.¹⁵⁵

The church in Cambazlı, which has galleries, has no clerestory above the gallery arcades,¹⁵⁶ and Binbirkilise Church No. 32, the only church at the site with galleries, seems also to have lacked a clerestory.¹⁵⁷ Even though both of these churches are at a considerable distance from Sardis, they provide the only available evidence in comparable buildings in Asia Minor. These two examples imply that, if Church EA was constructed with galleries, it may not have had a clerestory. If Church EA had no galleries, then a clerestory wall with windows may be reconstructed, like those of several churches at Binbirkilise¹⁵⁸ and several well-preserved examples in the upper Adriatic region.¹⁵⁹

5.7 Carved Architectural Elements

5.7.1 Double-Engaged Columns

The original locations and uses of the nine double-engaged column fragments that we have attributed to the initial construction of Church EA are uncertain.¹⁶⁰ Comparable examples in other buildings provide useful evidence but no decisive solution for this question. Double-engaged columns were positioned with their long sides perpendicular to the direction of the wall that they supported. Accordingly, they were more efficient as supports than standard columns: they were able to support greater loads without increasing the diameter of the column, as seen from the nave.

The use of double-engaged columns as nave or gallery supports was rather common in churches in Asia Minor. All of the nave supports in the published basilicas at Binbirkilise are double-engaged columns.¹⁶¹ Double-engaged columns with matching, well-preserved capitals were found at the

155 Section 1.4, above.

156 Eyice, “Canbazlı,” figs. 5–7, 9–11; Hill, *Cilicia*, 107–10, pl. 24.

157 Ramsay and Bell, *Churches*, 209–21, refer to the church as No. 32, while Holzmann, *Binbirkilise*, pl. 4, calls it Church No. 2 and reconstructs it without a clerestory. Ramsay and Bell indicate that the church was standing almost to the roof line at the turn of the century, so Holzmann’s reconstruction may have been based upon tangible evidence.

158 N. 103, above.

159 N. 84, above.

160 Chapter 5, columns 3.1–3.9 (Figs. 241–46), for the archaeological evidence and an analysis of the details; section 1.4, above, for alternative solutions to the nave supports of Church EA.

161 Ramsey and Bell, *Churches*, Churches No. 1 (phase 1), 3, 4, 5, 15, 16, and 21 (phase 1); Bell, “Notes,” 7: 225–36, fig. 7; Holzmann, *Binbirkilise*, Churches No. 1, 3, 4, 5, 7, 32, pls. 3–6; Eyice, *Karadağ*, passim; idem, “Binbirkilise”; Restle, “Binbirkilise,” cols. 697–719, each with further references. Exact dimensions for double-engaged columns, but without the heights of nave columns, are given only in Ramsay and Bell, chapter 3, and by Holzmann. Many dimensions were measured or checked on site by the author in 1989, but the heights of the nave columns may be determined only by excavation.

triple-conch “Martyrium” church at Aphrodisias.¹⁶² The Large Church at Miletos has been reconstructed with double-engaged columns both at the nave and gallery levels.¹⁶³ In the Church of St. Michael at Miletos, probably built between 595 and 606, the supports at nave level were standard columns, but double-engaged columns appear to have been used at gallery level.¹⁶⁴ The Temple Church at Didyma, built during the fifth or sixth centuries, also has been reconstructed with standard columns at nave level and double-engaged columns at gallery level.¹⁶⁵ The evidence concerning the gallery level supports is more plentiful at Didyma than at Miletos and has been published in greater detail. The use of double-engaged columns as nave or gallery supports in the two churches at Miletos and in the church at Didyma is especially relevant because neither these churches nor Church EA appear to have been vaulted, in contrast to the churches at Binbirkilise. Vaulted churches may have been furnished with sturdier columns. Moreover, Sardis is located much closer to Miletos and Didyma than to Binbirkilise.¹⁶⁶

Double-engaged columns were also used as window mullions, for instance in Church M at Sardis,¹⁶⁷ in Churches No. 1, 3, 4, 5, 15, and 31 at Binbirkilise,¹⁶⁸ in the East Church at Alahan Kilise,¹⁶⁹ and elsewhere.¹⁷⁰ A comparison between

the dimensions of double-engaged columns used as nave and gallery supports and those used as window mullions demonstrates that window mullions are distinguished by shorter widths and heights, but also by greater lengths (their lengths are equaled only by those of double-engaged columns in portals and facade arcades). It is apparent that the length of the double-engaged column reflects the thickness of the wall that it supports.¹⁷¹ The rather uniform heights of the window mullions at Binbirkilise may reflect a tendency to standardize window heights regardless of the size of the church: Binbirkilise Church No. 1 is almost twice as large as Church No. 3.¹⁷² None of the double-engaged columns attributed to Church EA (Table 7) are nearly as long as those of the Binbirkilise window mullions, even though Church EA is larger and has thicker exterior walls. The length of the only preserved top of a double-engaged column is 0.495 m,¹⁷³ too small to support the outer walls, which were 0.90 m.¹⁷⁴ Therefore the Church EA double-engaged columns probably did not serve as window mullions in the outer walls.¹⁷⁵

162 Smith and Ratté, “Aphrodisias 1993,” 48–52.

163 The church has not been adequately published. The reconstruction depends upon double-engaged column bases, capitals, and columns that were found in the excavations, and bases in situ in the nave. Wiegand, “Milet,” 28–31; Knackfuss, *Milet*, pl. 25, for the excavation floor plan; Müller-Wiener, “Grosse Kirche,” 132–34, and idem, “Milet,” 366, with an early Justinianic date based upon unspecified topographic considerations, structural and aesthetic details, and the floor plan; Feld, “Grosse Kirche,” pl. 38:1, with dimensions of the double-engaged column capitals and an attribution to the years shortly before or after 500, based upon the lack of flanking apsidal chambers and on the use of apse buttresses; the attribution is not convincing because both features could have been used in western Asia Minor earlier or later; Peschlow, “Didyma,” 214–15, nos. 4 and 5, and 251–52, attributes capitals from the same church with similar decoration to the fifth century, implying that the Large Church may have been constructed earlier than previously assumed.

164 Müller-Wiener, “Milet 1973–1975,” 101–3, and idem, “Milet,” 371–72, fig. 3, with references to earlier scholarship; the dates are based upon an inscription; Feld, “Michaelskirche”; the gallery capitals are described as having the same fluted decoration as the capitals of the nave and of the Large Church but are not illustrated and dimensions are not provided.

165 Knackfuss, “Heiligtum,” 29–32, Fotografien pl. 69, F 112, F 120, Zeichnungen pl. 4, Z. 110:2, 3.

166 Sardis and Miletos lie about 125 km, air distance, apart; Binbirkilise is about 470 km from Sardis.

167 Butler, *Sardis* 1, 112–13, figs. 119, 121.

168 Ramsey and Bell, *Churches*, 45–46, 65–70, figs. 29, 94.

169 Forsyth, “Cilicia,” fig. 30.

170 Many examples are from excavations; they are usually described as window mullions, but often without direct evidence of their function. For instance, Ötügen, *Kleinasien*, 139–48, pls. 21–23, for several

examples that were probably window mullions; Anabolu, “Cedrae,” fig. 74; Peschlow-Bindokat and Peschlow, “Kumbaba,” 332–34, no. 48, fig. 9; Hoepfner, *Herakleia*, 95, fig. 35, for apsidal window mullions measuring 0.24 × 0.90 m with acanthus capitals; also Ohnesorg, “Naxos,” 170–75, figs. 5a, b; Jewell and Hasluck, *Paros*, figs. 36, 37, from the gallery windows of the Great Church; Sodini and Kolokotsas, *Aliki*, 152, fig. 126, pl. 1:c, pl. 53:b, from the north basilica; Orlandos, “Βασιλικαὶ Λέσβου,” 8–10, 21–22, 31–32, figs. 4, 5, 23; idem, *Chios*, pl. 2:b; idem, “Délou,” 74, fig. 2; idem, “Βασιλικαὶ τῆς Κω,” 19–20, figs. 15, 16; Scranton, *Corinth*, 100, pls. 12–14; Sotiriou, “Θεβαί,” 29–31, 66–68, figs. 31–33, 71, 74; Vocotopoulos, “Μύτικα” (1981), pl. 78:a; Bernardi Ferrero, “Acheiropoietos,” 163–64, fig. 3; Lemerle, *Philippe*, 389–92, fig. 21, pls. 31:1–18, 74:18–48; Egger, “Stobi,” 60–61, fig. 56; Barsanti, “Proconneso,” 205–6, fig. 168; Bermond Montanari, “S. Severo,” fig. p. 63. The use of double-engaged columns as window mullions was continued, or revived, in medieval Byzantine churches.

171 In Binbirkilise Church No. 1, for instance, the nave arcade wall thickness is 0.64 m, and the length of the double-engaged column that supports it is 0.60 m, while the exterior wall thickness is 0.84 m, and the length of the double-engaged column in the window of that wall is 0.72 m; thus in this church the wall cantilevers out beyond the double-engaged column only about 0.06 to 0.12 m, or 0.03 to 0.06 m on each side; these dimensions were measured on site by the author.

172 In the five recorded examples window heights range only between 0.94 and 1.09 m. Normally, the size of the church does not appear to have been a consideration when determining the dimensions of the double-engaged columns: while Binbirkilise Church No. 1 is the largest church at the site, its double-engaged columns are not larger than those of much smaller churches there.

173 Chapter 5, column 3.1.

174 Large impost blocks could have created a transition between double-engaged columns and thick walls, but the comparable evidence indicates that in Asia Minor double-engaged columns were usually produced with dimensions that fit the thickness of the walls they supported. Chapter 5, section 4, for impost blocks that fit some of the double-engaged columns from Church EA; however, these impost blocks were probably carved either for a repair of the church in the fifth or sixth centuries or for another building.

175 Only one of the double-engaged columns attributed to Church EA shows evidence that window screens or gratings may have been

The lengths and/or widths of double-engaged columns at the nave level were probably greater than those at the gallery level because of the greater loads that they supported, and because the thickness of the clerestory wall may have been reduced above the gallery floor; other design objectives, such as the appearance of the interior, may also have been considered.¹⁷⁶ The lengths and widths of the nave-level columns at Binbirkilise range from 0.58 to 0.77 m, greater than those of Church EA (Table 7), although it must be remembered that the Binbirkilise churches are vaulted and may therefore have required sturdier supports. The lengths of the Church EA double-engaged columns are closest to those of the gallery supports at Didyma. Still, although many of the columns from Sardis are no wider than the gallery supports from Didyma, the widest Sardis column is about one third wider than the widest column at Didyma.

Stylistically, the double-engaged columns that were probably created for Church EA are unusual in their pristine simplicity, precise execution, and adherence to basic classical design principles. The abacus, capital, shaft, and base are all clearly distinguished; the capital is splayed at the top, acknowledging its position between load and support; the column is tapered and is executed with apophyge; there are no redundant components.¹⁷⁷ As far as we can tell from the few remains, these characteristics are compatible with those of the carved pieces that were found in situ in Church EA.¹⁷⁸ The details of the double-engaged columns attributed to Church EA differ significantly from those used in other buildings, both in Sardis and elsewhere.

The decorative features of the double-engaged columns of Binbirkilise, all undated, also differ markedly from those of Sardis Church EA, and they differ from one Binbirkilise church to another. For instance, in Church

attached; in contrast, a double-engaged column in the apse window of Church M at Sardis preserves small holes for a screen or grating on one side. Small holes, 0.02 m square, 0.26–0.28 m apart, also exist in double-engaged columns used as mullions and in adjacent window jambs in windows of Church No. 1 at Binbirkilise; in the north aisle east wall the holes are 0.21 m from the outer face of the window, and in the apse they are 0.11 m from the outer face; the double-engaged column used as a mullion in the apse window of Church No. 31 at Binbirkilise has two rectangular slots 0.32 m apart for attaching window sash, the upper 0.21 m from the top of the mullion, each 0.19 m from the outer window edge. However, window sash could have been attached to the jambs bypassing the double-engaged columns if the columns were set into a deep window niche. See also chapter 5, column 3.2, for a double-engaged column attributed to Church EA that has a carved cross where window sash would normally be attached.

176 Unfortunately a comparison cannot be made within the same building because at the Large Church at Miletos only the dimensions of the gallery capitals, and at Binbirkilise Church No. 32 (the only church at the site with galleries) only the dimensions of the nave-level capitals, have been recorded.

177 Chapter 5, column 3.2 (Fig. 242).

178 Chapter 5, moldings 5.1.1–5.1.3 (Figs. 25–27, 92); sections 3.1, above, and 5.7.2, below.

No. 1 horizontal moldings replace the capital, and the top and bottom are given the same treatment.¹⁷⁹ In Church No. 4 there is a simple, undecorated capital, somewhat reminiscent of those at Sardis Church EA, but the side of the column is enhanced by an inset panel.¹⁸⁰ The coarsely incised decoration of the double-engaged column in the narthex of Church No. 31 is abbreviated: a triangular notch replaces the capital, and a simple panel on the side contains a cross; the double-engaged columns of the nave arcades are unarticulated, the capital being replaced by a single block; in the apse window the capital and base are suggested by coarse, very simple moldings.¹⁸¹

The double-engaged columns at Didyma and Miletos differ greatly from those of Sardis and Binbirkilise: they supported separate, oblong blocks that are decorated, apparently only on the side facing the nave, by a fluted frieze with a cross in the center.¹⁸²

5.7.2 Revetment Door Frames

Fragments of marble revetment door frames were found in situ in two doorways inside the north aisle. They were decorated by three fasciae, recessed inward toward the door opening, that were framed by a cyma.¹⁸³ These door frames are reminiscent of door frames preserved in late antique buildings, including tombs in Asia Minor.¹⁸⁴ Comparable examples are rare in churches in Asia Minor, probably because of the poor preservation of many of the monuments and because few of the churches have been adequately recorded. In western Asia Minor, rather similar door moldings are found in the apsidal chamber to the east

179 Ramsey and Bell, *Churches*, 49, figs. 6:c, 10; Holzmann, *Binbirkilise*, 3, and personal inspection.

180 Ramsey and Bell, *Churches*, 64–65, fig. 22:d; Holzmann, *Binbirkilise*, 5.

181 *Ibid.*, 156, fig. 125:e and personal inspection.

182 Knackfuss, “Heiligtum,” 32, Fotografien pls. 67, F 111, 69, F 112, Zeichnungen pl. 4, Z. 110:2, 3; Peschlow, “Didyma,” 214–15, nos. 4, 5, pl. 38:4 for similar ciborium capitals attributed by Peschlow to the fifth century, and 251–52, 256, for a discussion of the capitals. Müller-Wiener, “Grosse Kirche,” 132, pl. 38:1. Not all of the excavated capitals are illustrated, and some could, therefore, differ.

183 Chapter 5, moldings 5.1.1–5.1.3 (Figs. 25–27, 92), for the pieces in situ. The framing moldings are visible in photographs taken during excavation, but it is uncertain which of the many preserved similar moldings were used in the door frame (chapter 5, moldings 5.3.4–5.3.6).

184 For instance, Waelkens, *Türsteine*, 57, item 68, pl. 10, for a tomb front attributed to the reign of Antoninus Pius; Machatschek, *Kilikien*, 100, pls. 44, 46, for tombs attributed to the middle or second half of the second century. In contrast to the door frames of Church EA, those of the late antique tombs are located on the exterior. Butler 1, *Sardis*, 108–9, figs. 107, 116, 117, for the doorjambs of the major east door of the Temple of Artemis with similar profiles, albeit richly ornamented; Stillwell, *Corinth*, 128, no. 215, fig. 98, for a molding similar to chapter 5, molding 5.3.6, which could have framed the Church EA revetment door moldings found in situ.

of the baptistery of the Church of St. John at Ephesos;¹⁸⁵ in the Church of St. Nicholas at Myra;¹⁸⁶ and in Churches 3, 9, and 11 at Binbirkilise.¹⁸⁷ In Syria and Jordan, similar door frames were used in the fourth-century church at Qirqbize, the church at Ba'uda, and in the Cathedral of Gerasa; in Syria the door frames of later churches usually have more complex profiles and richer decoration.¹⁸⁸

5.7.3 Doorjambs

The profiles of four doorjambs found in the excavations¹⁸⁹ are compatible, in the precision of their execution and in the use of simple, late classical features, with those of the door revetment moldings found in situ in Church EA. The pattern of three fascias, one recessed from the other, and a flanking cyma, is comparable with that of the revetment door frames. On the other hand, such door moldings appear to have been common over an extended period of time, and there is no way of knowing whether the jambs were actually created for, or used in, Church EA.¹⁹⁰

5.7.4 The Chancel Barrier

The most distinctive carved ornamentation that can be associated with the initial construction of the church is that of the chancel barrier.¹⁹¹ As with the double-engaged columns and the revetment door frames, the decorative motifs of the chancel barrier are precisely executed but quite simple, and frequently reminiscent of motifs used in late classical monuments.

185 Büyükkolancı, "Ephesos," 246–53, pl. 55:1; idem, "Johanneskirche," 601, pl. 78:b, states that the door frame consists of reused pieces; it need not, therefore, be dated with the baptistery, nor with the fifth- or sixth-century inscription on the upper piece; the proportions of the fascia differ from those of Sardis, and the outer, surrounding profile is more complex. In contrast to the Sardis door frames, that at Ephesos is constructed of thick, solid elements; the poorly preserved door frame (or jamb) of the western chamber, shown in Büyükkolancı "Ephesos," pl. 56:2, could have had the same profile.

186 Peschlow, "Nikolauskirche," 334–35, figs. 46:1, 2; these frames are carved on jambs and were, as Peschlow points out, probably reused; the outer profiles are richer than those at Sardis; also idem, "H. Nikolaus," 218, 255, pl. 41:5, for an example with a simpler outer molding.

187 Ramsey and Bell, *Churches*, 54, 74, 117, figs. 17, 44, 78; these frames lack the outer molding, and in no. 11 there are four fasciae.

188 Butler, *Churches*, 219–35, for moldings in general, including door frames, and figs. 223, 225, 226, 228, 236, 238, 240, 244; idem, *Architecture*, 37–39, fig. 13; Tchalenko and Baccache, *Eglises*, figs. 393, 394, 397, 398, for Qirqbize; Baccache, *Eglises*, figs. 279–83, for the fifth-century church of Qalbloseh, and passim, for further, later examples; Tchalenko, *Bema*, for description and chronology of the churches; Naccache, *Décor*, for detailed accounts and illustrations of moldings and decorative motifs. Crowfoot, "Churches," 212–13, fig. 6, nos. 2, 5, for the Cathedral of Gerasa.

189 Chapter 5, doorjambs 6.1–6.4 (Figs. 275–78).

190 Chapter 2, section 11.3, for alternative possibilities and comparable examples.

191 Chapter 5, section 10.2, for the chancel barrier reconstruction and references to the individual elements.

For instance, the pillars of this barrier are decorated only by horizontal moldings at the top and bottom, including cymas and simple profiles that appear to be abbreviated versions of the cyma.¹⁹² The pillars lack attached columns at the top and therefore could not have supported lintels. Their forms, though not their proportions, are more similar to those of small pagan altars or late antique pedestals¹⁹³ than to most of the chancel barrier pillars preserved in other churches. Typical chancel barrier pillars of the fifth and sixth centuries are decorated by profiled vertical panels on the front, and often include attached, round columns or knobs at the top.¹⁹⁴ In Asia Minor, chancel barrier pillars are preserved in Pergamon,¹⁹⁵ in the Church of the Virgin¹⁹⁶ and the Church of St. John at Ephesos,¹⁹⁷ in the Temple Church at Didyma,¹⁹⁸ in the Basilican Church at Priene,¹⁹⁹ in the Temple Church at Aphrodisias,²⁰⁰ in Selçikler Köyü (Sebaste),²⁰¹ in a collection at Kumbaba,²⁰² in St. Nicholas at Myra,²⁰³ as well as in a number of locations in the northwest.²⁰⁴ Examples also exist from the Stoudios basilica (453),²⁰⁵ the Polyuktos church (512–528),²⁰⁶ the

192 Chapter 5, pillars 8.1–8.4 (Figs. 320–29).

193 For instance, Crawford, *Byzantine Shops* (Sardis M9), 4, figs. 8, 11, 12, for Sardis column pedestals that were probably reused spoils; Greenewalt, "Sardis 1972," 21–22, fig. 4, for a Sardis pedestal from the Bath-Gymnasium; Ötügen, *Kleinasien*, 267–69, pl. 48, for grave altars from northwest Asia Minor; Wörrle, "Aizanoi," for a bridge pedestal in Aizanoi with an inscription dated 157; Keil and Wilhelm, *Denkmäler*, 10, pl. 11, fig. 29, for small altars from Silifke.

194 Sodini, "Sculpture," 83–91, for chancel barrier pillars and slabs with numerous examples; also Grabar, *Sculptures*, 76–77, pls. 26–33, for more decorative pillars of the same type and period; Peschlow, "Templon," 1453–63, examines these pieces in detail and convincingly argues that they were not used in church parapets.

195 Conze et al., *Stadt*, 309–10, figs. 4, 10, 11.

196 Knoll, *Marienkirche*, 66–67, fig. 81; three of the four pillars lack attached columns; all were found in the "pier basilica" but could have been spoils from an earlier construction phase. Karwiese, *Marienkirche* 2, 16–17, fig. 9, with a pillar bearing an inscription dated after 733 that was probably added during a later use of the pillar.

197 Hörmann, *Johanneskirche*, 155–56, fig. 38; these pillars, found in the narthex and the south arm of the church, need not have come from a chancel barrier.

198 Knackfuss, "Heiligtum," 32–33, Zeichnungen pl. 4, Z. 110:4.

199 Westphalen, "Priene," 314–27, 334–36, figs. 21, 23–25, pls. 39–41.

200 Cormack, "Temple," 82, fig. 6:b.

201 Mellink, "Archaeology," 287, fig. 44.

202 Peschlow-Bindokat and Peschlow, "Kumbaba," 354–56, pl. 123:3–6.

203 Peschlow, "H. Nikolaus," 219–20, item 8, pl. 41:8, for a pillar perhaps dated to the sixth century.

204 Ötügen, *Kleinasien*, 58–71, pls. 1–5, figs. 1–8; some examples have richly decorated fronts; Peschlow, "Templon," 1475, cat. nos. II:5, 19, pl. 19.

205 Mathews, *Churches*, 25–26, fig. 9, pl. 15; Peschlow, "Templon," 1451.

206 Harrison, *Saraçhane*, items 14c(i)–14c(iii), fig. H, pl. 159; Mathews, *Churches*, 54, fig. 26, pl. 39; Peschlow, "Templon," 1451–52.

Church of the Virgin Chalkoprateia,²⁰⁷ St. Euphemia,²⁰⁸ and the Kalenderhane in Istanbul.²⁰⁹ Other examples are found in Greece and the Balkans: for instance at the double church at Aliko on Thasos (some with undecorated fronts),²¹⁰ at the Aphenelli basilica on Lesbos,²¹¹ at the Mastichari basilica on Kos,²¹² at Corinth,²¹³ at two churches at Nea Anchialos,²¹⁴ at Philippi,²¹⁵ and at Doljani.²¹⁶ In the east, examples are known from Gerasa.²¹⁷

The forms of the pillars at Sardis appear to reflect a first step in the evolution of the chancel barrier from a simple, open demarcation between the nave and chancel into a closed screen almost completely separating the congregation from the clergy.²¹⁸ The unusual horizontal moldings of the Sardis pillars could reflect an early attempt to decorate chancel barrier pillars in the style of late classical models. If so, this attempt was apparently abandoned in the decoration of later chancel barrier pillars. The lack of attached columns also suggests that the Sardis pillars represent early examples in the development of chancel barriers.²¹⁹

On the one hand, the decorative motifs of the Sardis closure slabs, the lozenge and scale patterns,²²⁰ are common in pre-Christian furnishings and, like the forms of the chancel barrier pillars, seem to represent

direct continuity between decorative forms used in pre-Christian and those used in Christian buildings.²²¹ The continuity of these decorative motifs may be understood in the context of a more general continuity of pre-Christian forms in early Christian architecture.²²² On the other hand, the same motifs are also found in closure slabs of churches attributed to the fifth and sixth centuries,²²³ for instance at Iznik,²²⁴ Ephesos,²²⁵ Priene,²²⁶ Didyma,²²⁷ Hierapolis (Phrygia),²²⁸ Istanbul,²²⁹ Delos,²³⁰ Thasos,²³¹ Olympia,²³² Corinth,²³³ Arkitza,²³⁴ Aegostheneia,²³⁵ Demetrias,²³⁶ Mytika,²³⁷ Thessaloniki,²³⁸

221 Delvoye, "Cancelli," 901–2, for numerous examples; among the many examples are the rostrum as shown in the relief on the Arch of Constantine; also Mladenova, "Ivailovgrad," pl. 48, attributed to the second century.

222 For instance, Duval, "Basilique"; Ward-Perkins, "Italian Element"; idem, "Basilica"; idem, "Memoria"; Krautheimer, *Architecture*, 39–43; idem, "Foundations"; Delvoye, "Basilique"; Deichmann, "Architektur"; idem, "Wandsysteme"; idem, "Basilika"; idem, "Entstehung"; Sedlmayr, "Wandsysteme"; Klauser, "Martyrerbasilika"; Günter, *Wand*, passim.

223 Some are also attributed to gallery parapets or window screens, and it is not always possible to determine the original function.

224 Ötügen, *Kleinasien*, 94–95, fig. 17, pl. 13, for an example from St. Sophia with a scale pattern; Peschlow, "Iznik," 170, pl. 44:3 and 4, for an example with lozenges and an attribution to the seventh or eighth centuries.

225 Knoll, *Marienkirche*, 48–49, fig. 52, apparently from a window of the undated baptistery of the Church of the Virgin; Thiel, "Johanneskirche," pl. 109, for the reconstructed parapet of the atrium of St. John's, attributed to the mid-sixth century.

226 Westphalen, "Priene," 316, 331, fig. 21, pl. 38, probably from the chancel barrier of the Basilican Church, phase 1.

227 Knackfuss, "Heiligtum," 33, *Zeichnungen* pl. 4, Z. 110:5; *Fotografien* pl. 61, probably from the chancel barrier of the Temple Church; Peschlow, "Didyma," 252–53, pl. 52:1.

228 Bernardi, "Hierapolis," 396–98, fig. 13, for a window screen from a chapel attributed to the fifth century.

229 Mathews, *Istanbul*, fig. 39:3, for a closure slab from the Topkapi Sarayi Basilica; see also the representation in relief of the Emperor's box at the Hippodrome, Mainstone, *Hagia Sophia*, fig. 156.

230 Orlandos, "Délös," 74–75, fig. 3, for fragments of a closure slab from the chancel barrier of the Church of St. Quiricus.

231 Sodini and Kolokotsas, *Aliko*, 155–56, with numerous further examples, 163–64, figs. 112, 130, 138, 139, pls. 4:d, 18:a–i, 41:d, 59:c, d, 60:a–e; Orlandos, "Ἰλυπτά Θάσου," 65–67, figs. 4–6.

232 Adler, *Olympia*, fig. 52, for the chancel barrier of a church attributed to the period around 400 by inscriptions that are dated paleogeographically.

233 Scranton, *Corinth*, 104, no. 5, pl. 20:5.

234 Orlandos, "Locride," 213–14, fig. 4.

235 Orlandos, "Ἀνασκαφή Αἰγιοσθένων," 138–40, fig. 12.

236 Bakhuizen et al., *Demetrias*, pl. 46, from the Basilica of Damocratia, dated to the beginning of the fifth century; Marzloff, "Demetrias," 303–5, pl. 8, for a pierced openwork chancel barrier slab from the Cemetery Church, attributed to the early fifth century.

237 Vocotopoulos, "Μύτικα" (1982), pl. 68:b, c.

238 Papageorgios, "Μνημεία Αγ. Δημητρίου," 374, pl. 19:1.

207 Kleiss, "Chalkopratenkirche," 231–32, fig. 10; Peschlow, "Templon," 1451.

208 Belting, *Euphemiakirche*, 43, fig. 12, for an excavated example of unknown provenance; Peschlow, "Templon," 1452, proposes that the accompanying columns were used in a ciborium or another ensemble.

209 Peschlow, *Kalenderhane*, 107, cat. nos. 160, 166b, pls. 116, 122.

210 Sodini and Kolokotsas, *Aliko*, 26–31, 122–23, 152–54, figs. 29–34, 113, 127, pls. 8:d, 14:a, i, 41:e, f, 54:a, 55:a, b.

211 Orlandos, "Βασιλικαί Λέσβου," 49, figs. 52, 59, 60; idem, "Βασιλική Χαλινάδου," figs. 7–9.

212 Orlandos, "Βασιλικαί της Κω," 29–31, fig. 28.

213 Scranton, *Corinth*, 106, nos. 22–24, pl. 23.

214 Sotiriou, "Θήβαι," 70–71, fig. 79, pl. E, for Basilica A, probably constructed about 470; *ibid.*, 113, figs. 156, 166, for Basilica B.

215 Lemerle, *Philippe*, 408–9, pls. 31, 32; Kourkoutidou-Nikolaidou and Marki, "Philippe," fig. 5, pl. 129:c.

216 Nikolajević-Stojković, "Doljani," figs. 4, 6–8, 14.

217 Crowfoot, "Churches," 251–55, pl. 51.

218 Chapter 5, section 10 and n. 139, for changes in chancel barriers over the centuries, especially Epstein, "Barrier"; Mango, "Templon"; Chatzidakis, "Templon"; idem, "Ikonostas"; Babić, "Decoration"; Walter, "Iconostasis"; Peschlow, "Templon"; and Mathews, *Churches*, 168–71, for a summary and the evidence in Constantinople.

219 N. 218, above; Peschlow, "Templon," 1466–70, with the conclusion that in Constantinople the earliest datable example of a chancel barrier with columns or colonnettes that supported lintels is the mid-fifth-century church of St. John of the Stoudios and that chancel barriers without such columns or colonnettes cannot be confirmed by textual or archaeological evidence in the city; however, he believes that earlier, currently unknown examples may have existed there.

220 Chapter 5, slabs 7.1–7.5 (Figs. 286–98).

Nikiti (Chalchidiki),²³⁹ Philippi,²⁴⁰ Stobi,²⁴¹ Suvodol,²⁴² Rome,²⁴³ and Ostia.²⁴⁴

The molding of the carved piece that may have been used in the stylobate of the Church EA chancel barrier or solea may be compared with the generally similar molding found in situ in the Lower City Church at Amorium.²⁴⁵

5.8 Mosaics

The numerous late antique floor mosaics discovered in western Asia Minor have not been fully published, and few comparative studies have been undertaken. Moreover, very few floor mosaics in western Asia Minor can be reliably dated.²⁴⁶ The evaluation of the mosaic floors of Church EA therefore depends at least in part on a comparison with mosaics found in other regions, even though compositional principles and individual motifs found in mosaics of these regions may not have been used at the same time in Asia Minor.

The excavated floor mosaics of Church EA are distinguished by their lack of illusionistic devices (the floor is accepted as a continuous, solid, opaque surface), their aniconic and primarily geometric decoration,²⁴⁷ and the division of the floor surface into relatively small panels by several borders.²⁴⁸

239 Nikonanos, “Νικήτη,” figs. 3, 4, for closure slabs of a chancel barrier from the Church of Sophronius dated stylistically to the first half of the fifth century.

240 Pelekanides, “Βασιλική Φιλίππων,” fig. 24.

241 Aleksova, “Presbyterium,” 32, fig. 7, for a fragment attributed to the early phase of the Episcopal Basilica.

242 Hoddinott, *Churches*, 202–4; pl. 56; Mesesnel, “Suvodol,” 188–91, figs. 126, 133, for a closure slab from the chancel barrier of a basilica dated stylistically between the late fifth and mid-sixth century; the central field of the mosaic floor in front of the chancel is decorated with the same scale pattern.

243 Testini, “Catacomba,” 716–18, 730–38, figs. 1, 4, for the altar of the catacomb of S. Alessandro; Belvederi, “S. Alessandro,” 19–34, 217–24, figs. 3, 4, 19, 26, 41, 42; Junvent, “Notizie,” 132–34, fig. 10, for a slab from S. Agnese.

244 Testini, “S. Ippolito,” 109, fig. 73, dates the piece to the fifth or sixth centuries, but see n. 114, above, for the possible fourth-century date of the church in which it was found.

245 Chapter 5, molding 11.9 (Fig. 366). Lightfoot and Ivison, “Amorium 1995,” 293, fig. 2, for Amorium; the block, which has a somewhat different, though similar molding, supported the medieval ambo and appears to occupy its original position of phase I, tentatively attributed to the fifth century; Mathews, *Churches*, 25–27, 54–55, figs. 9, 26, for the chancel barrier stylobates of the Stoudios Basilica and the Church of St. Polyuktos, with quite different profiles.

246 Campbell, “Turkey,” for a brief review of mosaic floors in Turkey and references to previous studies; Kondoleon, “Mosaic,” 563–65, for a brief update and further bibliography.

247 The only non-geometric motif is the simple vine scroll.

248 These characteristics may be observed only in the north aisle, but the much scantier remains in the narthex suggest that they too probably had the same characteristics.

Ernst Kitzinger states that “the most important and most fundamental phenomenon . . . in this area [the Greek East] during the period concerned is the elimination of devices which dissemble or contradict the material existence of the floor.”²⁴⁹ This process took place between 350 and 450. According to Kitzinger, the full acceptance of the floor surface first occurs in pavements of purely geometric design, “banish[ing] from the church floors the exuberant figure repertory characteristic both of an earlier age and subsequent periods.” He points out that one of the earliest large-scale examples with a fully unified geometric design is the Martyrium at Kaoussie, securely dated to the eighties of the fourth century. Earlier examples of purely geometric mosaic patterns were found either in small rooms or within the individual panels of larger floors.²⁵⁰ Clearly, the paneled geometric mosaic composition of the Church EA north aisle belongs to the early group of fourth-century pavements cited by Kitzinger: at Sardis the aniconic motifs occur in relatively small panels rather than in large, continuous, carpetlike compositions such as those at Kaoussie. On the other hand, geometric floor mosaic compositions continued to be used in Sardis and elsewhere in the fifth and sixth centuries, even though generally other mosaic compositions and motifs were more common.²⁵¹

The borders of the Church EA mosaic floors are wide and often composed of several parallel motifs: a square grid with superimposed pitched squares, a simple vine scroll with heart-shaped leaves, a swastika meander enclosing rectangles, a frieze of triangles, wave crest, and two- and three-strand guilloche. The central panels preserve three identifiable patterns: tangent circles with inscribed heart-shaped leaves, superimposed circles and squares, and interlaced circles with a superimposed diagonal interlaced

249 Kitzinger, “Mosaics,” with further explanation and illustrations; Dunbabin, *Mosaics*, 176–79, for similar conclusions concentrating on Syrian examples, 223–26, for a brief summary of examples from Asia Minor, and 1–11, for a general overview of floor mosaics in the Roman period; Kondoleon, “Mosaic,” 564, for a brief overview of fourth-century geometric mosaics in Asia Minor; Spiro, “Corpus,” lxi–lxv and passim, for a similar style in Greece; Asemakopoulou-Atzaka, “Grecia,” particularly 20, notes the same development on the Peloponnesus and in Attica.

250 Kitzinger, “Mosaics,” 342–44, fig. 5; other, similar church floors of the same period adduced by Kitzinger include those at Epidauros, Daphnusia, and Pisidian Antioch; for the latter, also Kitzinger, “Antioch,” and Taşlıalan, “Pisidia”; for Kaoussie, also Campbell, *Antioch*, 43–47, pls. 125–39, with bibliography. An inscription dates Kaoussie. Bakhuizen et al., *Demetrius*, pls. 16–18, and Marzloff, “Demetrius,” for the extensive floor mosaics of the Damocratia Basilica, dated to the beginning of the fifth century, which must be added to Kitzinger’s list: the unbroken expanse of the geometric patterns in the nave, narthex and sides aisles fits well into the described development.

251 Chapter 2, sections 1.3, 2.3, and 6.4, for later examples in the Church EA complex; Kitzinger, “Mosaics,” 344–50, for the development of mosaic floor patterns after the purely geometric “carpet” floors; also Kondoleon, “Mosaic,” 564–67; Spiro, “Corpus,” lxii–lxiii.

grid. Too little of the central roundel in the narthex remains for the pattern to be described in any detail.

Similarities exist between mosaic motifs found in Church EA and those of other mosaic floors that have been attributed to the same general period. The grid with superimposed pitched squares, in the simpler form found in the narthex, is comparable with a pattern in the mosaic floor at Kaoussie, dated around 387.²⁵² The vine scroll border may be compared with the borders of a mosaic floor at Apamea attributed to the late fourth century,²⁵³ a floor of the Bishop's Palace at Aphrodisias dated stylistically ca. 350–375,²⁵⁴ a floor of the early church beneath the Episcopal Basilica at Stobi attributed to ca. 360–400,²⁵⁵ and a floor at Epidauros dated to the late fourth century or to the early fifth.²⁵⁶ The meander is comparable with that of the Synagogue at Sardis²⁵⁷ and a meander at Kaoussie,²⁵⁸ both dated to the later fourth century. The pattern of interlace circles and a diagonal interlace grid is comparable with those of the mosaic floor of the Sardis Synagogue.

However, as Doro Levi points out, motifs and patterns often persist, in many variations, for centuries and consequently fail to provide reliable chronological criteria.²⁵⁹ Many of the Church EA mosaic motifs are found much earlier and continued to be used in the fifth and sixth centuries. The following examples demonstrate that they were used not only in Asia Minor but also in a vast geographic area, during a period of many centuries.²⁶⁰ The pattern of tangent circles with inscribed heart-shaped

leaves, for instance, may be compared with a floor at Stobi attributed to the first half of the fifth century;²⁶¹ at Sardis a similar pattern occurs in the ambulatory of the East Road.²⁶² The pattern of interlace circles and a diagonal interlace grid may be compared with a floor panel in the Procopius Church at Gerasa, dated by inscription 526 or 527.²⁶³ Examples of the simple vine scroll with heart-shaped leaves are found at Sardis, Ephesos, Aphrodisias, Xanthos, Athens, Epidauros, Nikopolis, Philippi, Stobi, and Butrint.²⁶⁴ The swastika meander enclosing rectangles is found at Assos, Pergamon, Ephesos, Priene, Aphrodisias, Ölüdeniz, Delos, Tegea, Argos, and Philippi.²⁶⁵ The frieze of triangles is found at Pergamon, Ephesos, Erythrae, Delos, Athens, Epidauros, and Tockingham Park.²⁶⁶ The wave crest

261 Kolarik, "Stobi," 297, 303, fig. 8, for an almost identical pattern in the second phase of the mosaics in the presbytery of the Episcopal Basilica early church.

262 Yegül, *Bath-Gymnasium* (Sardis R3), 22, fig. 45.

263 Crowfoot, "Churches," 260–62; Biebel, "Mosaics," 338, pl. 80:c.

264 Yegül, *Bath-Gymnasium* (Sardis R3), 94–95, figs. 276, 277, 281, for a similar vine scroll executed in finer tesserae from Room BE-A of the Bath-Gymnasium; Knoll, *Marienkirche*, pl. 3, for the mosaic floor of the north chamber flanking the apse of the Church of the Virgin; Campbell, *Aphrodisias*, 37, no. 64D, with five examples; Metzger, "Xanthos, Basilique," 119, figs. 9, 10, and Mellink, "Xanthos," pl. 38, fig. 40; Spiro, "Corpus," 1–5, 14–23, 25–26, 45–46, 54–58, 64–66, 117–21, figs. 4, 5, 17, 18, 23, 45, 60, 69, 115, for Athens and Epidauros; Asemakopoulou-Atzaka, "Grecia," 20–22, pl. 1:a; idem, *Σύνταγμα*, 7, 59–61, pls. 53, 55, 175–77, 187, for examples from Athens and Epidauros; Kitzinger, "Nikopolis," figs. 31, 32, for the floor of the chapel south of the Church of St. Demetrius narthex; Pelekanides, "Βασιλική Φιλίππων," fig. 17; Kolarik and Petrovski, "Stobi," 76–79, figs. 9, 10, for the earlier floor of the south aisle of the Episcopal Basilica, attributed here to the early fifth century; Ugolini, "Butrinto," 266–71, 282–83, fig. 2, for the floor of a baptistery attributed stylistically to the fifth or sixth centuries; also Balmelle et al., *Décor*, 114, pl. 64.

265 Salzmann, "Assos," pl. 24, for the reconstruction of a pebble mosaic floor dated around 300 BC; idem, "Pergamon" (1991), 451, fig. 23, for a floor from Building Z dated to the second half of the second century; idem, "Pergamon" (1993), figs. 1, 5, for two floors from Building Z dated to the second century; Hörmann, *Johanneskirche*, pl. 73, for the earlier floor of the Church of St. John, probably of the fifth century; Westphalen, "Priene," 289, fig. 6, pl. 36, for the floor of the columnar phase of the Basilican Church, attributed to the fifth century; Campbell, *Aphrodisias*, 25, 37, no. 39, for the floor of Room 5 of the Priest's House, attributed to the fifth century; Masuda, "Gemiler Ada," 60, fig. 52, for the mosaic floor of the nave of Church 3; Bruneau, *Délos*, 54–55, 225–26, figs. 156, 158, for a floor from the Sanctuary of the Syrian Gods dated 106/5 BC by inscription; Spiro, "Corpus," 179–94, figs. 200, 201, for the floor of Room 1 of a Christian building at Tegea attributed to the second half of the fifth century; Asemakopoulou-Atzaka, "Grecia," 22, fig. 2:b, for an example from Argos; Gounaris and Velenis, "Ανασκαφή Φιλίππων," fig. 6, for the mosaic floor of the triclinium of a private house; Ovadia, *Mosaics*, 100–102, figs. 5, 54, 80, 109, 111, 113, cites roughly similar meanders dating to the period to Augustus at Delos, Morgantina, Olympia, Pompeii, and Rabat (Malta); Ovadia derives this meander from architectural examples and, ultimately, from the swastika motif.

266 Salzmann, "Pergamon" (1995), pl. 7, for the floor of Room A of a palace from the Hellenistic period; Hörmann, *Johanneskirche*, pls. 73, 75, for the earlier floor of the Church of St. John, probably of the fifth century; Campbell, "Erythrae," 207–9, for a floor attributed to the third century BC; Bruneau, *Délos*, 50–51, 242–43, figs. 180, 181, for the floor of

252 Campbell, *Antioch*, 43–47. The motif is used in Kaoussie in an outer border; the motif of the outer border of the Church EA north aisle is more subtle and more varied.

253 Gisler and Huwiler, "Maison," pl. 27:1, for Room N of "La Maison aux Pilastres."

254 Campbell, *Aphrodisias*, 15, pl. 53.

255 Kolarik, "Stobi," 295–97, figs. 1–3.

256 Spiro, "Corpus," no. 50, pl. 115, for Room IV of the Basilica; Asemakopoulou-Atzaka, *Σύνταγμα*, 59–61, pls. 53, 55. A similar scroll executed in finer tesserae, the stalk in one line of cubes, was found in the Bath-Gymnasium at Sardis (Room BE-A); Yegül, *Bath-Gymnasium* (Sardis R3), 94–95, figs. 276, 277, 281.

257 Seager, "Building," fig. 254, for Ms 62.8 in the west ambulatory of the forecourt of the Synagogue; under the mosaic were 22 coins dated 330–361: Buttrey et al., *Coins* (Sardis M7), Roman coin nos. 179, 323, 324, 351, 356, 364, 381, 408, 412, 413, 442, 475, 492, 498, 501, 506, 552, and two mid-fifth-century coins, nos. 968 and 1085, associated by A. R. Seager with repairs to the floor.

258 Campbell, *Antioch*, 46, no. 18f, pls. 135, 136, for the baptistery of the Kaoussie Church; Campbell argues for a date close to 387 because of the stylistic similarity to the mosaics in the east aisle of the church dated to that year by an inscription.

259 Levi, *Antioch*, 373.

260 The examples presented below intend to display the general context for the Sardis motifs, and no attempt is made to provide a complete catalogue or to compare the variations in detail; many of the referenced studies include further examples.

is found at Aphrodisias, Pergamon, Ephesos, Erythrae, Delos, Athens, Epidauros, Stobi, Jerusalem, and Apamea.²⁶⁷ The guilloche (two or three strands) is found at Pergamon, Aphrodisias, Kos, Corinth, Epidauros, Jerusalem, Leicester, and Tockingham Park.²⁶⁸ The pattern of superimposed circles and squares is found at Ephesos, Aphrodisias, Ravenna, Antioch, and Bughazi.²⁶⁹ And interlaced circles superimposed on a diagonal interlaced grid are found at Aphrodisias, Gerasa, and Qum Hartaine.²⁷⁰

the Room of the Centaurs in the House of the Masks, attributed to the second century; Spiro, "Corpus," 14–23, pls. 17–19, 23, for the floor of the Tetraconch at Athens, dated to the first decade of the fifth century; Asemakopoulou-Atzaka, *Σύνταγμα*, 59–61, pls. 52, 53, 55, for three floors from Epidauros; Smith, "Synthesis," 368–69, fig. 3, for a floor from Room XII at Tockingham Park, attributed to the fourth century; also Balmelle et al., *Décor*, 38, pl. 10.

267 Campbell, *Aphrodisias*, 38, no. 101, with five examples; Salzmann, "Pergamon" (1995), pl. 16, for the floor of a palace from the Hellenistic period; idem, "Pergamon" (1993), fig. 5, for a floor of Building Z dated to the second century; Hörmann, *Johanneskirche*, pl. 76, for the earlier floor of the Church of St. John, probably of the fifth century; Campbell, "Erythrae," 207–9, for a floor attributed to the third century BC; Bruneau, *Délos*, 225–26, figs. 156, 158, for a floor from the Sanctuary of the Syrian Gods, dated 106/5 BC by inscription; Spiro, "Corpus," 14–16, 118–21, figs. 23, 115, for a floor of the Tetraconch in Athens, dated to the first decade of the fifth century, and one from Room IV of a secular building at Epidauros attributed to the mid-fifth century; Asemakopoulou-Atzaka, *Σύνταγμα*, 59–61, pls. 53, 55, for examples from Epidauros; idem, "Grecia," 21–22; Aleksova, "Stobi," 32–38, figs. 7, 8, for the floor of phase 2 of the Episcopal Basilica nave, attributed here to the second half of the fourth century, but to the fifth century or the early sixth by others, as summarized in Snively, "Stobi," 84–181; Loukianoff, *Eleon*, 21–23, pl. 6, for the floor of the Basilica of Eleon at Jerusalem; Gisler and Huwiler, "Maison," 86, pl. 27:1, for Room N of "La Maison aux Pilastres"; Balty, "Eglise," pl. 25:1, for the floor of the Martyrion, attributed to the fifth century; Ovadia, *Mosaics*, 114–15, figs. 6, 7, 9, 36, 39, 54, 56, 107, cites additional examples dating to the period to Augustus at Argos, Arsameia-on-the-Nymphaios, Assos, Corinth, Lebena, Lykosoura, Masada, Monasterace, Motya, Olbia, Olympia, Palitiza, Palermo, Pella, Pellene, Rabat (Malta), Sicyon, Solunt, and Tarsus.

268 Salzmann, "Pergamon" (1991), 440–51, fig. 13, for the floor of a room attributed to the second century; Campbell, *Aphrodisias*, 38, nos. 72C, 73E, for examples from secular buildings; Orlandos, "Βασιλικαὶ τῆς Κω," 81–98, pl. 1, for the floor of the basilica of Mastichari; Weinberg, *Mosaic House*, 113–22, pl. 54, for the Northern Room of the Mosaic House, attributed to the third century; Spiro, "Corpus," 64–66, pl. 69, for a mosaic fragment attributed to the first half the fifth century; Loukianoff, *Eleon*, pl. 4, for the mosaic floor of a chapel in Jerusalem; Smith, "Mosaics," pl. 124, for floor mosaics from Leicester dated before the fourth century; idem, "Synthesis," particularly 368–69, fig. 3, for a floor from Tockingham Park attributed to the fourth century; Ovadia, *Mosaics*, 113–14, fig. 106, for an example with three strands from House V, 26 at Pompeii.

269 Hörmann, *Johanneskirche*, pl. 72, for the earlier floor of the Church of St. John, probably of the fifth century; Campbell, *Aphrodisias*, 39, no. 144E; Berti, ed., *Mosaics*, 75, fig. 56, for an example from Portico A of the "Palace of Theodoric," attributed to the second half of the sixth century; Stillwell, *Antioch* 2, 183–84, no. 46, pl. 33, for floor panel G of a villa at Daphne; Campbell and Stillwell, "Mosaics," 197, pl. 70:144, for panel D of House 2 at Antioch-Harbie; Michaelides, *Bughazi*, 55–61, no. 23, figs. 66, 67, for the floor of Building W, dated to the Severan period, and 124–26, no. 34, figs. 106, 109, for a mosaic floor dated mid-second to early third century.

270 Campbell, *Aphrodisias*, 12, pl. 42, for a floor from the Odeon area dated stylistically to the early or mid-fifth century; Crowfoot,

Thus the comparable examples do not provide firm evidence for dating the Church EA mosaics. However, they do make the attribution to the second half of the fourth century or to the period around the middle of the century suggested by the numismatic evidence credible. While there is no reason to believe that the floor mosaics are later than Church EA, they could have been applied at any time after the initial construction of the building.²⁷¹

5.9 Comparisons to Preserved Churches

A comparison of Church EA with better-preserved churches outside Asia Minor is useful in providing a general impression of how Church EA may have looked in its entirety when it was first constructed but fails to add conclusive information concerning the reconstruction of the building or the stylistic evaluation of its known features.

5.9.1 The Church of St. John at the Stoudios, Constantinople

The Church of St. John at the Stoudios, built in 453, is the only reasonably well-preserved building of Constantinople that may be compared with Church EA.²⁷² Like Church EA, the Stoudios basilica has a nave flanked by two aisles, a projecting apse, and a narthex, but its apse is three-sided on the exterior²⁷³ and its narthex is divided into three parts by projecting piers and arches. These features may have been developed in Constantinople during the period between the construction of the two churches. Although both churches were constructed utilizing simple proportions, their actual proportions differ significantly: in Sardis the nave and aisles together are in the proportion 2:3, while the equivalent proportion in the Stoudios church is close to 1:1. The plan of the nave in Sardis is proportioned 1:3; in the Stoudios it is 1:2. In Sardis the ratio of the width of the aisles to that of the nave is 1:2; in the Stoudios the same ratio is almost 1:3. Because of these differences it is only reasonable to assume that the ratio between the width and the height of the nave was not the same in these two churches; in the Stoudios that ratio is 1:1.

Although the nave of Church EA is about 4.00 m longer, that of the Stoudios is about 3.00 m wider. Accordingly, the spatial effect would have differed

"Churches," 260–62, and Biebel, "Mosaics," 338–39, pl. 80:c, for a floor mosaic from the Procopius Church, dated by inscription 526 or 527; Donceel-Voûte, "Mosaics," fig. 1, for a floor from the Qum Hartaine basilica aisles dated precisely 500.

271 Section 4, especially 4.1, above, for the evidence and dates.

272 N. 107, above.

273 Deichmann, *Ravenna*, 58–59, supports the view that the polygonal apse was a typically Constantinopolitan feature; also idem, "Expansion," 625; idem, "Konstantinopel."

dramatically: in comparison, the Stoudios would have seemed very wide. However, these proportions in the Stoudios may have been chosen for functional rather than aesthetic reasons: although its nave and aisles had about the same combined area as those of Church EA,²⁷⁴ the wide nave of the Stoudios basilica would have held more people (and the aisles fewer) than that of Church EA. Thus in Constantinople more worshippers in the nave would have been close to the chancel, making it easier for worshippers to hear the sermons and giving them a view unobstructed by the nave columns.²⁷⁵

The Stoudios had a gallery approached by stairs that must have been located outside the church proper.²⁷⁶ There is no indication that the Stoudios had clerestory windows above the gallery.²⁷⁷ The supports at nave level carried composite fine-tooth acanthus capitals and a trabeated system, while at gallery level there were probably Ionic impost capitals supporting arcades.²⁷⁸ A parapet may have been installed between the nave columns, separating the nave from the side aisles;²⁷⁹ there is no evidence for any such parapet in the remains of Church EA.

On the basis of evidence found in situ, Mathews has reconstructed a U-shaped chancel barrier in the Stoudios basilica, with openings on the west, north, and south; this barrier is similar to the one reconstructed in Church EA.²⁸⁰ However, the pillars of the Stoudios chancel barrier differ from those of Church EA: they are more richly and more plastically decorated, and integral bases that must have supported columns and lintels were attached to their tops.²⁸¹ The profiles used on doorjambs and base moldings at the Stoudios²⁸² are richer and more complex than any found in the excavation of Church EA.

274 The Stoudios nave and aisles together (without the stylobate) have an area of about 540 m square, and that area in Church EA is about 525 m square, or a difference of about 3%.

275 These observations are relevant regardless of who was permitted to enter the nave and how much of the ceremony behind the chancel barrier the worshippers in the nave would have been able to observe.

276 Mathews, *Churches*, 23.

277 See particularly the reconstruction drawings in Van Millingen, *Churches*, figs. 13–17, although the evidence is not entirely conclusive; the reconstruction is supported by the preserved masonry of the church's west wall, shown in Mathews, *Churches*, pl. 10, but additional detailed field analysis is required before this reconstruction can be finalized.

278 Mathews, *Istanbul*, figs. 15–11, 15–20; Zollt, *Kapitellplastik*, 248–53, fig. 25, pls. 1, 2, 44.

279 Peschlow, "Johanneskirche," 433; Mathews, *Churches*, 22–23, 118–21, with a different conclusion.

280 Mathews, *Churches*, 23–27, figs. 7, 8, pls. 13, 14; chapter 5, section 10.2, for the proposed EA barrier.

281 Mathews, *Churches*, 25–27, fig. 9, pl. 15.

282 Van Millingen, *Churches*, figs. 18, 19; Mathews, *Churches*, figs. 15, 26.

Indeed, there is an enormous divergence between the stark simplicity and lack of color in the Church EA remains and the profuse three-dimensional ornamentation, combined with contrasting components of white Proconnesian marble and deeply colored verd antique, at the Stoudios.²⁸³ There are many plausible explanations for this divergence: for example, changes over time in aesthetic taste or differences of local traditions, or of patronage, or of available means.

5.9.2 The Church of the Virgin Acheiropoietos, Thessaloniki

By sea, Sardis is somewhat closer to Thessaloniki than to Istanbul. The Church of the Virgin Acheiropoietos in Thessaloniki, which is probably contemporary with or slightly later than the Stoudios, is the best-preserved church in the Aegean area with a plan similar to that of Church EA.²⁸⁴ The plan of this church is closer to that of Church EA than is that of the Stoudios: its apse is circular on the exterior, and its narthex is not subdivided by piers, but by arches that spring from brackets (a feature that could also have existed in Church EA). Like the Stoudios, the Church of the Virgin has galleries, but arches crown the supports both at the nave and the gallery levels. Also as at the Stoudios, composite capitals with fine-tooth acanthus were used at the lower level and Ionic impost capitals at the gallery level.²⁸⁵ Double-engaged columns were used as window mullions in the Church of the Virgin, but standard columns were used in the nave colonnades. The church at Thessaloniki has been reconstructed with clerestory windows above the gallery.²⁸⁶ Its floor plan differs both from that of Church EA and that of the Stoudios in that the nave is open to the narthex through a wide tribelon rather than a door. As, apparently, in the Stoudios, at Thessaloniki parapets between the nave columns separated the nave from the side aisles. The richly three-dimensional ornamentation and strong colors of the Stoudios are missing in the Church of the Virgin, probably giving it a general appearance more similar to that of Church EA.²⁸⁷

283 Particularly Mango, *Architecture*, 38–39, figs. 43–45; Mathews, *Istanbul*, figs. 15:21–24; Peschlow, "Johanneskirche," 433.

284 Kleinbauer, "Acheiropoietos," with a date around the middle of the fifth century based upon the style of the capitals; Feissel and Spieser, "Thessalonique," 312–13, with a date around 490; Hattersley-Smith, *Public Architecture*, 145–48, for a concise summary including relatively minor later changes; Bernardi Ferrero, "Acheiropoietos"; Mango, *Architecture*, 38–40.

285 Zollt, *Kapitellplastik*, 244–45, 343–44, pl. 49; Farioli, "Capitelli."

286 Orlandos, *Βασιλική*, 154–62, figs. 118, 121.

287 In the Acheiropoietos, only the two columns of the tribelon were of verd antique. Both the Acheiropoietos and the Stoudios probably had marble revetment and with mosaics, of which only fragments are preserved in the church in Thessaloniki.

The proportional scheme of the church in Thessaloniki differs from that of the Stoudios and that of the church in Sardis. The ratio between the width and length of the nave and aisles together is almost 3:4, and that of the width and length of the nave is almost 2:5;²⁸⁸ the ratio of the width of the aisles to the width of the nave is also almost 2:5. The ratio between the width and height of the nave in Thessaloniki is 2:3,²⁸⁹ and between the width and length of the nave, aisles, and narthex together also almost 2:3.²⁹⁰ Thus the spatial impression of the Acheiropoietos is more vertical than that of Church EA and of the Stoudios, but on the whole its spatial relationships are closer to those of Church EA. The Acheiropoietos church is larger than either of the two other churches: the area of its nave alone is greater than that of the nave and aisles together, both of Church EA and of the Stoudios.²⁹¹

6 Functional Considerations and Conclusions

Despite its fragmentary state of preservation and the inadequacy of the comparable material, the available evidence suggests that Church EA was a sizable church for the region and that it was designed with exceptional care. It appears to be one of the earliest datable churches in western Asia Minor and one of the few standing or excavated churches datable to the fourth century outside Rome, Syria, and the Holy Land. It provides valuable evidence concerning the importance of the Christian community in fourth-century Sardis and in Asia Minor.

It seems unlikely that two churches of equal importance would have been built in Sardis at such an early date; we may therefore assume that Church EA was the first major church to be constructed at Sardis. It also is logical to assume that the first major church was built as the bishop's church, the cathedral of Sardis. A baptistery may still be found in the unexcavated areas near the church, and the lack of a cathedra or synthronon in the apse may be explained by later changes: the church need not have been the cathedral throughout its very long history.²⁹² The buildings north

of Church EA, across the "Street of Pipes," may have constituted a bishop's residence.²⁹³

The location of Church EA outside the city walls may probably be explained by the lack of space within the city center or by local economic or political conditions.²⁹⁴ In several important fourth-century examples the cathedral, or other focal point of Christian activity, was either outside the city walls or next to the walls, at the edge of the city center.²⁹⁵ It is also possible that the location of Church EA was determined by the grave of

293 Chapter 2, section 3.3, for a tile drain which brought rain water from Church EA, and a basin next to the narthex, directly into one of the rooms of this residential building complex, with the implication that the building complex and the church were closely related. For the residential buildings north of Church EA, Hanfmann, "Sardis 1961," 16–20; idem, "Sardis 1962," 18–31; Hanfmann and Detweiler, "Sardis 1962," 28–29; Foss, *Byzantine and Turkish Sardis* (Sardis M4), 45–47. The remains at Sardis are too fragmentary to compare them adequately with those of better-preserved examples of episcopal palaces; for examples of episcopal residences in Asia Minor and elsewhere: Sodini, "Groupes épiscopaux"; Pallas, "Episkopion," for a summary of comparable examples, some not contiguous with, but at a short distance from the church; Müller-Wiener, "Palazzi"; idem, "Bischofsresidenzen," especially 702, for examples that are separated from the cathedral by a street; Duval et al., "Groupes épiscopaux," concentrate upon examples in Syria and North Africa. Not all of the cited examples are known certainly to have been episcopal palaces, and few features characteristic of such complexes have been identified. However, baths and apsidal rooms, both apparently common in episcopal palaces, and floor mosaics roughly contemporary with some of the Church EA complex were found among the buildings north of Church EA.

294 Chapter 2, section 13, for further discussion of Church EA as the cathedral of Sardis, including the impact of later changes and the location outside the walls.

295 Hattersley-Smith, *Public Architecture*, 169, 205, 236, points out that the "main places of worship" were located away from the urban centers during the early period and that they were established inside the walls only toward the end of the fourth century or in the course of the fifth, for instance at Corinth, Athens, and Thessaloniki; Sodini, "Groupes épiscopaux," for episcopal complexes at sites in Turkey, and particularly 416, for a summary of the locations of episcopal complexes within the urban fabric; Sodini concludes that there is no generally applicable rule for the location of a cathedral in examples in Turkey and that the central location of a church is not necessarily an indication that it must be the episcopal seat; Claude, *Stadt*, 30–37, for cities in many parts of the Empire with churches, including martyria and cathedrals, outside the city walls, and 89–96, for an overview of church locations in cities of the period; Testini et al., "Cattedrale," for examples in Italy of cathedrals constructed near the city walls rather than in the city centers; Müller-Wiener, "Bischofsresidenzen," 697–701, notes that examples of episcopal complexes are more common on the edges of cities than in the city centers; Krautheimer, *Rome*, 21–24, for the Constantinian Lateran Basilica, the cathedral of Rome, constructed, apparently among villas and gardens, next to but inside the city walls; Reekmans, "Rome," 865–74, enumerates the early church buildings of the city and presents evidence that few churches were constructed in residential areas before the late fourth century; Bauer et al., "Bischofskirche," for the location of the Constantinian cathedral of Ostia away from the city center next to the city wall; Gauthier, "Cologne," for the late-fourth-century cathedral of Cologne, constructed just inside the city wall; Wolff, "Lage," for numerous further examples of cathedrals and Christian centers of worship, primarily in the West, next to but inside the city walls and an attempt to explain the locations; Ulbert, "Bischof," for a review of bishops' quarters in Syria, including their locations within the city; also, Brenk, "Cristianizzazione."

288 The first ratio is based upon clear dimensions, the second on axial dimensions, differences that should probably be explained by the builders' working procedures.

289 The ratio is based upon the section in Orlandos, *Βασιλική*, fig. 121, and assumes that the reconstruction of the clerestory wall above the galleries is correct.

290 The ratios are based upon exterior dimensions.

291 The area of the nave is about 576 m square (n. 284, above).

292 Chapter 2, section 13, for changes to Church EA that may reflect the relocation of the episcopal seat to another Sardis church in the fifth or sixth centuries. Hanfmann, *SPRT*, 194–96, suggests that the sixth-century Building D (Fig. 1, no. 29), which is larger than Church EA and located inside the city walls, was the cathedral of the city; see also Scott, "Sardis," 80.

a Christian martyr:²⁹⁶ the graves found underneath the floor of a pit constructed in the south aisle of Church E (near the south stylobate of the nave of Church EA) were, apparently, those of saints reburied during a medieval reconstruction of Church EA. The original burial could have been located somewhere in Church EA or in an adjacent chapel or martyrrium.²⁹⁷ The location of the church at the site of a martyr's grave may have enhanced its importance and could also explain why the church was not located within the defensive city walls.

A comparison between Church EA and the Synagogue, located in one of the most prominent sites in ancient Sardis, next to the main thoroughfare and a major gymnasium, is enlightening. The Synagogue was not only located within the city walls, where it was more easily

reached and could function more prominently in the life of the city, but it was also a much larger building.²⁹⁸ The material evidence presently available suggests that in fourth-century Sardis, the Jewish community was more prominent, more prosperous, and more influential than the Christian community. The existence in Sardis of both an unusually early, relatively large Christian basilica and an unusually large, prominently located synagogue may not be coincidental. Their large size and high quality attest to the prosperity that made both buildings possible. Rivalry between Christians and Jews, apparently traditional in the city by the fourth century,²⁹⁹ may have provided some of the incentive for these construction programs.

296 Deichmann, *Einführung*, 61–67, for the construction of churches, some of which are aisled basilicas, over the graves of martyrs, a practice that commenced in the fourth century; idem, “Märtyrerbasilika,” suggests that altars were not located above martyrs' graves until the sixth century (there is no evidence that in Church EA a grave was directly related to the altar); Ivison, “Burial,” for burials in and near churches in Corinth and elsewhere; Klauser, “Märtyrerbasilika,” 275–79, emphasizes that both parish and martyr's churches were at times aisled basilicas; Sodini, “Cryptes,” 437–48, for altars with crypts during the early Christian period; Foss, *Byzantine and Turkish Sardis* (Sardis M4), 31, for two saints from Sardis, Therapon and Valerian, martyred during the third-century persecutions.

297 Particularly chapter 4, section 4, for the Pseudocrypt and the reburial; chapter 3, section 2.2.3, for evidence of the graves during the medieval reconstruction of Church E. No other evidence of a saint's or martyr's grave or of a burial chapel or martyrrium has been uncovered in the Church EA building complex.

298 For the Synagogue and the Jewish community at Sardis, Seager, “Synagogue”; idem, “Building”; Kraabel, “Synagogue,” emphasizes the importance of the Jewish community in Sardis based not only upon the evidence of the Synagogue; idem, “Impact”; Foss, *Byzantine and Turkish Sardis* (Sardis M4), 27–30; Ovadiah, “Synagogues,” notes that the Sardis Synagogue is the “largest and most sumptuous in the Diaspora and Israel”; Scott, “Sardis,” 75–77; Hanfmann, *SPRT*, 194–95, states that the relative importance of the Jewish and Christian communities at Sardis cannot be measured by comparing Church EA with the Synagogue, because Building D is much larger and because the site is not thoroughly excavated; however, the comparison may nevertheless be valid for the period during which Church EA was built, probably the latter half of the fourth century; the visible remains of Building D have been attributed to the sixth century, and as noted, it is unlikely that two churches as large as Church EA would have been built at Sardis during the fourth century.

299 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 27–34; Kraabel, “Impact,” 186–88; idem, “Synagogue,” 70–71.

Chapter Two

CHURCH EA: ADDITIONS, CHANGES, AND REPAIRS

Extensive remains of additions to Church EA, unfortunately in a very fragmentary state, were found to the west, north, and east of the original basilica. The best-preserved features identified by excavation are the partially exposed atrium and Entrance Bay (Figs. 3, 5). They are bordered on the north by the “Street of Pipes,” an extramural road that runs parallel to the major axis of the church toward a gate in the city wall approximately 200 m to the northeast (Fig. 1, no. 8). The scarp of the Pactolus River forms the western boundary of the preserved area: the westernmost portions of the church complex have been completely destroyed, apparently by the erosion of the Pactolus, and cannot be retrieved.¹ Modern houses and roads have limited excavation toward the south of the basilica and its known additions, but further evidence concerning structures in this area could, perhaps, still be found. Traces of church structures extend 3.79 m north of the north wall of Church EA, except for a rectangular niche that extends 1.15 m farther to the north. Excavation extended to a point about 27.18 m west of the narthex west wall. The northeast portion of the atrium was excavated, to a point ca. 6.00 m south of its northeast corner. These ancillary facilities were initially excavated in 1962, and excavation continued in some locations in 1973 and 1980.²

The following description of the additions begins immediately west of Church EA, moving topographically, rather than chronologically, to adjacent areas north,

west, and east of the initial building. The excavated additions consist of portions of the atrium, Entrance Bay, North Courtyard, North Chapel, Northwest Unit, West Unit, Northeast Unit, and East Building (Fig. 3). Mosaic floors were found in the atrium, Entrance Bay, and West Unit, and a tile floor in the North Chapel. Minor but important changes and repairs to the original basilica that may be attributed to the same general period as the ancillary facilities were also uncovered; for instance, remnants of a floor repair in opus sectile were found in the church. A carved marble slab inscribed *τοϛ αρχιδιακο[νοϛ]* and 14 architectural elements including column bases, column shafts, impost blocks, and door-jambes may be attributed to the additions, changes, or repairs of Church EA.³

1 The Atrium

The largest known auxiliary space associated with Church EA is the atrium immediately west of the narthex. As preserved, the atrium is defined on the north by remnants of a wall that joins the north wall of the original basilica but is not bonded to it. The north wall is preserved for a length of 16.30 m. A wall fragment excavated in 1980 at the western edge of the atrium and fragments of floor mosaics near the north and west walls define the atrium floor plan (Figs. 3, 5).⁴ The northwest portion of the atrium has been irretrievably lost to the erosive action of the Pactolus.

The inner face of the north wall of the atrium does not have piers, reveals, or other features that subdivide

1 The Pactolus is currently located about 70 m west of the northwest corner of the original church, but scarps and low flat lands that appear to have been formed by the stream cut through the area west of the church at a distance of about 14 to 16 m from the west wall of the narthex.

2 Most of the publications noted in chapter 1, n. 2, are also concerned with the excavation of the ancillary facilities.

3 The architectural pieces are described in chapter 5: bases 1.1.3–1.1.5, shafts 2.2.1–2.2.4, impost blocks 4.1–4.6, doorjamb 6.5, and closure slab 7.6.

4 Section 6.1, below, for a description of the wall and its context.

the space, and the extant mosaic border pattern seems to have been continuous throughout the known north and west sides of the atrium. It is likely that the atrium was a single continuous space along its northern side, although it may have contained other features in areas that remain unexcavated. If we assume that the atrium was as wide as the entire church, its original interior dimensions would have been 19.70×20.60 m or approximately 400 m square.⁵ Two doors were located in the preserved portion of the north wall, and one door was excavated between the atrium and the narthex;⁶ a door was also located in the west wall of the atrium.⁷ A low short wall built against the north wall of the atrium near the northeast corner was probably a bench (Figs. 3, 5, 48).

1.1 The North Wall (Masonry Type B-1)

The construction of the north wall of the atrium differs from that of the walls of Church EA; it is among the earliest of a number of known walls with masonry of Type B (Type B-1, Figs. 3, 5, 41–43). The wall is between 0.67 and 0.70 m thick and stands 0.90 m at its highest point. Some portions are very poorly preserved, and graves were dug into the wall during the medieval period.⁸

In Type B masonry, the rounded, neatly ordered river stones of Type A masonry are generally replaced by roughly hewn ashlar blocks, occasionally including schist; these materials are not always laid in distinct courses. There is little differentiation between the inner cemented rubble core and the outer casing. Reused brick fragments occur, but only infrequently, in Masonry Type B-1, and some of the stones are smaller and more erratically shaped than in other Type B subtypes. Occasionally, there are one or two brick courses in Type B-1 masonry, and the upper part of the wall, before an open vertical joint in its western portion,⁹ is built largely of brick (Figs. 43, 44). The bricks vary in size and color and are probably reused; some measure about 0.04×0.16 , 0.18, 0.20, or 0.47 m, radically different sizes from the bricks of Masonry Type A-2.

The brickwork and structurally critical parts of the wall (for instance, near the doors) are bonded with mortar; most other portions of the wall are bonded with fine earth. The foundation underneath the wall and the wall itself west of the open vertical joint were built entirely without mortar, although otherwise their masonry seems to have the same characteristics. Where mortar is used it is gray,

quite uniform, and fine grained. Traces of plaster exist on the north face (Fig. 42) and the inside northeast corner of the wall.

1.2 Doorways

A door 2.30 m wide opened into the atrium from the north (Figs. 3, 45); only the door leading from the narthex to the nave on the major axis of the church is comparable in size. The door lies near the midpoint of the north wall of the atrium.

The doorway is clearly defined by a large, well-preserved, perhaps reused marble threshold, 2.30×0.95 m, with two cavities, 0.14×0.16 m, at each side of the door opening near the south face of the wall.¹⁰ A doorjamb block with a molded profile similar to those found elsewhere in the excavation was found in situ at the west side of the door (Fig. 46).¹¹ The upper surface of the threshold, which is extensively worn, steps down 0.02 m from the north into the atrium. Scoring caused by door leaves (perhaps on tiny wheels) or bolts indicates that the doors opened inward, toward the atrium. Since the atrium floor mosaic was interrupted by the insertion of the threshold (Figs. 45, 49), the threshold cannot have been an original feature of the atrium. However, there must have been an opening of comparable size in the same location when the mosaic was laid, because the original border pattern immediately south of the marble threshold was apparently designed to emphasize a doorway there.¹² The marble threshold was probably installed in order to provide a smooth, solid base to which doorjambs, doorposts, or door pins could be attached: before the installation of the threshold the doorway probably contained no doors.¹³ The threshold could have replaced a narrow threshold, within the thickness of the walls.

A second doorway, only 0.97 m wide, opened into the atrium from the north, 2.19 m east of the major doorway (Figs. 3, 47). Since the face of its jamb continued below the level of the mosaic floor, this doorway was an integral feature of the atrium north wall. Unlike the major door, this eastern door lacks a threshold. The outer border of the atrium mosaic does not change to mark this doorway; however,

5 Since the north walls of the narthex and atrium are flush on the exterior, but their wall thicknesses are not the same, their exterior but not their interior dimensions were probably the same.

6 Section 1.2, below.

7 Section 6.1, below.

8 Chapter 3, section 3.3, and Appendix for the graves.

9 Section 5.1, below.

10 Chapter 1, section 2.4, for the similar threshold in the major doorway between the narthex and nave.

11 This jamb is only known from a few 1961 photos, so it cannot be described in detail and is omitted from the catalogue of architectural pieces in chapter 5.

12 Section 1.3, below.

13 Especially in large doorways, unless the door hinges were attached to adjacent wall surfaces that were truly flat, vertical, and stable, the door leaves of double doors would not have met properly in the center of the doorway; however, truly flat, vertical, stable wall surfaces are difficult to obtain with the rough construction materials and techniques used in the Church EA building complex; marble doorjambs, held in place by cavities in the threshold, could have provided truly vertical surfaces and the necessary stability and accuracy.

the tesserae stop neatly at its southern edge, confirming that the door existed before the mosaic was applied: the mosaic probably would have been disturbed if the doorway had been broken into the wall after the floor was in place.

The south jamb of a doorway in the west wall of the atrium lies about 8.25 m south of the reconstructed northwest corner of the atrium. The preserved width of this doorway is only about 0.80 m; its northern portions have been lost to the erosion of the Pactolus, so the original width of the doorway is unknown. The center of this doorway was at least 2.00 m north of the central axis of the church. Its asymmetrical location and its threshold, which is made of cement on packed earth, indicate that this doorway was not as important as the major door in the north wall. The west wall was traced as far as 0.95 m south of the doorway. Accordingly, an opening on the axis of the church in the unexcavated part of the wall could be no more than 1.90 m wide, or about 0.40 m narrower than the major doorway in the atrium north wall and also narrower than the doorway between the narthex and the nave on the major axis of the church.

The available evidence therefore indicates that the major doorway in the north wall of the atrium was the main entrance into the church complex from the Street of Pipes and the city about 200 m away (Fig. 1). An entrance from the west would have been more circuitous and could have been difficult to achieve due to erosion by the Pactolus.¹⁴ An entrance to the atrium from the south may still exist in the unexcavated portions of the complex and such an entrance could have been on a street running south along the Pactolus.

1.3 Floor Mosaics

The mosaic floor of the atrium was partially uncovered along the eastern portion of the preserved length of the north wall, as well as in a small area near the center of the west wall (Fig. 3). The maximum width of the exposed mosaic floor pattern near the north wall is 1.53 m. In most excavated parts of the atrium, the level of the floor is at *89.71. It reaches *89.75 near the west wall, about 0.12 to 0.14 m higher than the floor level of the basilica and about 0.20 m higher than the narthex floor (Table 1).¹⁵

For the most part, only borders are preserved. The motifs of the mosaic are similar to those in the north aisle and narthex, but not the same. Three continuous, parallel borders line the north wall and turn the northeast corner (Figs. 48, 49). These three borders are separated by white bands (five tesserae, or 0.08 m wide) that are framed by

single rows of black tesserae. The outer border (0.40 m wide) is composed of adjacent black octagons on a white ground. Within each octagon are concentric squares in black, red, and white (two rows of black and an inner row of red tesserae surrounding a central square in white). The outer border continues underneath the bench in the northeast corner, indicating that it was constructed after the mosaic was installed (Fig. 48). The middle border (0.34 m wide) is a guilloche composed of four strands, two shaded in red and two shaded in bluish gray, also on a white ground. The innermost border, which is narrower (0.21 m wide), consists of concentric ovals with pointed ends (white, red, and gray) in alternating orientation on a black background. A circle replaces the ovals in the northeast corner of this border (Fig. 48). Too little of the area south of this innermost border has been excavated for the design to be identified, but straight and circular bands, some decorated with a sawtooth pattern, have been preserved (Fig. 50).

Next to the marble threshold of the major doorway in the north wall, a stylized vine pattern in black on a white ground interrupts the outer border of adjacent octagons (Fig. 49). It is clear that the vine pattern is an original part of the mosaic floor. No seam separates it from the surrounding mosaic; the pattern of squares and octagons stops neatly, with a straight border, before the vine pattern begins. Since most of the vine pattern was destroyed when the marble threshold was installed, it cannot have been part of an alteration made after the threshold was installed. As part of the original design, the vine pattern served to emphasize the adjacent doorway.¹⁶

The maximum exposed area of the mosaic floor uncovered near the center of the west wall measures 0.65 × 1.40 m (Fig. 51). The mosaic surface continues into the unexcavated area to the south and east but does not survive in the area directly adjacent to the west wall of the atrium. In this the mosaic near the west wall differs from the floor uncovered along the north and east walls, where in most places the mosaic tesserae abut the vertical wall face. The loss of tesserae in the west may reflect repairs to the west wall.¹⁷

The motifs of the mosaic near the atrium west wall are closely related to those of the mosaic along the north wall. The outermost preserved border is a guilloche composed of four strands, similar in detail to the guilloche of the atrium northeast corner. In both preserved areas, the guilloche border has the same width, 0.32 m; most likely, both borders continued and joined in the northwest corner of the atrium. Immediately east of the guilloche

14 Sections 6.1 and 6.2, below, for the excavated atrium west walls; we do not know if this area was actually eroded by the Pactolus when the church complex was constructed. Foss, *Byzantine and Turkish Sardis* (Sardis M4), particularly 43–48, for a description and the development of this part of Sardis in the Roman and early Byzantine periods.

15 SFR McLauchlin, 1980, 5.

16 Cavities such as those in the upper surface of the marble threshold would not have been sufficiently firm in a mosaic floor, and the mosaic floor surface would have been too irregular for the repeated motion of the opening doors. SFR Majewski, 1973, 5, for a description this mosaic.

17 Section 6, below, for other evidence of repairs west of the atrium.

is a red sawtooth border on a white ground reminiscent of the innermost border on the north side of the atrium; it is separated from the guilloche by a band of five white tesserae. This border turns to the east at the north edge of the excavated mosaic, about 8.00 m from the north wall of the atrium, suggesting that the atrium mosaic floor was divided into panels on its west side. Next to the sawtooth border, pairs of red and blue reflected segments are separated by small, white pitched squares. Concentric blue, red, and black squares on a white ground are positioned next to the segments. This pattern recalls some portions of the superimposed circles and squares used in one of the mosaic panels of the north aisle (Fig. 35).¹⁸

1.4 Comparable Evidence and Chronology

Numismatic evidence is not as rich for the ancillary facilities as for Church EA. None of the coins found in the excavation of the atrium can be securely attributed to its construction (Table 9).¹⁹ The striking difference between the masonry of the atrium north wall and that of Church EA suggests that the atrium was constructed at a somewhat later period. The open joint between the atrium north wall and the northwest corner of the narthex also indicates that the atrium was an addition to the original basilica, whether or not an atrium was part of the original plan for the church.²⁰ Evidence concerning an adjacent room, the Entrance Bay, which was probably planned together with the atrium and constructed only slightly later,²¹ suggests that the atrium was built during the latter part of the fourth or in the early fifth century.²²

The remains of the mosaic floor in the atrium are insufficient to allow for an adequate analysis of its features.²³

18 Chapter 1, section 3.3.1.

19 A coin of Arcadius (C73.136), dated 401–403, was found inside the north wall of the atrium, 0.18 m from its face at *89.85; SFR Hanfmann 1973, 12; SFB 1973 PN/E IV, 133. While the date of the coin is approximately the same as the probable date of the atrium, this part of the wall could have been disturbed by graves during the medieval period. See chapter 3, section 3.3, and Appendix for the graves.

20 Section 10.8, below, for open masonry joints that may, but need not necessarily, indicate different building phases; however, different building phases are more probable when the character of the masonry adjacent to the joint also differs.

21 Section 2.5, below.

22 Mathews, *Churches*, 107–8, 145, for the function of atria within the processional and liturgical use of the church, with an emphasis on examples in Constantinople; Taft, *Byzantine Rite*, particularly 33–34, for the use of atria (not specifically in Asia Minor), with further references; Delvoye, “Atrium,” for a general discussion and numerous examples, including those of Constantinian churches in Rome; Picard, “Atrium,” for atria in Italy, Germany, Austria, Switzerland, Istria, and North Africa; section 12, below, for further discussion of the atrium and additional references.

23 Chapter 1, section 5.8, for the caution required when attempting to date mosaic floors based upon comparable motifs.

Variations of the outer border are found frequently, for instance at Kenchreai,²⁴ Anemurium,²⁵ Kaoussie,²⁶ and Apamea.²⁷ The guilloche is comparable to that of the narthex in its shading but is somewhat more precisely and more geometrically detailed; the use of four strands in the atrium, rather than three strands as in the narthex, could reflect the greater size of the atrium floor. The innermost border of pointed ovals is reminiscent of bead and reel; it is found frequently in several variations during a period of many centuries, for instance at Pergamon,²⁸ Aphrodisias,²⁹ Ephesos,³⁰ Anemurium,³¹ Xanthos,³² Athens,³³ Epidauros,³⁴ Olympia,³⁵ Stobi,³⁶ Apamea,³⁷ Bengehazi,³⁸ and elsewhere.³⁹

24 Waywell, “Mosaics,” 299–300, pl. 48, fig. 26, for the floor of a residential Roman building attributed to the second century; the motif is richer than that of Sardis and is used not as a border, but to fill a surface; *ibid.*, 307, section 8, for a brief account of the use of the motif in Roman Greece, with further examples, but without reference to the later use of the same motif.

25 Campbell, *Anemurium*, pl. 120, for the floor of the House of the Phoenix.

26 Kitzinger, “Mosaics,” fig. 5, for a variant with overlapping octagons dated to the late fourth century; Campbell, *Antioch*, 43–47, pls. 126–30, for further variants in the same church.

27 Napoleone-Lemaire and Balty, *Eglise*, 15–22, fig. 9, for two variants from the Martyrion Church similar to the example from Kaoussie.

28 Salzmann, “Pergamon” (1995), pl. 20, for a Hellenistic example, probably dated shortly before the middle of the second century BC, with one long round oval followed by two flat ovals with pointed ends, clearly a bead and reel.

29 Campbell, *Aphrodisias*, 33–36, pl. 102, for two examples, one, attributed to the mid- to late fourth century, from the Roman basilica.

30 Hörmann, *Johanneskirche*, pls. 73, 75, for the mosaics of the fifth-century phase of the Church of St. John.

31 Campbell, *Anemurium*, 27–40, pl. 127, for a mosaic floor attributed to the late fifth or early sixth century in the Large Baths.

32 Metzger, “Xanthos, Basilique,” 119, fig. 9; Mellink, “Xanthos,” fig. 40, for an example from the atrium of the East Basilica.

33 Asemakopoulou-Atzaka, *Σύνταγμα*, 120–21, pl. 177, attributed to the fifth century.

34 *Ibid.*, 59–62, pls. 52, 55, for two examples, attributed to the fifth century, that resemble the bead and reel more closely than does that of Sardis.

35 Waywell, “Mosaics,” 299–300, fig. 28, for the floor of the central room of the Roman bath building of Kladeos, and 309, for a brief account of the use of the bead and reel in mosaic floors, plausibly deriving the motif from architectural decoration. Waywell notes that at Antioch the motif was used until the sixth century.

36 Kolarik and Petrovski, “Stobi,” 91–103, particularly 100, fig. 25, for an example from the Episcopal Church South, attributed to the late fifth century.

37 Gisler and Huwiler, “Maison,” pl. 26:3, for the floor mosaics of room AI in “La Maison aux Pilastres,” attributed to the end of the fourth century.

38 Michaelides, *Bengehazi*, 55–61, no. 23, figs. 66, 67, for the Dionysiac mosaic floor of Room 2 in the West Wing of Building W, attributed to the Severan period.

39 Ovadiah, *Mosaics*, 122–23, cites additional roughly similar examples dating to the period to Augustus at Delos, Pergamon, Pompeii, and Shatbi.

2 The Entrance Bay

Three closely related spaces, the Entrance Bay, the North Chapel, and the Northwest Unit, are located immediately to the north of the atrium (Figs. 3, 5, 6, 52). The Entrance Bay, the smallest of these spaces, lies on the axis of the major door in the north wall of the atrium. It seems originally to have served as a vestibule that gave access to the atrium from the street to the north, and it probably served as the principal entrance to the Church EA building complex when it was constructed. The interior dimensions of the Entrance Bay are 3.09 (north–south) \times 3.35 m. The floor of the Entrance Bay was paved with a mosaic at *89.80.

2.1 The Walls (Masonry Type B-2)

The walls of the Entrance Bay are poorly preserved in most places, standing no higher than 0.70 m. The masonry of the Entrance Bay walls is not bonded with that of the north wall of the atrium: the foundations of the east and west walls of the Entrance Bay clearly abut the foundation of the atrium north wall (Fig. 53). The Entrance Bay may therefore have been built later, though probably only slightly later, than the atrium.

The north wall of the Entrance Bay is 0.70 m thick, but the east and west walls are only 0.60 m thick. The foundations underneath the east and west walls of the Entrance Bay extend about 0.88 and 0.68 m below the top of the mosaic floor and are not as deep as those underneath the north wall of the atrium (Table 1).⁴⁰ The masonry is of Type B-2 (Tables 3, 4). Only small portions of finished masonry are visible above grade, and the character of the masonry here can hardly be distinguished from Masonry Type B-1. The two types are primarily distinguished by the masonry of the foundations. Unlike the earth-bonded foundations of the atrium north wall, the foundations of the Entrance Bay walls were built with thick beds of strong, gray mortar.

2.2 The Major Entrance

The major doorway that opened from the Street of Pipes into the Church EA building complex was blocked by a rectangular niche 1.45 (north–south) \times 2.35 m that separates the Entrance Bay from the street on its north side (Figs. 3, 54–56). This niche is located on the axis of the doorway leading to the atrium. The three poorly preserved walls, Masonry Type B-3, that form the niche are between 0.50 and 0.60 m thick; in most areas, they stand only 0.15–0.20 m above the floor. The character of the niche walls, which abut the north wall of the Entrance Bay, is uncertain because of their poor preservation. This masonry differs

from other Type B masonry in that smaller and less regular stones are used (Fig. 56).

Three marble steps were located in the opening between the Entrance Bay and the niche. The middle tread is 0.45 m wide, and the inner or lower tread is 0.38 m wide; the upper tread, which is not preserved, is known only from excavation photographs and drawings (Fig. 3). The south riser, which lies 0.08 m south of the inner face of the Entrance Bay north wall, is 0.08 m, and the middle riser is 0.22 m; the upper riser was probably only slightly higher than the lower riser, perhaps about 0.10 m. Both preserved treads have well-worn upper surfaces. The purpose of the steps must have been to adjust the level of the Entrance Bay and atrium to the level of the street, which was apparently about 0.40 m higher when the steps were built.⁴¹

The steps, together with the evidence of the niche walls, indicate that the opening in the north wall of the Entrance Bay was originally a doorway that was later blocked by the walls of the niche. The opening must originally have served as the major entrance to the church from the Street of Pipes; it was slightly wider than the doorway between the Entrance Bay and the atrium.

There is no evidence of cavities for doorjambs or doorposts in the steps between the Entrance Bay and the street; this doorway could therefore have remained permanently open, without doors, after the construction of the steps. In this phase, the doors that secured the Church EA building complex may have been located between the Entrance Bay and the atrium. However, as we have seen, the marble threshold in that doorway was added in later alterations to the doorway.⁴² While other explanations are possible, we may assume that when, in its original state, the doorway between the Entrance Bay and the atrium had no doors, the doorway between the Entrance Bay and the street was furnished with doors to secure the church complex. Since both openings are about the same width, it is possible that the marble threshold preserved in the north wall of the atrium was originally used in the doorway leading from the Entrance Bay to the street. The steps may well have been added in the exterior doorway of the Entrance Bay at the time the threshold between the Entrance Bay and atrium was added.⁴³ Alternatively it is possible, but less likely, that originally the church complex was open to the street and only the church itself was secured by doors.

41 Chapter 1, section 4.1, for further evidence of the accumulation of earth in and around the Church EA complex.

42 Section 1.2, above.

43 Section 13, below, for reasons why the opening may have been blocked and for other possible entrances to the church complex.

40 The foundation under the atrium north wall extends about *88.80, ca. 0.95 m below the top of the subfloor.

These changes may be summarized as follows: in the first phase, the precinct entrance from the street, probably with doors, was located in the north wall of the Entrance Bay, and the atrium and Entrance Bay were open to each other; in the second phase, the doorway in the north wall of the Entrance Bay was provided with steps and probably remained permanently open to the street, while doors were added between the Entrance Bay and the atrium; in the third phase, the doorway to the street in the north wall of the Entrance Bay was blocked by the construction of a rectangular niche, and the main entrance to the church complex was relocated to an unknown location.

2.3 The Floor Mosaic

The Entrance Bay floor was paved with a mosaic (*89.80) that was similar in style to that of the mosaic floors of the original basilica and the atrium (Figs. 3, 58, 59).⁴⁴ When excavated, the mosaic was intact in large parts of the west half of the room, and in the southeast and the northeast corners. Its floor pattern is composed of two borders and a central panel. The sizes of the tesserae average between 0.01 and 0.015 m.

The outer border (0.40 m wide on the south, 0.45 m to the west and east) consists of a vine scroll with heart-shaped leaves (Fig. 59). The vine scroll continues around three sides of the room and is interrupted on the north. On the south the scroll appears to relate to that preserved, in very fragmentary condition, south of the doorway between the atrium and the Entrance Bay. Each stem has two leaves placed parallel with the border; the dark blue outlines of the leaves, as well as the stems, are consistently one tessera wide. The interior of the leaves is executed in light blue tesserae, rather than the light and dark shades of brown used in the vine scroll of the north aisle. On the inner side the outer border is framed by a dark blue band two tesserae wide, followed by a white band five tesserae wide. The inner border is composed of a brick red sawtooth frieze on a white ground reminiscent of that in the atrium.

The central panel contains a field of interlaced squares with rounded corners (Figs. 58, 59). The interlace bands are shaded from light to dark, producing a three-dimensional effect. A band of four tesserae is flanked on each side by a row of dark tesserae. Along the outer side the bands are composed of alternating red and light blue. The interlace squares are joined along the edges of the panel by narrow interlace loops. The larger squares contain dark quatrefoils, and the ground between the squares is decorated by small dark squares.

44 Hanfmann, "Sardis 1962," 18–19, 21, for the mosaic (Ms61.2), which was removed in 1962 and has not survived; Buchwald, "EA and E," 199–200. The description is based on photographs and the color descriptions and dimensions are from field notes.

2.4 Floor Drain

Immediately below the bedding of the mosaic floor of the Entrance Bay is a well-built drain that ranges from 0.20 × 0.23 m (in the east foundation wall) to 0.27 × 0.27 m (in the west foundation wall) in cross section (Figs. 3, 53, 54). The drain was excavated near the midpoints of the east and west foundation walls of the Entrance Bay; it is contemporary with the foundation walls. When it was excavated the drain did not continue toward the east or west beyond the Entrance Bay walls; it is unlikely that drains that continued in either direction would have been removed entirely before excavation, since other drainage lines were found in this excavation area,⁴⁵ and thus the drain probably did not continue beyond the Entrance Bay walls. It apparently drained the area east of the Entrance Bay in the direction of the Pactolus to the west. Thus the areas to the east and west of the Entrance Bay were probably open to the sky when the Entrance Bay was built.

2.5 Comparable Evidence, Chronology, and Function

The construction date of the Entrance Bay may be established approximately by an analysis of its mosaic floor. The floor mosaic composition is almost identical to that in Room F, a small vestibule in the suite of rooms on the north side of the Street of Pipes.⁴⁶ On grounds of style, iconography, and the geometric alignment of motifs, the mosaic of Room F is clearly contemporary with the much larger and more impressive mosaic floors of the adjacent Rooms D and E, the Eagle and Dolphin mosaics. Coins found underneath the Eagle mosaic from the reign of Honorius and Arcadius (395–405), as well as stylistic comparisons, suggest a date at the beginning of the fifth century for these mosaics.⁴⁷ The Entrance Bay was probably built at approximately the same time, perhaps in the late fourth century or at the beginning of the fifth, assuming that the mosaic floor was set soon after construction.

The pattern of interlaced squares with rounded corners is not unusual. It is found in Sardis in mosaic floors at the Byzantine Shops⁴⁸ and at a colonnaded portico at MMS/N,⁴⁹

45 See for instance, the drain line east of the North Chapel, section 3.3, below, and those of the Street of Pipes only a few meters away.

46 Ms62.2. Hanfmann, "Sardis 1962," 18–19, 22–23, 26–30; when excavated, the Entrance Bay was called the Southwest Building; the mosaic comparison in 1962 is by W. C. Kohler.

47 W. C. Kohler in *ibid.*, 26–30, especially 30, with stylistic comparisons, and Hanfmann, "Sardis 1960," 24–26, for the numismatic evidence, a date "shortly after 400," and a note that "400 AD had been suggested by E. Kitzinger on stylistic grounds."

48 Ms.59.1. Crawford, *Byzantine Shops* (Sardis M9), 5–6, fig. 24; the mosaics are attributed to the fifth century on the basis of numismatic evidence; the last phase of construction is attributed to the early fifth century.

49 Greenewalt et al., "Sardis 1988 and 1989," 4–7, fig. 4; *idem*, "Sardis 1990 and 1991," 3–6, fig. 5; the lower pavement is attributed to the early

both dated to the early fifth century. The contemporaneous use of the same pattern in four different locations at Sardis, including public streets and the vestibules of a church and a house, implies that the motif could be used in many contexts and in spaces that differ greatly in size, function, and shape.⁵⁰ The interlaced squares at the Byzantine Shops and at the portico are entirely flat, without modeling, in contrast to the pattern of the Entrance Bay, and these mosaics therefore differed considerably in their visual effect. This variation may be explained by differences in the expertise of the mosaicists, differences in patronage, or in the available means: the flatter style is less time consuming to produce, probably requires somewhat less skill, and was probably less costly. The use of both styles probably during the same period suggests that here style need not be an indication of date.

Other examples of mosaic floors decorated with interlaced squares are found in Asia Minor, Greece, Syria, Jordan, and North Africa,⁵¹ for instance at Ephesus,⁵² Athens,⁵³ Klapsi,⁵⁴ Apamea,⁵⁵ Gerasa,⁵⁶ two other sites in Jordan,⁵⁷ and El-Koursi.⁵⁸

There is no evidence that indicates when the niche in the north wall of the Entrance Bay was constructed. If

fifth century on the basis of numismatic evidence; coins and other finds in the portico area date from the fourth to the seventh centuries; also Greenewalt and Rautman, "Sardis 1994 and 1995," 475, with the same dates.

50 Spiro, "Corpus," lxi, for similar observations concerning examples in Greece.

51 The following examples provide only a general geographic and chronological context for the motif.

52 Jobst, *Mosaiken*, 33, fig. 54, for the mosaic floor of Room 3a of the Gymnasium of Vedius.

53 Frantz, *Agora*, 42–44, pl. 36:b, for the mosaic floor of the House of Proclus, attributed to the third quarter of the fifth century; Asemakopoulou-Atzaka, *Σύνταγμα*, 123–24, pl. 184; Spiro, "Corpus," 36–45, figs. 42, 43, for an example in a villa dated to the second half of the fifth century; the pattern differs from that of the Entrance Bay in that it is positioned diagonally, the interlace bands are more deeply shaded, the inset motifs differ, and the border interlace bands are decorated with "cable" twists.

54 *Ibid.*, 276–92, fig. 332, for the floor of the north aisle of the basilica, dated to the first half of the sixth century; the pattern is more similar to that of the villa at Athens than to that of the Entrance Bay.

55 Napoleone-Lemaire and Balty, *Eglise*, 15–22, fig. 9, and Balty, "Eglise," pl. 25:1, for the unusual use of the motif diagonally, as a border, in the mosaic floor of the Martyrium, attributed to the fifth century.

56 Crowfoot, "Churches," 260–62; Biebel, "Mosaics," 338–39, pl. 80:c, for the use of the motif in the same combination as in the Jordanian examples below, in a small panel between the columns of the Procopius Church, dated 526 or 527.

57 Piccirillo, *Giordania*, 78–79, 82–83, figs. 27, 44, for two examples, dated by inscription 533 and 595, in which the pattern is superimposed on interlaced circles.

58 Donceel-Voûte, "Mosaics," fig. 10, for the mosaic floor of the south aisle, presented in a sixth-century context of motifs of the Earth Goddess.

the North Chapel was a diaconicon, the doorway would have been conveniently located at the entrance both to the church complex and to the North Chapel and would not have been blocked.⁵⁹ If the Northeast Unit replaced the North Chapel as the diaconicon, direct access to the North Chapel from the major portal may no longer have been needed; thus the niche could have been constructed when the Northeast Unit was added, probably in the second half of the fifth or in the sixth century.⁶⁰

The steps in the north doorway of the Entrance Bay must have been added when the doorway was still in use. They were probably constructed at the same time that the doors of that doorway appear to have been relocated to the doorway between the Entrance Bay and atrium. This change would have permitted worshippers to enter the North Chapel at all times without giving them access to other parts of the Church EA complex; if the North Chapel was a diaconicon at that time, donations could have been deposited there by worshippers at any time. Thus the reason for relocating the doors may have been to provide ongoing access to the North Chapel.

If we are correct in our interpretation that originally the doorway between the atrium and the Entrance Bay was without doors and that at that time the doors to the Church EA complex were located in the doorway between the Entrance Bay and the Street of Pipes, then the Entrance Bay was probably part of the same architectural design as the atrium and was constructed almost immediately afterwards. Otherwise the atrium would have remained open to the street.

3 The North Courtyard

Shortly after the construction of the basilica and atrium, a 3.09 m-wide strip of land along their north flank was enclosed to form an open court or passage. This so-called North Courtyard stretched at least 50 m from the Entrance Bay to the east and was separated from the street by a long wall on the axis of the north wall of the Entrance Bay (Figs. 3, 5, 60).⁶¹ Neither original cross walls nor pavement of any sort were found in this entire area: those portions that were not later reconstructed contained a tamped earth floor at *89.58–*89.70.⁶²

59 Section 4, below, for the North Chapel and its possible use as a diaconicon.

60 Below, sections 7 for the Northeast Unit and 13 for further discussion.

61 The wall appears in plans and photographs made in 1962 but was removed almost immediately. Hanfmann, "Sardis 1962," 20–22, figs. 13, 18, where the North Courtyard is called "The Roman Garden." Portions near the east end of the basilica were uncovered in 1973; Hanfmann, "Sardis Campaign 1973," fig. 4, where the wall is designated MU 3.

62 The North Chapel, which was built into the North Courtyard later, is an exception; see section 4, below. Hanfmann, "Sardis 1962," 18, 20, 21; SFR Hanfmann, 1973, 12.

Two features indicate that the North Courtyard was planned together with the atrium and Entrance Bay. First, the drain underneath the floor of the Entrance Bay would not have been necessary if the area occupied by the North Courtyard had been open to the north, as water would then have drained directly into the street.⁶³ Second, the small door in the north wall of the atrium would have been superfluous if the area immediately north of the atrium had been directly accessible from the street at the time the atrium was built.⁶⁴

3.1 The North Wall (Masonry Types B-4 and C)

Most of the long wall that separated the North Courtyard from the Street of Pipes was removed after excavation, and photographs do not permit an adequate analysis of its appearance (Fig. 60, Tables 3–5).⁶⁵ However, small segments that were excavated farther east show that the masonry is very similar to Type B-4 in most places, but in some areas that may be repairs to the original wall, it is similar to Type C. Both masonry types are described below.⁶⁶ The wall is 0.65 m thick.

3.2 Entrances and Circulation

The north wall of the North Courtyard separated the Church EA complex from the street and marked the northern extent of the church complex. When the North Courtyard was built, three doors connected it to the north aisle of the church. Thus the North Courtyard probably served as a circulation area providing access to this aisle. However, the North Courtyard was separated from the atrium, which also provided access to the church, and was distinctly inferior to it, since the North Courtyard lacked a paved floor and was quite long and narrow.

The excavated segments of the north wall contained no doors or other openings that would have provided direct access from the adjacent Street of Pipes. Though it is possible that there was a doorway between the North Courtyard and the street in the unexcavated east end of the wall, such a door would have provided an awkward approach to the church for worshippers and could not have been a major entrance.

It is more likely that the North Courtyard was approached through the small door in the north wall of the atrium. However, that door does not seem to be wide enough to provide adequate access to the three relatively wide doors of the north aisle. There may also have been a doorway that linked the North Courtyard directly to the Entrance

Bay, although we cannot be certain.⁶⁷ A direct connection between the Entrance Bay and the North Courtyard, however, would make the door between the atrium and the North Courtyard superfluous. The best explanation is that the door between the atrium and the North Courtyard was originally planned as the main means of access to the North Courtyard but proved to be inadequate, and a direct approach from the Entrance Bay was added.

3.3 Water Basin

A water basin constructed of tile and crushed tile in cement was located in the North Courtyard, against the north wall of the narthex. It was fed, probably from the roof of Church EA, by vertical and horizontal tile drain lines inside the narthex north wall (Fig. 61). Both lines have inner diameters of 0.15 m; the center of the vertical drain is 0.56 m from the north face of the narthex north wall, and 2.39 m east of the exterior northwest corner of the narthex. The center of the horizontal drain, which fed directly into the basin, is 0.55 m above the packed earth floor of the North Courtyard.⁶⁸ The basin was drained by a floor conduit that continued to the north under the North Courtyard and the Street of Pipes into Room C of the late Roman villa north of the Street (Fig. 3).⁶⁹ Although the tile drains within the north wall of the narthex indicate that some kind of water feature was originally part of the original design, the excavated water basin, with its irregular, rounded floor plan, was built later, after the construction of the North Chapel.⁷⁰ The original water basin was probably used by those entering the north aisle of Church EA through the North Courtyard.⁷¹

3.4 Comparable Evidence and Function

The approaches to Church EA through the North Courtyard—certainly from the atrium and perhaps from the Entrance Bay—were blocked when the North Chapel

63 Section 2.4, above, for the drain.

64 Section 1.2, above, for the doorway.

65 N. 61, above.

66 Below, sections 4.1 for the north wall of the North Chapel and 5.2 for the masonry Type C.

67 The evidence is difficult to interpret. The doorway excavated here could have been added later, when the North Chapel was constructed (section 4, below). The plans made in 1962 do not show mosaic floor in the doorway (Hanfmann, "Sardis 1962," fig. 13; also SFB 1980 Church EA, 22). The mortar type used in the mosaic subfloor was used in the doorway at subfloor level, but this mortar type was also used in the foundation wall below the doorway. The tile floor of the North Chapel (section 4.3, below) extended into the doorway between the North Chapel and the atrium but stopped before the doorway between the Entrance Bay and the North Chapel; thus mosaic flooring or a door tread probably existed in the doorway when the chapel was added. However, there was no threshold in the doorway when it was excavated, and there was no cavity for a threshold.

68 Author's notes, 1980.

69 SFB 1962 PN II, 83–84, with sketch showing flow direction to the north.

70 Section 4, below, for the North Chapel.

71 Section 3.4, below.

was constructed.⁷² The fact that they were no longer required raises the possibility that these approaches were used by catechumens. At first, apparently, catechumens were few, and the door between the atrium and the North Courtyard was adequate; subsequently, a larger flow of catechumens could have required a more direct opening between the Entrance Bay and the North Courtyard. Finally, the number of catechumens diminished, either because most of the population was already Christian, or because catechumens were initiated in another church at Sardis, and the approach to the north aisle through the North Courtyard became superfluous.⁷³ This interpretation explains the archaeological evidence and is supported by the addition of steps at one of the north aisle doors as described below.⁷⁴

This interpretation also helps to clarify the function of the north aisle, at least in some churches in Asia Minor during the first century after the Peace of the Church.⁷⁵ Parallels are known for the suggested use of the North Courtyard by catechumens only outside Asia Minor: for instance, similar spaces flanking the aisles in the late-fourth-century Basilica of Epiphanius at Salamis-Constantia and the fifth-century Episcopal Basilica of Kourion, both on Cyprus, have been designated *catechumena*.⁷⁶ At Kourion, catechumens could wait outside the church on benches during the performance of the *missa fidelium*. (No such feature was found in the North Courtyard at Sardis, but benches could have been of wood.) A similar space was also located north of the Episcopal Basilica of Gerasa in Jordan; that building may be roughly contemporary with Church EA.⁷⁷ There, as in Sardis, the northern courtyard

provided access from the atrium into the north aisle of the church by way of doors in the north wall of the north aisle. Sometime after its construction, the courtyard in Gerasa was widened and provided with lateral arches that probably supported a lightweight roof, as well as benches that may have been intended for catechumens. The Gerasa basilica had an equivalent south courtyard that was also used by catechumens; this south courtyard was blocked by a later chapel or diaconicon similar to the North Chapel of Church EA.⁷⁸

3.5 Chronology

As pointed out above, the North Courtyard and the Entrance Bay appear to be parts of a single architectural design and were probably planned together. The North Courtyard was, therefore, also probably constructed in the late fourth or early fifth century. A coin of Valentinian I dated 364–375 was found immediately underneath the tamped earth floor of the North Courtyard at *89.55, about 0.05 m lower than the church floor (Tables 1, 9).⁷⁹ Even though the ground where the coin was found may have been disturbed, the date and location of the coin fit the chronological pattern established by other evidence and strengthen the probability that this area north of the north aisle was in use during the last quarter of the fourth century, whether or not the North Courtyard had already been created by the construction of its north wall.⁸⁰

4 The North Chapel

When it was excavated, the area east of the Entrance Bay was occupied by a rectangular space as wide as the Entrance Bay (3.09 m) and 9.25 m long on its interior. This space, the North Chapel, is closed on the east by a deep apse 1.78 m in diameter (Figs. 3, 52, 54, 62). A column section, 0.45 m in diameter and 0.42 high, the remnant of an altar, was standing in the center of the apse when it was excavated.⁸¹

72 Section 4, below, for the North Chapel.

73 Taft, *Byzantine Rite*, 40, n. 27, observes that the catechumenate was largely nonexistent by the sixth century; idem, “Women,” 60–62, for the extent of the catechumenate, as an exception, possibly also after the sixth century; Mathews, *Churches*, 128–29, for the occasional survival of catechumens as late as the seventh century, emphasizing Constantinople.

74 Section 9.1, below.

75 Mango, *Architecture*, 42–43, provides an outline of the basic requirements of churches during this period and stresses that the sources concerning their use are contradictory and difficult to interpret; Mango emphasizes that the same requirements may have been satisfied in different ways even in buildings that were very similar; Mathews, *Churches*, 125–30, for the catechumens in the liturgy and their location in the church; Mathews suggests that the catechumens were at least in some instances located in the galleries, which were termed *catechumena* in Byzantine texts during the seventh century and later; see also Gough, “Churches”; Church EA may not have had galleries (chapter 1, section 5.5), and the catechumens, especially if there were many, could have left the church much more expeditiously before the *missa fidelium* if they were located on the ground floor; Taft, “Women,” for the location of women in the side aisles, at least in some churches, and for the use, in early texts, of the term *catechumena* to designate the location in church for women, at times also in the galleries.

76 Megaw, “Cyprus,” 60–68; idem, “Kourion,” particularly 363.

77 Crowfoot, “Churches,” 212–19, pl. 31.

78 Crowfoot, “Churches,” 214–15, believes that the north courtyard, or passage, was used by the women, the south courtyard by the men; ibid., 215, refers to the added unit as “the southwest chapel” and dates it to the second quarter of the sixth century on stylistic grounds; ibid., 137, refers to the same unit as “*diakonikon*”; Megaw, “Cyprus,” especially 60 n. 10, presents further examples from literary sources and designates the passageways next to the Gerasa cathedral *catechumena*. The lateral passages at Gerasa also had other functions: they provided access to the fountain court, and later, to the Church of St. Theodore, east of the Episcopal Church.

79 C62.1365. Hanfmann, “Sardis 1962,” 20; SFB 1962 PN II, 122. Buttrey et al., *Coins* (Sardis M7), R 583.

80 Taft, *Byzantine Rite*, 33–34, for early churches in which numerous entrances from all four sides were required for the expeditious movement of large numbers of worshippers arriving at the same time in procession.

81 The column was recorded but does not survive in situ. Hanfmann, “Sardis 1962,” 19 and fig. 13, where the column is erroneously described as a secondary support. A similar column section supporting an altar

The North Chapel was built into the west end of the North Courtyard.⁸² The apse has a straight face to the east; it is not bonded to the Chapel's north wall, and its masonry is of a somewhat different character (Fig. 63). On the south, the apse is built up against the north wall of the narthex.

The major approach to the North Chapel was from the Entrance Bay through a doorway 0.90 m wide. This doorway was defined on the north by a wall 1.50 m long that bonded with the north wall of the Entrance Bay; and on the south by a pier about 0.70 m long, which was almost completely lost at the time of excavation. No threshold was found in this doorway, perhaps suggesting that the opening was not furnished with a door.⁸³ The North Chapel could also be entered from the atrium through the small door that originally opened into the North Courtyard.⁸⁴

4.1 North Wall (Masonry Type B-4)

The north wall of the North Chapel abuts the northeast corner of the Entrance Bay (Figs. 54, 64, 65). The wall is 0.70 m thick and stands as high as 1.10 m above the original floor. Its masonry may be designated Type B-4 (Tables 3–5): the stones used here are larger than those of Masonry Types B-1–B-3 (Figs. 65, 66). Schist is also used more frequently in the North Chapel north wall, and its ashlar blocks are more rectangular.

Although stones of the same size are not grouped into horizontal courses on the north face of the wall (Fig. 65), the south, or interior, face was constructed more carefully, occasionally incorporating river stones in regular courses in a technique reminiscent of Masonry Type A (Fig. 66). On the interior face, a single leveling course 0.90 m above floor level was constructed of pinkish-red bricks measuring 0.04 × 0.16, 0.04 × 0.32, or 0.035 × 0.26 m. These bricks, which are quite regular in size and color, may not have been reused.

The mortar of the north wall is coarse, with an aggregate of large stone chunks and, occasionally, crushed brick.

slab was found in a comparable location in Church M at Sardis; Butler, *Sardis* 1, 112–15, fig. 120; idem, "Excavations," 475–76; also chapter 3, section 1.2, for a column section in similar position in the West Chapel.

82 Section 3.1, above, for the north wall of the North Courtyard, which may have differed in thickness somewhat in different locations. Existing evidence does not indicate whether or not the north wall of the North Courtyard was partly rebuilt in place, with the same material, when the North Chapel was constructed.

83 Section 3.2, above, especially n. 67, for evidence concerning the doorway; section 1.2, above, especially n. 13, for the use of thresholds to fasten doorjambes and doors in doorways; the possibility that a threshold was later removed from this doorway cannot be excluded, but there was no cavity for a threshold in the doorway. A door may have been fastened to the adjacent wall, but the evidence from the atrium and nave suggests that, in large doorways, a solution fastening doors to a jamb, doorpost, or door pin was preferred.

84 Section 1.2, above.

Remains of mortar with an undulating, horizontal surface, apparently for the attachment of plaster or revetment, were found on the interior faces of the north and south walls (Figs. 66, 67).

4.2 Apse (Masonry Type B-5)

The North Chapel apse wall is separated from the north and south walls by open vertical joints (Figs. 3, 54, 63, 65 left). At its highest point, it stands 0.80 m above the Chapel floor, but in most places it is preserved no higher than 0.50 m. The masonry of the apse wall is of Type B-5 (Tables 3–5). Its interior face is closer to Type A than any of the other variations of Type B. It consists, for the most part, of regular courses of small, rounded, often marble river stones in different colors, alternating with courses of flatter river stones or roughly squared ashlar laid horizontally (Fig. 63). The sizes of the stones are more regular and the courses are neater than in Types B-1 to B-4, but the masonry is still not as regular and neat as Type A masonry. The greater symbolic importance of the apse probably explains the higher quality of its masonry, even though it was undoubtedly covered by plaster or veneer. The exterior north face of the apse does not differ greatly in its masonry from the adjacent north wall (Fig. 65, Masonry Type B-4). Its exterior (east) face is so poorly preserved that it is impossible to describe its dominant characteristics.

Where they meet the adjacent walls, both the north and south ends of the apse wall are built entirely of brick (Fig. 63). The bricks are similar in color and size (pinkish red, 0.035–0.04 × 0.24–0.26 or 0.04 × 0.32 m) to the bricks of the north wall, providing further evidence that the North Chapel bricks were not reused. The mortar is gray and coarse, including stone chunks; crushed brick does not seem to have been used as an aggregate. Many of the mortar joints in the brickwork are nearly 0.04 m high, providing a ratio of brick to mortar joint of about 1:1, although some joints are narrower. Slightly raked pointing has survived in some places.

The location of the east face of the apse wall appears to have been determined by the pre-existing downspout that fed the water basin in the North Courtyard.⁸⁵ The basin must have been reconstructed after the North Chapel was built because when excavated the basin was built up against the east face of the apse.

4.3 Tile Floor

The floor of the North Chapel, including the apse, is paved with reddish-brown tiles (*89.78–*89.76; Figs. 3, 42, 68, Table

85 Section 3.3, above.

1).⁸⁶ Many of the tiles measure 0.34×0.34 m, but others are considerably larger, ranging from 0.74×0.74 to 0.83×0.83 m. This seems to indicate that the tiles were reused. Some of the tiles stop at the masonry of the ledges or continue only a few centimeters underneath them, indicating that the ledges were planned when the tile floor was set and that the ledges were built immediately after the floor was completed. The tile floor also continues several centimeters into the doorway between the North Chapel and the atrium, but it does not extend to meet the mosaic floor of the atrium (Fig. 47).⁸⁷ No earlier floor was found beneath the tiles.

4.4 Ledges

Ledges 0.30–0.40 m wide, preserved to a maximum height of 0.10 m, are built up against the north, south, and west walls of the chapel, and a ledge 0.20 m wide and 0.40 m high is located on the inside of the apse (Figs. 3, 42, 54, 63, 66–68). These ledges were built of roughly worked ashlar and irregularly placed field stone. The ledges were probably part of the original design of the North Chapel and do not block either of its doorways.⁸⁸

4.5 Chronology and Function

No numismatic or other reliable evidence provides even an approximate date for the construction of the North Chapel.⁸⁹ Although the masonry of the North Chapel is somewhat similar to that of earlier walls in the church complex, this may be explained by the likelihood that the North Chapel was built, at least in part, of material salvaged from the north wall of the North Courtyard; its north wall was partially removed to make way for the apse of the North Chapel. The drain underneath the Entrance Bay indicates that the area occupied by the North Chapel may have been open to the sky when the Entrance Bay was constructed.⁹⁰ The mortar on the north face of the atrium north wall was grooved with the end of a trowel, apparently to provide a suitable surface for plastering or revetment, in an area that was subsequently covered by the masonry of the North Chapel ledge (Figs. 42, 67). These observations demonstrate that the North Chapel was constructed later than the North Courtyard, Entrance Bay, and atrium.

The characteristics and relative position of the North Chapel suggest the possibility that it served as the

diaconicon of Church EA.⁹¹ Based on documentary and archaeological evidence, Robert Taft shows that in the Byzantine East, at least at some times and in some places, offerings, including bread and wine for the eucharist, were presented by the faithful as they arrived for the liturgy; the offerings were presented to the deacons in a diaconicon or sacristy located near the entrance of the church. Deacons supervised the presentations and, at times, recorded them.⁹² The North Chapel fulfills the requirements outlined by Taft. However, the archaeological evidence at Sardis suggests that the presentation of offerings in the North Chapel may not only have been possible as the faithful arrived for the liturgy: if the main doorway from the Street of Pipes to the Entrance Bay lacked doors, then the North Chapel may have been accessible at all times. The door connecting the North Chapel with the atrium would have served for the transfer of the offerings, by the clergy, to the church and altar as described by Taft.⁹³

The form and location of the diaconicon in many fifth- and sixth-century churches were investigated by Anastasios Orlandos. Although the criteria for the identification of a diaconicon are not entirely clear, most of the examples adduced by Orlandos are simple, usually elongated rooms with an apse at the east end, like the North Chapel. Some of the diaconica identified by Orlandos could have served other functions, but mosaic inscriptions designate the diaconicon of the Church at Mastichari on Kos.⁹⁴ Like the North Chapel, Orlandos's examples at Sikonos and Mastichari had low tables or altars and low narrow ledges along the walls, where offerings could be placed.⁹⁵

Orlandos concludes that diaconica were first located near the narthex or atrium of a church but were later usually built farther east, alongside the aisles.⁹⁶ If this hypothesis is

91 Section 7, below, especially 7.7.4, for evidence that later the Northeast Unit may also have been a diaconicon and further comparable examples.

92 Taft, *Great Entrance*, 12–16, reviews previous interpretations concerning the offerings of the faithful; *ibid.*, 16–34, for the documentary and archaeological evidence; also Mathews, *Churches*, 155–62.

93 Taft, *Great Entrance*, 21, 23, 31, 34.

94 However, see n. 96, below, especially Descoeudres, for possible differences in the definition of a diaconicon: a diaconicon need not always have fulfilled the functions outlined by Taft.

95 Kirsch and Klauser, "Altar," 336–38, and Wessel, "Altar," 114, for further examples of this type of altar; n. 96, below, Sodini, for wall ledges in churches and chapels; Teteriatnikov, *Liturgical Planning*, 108–13, for rock cut benches used as seating located along the walls of churches and chapels in Cappadocia, which, however, are larger (0.35–0.40 m wide and 0.50–0.60 high); see also Jolivet-Levy, "Liturgical Planning," a review of Teteriatnikov. The ledges of the North Chapel at Sardis are too low and in some locations too narrow to serve as benches.

96 Orlandos, "Μετακίνησις"; *idem*, "Βασιλικαί της Κω," fig. 65; Altripp, *Prothesis*, 5–11, 19–39, for a review of scholarship concerning the use of the prothesis and diaconicon and their architectural development, at times using the terms synonymously; Asutay, *Apsisnebenräume*, 11–15,

86 Hanfmann, "Sardis 1962," 19, 21; Hanfmann, "Sardis Campaign 1973," 35.

87 Section 1.2, above, for the door between the North Chapel and the atrium.

88 Also section 4.3, above.

89 Table 9; C62.505, dated 395–408, was found in fill about 0.74 m above the floor level of the North Chapel, making it unusable for the determination of chronology.

90 Section 2.4, above.

correct, it is tempting to assign the North Chapel a place quite early in the series, because access was from the Entrance Bay and atrium, rather than from the narthex as in most of Orlando's early examples.⁹⁷ On the other hand, the North Chapel appears to have been constructed only after the circulation of catechumens from the Entrance Bay and atrium to the north aisle had diminished or ended, either because most of the population was already Christian or because there was another church where catechumens were initiated in Sardis.⁹⁸ Taken together, these considerations suggest that the North Chapel was probably constructed between the second quarter and the late fifth century; both the character of the masonry and Orlando's criteria suggest an early date within this period.

5 The Northwest Unit

The area west of the Entrance Bay, the Northwest Unit, is so poorly preserved that neither its original dimensions nor its function can be determined (Figs. 3, 5, 52, 53). It was at least 4.5 m long and as wide as the Entrance Bay and North Courtyard (3.09 m). No doorway was found: it must have existed in the western part of the Northwest Unit, which was lost to the erosion of the Pactolus. Only a packed earth floor was found in the area. Until the North Chapel was built, water from the North Courtyard probably drained into the Northwest Unit,⁹⁹ implying that the Northwest Unit was yet to be planned or that it was an open courtyard. If the Northwest Unit ever received a roof (perhaps supported by a pier built into its south wall), it could only have been after the North Chapel was completed. Even then, as the lack of a finished floor indicates, the Northwest Unit housed secondary functions.

46–47, 57–60, for a summary of the evidence with emphasis on examples from Cappadocia and Constantinople; Descoedres, *Pastophorien*, xvii, xxii–xxv, 23–25, 127–32, stresses that the term *diaconicon* was used for rooms serving very different purposes; Crowfoot, “Churches,” 177–79, for further examples, most of which were added to earlier churches, and textual references; Babić, *Chapelles*, 58–78, for skepticism concerning the designation as *diaconicon* of some, but not all of the examples adduced by Orlando and Crowfoot in a thorough account with extensive references; also Ćurčić, “Chapelles,” and Pallas, “Chapelles,” both reviews of Babić, *Chapelles*; Sodini, “Dispositifs,” 460–73, for church annexes in Greece and the Balkans, some of which closely resemble the North Chapel; Sodini favors an attribution of some examples as baptisteries, but agrees with Orlando that others were *diaconica* and discusses the use of the “benches,” found along the walls of several annexes, for the offerings of the faithful; *ibid.*, 470–71, for the use of the *diaconicon* (or *skeuophylakion*) in Constantinople and regions under its influence, in contrast to the Roman tradition without a *diaconicon*, and further references; also Bandmann, “Pastophorien”; Lassus, *Sanctuaires*, 194–96; Smith, “Side Chambers.”

97 Orlando, “Μετακίνησις.”

98 See sections 3.4, above, and 13, below.

99 Section 2.4, above.

5.1 The East and South Walls

The east wall of the Northwest Unit—the west wall of the Entrance Bay—is poorly preserved above grade and is of Masonry Type B-2 (Tables 3, 4).¹⁰⁰ The wall is bonded with the north wall of the Entrance Bay but not with the north wall of the Northwest Unit nor the north wall of the atrium (Figs. 41, 53 right).

The south wall of the Northwest Unit is the north wall of the atrium. About 1.80 m west of the southeast corner of the Northwest Unit is an open vertical joint in the south wall that extends only to floor level; the foundation wall, which is 0.95 m deep, continues without interruption below the level of the joint (Figs. 43, 44). While the masonry to the east of the joint is mortared, the masonry to the west is similar to the unmortared masonry of the foundation wall underneath both wall sections. The time lag between the construction of the two portions of the wall is probably negligible, and the joint may have resulted from design changes during construction.

5.2 Pier (Masonry Type C)

A pier 0.60 × 0.85 m (east–west) in cross section stands against the north face of the south wall, about 1.90 m west of the open joint (Figs. 3, 8, 43). It has no foundations and was clearly constructed after the wall. The pier is built of distinctive masonry, also used in other additions to Church EA, designated Type C (Tables 3–5). The Type C masonry of the pier is composed almost entirely of roughly squared schist and field stone of various sizes, laid in short, horizontal courses without a continuous horizontal pattern. Single reused bricks or brick fragments, but not regular brick courses, are used occasionally. Unworked river stones do not occur. The dark brownish-gray mortar is very coarse and has an aggregate that includes crushed stone and brick as well as plaster chips. Unlike the other masonry types of Church EA, which have a mortared rubble core, Masonry Type C seems to have the same character throughout the thickness of the wall.

5.3 North Wall (Masonry Type B-4)

The north wall of the Northwest Unit is flush with the north wall of the Entrance Bay. It is preserved for only about 3.00 m, since its western extension has been lost to the erosion of the Pactolus. Only the lowest courses are extant, and the wall is the same in thickness, 0.70 m, and masonry, Type B-4, as the north wall of the North Chapel.

6 The West Unit

West of the atrium, remains of walls and of a mosaic floor were observed in the bluff above the Pactolus in 1975, and a

100 Section 2.1, above.

small portion of these remains was excavated in 1980 (Figs. 3, 8, 69).¹⁰¹ The walls of this area continue the orientation of the Church EA complex, and a door connected the atrium with the West Unit, one of the rooms in this western extension of the church complex. The West Unit measures 5.02 m on the exterior (east–west). Its north portion was lost to the erosion of the Pactolus, and its south portion lies unexcavated underneath several meters of fill in the Pactolus bluff. A mosaic decorated with a pattern of crosses paves the West Unit floor (Figs. 70, 71).

6.1 The East Wall

The wall between the West Unit and the atrium is composed of a wall 0.99 m thick supported by a foundation 1.15 m thick (Fig. 72). At its highest point, the excavated wall stands 1.15 m above the top of the foundation, which extends at least 1.00 m below ground level but was not excavated to its bottom. The eastern faces of the wall and foundation are flush. Their unusual thickness, when compared to the walls and foundations used in the construction of Church EA and other additions, may indicate that they were built, perhaps on extensive fill, to withstand the erosive action of the Pactolus,¹⁰² or that they carried an unusually heavy load, such as vaults or upper floors.

Only small areas of the finished faces of the masonry are visible; the character of the foundation remains unknown. The exposed areas of the wall were built using Masonry Type C (Tables 3–5): irregular ashlar, including schist but little or no brick. These materials were laid in short horizontal courses, apparently without a cemented rubble core. The masonry is bonded with light gray mortar. However, the wall could also have been constructed of Masonry Type B, since the small areas of exposed masonry may have been patches that reflect the later repairs evident in the same room.¹⁰³

The north end of the wall has a clean face that must be the south jamb of a doorway (Fig. 72); the wall was excavated only 0.95 m south of this face. The foundation has a broken surface on the north, 0.80 m north of the jamb, and the top of the foundation is flat and finished, apparently to receive a threshold, 0.20 m below the mosaic floor of the adjacent atrium (Table 1).¹⁰⁴

101 SFB 1980 Church EA. I am grateful to Barbara McLaughlin for her aid in the difficult excavation of the area. The excavations are unpublished.

102 This possibility is based upon three assumptions: that the erosion of the Pactolus was already a concern, that extensive fill may have been used (section 6.4, below), and that the builders *believed* that a thicker wall and foundation would be more effective in fill; in fact, the additional weight of the thicker walls would have been counterproductive, causing even greater settling.

103 Section 6.2, below.

104 Section 1.3, above, for the mosaic floor.

6.2 The West Walls (Masonry Types B-6, C)

On the west the West Unit is defined by two adjacent parallel walls with a total thickness of 1.53 m (Figs. 3, 8, 72 far right, 74). The outer or western wall is only 0.46 m thick, much narrower than other walls in the Church EA complex. It is built of Masonry Type C (Tables 3–5) and stands on a mass of loose stone about 0.50 m high.¹⁰⁵ These stones, packed with earth and occasionally with coarse gray mortar, continue upward in the space between the two walls. Thus the outer wall and the mass of packed stones were constructed together, built up against the pre-existing inner wall. The east face of the inner wall was excavated only 0.60 m south of the north end of the wall. Its north end has a finished face, probably a doorjamb, about 1.40 m south of the doorjamb between the atrium and the West Unit. The north end of the outer wall has a broken edge in almost the same location, indicating that the wall continued to the north, and that it blocked the doorway of the inner wall. Structurally the stone mass and narrow wall would have been of little value. The function of the outer wall must have been to block existing openings and to strengthen the existing wall, while the purpose of the stone mass appears to have been the rapid filling in of spaces that, given more time, would have been constructed of mortared rubble or masonry. Thus the outer wall and the stone mass appear to have been constructed in haste.

The inner wall (Masonry Type C), which is 0.65 m thick, rests on top of the mosaic floor of the West Unit (Fig. 72). Both walls were therefore built later than the West Unit and are two extensive, separate repairs and replacements of the original west wall. The stone mass on which the outer wall rests is built over a foundation of distinctive masonry (Fig. 73, 74). The masonry near the bottom of this foundation is Type B-6: courses of flat, unworked river stones alternating with courses of thicker more rounded river stones. The upper portions of the foundation, which are poorly preserved, are of larger, less regular stones and may have been built during the later repairs and wall replacements (Tables 3–5). The lower courses of this foundation are thus remnants of the original west foundation wall of the West Unit. Since the west face of the outer wall is approximately flush with the west face of the foundation, the outer wall must be a replacement of the original west wall. The total thickness of the outer wall and the stone mass that separates it from the inner wall is 0.80 m, a measurement consistent with the thickness of other walls in the Church complex. The inner wall was constructed after and next to the original outer wall, apparently for structural reasons: it is possible

105 The stones must have been held in place by earth on the outside, indicating that the grade was at the level of the bottom of this wall when the stones and wall were installed.

that the original outer wall was structurally deficient or damaged by erosion.

An open vertical joint is located 2.46 m south of the north end of the outer wall (Fig. 73). The outer wall continues south 1.00 m beyond the open joint, where it is intersected by a wall on an east–west axis that extends 1.56 m west of the outer wall (Figs. 3, 8, 74). The west end of this wall has a finished face 1.00 m wide; it constitutes a pier that buttresses the west wall of the West Unit. The west face of the pier is the westernmost extremity of the Church EA complex as it is now known; it stands 6.58 m west of the east face of the atrium west wall. The south face of the pier is 0.23 m wide and is intersected by a wall on a north–south axis that continues an unknown distance southward into the Pactolus scarp (Fig. 3). This wall appears to be the western side of additional rooms located west of the atrium (Fig. 8).

The masonry of the upper exposed walls that define the west side of the West Unit is related to Type C (Fig. 73). Though unworked river stones and single reused bricks or brick fragments are used occasionally, these walls are constructed mostly of schist, field stone, and roughly cut ashlar, usually laid in approximately horizontal courses and bonded with hard gray mortar. Only minor differences are apparent in the masonry on either side of the open joint in the west wall. This portion of the wall, 1.0 m wide, could be a blocked doorway. The bottom of the wall south of the joint is constructed of a single block of well-cut, apparently reused marble that appears to rest on a hard-packed floor at the approximate level of the West Unit mosaic floor (ca. *89.87, Table 1). The open vertical joint does not seem to continue below the marble block.

Remains of plaster were found on the east and west faces of the west wall and turn the corner onto the north face of the adjacent pier. The plaster on the west face of the wall was painted light brown.

6.3 South Wall

The south wall of the West Unit was not excavated. However, the pier in the west wall probably represents the west end of a cross wall that continued east to meet the west wall of the atrium (Fig. 8). If so, this wall may be the south wall of the West Unit; the West Unit would, then, have been over 6.00 m long, assuming that the door between the atrium and the West Unit was at least 1.00 m wide.¹⁰⁶ However, the south border of the floor mosaic could also define the West Unit south wall; the border is located roughly 3.00 m farther north than the suggested cross-wall reconstruction.¹⁰⁷

106 The jamb of the door in the east wall of the West Unit lies approximately 5.00 m north of the north face of the reconstructed south wall (Fig. 8).

107 Section 6.4, below, for the West Unit mosaic floor.

6.4 The Mosaic Floor

The mosaic floor of the West Unit (*89.85) is 0.10 m higher than the mosaic floor of the atrium (Table 1).¹⁰⁸ It was laid on a cement bed 0.07 m thick that rests on a subfloor of packed stone 0.13 m thick, which in turn rests on clean fill of earth and clay. The mosaic floor and subfloor were constructed against the east wall of the West Unit, over the foundation underneath that wall (Fig. 72). Only a fragment of the mosaic, about 2.00 × 3.15 m (east–west)¹⁰⁹ in its greatest known dimensions, was preserved, and the remains are in poor condition. Nevertheless, an intricate pattern of crosses composed of intersecting and tangent circles made of interwoven bands is recognizable (Figs. 70, 71).

Each cross lies at the intersection of four circles that are equal in diameter and are located at equal distances from each other, so that the circles are almost, but not quite, tangent. Thus the crosses have sides of equal length that are segments of circles.¹¹⁰ A smaller circle with a radius about half that of the major circle is located at the center of each major circle and forms the end of the cross arm. Poorly preserved and barely recognizable patterns fill the smaller circles. Each interwoven band makes a complete rotation about a single cross and forms one quarter of four large and of four small circles. At the edge of the pattern both the major and the minor circles are half circles with their flat sides against the outer border. The borders on the east and south sides are poorly preserved and difficult to distinguish. The east border seems to be a meander, and the south border seems to be composed of curved motifs enclosed in rectangular units.

The pattern of the West Unit mosaic floor is flat in appearance. The interwoven bands are outlined by dark reddish-brown tesserae on both edges; the inner parts of the bands and of the crosses are almost entirely white or off-white, with little or no shading, causing the pattern to read as a linear composition. The mosaic lacks the rich coloring and plasticity that characterize the interlace patterns in the north aisle, atrium, and narthex. The flat character of the West Unit mosaic should probably be interpreted as a deliberate stylistic feature: it is in harmony with the strong geometry of the composition, and it enhances the unity and legibility of the figure/ground relationships inherent in this type of pattern. It should not, therefore, be thought of as a decline of quality.¹¹¹ The skill evident both in the conception and

108 SFR McLauchlin, 1980, 5.

109 The western end of the mosaic lies underneath the inner west wall.

110 I hesitate to use the common term *Maltese* cross, because the Maltese order originated only many centuries later; see Dinkler and Dinkler-v. Schubert, “Kreuz,” 25–26, for the cross form.

111 Also section 2.5, above.

execution of this floor mosaic pattern produces an effect of considerable elegance.

6.5 Comparable Evidence

6.5.1 The Masonry

The character of the masonry helps to clarify the sequence of construction in the West Unit. The only Type B masonry found in the West Unit is in the foundation under the west wall. Type B masonry was also used in the construction of the atrium, Entrance Bay, North Courtyard, Northwest Unit, and the North Chapel. In the West Unit, Type C masonry is found in the inner and outer west walls and in the east wall. Variations of this masonry type are found in the pier that was added to the south wall of the Northwest Unit, and in the Northeast Unit, which is probably one of the latest additions to the church complex.

6.5.2 The Mosaic Floor

The flat character of the interlace bands of the West Unit floor mosaic occurs at Sardis in examples that have been attributed to the early fifth century.¹¹² Somewhat more richly shaded bands occur in a mosaic floor in room BE-A of the Bath-Gymnasium complex at Sardis, which is decorated with a similar pattern of circles and crosses.¹¹³

Patterns of circles and crosses are common in mosaic floor decorations. Some are not identified as crosses in the publications and some are found in floors of rooms that had no known Christian use.¹¹⁴ Several of these floors predate the period when Christian connotations may be expected.¹¹⁵ Floors with circles and crosses, not all of which closely resemble those of the West Unit mosaic, may

be dated to the fourth century, for instance at Antioch-Kaoussie,¹¹⁶ at the Procopius Church of Gerasa,¹¹⁷ and at Zahrani (Lebanon).¹¹⁸ While the edict of Theodosius II of 427 against the use of crosses to decorate floors was not very effective,¹¹⁹ it may have been one reason for the use of patterns with crosses that are ambiguous and difficult to decipher.

Mosaic floors with circles and crosses but no interlace occur before the fourth century, but also as late as the sixth; the broad geographical range and variety of this pattern are suggested by floors found, for instance, at Antikyra,¹²⁰ Daphnousia,¹²¹ Arkitza,¹²² Demetrias,¹²³ Stobi,¹²⁴ Ravenna,¹²⁵ Classe,¹²⁶ Antioch,¹²⁷ Qum Hartaine,¹²⁸ Hama,¹²⁹ and Bughazi.¹³⁰ Crosses and circles defined by interlace bands (as in the West Unit) appear to begin in the fourth century

116 Kitzinger, "Threshold," with numerous further examples and fig. 1.

117 Crowfoot, "Churches," 260–62, and Biebel, "Mosaics," 338, pl. 80:E. The mosaics are dated by inscription to 526 or 527; the mosaic pattern closely resembles that of the West Unit in its organization but not in its details.

118 Brandenburg, "Christussymbole," 102–5; also *ibid.*, 89–97, for a mosaic floor at Shavei Zion, near Acre, attributed to the fourth century.

119 Brandenburg, "Christussymbole," 110–13, 127, 132–33; Dinkler and Dinkler-v. Schubert, "Kreuz," 108.

120 Asemakopoulou-Atzaka, *Σύνταγμα*, 149–51, no. 87, pl. 239, from the narthex of a basilica attributed to the first half of the sixth century.

121 Asemakopoulou-Atzaka, *Σύνταγμα*, 173–76, no. 111, pl. 297, from the nave of a basilica dated to the late fourth to early fifth century.

122 Orlandos, "Locride," fig. 13; Spiro, "Corpus," 260–70, pl. 307, from the nave of a basilica dated to the late fourth or early fifth century.

123 Spiro, "Corpus," 380–91, pl. 426, from the nave of the Damocratia basilica, dated to the late fourth or early fifth century by inscription; Marzloff, "Demetrias," 303, pl. 7, for an example from a room with a horseshoe-shaped apse, apparently with a secular function, dated to approximately the same period.

124 Kolarik and Petrovski, "Stobi," 93–103, fig. 25, for the Episcopal Basilica South, attributed to the late fifth century.

125 Berti, ed., *Mosaici*, 74–75, pl. 43, no. 54, for an example from the "Palace of Theodoric," attributed to the mid-sixth century, with numerous comparable examples in Italy and elsewhere.

126 Farioli Campanati, "Classe," 28–36, fig. p. 33, for an example from the south aisle of S. Severo, attributed to the late fifth or early sixth century; an apparently contemporary, rather complex pattern of circles and crosses defined by interlace is used in the same pavement (fig. p. 34).

127 Campbell and Stillwell, "Mosaics," 197, no. 144, pl. 70, for the floor mosaic of a house at Daphne-Harbie; Stillwell does not mention the crosses, which may have been unintended features.

128 Donceel-Voûte, "Mosaics," 88, fig. 1, from the north aisle of a basilica dated 500.

129 Ploug, *Hama*, 179, fig. 39, pl. A, Mos. V, 50, from a house attributed to the fourth–fifth centuries, with numerous further comparisons from the second century to the fifth.

130 Michaelides, *Bughazi*, 33–34, no. 15, fig. 34, for the floor of House P1, attributed to the second half of the second to early third century; Dinkler and Dinkler-v. Schubert, "Kreuz," 108; *ibid.*, 107–13, for numerous further examples of crosses that decorate mosaic pavements that are not discussed here; also Balmelle et al., *Décor*, 384, pl. 244.

112 Section 2.5, above, ns. 47–49.

113 Yegül, *Bath-Gymnasium* (Sardis R3), 93–95, fig. 276. Coins from the fourth to sixth centuries were found in the room, many on the mosaic pavement; the report makes no attempt to date the mosaic. The cross in the mosaic pattern is emphasized by infill in each cross arm, suggesting that the room may have served a Christian purpose; all evidence of such Christian use would have been removed when the shape and function of the room were altered, no earlier than the fifth century, but perhaps later. Naumann, "Aizanoi," for the conversion of similar individual rooms of a bathing complex to Christian use.

114 For instance, Campbell and Stillwell, "Mosaics," 197, no. 144, pl. 70, for panel D of the floor mosaic of House 2, room 6 at Daphne-Harbie, with a description that does not mention the crosses, which may have been unintended features of the floor pattern; Brandenburg, "Christussymbole," for numerous examples of different cross types in mosaic floors of secular and religious buildings of the fourth to sixth centuries in many parts of the Empire, with interpretations of their meanings; *idem*, "Bellerophon," 78–80, n. 75, for additional examples of crosses in floor mosaics, most of which are in secular buildings; Dinkler and Dinkler-v. Schubert, "Kreuz," 107–8, for knotted crosses in floor mosaics with numerous examples and meanings.

115 For instance, Michaelides, *Bughazi*, 124, no. 34, fig. 106, for a floor from Shara Mukhtar (Libya) that has been dated late second/early third century.

and continue at least to the seventh. Many mosaic pavements of this latter type—most of them attributed to the sixth century—are found in Turkey, Israel, and Jordan. Crosses with interwoven circles have been found, for instance, at Ephesos,¹³¹ Iasos,¹³² Anemurium,¹³³ Gerasa,¹³⁴ southern Jordan,¹³⁵ Jerusalem,¹³⁶ Maäle'-Adomim (Jerusalem),¹³⁷ Byblos,¹³⁸ Khirbet el-Beiyudat,¹³⁹ Shiqmona,¹⁴⁰ Zippori,¹⁴¹ Sha'ar Ha'aliya (Haifa),¹⁴² and Shelomi.¹⁴³

Ernst Kitzinger and Hugo Brandenburg have demonstrated that crosses were used in the decoration of mosaic floors, in both churches and secular buildings, as apotropaic measures, to deny the powers of evil access to certain strategic locations.¹⁴⁴ The examples they cite, at Antioch and Bethlehem, are dated to the fourth and fifth centuries. It is tempting to attribute a similar apotropaic function to the crosses of the West Unit mosaic; here, however, the sacred area to be protected was apparently not, as at Antioch and Bethlehem, a particularly sacred area within the church, but rather the entire church

complex, which could be entered from the west through the West Unit. However, the Church EA complex may also have contained the grave of a Christian martyr.¹⁴⁵ If so, the parallel with the Church of St. Babylas at Antioch is strengthened: in both churches, the tomb of a Christian martyr would be protected by crosses in the floor mosaic decoration, although the mosaic at Antioch is very close to the tomb, while the West Unit mosaic is situated at one entrance to the church complex.

6.6 Summary and Chronology

Without further excavation, a definitive interpretation of the West Unit is impossible. At present it is sufficient to draw a number of tentative conclusions. First, there is clear evidence for rooms arranged along the west side of the atrium. One of these rooms, approximately on the major axis of the church, appears to have been important and was furnished with a mosaic floor of high quality; this room may have been vaulted or have had upper stories.

Several construction phases are responsible for the known remains. Their interpretation is complex and in part speculative. The earliest construction, represented by the lower courses of the foundation underneath the outer western wall, employed masonry similar to that used in the ancillary rooms on the north side of the atrium and is probably roughly contemporary with these rooms. A date in the first half of the fifth century is probable.

The east wall, which is the west wall of the atrium, may have been constructed later because its masonry differs (Type C). However, it seems more likely that the small areas of exposed masonry were repairs and that the wall is contemporary with the atrium (late fourth century or beginning of the fifth). If this wall is not the original west wall of the atrium, then it must be a later replacement of that wall. The mosaic floor, laid up against the east wall, may be roughly contemporary with the wall or somewhat later. Comparable examples indicate that an attribution of the mosaic floor to the fifth century is reasonable. Its interlace bands are similar to those of other mosaic floors at Sardis that are dated to the early fifth century.¹⁴⁶

During this phase, doors may already have connected the Church EA complex through the West Unit to the area to the west. A door must have connected the atrium and the West Unit,¹⁴⁷ and the door in the (later) west wall of the West Unit could reflect a door in an earlier wall in the same location.¹⁴⁸ The pattern of the West Unit mosaic floor

131 Jobst, *Mosaiken*, 32–34, fig. 48, from the Stoa of the Alytarchs. In contrast to the motif of the West Unit, here there are no smaller circles to form the ends of the cross arms, so the crosses may therefore be unintended; the mosaic pavement is attributed stylistically to the late fifth or early sixth century.

132 Berti, "Iasos," 158–62, figs. 12, 13, for an apsidal hall near the East Gate, attributed to the fifth or sixth century.

133 Campbell, *Anemurium*, 44–50, pls. 199, 202, from the Necropolis Church chancel, dated to the late fourth or early fifth centuries.

134 Crowfoot, "Churches," 260–62; Biebel, "Mosaics," 338–39, pl. 80:E and F, from the Procopius Church, dated by inscription 526 or 527.

135 Piccirillo, *Giordania*, 82–83, fig. 45, from the north aisle of the Church of the Virgin; the church is dated by inscription 533 and the mosaic floor to a renovation of 582–583.

136 Dauphin, "Sainte-Marie," 249–51, figs. 1, 2, for the lowest of three mosaic floors of a chapel designated "Martyrion," north of the north aisle of the Church of St. Mary of the Probatia at Bethesda, dated to the first half of the fifth century; Benoit, "Bethésda," 51, pl. 8, fig. 3.

137 Bar-Shay, "Mosaïque géométrique," figs. 3, 9, 11, from the Chapel of the Three Priests at the monastery of St. Martyrius, dated by inscription 522–523, and with a geometric construction of the pattern; also Magen, "St. Martyrius," 186–89, pl. 11:B.

138 Donceel-Voûte, "Mosaics," 93, fig. 6, from a villa attributed to the sixth century, with references to further examples of the same motif in the region.

139 Segni, "Khirbet el-Beiyûdât," 165–66, inscription no. 2, pl. 8:A, from the southeast room of a church attributed to the period before 570.

140 Ovadiah and Ovadiah, *Pavements*, no. 220, pl. 156:1, attributed to the sixth century.

141 Weiss and Netzer, "Zippori," 44–45, pl. 9, for a pavement from a public building, perhaps a civic basilica.

142 Yeivin, *Archaeological Activities*, 14, pl. 12:2, from a monastery.

143 Dauphin, "Galilée," fig. 4, from an ecclesiastical establishment attributed to the early seventh century; idem, "Shelomi."

144 Brandenburg, "Bellerophon," 78–80; idem, "Christussymbole," particularly 89–104, 107–9, 128; Kitzinger, "Threshold"; see also Maguire et al., *Holy Powers*, 3–22.

145 Chapter 4, sections 4.3, 4.4.

146 Section 2.5, above, and ns. 48, 49.

147 It could have been the door of which one jamb is preserved in the West Unit east wall.

148 Section 2.2, above, for the Entrance Bay, probably the major entrance to the Church EA building complex during this period.

could have had apotropaic meanings appropriate at an entrance to the church complex.

A later phase of construction is represented by the inner west wall, which stands on the mosaic floor of the earlier phase. The masonry of this wall (Type C) is similar to masonry in the Northeast Unit and in a pier added to the Northwest Unit.¹⁴⁹ The date of this masonry cannot be determined with precision: dates from the second half of the fifth century to the early seventh are possible. During this phase, apparently for structural reasons, the inner west wall was built up against the original west wall, which no longer remains. At this time partially preserved doors provided access from the area west of the church complex through the West Unit into the atrium. However, since the doors are not on the major axis of Church EA and are not opposite each other, there is no evidence for a monumental axial approach equivalent to that of the Entrance Bay.¹⁵⁰

The final construction phase, represented by the outer west wall, strengthened existing walls and blocked existing doorways. The outer west wall, which blocked the door giving access to the church complex from the west, and the loose stone mass erected at the same time appear to have replaced the original west wall of the first phase.

7 The Northeast and Southeast Units

The Northeast Unit, a room added to the east end of the north aisle of Church EA, is 6.00 m long (Figs. 3, 8, 13). Its walls are not parallel, with the width ranging from 4.10 to 4.80 m. The west wall of the Northeast Unit is the east wall of the basilica's north aisle, and its east wall is the west wall of the East Building.¹⁵¹ The only known entrance to this room was through the door in the east wall of the north aisle of the original basilica. The floor of the Northeast Unit was not preserved but was probably at *90.31, 0.74 m higher than that of the basilica. No stairs were found to connect the floor of the north aisle with that of the Northeast Unit; the stairs were probably removed during a medieval reconstruction of the church.¹⁵² Until the construction of the Northeast Unit, the area immediately to the east of Church EA seems to have been open and continuous with the North Courtyard.¹⁵³

7.1 The North Wall (Masonry Type C)

The north wall of the Northeast Unit is 0.60–0.65 m thick and is relatively well preserved to *90.86, about 1.29 m above the floor level of Church EA (Figs. 13, 75). The north face of the north wall stands flush with the north face of the basilica north wall. Its masonry abuts the masonry of the east wall of the north aisle and overlaps the foundation of the basilica at the northeast corner, demonstrating that the Northeast Unit was built after Church EA (Fig. 75). The masonry is Type C (Tables 3–5), constructed of small, roughly rectangular ashlar, laid horizontally but without a specific pattern. Single bricks and brick chips are used sporadically. The dark brownish-gray mortar is very coarse, with an admixture of crushed stone, plaster chips, and brick chips.

The south face of the wall is smoother and more carefully constructed above a horizontal line 0.74 m above the floor level of Church EA (Fig. 76). The upper, but not the lower, portion of the wall was coated with coarse plaster. This plaster was worked with a rounded tool; the treatment is similar to that of other walls in the church that were plastered or decorated with revetment.¹⁵⁴ Thus the horizontal line on the south face of the wall was probably at the original floor level of the Northeast Unit.¹⁵⁵ The upper part of the north face of the wall is also more smoothly and carefully constructed than the lower part, but here the different finishes meet at a horizontal line 0.40 m lower than on the south face of the wall suggesting that here the ground level of the North Courtyard was 0.40 m lower than the floor level of the Northeast Unit and 0.34 m higher than the floor of Church EA when the Northeast Unit was constructed (Table 1).¹⁵⁶

7.2 The South Wall (Masonry Type C)

The south wall of the Northeast Unit is poorly preserved and stands only one or two courses high for much of its length. The wall is 0.60 m thick near its west end and 0.71 m thick near its east end. It abuts the northeast face of the north buttress of the Church EA apse (Figs. 3, 13, 77) and was designed to meet the preexisting southwest corner of the East Building.¹⁵⁷ Thus, the south wall of the Northeast Unit is not parallel to its north wall. The masonry, Type C,

149 Sections 7.7.1, below, and 5.2, above.

150 Section 2.2, above.

151 Section 8, below.

152 Chapter 3, particularly section 2.2.2, for the reconstruction, in which the Northeast Unit appears to have been abandoned.

153 This area was first excavated in 1973 (Hanfmann, "Sardis Campaign 1973," fig. 4), but its eastern confines were clarified only in 1980; SFB 1980 Church EA.

154 Sections 4.5, above, and 10.7, below, for plaster in other locations.

155 Chapter 5, molding 5.3.8, for a marble cornice, perhaps part of the revetment, that was found near the south face of the north wall (Figs. 76 top, 274).

156 Chapter 1, section 4.1, and below, section 9.1, for further evidence of the accumulation of fill in and around Church EA. The steps at the western door in the north aisle of Church EA were 0.37 m high, suggesting that the packed earth floor of the North Courtyard had risen to approximately the same level there when the steps were built.

157 Section 8, below.

is similar to that of the north wall; however, reused brick spoils are more frequent, including a single, crude brick course; one brick measures $0.07 \times 0.16 \times 0.19$ m. The mortar that bonds this masonry is occasionally replaced with earth.

7.3 Bench or Table

A low wall 3.25 m long and 0.49 thick was built against the north wall of the Northeast Unit with its east end abutting the east wall of the room (Figs. 3, 8, 78). When excavated, the top of this low wall was below floor level, but the earth underneath the floor was disturbed and building material there was clearly robbed. The wall may originally have been higher; its location and dimensions are well suited for use as a bench or table.

7.4 Drain

A well-built tile drain was located under the floor of the Northeast Unit (Figs. 3, 8, 76, 79).¹⁵⁸ It emptied into the North Courtyard through a 0.30×0.30 m opening in the north wall located 1.20 m east of the northeast corner of Church EA (Fig. 75). This opening must be an original feature of the north wall: its sides have well-built, vertical faces integrated with the masonry of the wall. The masonry above the drain opening is supported in part by a reused marble architectural molding.¹⁵⁹ The bottom of the opening lies just above the floor level of the North Courtyard.

The substructure of the drain can be traced 5.00 m diagonally to the southeast from the opening in the north wall.¹⁶⁰ For the most part, it is constructed of small, unworked stones set in hard mortar of the type used in the north wall. The bottom of the drain is preserved for only 2.20 m at its north end (Fig. 79). It is carefully constructed of good, light beige tiles measuring $0.29 \times 0.29 \times 0.035$ m. The rest of the drain tiles had been removed before the area was excavated. The floor of the drain is 0.40 m below the reconstructed floor level of the Northeast Unit. If the sides and top of the drain were built of the same tiles as the bottom, the top of the drain would have been 0.075 m below the floor level, leaving just enough space for a bedding.

The drain line entered the Northeast Unit through an opening in the south wall about 1.50 m east of the north buttress of the Church EA apse.¹⁶¹ It therefore originated in the unexcavated area south of the Northeast Unit and east of the apse. While the line may have served only to drain the

unexcavated area east of the apse, the possibility that the Northeast Unit was also connected to the drain should be considered. However, no trace of a baptismal font was found and the top of the drain lies just below the original floor level, leaving no room for a baptismal font set into the floor; therefore, if this room was connected to the drain, the function of the drain and of the room remains to be determined.¹⁶²

7.5 Wall Paintings and Mosaics

Over 200 fragments of painted plaster, constituting a total of about 0.75 m square of painted surface, were found in fill at the foot of the north face of the north wall of the Northeast Unit,¹⁶³ at level *89.50.¹⁶⁴ The fragments vary in size from 0.04 m square to one piece that measures 0.08×0.12 m. Rosebuds and other flowers were painted in shades of red, dark gray, blue, and white, with brown stems and bright green leaves. The background tone is creamy white. Some of the flowers were apparently grouped into garlands. Borders and edges were painted with a deep earth red stripe at least 0.06 m wide. The plaster is applied in two layers. The *arriccio* layer, applied to create a smooth base surface, ranges in thickness from 0.008 to 0.025 m, though a thickness of 0.01 is most typical. It is gray and consists of lime and rather coarse sand including small pebbles up to 0.004 m in diameter. The *intonaco* layer is of fine white lime plaster, perhaps mixed with marble dust, and fine sand. The surface was well smoothed. The painting is primarily *a secco*, although stripes in red, black, and yellow, as well as the background, may have been painted in *buon fresco*.

A fragment of cement with several blue, black, and white tesserae, apparently the remnants of a mosaic floor, was found underneath the floor of the Northeast Unit, not far from the drain.¹⁶⁵ However, the disturbance of the Northeast Unit at and below floor level leaves open the possibility that the mosaic was not originally from this room.

7.6 Possible Southeast Unit

A wall built of masonry similar to that of the south wall of the Northeast Unit was attached to the southeast face of the southern apse buttress of Church EA (Figs. 3, 8). The wall, 0.67 m thick, seems to be perpendicular to the face of the buttress and to continue toward the southeast rather than the east. Because only 1.00 m of the wall was excavated, its architectural context cannot be identified.¹⁶⁶ The wall

158 SFB 1973 PN/E II, 165, III, 133 (with sketch and photo), and V, 81 (sketch), 84.

159 Chapter 5, molding 5.2.6 (Fig. 263).

160 The area immediately north of the south wall of the Northeast Unit was disturbed by a medieval grave, Gr73.24a (SFB 1973 PN/E V, 85).

161 SFB 1973 PN/E V, 8, with sketch.

162 Section 7.7.4, below, for comparable evidence and the possible use of the Northeast Unit as a diaconicon or skeuophylakion.

163 WP73.1. SFR Majewski, 1973, 2; the description is taken from the Majewski SFR.

164 SFB 1973 PN/E III, 129.

165 SFB 1973 PN/E III, 134, states "from floor of Pastophorion."

166 Hanfmann, "Sardis Campaign 1973," 38, figs. 4, 5.

could have been the north wall of a southeast unit, a rough counterpart to the Northeast Unit.

7.7 Comparable Evidence, Function, and Chronology

Neither the date nor the use of the Northeast Unit can be established with certainty. Firm numismatic evidence was not uncovered in the excavations, and comparisons to similar structures in western Asia Minor yield ambiguous conclusions concerning both function and date. Taken together, the available evidence provides only a general indication of the date of the Northeast Unit, in the second half of the fifth or, more likely, in the sixth century.

7.7.1 Masonry

The two walls that were built to create the Northeast Unit are of Type C masonry (Tables 3–5). The pier of the Northwest Unit was also constructed of Type C masonry and was clearly built after the north wall of the atrium; the atrium may be attributed to the latter part of the fourth or the early fifth century.¹⁶⁷ However, Type B masonry was also used in the North Chapel, which was probably constructed between the second quarter and the late fifth century.¹⁶⁸ Type C masonry was still used in the outer west wall of the West Unit perhaps in the sixth or early seventh century.¹⁶⁹ We should probably allow an interval of time between the use of Type B and Type C masonry, but we have no way of knowing how much time. Thus, Type C masonry may already have been used in the second half of the fifth century;¹⁷⁰ it was probably used in the sixth century, and perhaps still in the early seventh.

The masonry of a medieval reconstruction of Church EA blocked the only known entrance to the Northeast Unit, implying that it was abandoned at that time.¹⁷¹ Thus, the evidence of the masonry indicates that the Northeast Unit was constructed after the middle of the fifth century and before the medieval reconstruction of Church EA.

7.7.2 Wall Painting Fragments

The design, technique, and materials used in the painting on the north face of the north wall of the Northeast Unit are similar to those of the Peacock Tomb and other painted tombs at Sardis.¹⁷² This suggests the possibility

that the wall painting fragments of the Northeast Unit also belonged to a tomb and that these tombs were very roughly contemporary.¹⁷³ The wall paintings of the Peacock Tomb have not been reliably dated: they have tentatively been attributed to the fifth century on stylistic grounds, but they have also been dated between the late fourth and early seventh centuries by numismatic evidence. Thus the wall painting fragments provide no help in dating the Northeast Unit.

7.7.3 Reused Architectural Molding

The architectural molding that was reused in the construction of the drain under the Northeast Unit¹⁷⁴ is comparable to several pieces of molding found in the excavations.¹⁷⁵ Apparently two of these moldings—and possibly all of them—flanked the revetment door frames of the initial building phase of Church EA.¹⁷⁶ The reuse of one of these moldings in the Northeast Unit suggests that the original basilica had been damaged, or renovated, by the time the Northeast Unit was built. Other features also indicate that the church was renovated before its destruction,¹⁷⁷ but we have no evidence for dating these renovations.

7.7.4 Ancillary Rooms with Water Connections

We have suggested that the Northeast Unit may have been connected to a drain underneath its floor and that it was not used as a baptistery.¹⁷⁸ The use of water in ancillary church rooms, other than baptisteries, was not uncommon in the fourth to sixth centuries, and some of them had roughly comparable locations. For instance, in the church near the theater at Hierapolis in Phrygia, a basin was found in the chamber north of the major apse.¹⁷⁹ In the Church of the Virgin at Ephesos, a marble basin connected to drains was found in the chamber flanking the apse on the south.¹⁸⁰ In Church C at Knidos, a rectangular tank lined with mortar

167 Section 1.4, above.

168 Section 4.5, above.

169 Section 6.6, above.

170 This assumes that the North Chapel was constructed before the second half of the fifth century.

171 Chapter 3, section 2.2.2.

172 WP61.1. Hanfmann, "Sardis 1961," 30–33, fig. 26; Hanfmann and Waldbaum, "Sardis 1968, 1969," 55–58, figs. 44, 45, for a detailed description by L. J. Majewski and restoration procedures for museum display in Manisa; also SFR Majewski, 1973, 3.

173 Section 3, above, for the North Courtyard, into which the north wall of the Northeast Unit was built. No trace of a tomb was found in this location in the North Courtyard.

174 Section 7.4, above; chapter 5, molding 5.2.6.

175 Chapter 5, molding 5.3.4, for example.

176 Chapter 1, section 3.1.

177 Section 9.2, below.

178 Section 7.4, above.

179 Verzone, "Hierapolis, 1971," 195–96; idem, "Hierapolis," *RbK*, 1221, for a date around 450 based upon stylistic considerations; idem, "Ultimi fasi," 853; three construction phases are noted by Verzone, and in the publications it is unclear to which phase the water basin is attributed.

180 Karwiese, *Marienkirche* 2, 15–16, fig. 7, for a marble basin that was probably used to wash liturgical vessels; the basin appears to have been added after 557.

was connected to a drain in an auxiliary room north of the western part of the north aisle.¹⁸¹

Other examples exist outside Asia Minor. A similar installation was found in a room north of the apse at the cathedral of Brad in northern Syria; this room has been identified as a diaconicon.¹⁸² Basins connected to drains were also found in a room northeast of the church at Beth Yerah (Khirbet al-Karak). An inscription refers to the room as a *diaconicon* and indicates that it was added to the church or renovated in 528–529.¹⁸³ In Basilica B at Philippi, a low pool or basin was found in an annex next to the east end of the south aisle; this room may also have been a diaconicon.¹⁸⁴ The altar was connected to a drain in the diaconicon, located next to the south aisle, of the church at Sikyon.¹⁸⁵ In the Basilica of the Museum at Philippi, water was used in a room, identified as a diaconicon, located north of the narthex.¹⁸⁶

Though the list of examples could be continued,¹⁸⁷ it suffices to suggest that the Northeast Unit may have been a diaconicon. Neither the lack of an apse nor the location north rather than south of the major apse is a convincing argument against the identification, because both diaconica without apses and diaconica located to the north of the major apse have been attested.¹⁸⁸ However, we have also proposed that

181 Love, “Knidos 1970,” 68–69; idem, “Knidos 1971,” 395–97, fig. 2; idem, “Knidos 1972,” 101–2, fig. 22, suggests that the room served as a diaconicon or skeuophylakion. The room was originally larger and was entered from the east through the atrium or narthex; the church is attributed to the period around 500.

182 Butler, *Churches*, 34–35; idem, *Syria*, 305–9; the church was built in 399–402; Lassus, *Sanctuaires*, 194–96; Babić, *Chapelles*, 67–68, for a summary of the relevant evidence and the explanation that water was used to wash utensils in preparation of the services; section 4.5, above, especially ns. 95, 96, for diaconica and their functions.

183 Delougaz and Haines, *Khirbet al-Karak*, 17–18 and passim; Kraeling, “Inferences,” 23–24, suggests that the room was used as a diaconicon before it was transformed into a baptistery; Babić, *Chapelles*, 74, fig. 37, for a detailed summary of the evidence, including two basins and a drainage line, and the possibility that the room may have been a baptistery; Descoedres, *Pastophorien*, 23–24, notes that in spite of the inscription naming the room a diaconicon, because of the archaeological finds, it was a baptistery and concludes that the term *diaconicon* was also employed to describe baptisteries; also Ovadia, *Churches*, 40–43.

184 Lemerle, *Philippes*, 442–45; Pallas, “Diaconicon,” pls. 6, 7, for a detailed description and illustrations of the drainage system; idem, *Θάλασσα*, passim, for the use of water generally in Byzantine liturgy and churches; Sodini, “Dispositifs,” 462–73, is doubtful that the annex at Philippi was a diaconicon.

185 Orlandos, “Ἀνασκαφή Σικυώνος,” 221–23; idem, “Μετακίνησις,” 362–63.

186 Kourkoutidou-Nikolaidou and Marki, “Philippes”; Kourkoutidou-Nikolaidou, “Βασιλική Φιλίππων.”

187 For instance, Sodini, “Dispositifs,” 462–73.

188 Descoedres, *Pastophorien*, xix–xxii, is critical of the “traditional” use of the terms *prothesis* and *diaconicon* to describe chambers on the north and south sides of the apse, and, 156–57, points out that in Constantinople these terms are applicable for the rooms flanking the

the North Chapel of Church EA was a diaconicon, and it is unlikely that both rooms served that function simultaneously. It is possible that the Northeast Unit was built to replace the North Chapel as the diaconicon of Church EA, perhaps because of changes in liturgical practices.¹⁸⁹

7.7.5 Chambers Flanking the Apse

One possible method of dating the Northeast Unit would be to determine when chambers that flank the apse became standard features of churches in Asia Minor; however, the evidence is inconclusive. Though chambers flanking the apse (*pastophorias*¹⁹⁰) were common in Syria, the Holy Land, and North Africa in the fourth century, it is not clear when these features came into use in western Asia Minor. For instance, a basilica at Amorium, tentatively attributed to the late fifth century, was constructed without such chambers.¹⁹¹ Single aisled basilicas, without chambers flanking the apse, continued to be constructed in Asia Minor as late as the sixth century, for instance, Basilica No. 2 in the Upper Town of Anavarza, firmly dated 516.¹⁹² While none of the many basilican churches at Binbirkilise, all undated, have flanking chambers,¹⁹³ they are common in churches of Cilicia and Isauria.¹⁹⁴ The Large Church at Miletos was still constructed without chambers that flank the apse, perhaps around 500, but the Church of St. Michael in the same city, dated by inscription to 595–606, was constructed with chambers flanking the major apse; the architectural ornamentation of both churches is strikingly similar.¹⁹⁵ The Temple Church at Aphrodisias

major apse only in the fourteenth and fifteenth centuries, if at all; Descoedres also notes that the diaconicon to the north of the apse and not, as is more common, to the south is documented as late as the fifteenth century.

189 Taft, *Great Entrance*, 33–34 and passim, demonstrates that the liturgical changes, if they existed, were not related to the introduction of the “Great Entrance,” as supposed by other scholars.

190 Descoedres, *Pastophorien*, xii–xiii, for the use of the term to designate rooms flanking the apse already in the fourth century, at least in northern Syria; Asutay, *Apsisnebenräume*, 11–46, for the use of these chambers, the names by which they are known, and previous scholarship; also Sotiriou, “Διακονικόν.”

191 Lightfoot and Ivison, “Amorium 1994,” 105–20; idem, “Amorium Excavations 1995,” 92–97; idem, “Amorium 1995,” 292–94; Lightfoot et al., “Amorium 1996,” 324–26.

192 Bell, “Notes,” 7, 20–21, fig. 17; Gough, “Anazarbus,” 114–16, fig. 6; Hill, *Cilicia*, 90–91, fig. 7. The church is dated by inscription; the chapel east of the south aisle appears to be a later addition.

193 Chapter 1, n. 103.

194 The churches of Cilicia and Isauria are generally recognized to be more similar to those of Syria than to churches in other parts of Asia Minor. For instance, Hill, *Cilicia*, 23–26 and passim, figs. 2–56, with floor plans, descriptions, and further references.

195 Chapter 1, ns. 92, 149, 164. The date of the Large Church is uncertain: Müller-Wiener, “Grosse Kirche,” 132–34, for a date in the early

was also constructed with side chambers that flank the apse, apparently already 457–474,¹⁹⁶ as was the Church of the Virgin in Ephesos, which has been attributed to the fourth century, but more recently to the sixth.¹⁹⁷

In Constantinople, although none of the major, well-known churches constructed during the reign of Justinian was built with such chambers, a smaller, excavated church also attributed to the reign of Justinian appears to have been built with chambers flanking the apse.¹⁹⁸ The available evidence is ambiguous and suggests that such chambers were used in western Asia Minor in both the fifth and sixth centuries, at different times in different regions, and perhaps in the same region, in different churches.

8 The East Building

The west wall and about one meter of the north wall of the East Building were partially excavated in 1980, but none of its interior features were exposed (Figs. 3, 5, 78 at rear, 80, 81).¹⁹⁹ The west wall became the east wall of the Northeast Unit, which was constructed later.²⁰⁰ The East Building may not have been part of the Church EA complex; it was not directly connected to the Northeast Unit or to Church EA. Still, its north wall was approximately aligned with the north wall of Church EA and direct access to the East Building from the church was probably possible through the North Courtyard until the construction of the Northeast Unit: the north wall of the North Courtyard

Justinianic period based upon unspecified topographic considerations, structural and aesthetic details, and the floor plan; idem, "Milet 1981," 6–14, for a date around 500; Feld, "Grosse Kirche," proposes the years shortly before or after 500, based upon the lack of flanking chambers and upon the use of apse buttresses; Peschlow, "Didyma," 214–15, nos. 4 and 5, and 251–52, attributes capitals from the church to the fifth century, implying that the church may have been constructed earlier than previously assumed. The close similarity of the capitals of both churches could also mean that the Large Church was built later, perhaps in the course of the sixth century.

196 Cormack, "Temple," 80–82; Smith and Ratté, "Aphrodisias, 1997, 1998."

197 Chapter 1, n. 106.

198 Firatli, "Trois églises," 163–71, fig. 1, for the excavation plan of Beyazit Basilica A, which clearly reflects chambers flanking the major apse; Eyice, "Basiliques," 91–98, figs. 1, 2, for a reconstructed floor plan of Beyazit Basilica A without flanking chambers and a reconstructed floor plan of the basilica excavated in the Topkapi Sarayi with fragmentary flanking chambers; Mathews, *Churches*, 33–38, for convincing reasons for a reconstruction of the Topkapi church without flanking chambers, and a date early in the fifth century; *ibid.*, passim and 67–73, interprets the flanking chambers of Beyazit Basilica A, which are known only from their foundations, as entrance passages, based upon thresholds that were found near them; however, such thresholds may be easily relocated; see also Wessel, "Churches," particularly 215, for criticism of this reconstruction.

199 SFB 1980 Church EA, and notes of the author on site during excavation.

200 Sections 7.1 and 7.2, above, for the north and south walls of the Northeast Unit, which abut the west wall of the East Building.

appears to have continued east without interruption in the area north of the East Building.²⁰¹

8.1 The West Wall (Masonry Type A-3)

The west wall is 5.83 m long and 0.75 m thick, with finished faces on its north and south ends (Figs. 78, 80, 81, Tables 3, 5). The bottom of the wall was not excavated, and the top of the wall stands 0.50 m above the floor level of the Northeast Unit (*90.31) (Table 1). No door was found in the excavated wall.

Though the masonry of the west wall of the East Building (Type A-3) differs from other masonry types used in the Church EA complex, it is related to Types A-1 and A-2. It is composed of roughly squared, often small field stones, with four well-constructed brick courses (Fig. 80). The brick courses continue through the thickness of the wall. The bricks, laid staggered joints, typically measure 0.04–0.05 × 0.34 m, though smaller sizes are also used. The mortar joints are only 0.015–0.02 m high, yielding a ratio of mortar joint height to brick height between 1:2 and 1:3. The total height of all four brick courses is 0.26 m. Two layers of fine white plaster are traceable on the west face of the wall.

8.2 Comparable Evidence and Chronology

The masonry of the East Building is similar to that of the apse of Church EA: both have well-constructed brick courses that continue through the walls. This feature is lacking in Masonry Types B and C, where brick courses are used erratically, if at all, and brick fragments are frequent. The small stones of the East Building masonry are similar to those of some interior wall surfaces of Church EA (Fig. 19). These similarities suggest that the East Building was constructed before Masonry Type B was used in the additions to Church EA at the end of the fourth century or the beginning of the fifth.²⁰²

On the other hand, the bricks used in the East Building differ radically from the bricks of the apse (Masonry Type A-2). While the total height of all four brick courses of Masonry Type A-3 is only 0.26 m, the total height of three brick courses in Masonry Type A-2 is 0.30 m. The East Building therefore appears to be close in date to Church EA but the exact chronological relationship between the two is unknown.

9 Church EA Changes and Repairs

9.1 North Aisle Door Changes

Steps inside the north aisle at the western doorway of the north wall adjusted the floor level of Church EA to the

201 The eastern parts of the north wall of the North Courtyard were not excavated.

202 Sections 1.1, 1.4, 2.1, 2.5, above.

higher level of the North Courtyard (Figs. 25, 26, Table 1). Two steps are preserved with a total height of 0.37 m. The lower tread is approximately 0.40 m wide; most of the upper tread is covered by later masonry within the thickness of the wall and so not measurable. The treads were apparently constructed of bricks with their broad sides up; only one brick, measuring $0.035 \times 0.16 \times 0.26$ m, remains in situ. The lower step is flanked by the marble revetment frame of the doorway²⁰³ and remains of thin, undecorated marble plaques were preserved on both sides and the front, indicating that the lower step was revetted.

These steps cannot be contemporary with the original basilica, because the preserved mosaic floor of the north aisle continues under them (Fig. 26).²⁰⁴ Moreover, the North Courtyard tamped earth floor must have been almost on the same level as the Church EA floor, or slightly lower, when the church was built: otherwise, rain water would have flowed into the north aisle through the doors in its north wall. Thus the earth floor of the North Courtyard must have risen about 0.37 m above the fourth-century level by the time the steps were built. The average rate of ground-level rise at Sardis has been estimated at very roughly 2.00 m in a thousand years.²⁰⁵ Even though the rate was not constant and may have differed greatly in different locations, it is worth noting that if we assume a steady rate of accumulation, 0.37 m represents the increase over about 185 years, yielding a date for the steps very roughly in the early sixth century. Of course, we do not know the true rate of ground-level rise in the North Courtyard, and other observations suggest that the steps were probably built earlier.

For instance, this door must have been used rather frequently when the steps were added, because the steps are not high and would otherwise not have been needed. Furthermore, only the western door in the north wall of the north aisle was provided with steps. Traffic through the eastern door appears to have diminished at the same time, since steps were not necessary there. These observations suggest that circulation from the North Courtyard into the north aisle emanated from the west at the time the steps were built and that they were added before the North Chapel, which blocked access to the North Courtyard from the west, was constructed.

These conclusions suggest that traffic from the Entrance Bay or atrium into the north aisle through the North

Courtyard began to diminish before the North Chapel was constructed. The diminishing need for this means of entry to the church may reflect a decline in the number of catechumens attending services there. With the construction of the North Chapel, the doors in the north wall of the north aisle apparently lost their original function, and when excavated, the doorways were sealed with masonry.²⁰⁶ This masonry is composed of rough field stones and salvaged bricks and brick fragments laid without courses, bonded with earth rather than mortar, and could be part of the medieval reconstruction of Church EA (Fig. 25).²⁰⁷

9.2 Opus Sectile Floor Repairs

An opus sectile floor was found overlying the mosaic floor of the nave in small areas near the north and south stylobates (Figs. 3, 82–84, Table 1).²⁰⁸ The opus sectile floor is 0.03 m thick, laid in a bedding of coarse pinkish cement with an admixture of finely crushed brick 0.06 m thick. The bedding, which rests directly on the mosaic floor, abuts and clings to the blocks of the stylobate, but the opus sectile floor stops 0.10 m before the stylobate, suggesting that the stylobate was sheathed in revetment. The revetment was probably removed during the floor repair to obtain cohesion between the floor bedding and the stylobate blocks; it was then replaced before the laying of the opus sectile floor. Thus, the opus sectile pattern would not be covered by the revetment and slightly less opus sectile flooring would be needed.

The fragmentary state of the opus sectile flooring, which is partially hidden by later masonry, permits only a general description of the composition. Squares 0.29–0.32 m form a border near the stylobate. The pattern of the opus sectile within the border is repetitive and is oriented diagonally; it is composed of squares surrounded on all sides by elongated hexagons or octagons. Friezes of triangles are also used.

206 Hanfmann, "Sardis 1962," 19–20, and SFB 1962 PN II, 56–63, for coins found in an unsealed context near the west doorway (the north aisle was known as the "Long Mosaic Unit" until 1973). However, the numismatic evidence is not reliable (the coins range in date from the third to the eleventh century) and none of the coins was found in the doorway itself.

207 Chapter 3; rough masonry using earth rather than mortar as a bonding material was used throughout the medieval reconstruction. However, although the character of this masonry is not similar to that used in the additions or repairs to Church EA, doors may have been blocked with a type of masonry that was not otherwise common during the period. Thus, the possibility that the doorways were blocked before the destruction of Church EA cannot be completely dismissed.

208 Notes by author, 1973, 1975; SFB 1973 PN/E III, 154–56 (sketch), IV, 35 (sketch); and V, 146, 149; SFR Hanfmann, 1973, 6; Hanfmann, "Sardis Campaign 1973," 35; a tile floor found in the same general area was probably a repair of the opus sectile made during the major medieval reconstruction of Church EA (see chapter 3); the pier of the medieval reconstruction stood directly on the opus sectile floor.

203 Chapter 1, section 3.1, and chapter 5, moldings 5.1.1, 5.1.2 (Figs. 25–27), for the revetment frames.

204 Chapter 1, section 3.3.1, for the mosaic floor.

205 I am grateful to Donald Sullivan for this information. The estimate should be used only as a very rough approximation. Chapter 1, section 4.1, for other evidence concerning ground-level rise at Sardis and references.

Opus sectile flooring was not found in the north aisle, perhaps because the floor repair was limited to the nave, which may have received more wear. However, cement on revetment door frames near the floor level in the north aisle, and on portions of the mosaic floor, suggests that a later floor may once have covered that mosaic (Figs. 25–27).²⁰⁹ A generally similar opus sectile floor in the Sardis Bath-Gymnasium may also have replaced an earlier mosaic floor.²¹⁰ Opus sectile flooring was used for many centuries in Asia Minor and numerous examples are known; comparisons therefore do not provide evidence for a date of the Church EA floor repair.²¹¹ The repair may have been undertaken in the late fifth or sixth century.

10 Masonry Summary (Tables 3–5)

The masonry types described in the text to a large extent reflect the proposed sequence of construction. Masonry Type A is used in the construction of Church EA, its narthex, and the East Building; Masonry Type B is used in the construction of the atrium, the Entrance Bay, the North Courtyard, the Northwest Unit, the North Chapel, and the West Unit foundation; Masonry Type C is used in a pier in the Northwest Unit, in the west and perhaps the east walls of the West Unit, and in the north and south walls of the Northeast Unit. While none of the masonry types may be dated with any accuracy, Masonry Type A was probably used in the fourth century; Type B, from the late fourth until the late fifth or the early sixth century; and Type C, from the mid-fifth to the early seventh century. The overlapping dates of Masonry Types B and C are explained by chronological uncertainty: the two masonry types were probably not used at the same time; rather, Type C may have supplanted Type B between the middle of the fifth century and the beginning of the sixth.

209 See chapter 5, molding 5.1.1, 5.1.2; SFB 1962 PN II, 65, 74–75, notes that “reddish stucco” was found at the base of the north wall of the north aisle and on the mosaic floor. Fig. 3 shows the extent of this stucco in the north aisle.

210 Hanfmann, “Sardis 1962,” 37–38, fig. 25; Hanfmann and Detweiler, “Sardis 1962,” 31; Hanfmann, “Sardis 1971,” 90–92, fig. 12; Yegül, *Bath-Gymnasium* (Sardis R3), 50–52, figs. 106, 125, 126, for opus sectile floor patterns used in the Marble Court; a coin dated 341–346 (C66.28, Buttrey et al., *Coins* [Sardis M7], R467) provides a *terminus post quem* for the date of the opus sectile flooring of the Marble Court.

211 Peschlow, “Opus sectile,” for a summary of Byzantine opus sectile flooring; Ötügen, “Opus-sectile,” for generally comparable examples in Asia Minor and further references; Cormack, “Temple,” 82, fig. 5:a, and Campbell, *Aphrodisias*, 9, pl. 23, for a similar opus sectile floor that replaced a mosaic floor; Sotiriou, “Ἐν Εφεύσω,” 162–65, figs. 35, 36, and Hörmann, *Johanneskirche*, 51–52, 73, 76, pl. 66, for opus sectile, attributed to the Justinianic phase, in the aisles and ambulatory of the Church of St. John; Karwiese, *Marienkirche*, 2, 13, for opus sectile floors in the chancel area and south aisle of the Church of the Virgin at Ephesos; Metzger, “Xanthos, 1962–1965,” 109, fig. 9, for the chancel of the church at Letoon of Xanthos, which was paved with opus sectile, in contrast to the nave and aisles, which had mosaic floors; Love, “Knidos Excavations 1971,” 99, figs. 5, 7, 8.

10.1 River Stones

Rounded, unworked river stones are used extensively in the masonry of Church EA (Masonry Types A-1, A-2) and on the inner face of the apse of the North Chapel (Masonry Type B-5). They are used less frequently in the north wall of the North Chapel (Masonry Type B-4) and in the lowest part of the foundation of the west wall of the West Unit (Masonry Type B-6). Many of the river stones are of colored marble or quartz. Laid in neat courses of alternately small (or flat) and large stones, they had an orderly and attractive polychrome appearance, although the masonry was probably not seen because most walls were plastered or veneered. The river stones, washed down from Mount Tmolus in large numbers by the Pactolus, were probably brought to the church from the nearby riverbed.²¹² However, the fact that the foundations and some other features of Church EA were not constructed of river stones suggests that the river stones were also used for their visual quality, and not merely because they were easily obtained; the use of unworked river stones in the apse of the North Chapel, but only infrequently in its other walls, leads to the same conclusion. The Sardis city wall, located some 150 to 200 meters to the northeast, was also built largely of river stones.²¹³

10.2 Ashlar

Ashlar is used in the construction of Church EA in the foundations, near the ends of the apse and on some walls facing the interior of the church. Small ashlar blocks are used in the west wall of the East Building (Masonry Type A-3). Ashlar in varying shapes and sizes is used in all of the walls of ancillary structures (Masonry Types B and C). The ashlar masonry used in the construction of Church EA and its ancillary facilities is roughly worked and frequently laid without neat courses. Ashlar may have been produced from quarried stone; when the nearby quarries ceased to be worked is not known.²¹⁴ It may also have been hewn from spoils, although edges that are obviously from finished, earlier blocks are not usually apparent.

10.3 Schist

Schist is used in the walls of the ancillary facilities (Masonry Types B and C) but not in the original basilica. It is used much more frequently in Masonry Type C than in Masonry Type B. Schist occurs in a hillside quarry about four kilometers upstream from the church. However, it

212 I am grateful to Donald Sullivan, who supplied useful information concerning the geological evidence related to the masonry during the 1980 and 1998 seasons.

213 Chapter 1, section 4.2 and n. 67.

214 Chapter 5 for the quarries, with further references.

splits more easily than other stone types, and although some of the schist may have been washed into the Pactolus, it would have disintegrated rather quickly and would not have reached Sardis. The schist could have been quarried and transported to Sardis; but it would have required much less effort if the schist used in the construction of the ancillary facilities was taken from the walls of Lydian buildings that stand north of the Church EA site at a somewhat lower level.²¹⁵

10.4 Brick and Tile

The brick locations, formats, and colors are provided in Table 5. Mortar used in the brickwork is summarized in Table 4. Three well-constructed courses of brick, which continue through the wall, are preserved in the masonry of the Church EA apse (Masonry Type A-2) and four courses are used in the same manner in the west wall of the East Building (Masonry Type A-3). One or two less precisely constructed brick courses are preserved in the masonry of the north wall of the North Chapel and the south wall of the Northeast Unit (Masonry Types B-4, C). Small portions of masonry entirely of brick are preserved, next to open vertical joints, at the ends of the North Chapel apse (Masonry Type B-5) and in the north wall of the atrium (Masonry Type B-1). Bricks are used occasionally in the pier against the south wall of the Northwest Unit (Masonry Type C), in the east and west walls of the West Unit (Masonry Type C), and in the north and south walls of the Northeast Unit (Masonry Type C). Tiles are used in the construction of the drains inside the north wall of the narthex and under the floor of the Northeast Unit. Large reused tiles are employed in the pavement of the North Chapel floor.

10.5 Salvaged Building Material

Some bricks, tiles, and a carved molding²¹⁶ are clearly reused building materials in the construction of the ancillary facilities; much of the ashlar used in the walls may also have been salvaged pieces or reworked salvaged pieces and, as already noted, the schist used was probably obtained from Lydian buildings. The reuse of building material in the construction of the ancillary facilities is an indicator neither of deteriorating standards nor of chronology. Rather, the use of salvaged material probably depended primarily upon its ready availability.

For instance, the reuse of salvaged building material is apparent in the north wall of the atrium (Masonry Type B-1), one of the earliest walls of the ancillary facilities,

and salvaged material was also used in the north wall of the Northeast Unit (Masonry Type C), one of the latest preserved walls of the ancillary facilities. Moreover, while the atrium north wall was poorly constructed, largely without mortar, the north wall of the Northeast Unit was substantially constructed using good mortar.

10.6 Mortar

Mortar is described together with the individual walls above and summarized in Table 4. The lack of mortar in some parts of the north wall of the atrium (Masonry Type B-1), the west wall of the West Unit (Masonry Type C), and the south wall of the Northeast Unit (Masonry Type C) is rather unusual in the ancillary facilities of Church EA. These walls may have been built during a time of material shortages or insufficient funds, although the use of mortar in subsequent construction indicates that this could only have been a temporary situation. It is possible that at times mortar was used only sparingly or not at all in walls that did not support heavy loads. However, in the Northeast Unit, the south wall was built partly without mortar, while the north wall was constructed of very similar masonry with mortar; it is unlikely that the load-bearing requirements for these two walls differed.

10.7 Plaster and Paint

Remains of rough plaster, sometimes grooved with the end of a trowel, were found on the north face of the wall between the atrium and the North Chapel and on the south faces of the north walls of the North Chapel and of the Entrance Bay. Remains of a finer plaster finish were found on the south face of the wall between the atrium and the North Chapel, turning the corner onto the west wall of the narthex; on the west face of the west wall of the East Building; and on the west face of the west wall of the West Unit, turning the corner onto the north face of the pier next to the wall. The plaster in the West Unit was painted light brown.

10.8 Masonry Sequences

The differences between masonry of Types A, B, and C are usually immediately apparent and appear to be significant. They probably reflect construction sequences. The numbered subtypes are provided only to identify the features of the masonry in particular areas; some of these features may be coincidental; they do not necessarily identify construction sequences. The numbering of the subtypes is based not upon chronological attribution, but upon the sequence in the text. Differences in walls constructed in Masonry Type C are usually difficult to identify and therefore Masonry Type C is not divided into subtypes; with the exception of the outer west wall of the

215 I am grateful to Donald Sullivan for the information concerning the possible sources of schist. For the Lydian buildings, Ramage, *Lydian Houses* (Sardis M5), 4–5, figs. 3, 7, 9, 10, 21, 22; Hanfmann and Detweiler, “Sardis 1962,” 29–30; Hanfmann, “Sardis 1961,” 25.

216 Section 7.7.3, above; chapter 5, molding 5.2.6 (Fig. 263).

West Unit, all Type C masonry could have been carried out in a single construction campaign.

In walls that are poorly preserved or only partly excavated, the identification of masonry subtypes, and in some locations also of masonry types, is difficult, as, for instance, in parts of the Entrance Bay, in the north wall of the Northwest Unit, and in the walls of the West Unit. Even in other walls, the masonry types cannot always be clearly distinguished. For instance, the unworked river stones typical of Masonry Type A are also used, as an exception, in Masonry Type B-5 (the North Chapel apse) and in Masonry Type B-6 (the west wall foundation of the West Unit). Surfaces that differ in appearance may occur on opposite sides of the same wall, as, for instance, in the North Chapel apse and the north wall of Church EA. Masonry forms may have been chosen to suit specific locations, for instance, because of their importance (North Chapel apse interior) or because of structural stability (ends of the Church EA apse). For the most part, building materials were probably chosen primarily for their ready availability, rather than for reasons of style.

Open vertical joints are important features of the masonry in the ancillary facilities and may define construction sequences. However, some open joints may have been built to compensate for settling caused by uneven structural loading or different soil conditions. Other open joints may be due to circumstances that can no longer be identified. Therefore, not all open vertical joints reflect construction sequences. But where open joints are flanked by masonry of significantly different appearance or technique, they probably provide evidence of a construction sequence. In the Church EA additions, architectural and functional characteristics, as well as open joints between walls of significantly different masonry, indicate the following construction sequences: Church EA (Masonry Types A-1 and A-2) was constructed before the atrium (Masonry Type B-1); the south wall of the Northwest Unit (Masonry Type B-1) was constructed before the pier next to it (Masonry Type C); Church EA (Masonry Types A-1 and A-2) and the East Building (Masonry Type A-3) were constructed before the Northeast Unit (Masonry Type C).

11 Carved Architectural Elements

Several carved architectural fragments found in the excavations may be attributed to the fifth- and sixth-century expansions and repairs, although their original locations in the church or in its ancillary facilities have not been identified. Carved architectural pieces are easily reused or relocated, and we do not know how long the production of specific forms continued, whether earlier forms were later copied, or even whether they were used

in the Church EA complex. Therefore, most comparable examples are difficult to date and are useful only in providing a general context rather than chronological attributions.

11.1 Column Bases, Column Shafts, and Impost Blocks

Thirteen coarsely worked column bases, column shafts, and impost blocks with simple profiles may be attributed to the fifth- and sixth-century period by analogy with similar material in western Asia Minor.²¹⁷ The rather large number of similarly detailed pieces suggests that they were used in the church complex, either in the ancillary facilities or in repairs to Church EA. The six impost blocks are elongated in form and were made for double-engaged columns.²¹⁸ However, the carving of the imposts differs strikingly from that of elements created for the original construction of Church EA,²¹⁹ implying that if the impost blocks were used in the church complex, then they were created for an addition or repair rather than for the original construction. The upper dimensions of the imposts are appropriate for an exterior wall, but not for a clerestory or nave wall.²²⁰

Column bases in the atrium and the west wing of the Church of St. John in Ephesos are similar to those that we have attributed to the Church EA building complex in their simple, unprofiled forms and coarse detailing; they were probably created for the reconstruction of the church during the reign of Justinian.²²¹ Other examples also exist in Asia Minor, Istanbul, Greece, the Balkans, and Italy, for instance, at Imrali,²²² Kemaliye,²²³

217 Chapter 5, bases 1.1.3–1.1.5, columns 2.2.1–2.2.4, imposts 4.1–4.6; see below for the comparable examples.

218 Chapter 5, imposts 4.1–4.6, for the impost blocks; chapter 1, sections 1.4 and 5.7.1, for double-engaged columns probably from Church EA and comparable evidence.

219 Chapter 5, section 4, for a comparison, and moldings 5.1.1–5.1.3, for the pieces found in situ in Church EA.

220 Chapter 1, section 5.7.1, and chapter 5, section 4.

221 Hörmann, *Johanneskirche*, 41–42, 139–44, figs. 23, 25, 30, pls. 6, 7, 16, with the suggestion that the coarse surfaces were smoothed with plaster and the observation that the form of each base differs somewhat; Schneider, “Ephesos”; Deichmann, “Ephesus,” 561–70, distinguishes between capitals made for the church in the west wing and capitals imported, probably from the Marmara region, in the east wing; also Sotiriou, “Ἐν Ἐφέσω,” 139–144, fig. 11; Thiel, “Johanneskirche,” pl. 109;3; for general discussions of the church, its dates, and further references, Büyükkolancı, “Johanneskirche,” pl. 78:d; Foss, *Ephesus*, 87–93; Plommer, “St. John’s”; Restle, “Ephesos,” 180–92; Bernardi Ferrero, “Epheso.”

222 Ötügen, *Kleinasien*, 154, 161, pl. 25, items İm 18, İm 19, with numerous other examples and an attribution to the fifth to sixth century.

223 Ötügen, *Kleinasien*, 156, pl. 26, item Ke 4c.

Iznik,²²⁴ Zeytinbağı,²²⁵ Didyma,²²⁶ Kumbaba,²²⁷ Ayatekla,²²⁸ Istanbul,²²⁹ Chios,²³⁰ Lesbos,²³¹ Alikı,²³² Corinth,²³³ Nea Anchialos,²³⁴ Thessaloniki,²³⁵ Philippi,²³⁶ Stobi,²³⁷ Iatrus-Krivina,²³⁸ Varna,²³⁹ Mesembria,²⁴⁰ and Syracuse,²⁴¹ demonstrating that the use of these column base forms was widespread.²⁴² Some of these bases have been interpreted as unfinished standard (Attic) column bases; however, their widespread use, at times consistently in a single building, makes it more likely that their forms

224 Ötügen, *Kleinasien*, 160, pl. 26:5, fig. 37:a and b, item İz 39e, for an elongated base, apparently designed for a double-engaged column, with lateral slots to hold closure slabs; it was found west of Hagia Sophia.

225 Ötügen, *Kleinasien*, 158, pl. 26:2, fig. 36, item M 41e, for an example from the naos of the Church of St. John of the Pelekete monastery.

226 Knackfuss, "Heiligtum," 33, Fotografien pls. 59, F 97, 61, Zeichnungen pl. 4, Z. 110, from the ciborium in the Temple Church; Tuchelt, "Didyma," pl. 49:2, for a column base in the "Sacred Street."

227 Peschlow-Bindokat and Peschlow, "Kumbaba," 325–30, nos. 30–33, 35, fig. 5, pl. 116, all with unknown provenance, attributed to the fifth to sixth century.

228 Herzfeld and Guyer, *Meriamlik*, 53–54, fig. 52, for a base from the north colonnade of the atrium of Church No. 2 (domed basilica) that was found together with a column shaft and fragments of a capital with fine-tooth ("kleinzackig") acanthus leaves.

229 Van Millingen, *Churches*, 51, fig. 18; Mathews, *Istanbul*, fig. 15:2 and 3, for the column bases of the narthex of the Church of St. John of the Stoudios. There are numerous other similar capitals in the city, for instance in the collection of the Archaeological Museum.

230 Orlandos, *Chios*, pl. 2:a.

231 Orlandos, "Λεσβου," 11–12, figs. 6, 7.

232 Sodini and Kolokotsas, *Alikı*, 172–74, 189, figs. 143, 151, pls. 9:d, 11:f–h, 14:g, 24:a–g, 45:c, d, 46:a–d.

233 Scranton, *Corinth*, 108, no. 47, pl. 24; several other similar bases were found at Corinth.

234 Sotiriou, "Θήβαι," 37–38, fig. 41, for an example in Basilica A, probably constructed about 470; other, more standard column bases are also used there.

235 Kramer, "Säulenbasen," 273–75, figs. 4, 6–8.

236 Gounaris, "Ευρήματα Φιλίππων," fig. 9, for column bases from the atrium of a house; Pelekanides, "Philippi," 362–65, figs. 6:a, b from a basilican church; Lemerle, *Philippes*, 402, pl. 27:18, 19 from the porch of a cistern at Basilica A.

237 Hald, *Stobi*, 38, figs. 25, 26, for examples from the church at Palikura; Snively, "Stobi," 84–181, fig. 26:b, for an example from the Episcopal Basilica, phase 2, attributed to the late fifth or early sixth century; *ibid.*, 182–216, pl. 42:a, for an example from the Cemetery Basilica, attributed to the middle or third quarter of the fifth century; *ibid.*, 217–42, for the Palikura Basilica, with an attribution of the sculpture to the latter sixth century, no earlier than 540; also Egger, "Stobi," 46–47, fig. 28:1.

238 Döhle, "Raum XXVII 2," 85–92, pl. 22:a, and *idem*, "Bauten," pls. 8, 9, for column bases in civic or domestic buildings.

239 Barsanti, "Proconneso," 203–4, fig. 164.

240 *Ibid.*, fig. 165.

241 Kapitän, "Siracusa," 78–80, figs. 4, 5, for examples from a shipwreck dated to the sixth century.

242 See also Sodini, "Sculpture," 82; Kramer, "Säulenbasen," for general discussions.

were, at least at times, intentional. Their simplified geometry is more in keeping with the geometry of the buildings for which they were created than are the late classical column base forms more commonly used during the same period.²⁴³ While most of these column bases are not firmly dated, the examples from the Stoudios and Ephesos indicate that they were current in the latter half of the fifth and the first half of the sixth centuries.

Column shafts and very simple impost blocks similar to those attributed to the Church EA building complex²⁴⁴ were found in the excavations of Basilica B at Philippi²⁴⁵ and St. John's at Ephesos, some in locations relating them to the column bases described above.²⁴⁶ While it is therefore tempting to date the impost blocks from the excavation of Church EA to the first half of the sixth century, they could also have been produced somewhat earlier, for instance in the second half of the fifth century, or later, for instance in the second half of the sixth century.

The single, very poorly preserved acanthus capital found in the excavations cannot be attributed to the Church EA building complex with confidence: no similar carving was found in the PN excavations, and the capital was found near the surface of the Turkish occupation level, so it may have been brought to the site from elsewhere.²⁴⁷ No other examples of this acanthus type have been found at Sardis. Its fine-tooth, spiny acanthus was used on capitals datable to the second half of the fifth and the early sixth centuries²⁴⁸ and is rarely found in western Asia Minor.²⁴⁹

243 See also Buchwald, "St. Sophia," 29–37, for other, parallel tendencies.

244 Chapter 5, columns 2.2.1–2.2.4 (Figs. 231–36), imposts 4.1–4.6 (Figs. 247–51).

245 Lemerle, *Philippes*, pl. 74:12–15, for examples that differ from most impost blocks found in the basilica; the basilica has been dated to the second quarter of the sixth century.

246 Hörmann, *Johanneskirche*, 134–39, figs. 25, 27, for undecorated impost blocks from the narthex and atrium; Deichmann, *Architektur Konstantinopels*, 40–55, for Byzantine impost blocks and their probable origins.

247 Chapter 5, capital 11.1 (Fig. 358).

248 For a summary of Byzantine spiny acanthus capitals in many regions and for dates and examples, see Zollt, *Kapitellplastik*, 209–20, with references to earlier studies; Peschlow, "Kapitell," 96–98, fig. 9, with numerous additional examples; Barsanti, "Proconneso," 125, 141–50, with examples from the Pontic region and from Asia Minor; Barsanti notes that spiny acanthus of very high quality occurs already in the Severan period in Asia Minor; also Sodini, "Sculpture," 33–69; Sotiriou, "Θήβαι," 36, 59, figs. 40, 58–60; Rohmann, "Akanthus," with further examples dating to the Imperial Roman period; Mathews, *Istanbul*, figs. 15–20.

249 Spiny acanthus capitals were found in Amorium (I am grateful to Chris Lightfoot for this information); they are more common on the Pontic shore of Asia Minor and near the south coast, for instance Peschlow-Bindokat and Peschlow, "Kumbaba," 341–42, no. 68, pl. 120:1, probably from Şile; Barsanti, "Proconneso," 143–47, figs. 66, 67, from Trabizond and from near Silifke; Feld, "Kilikien," 89–97, pl. 43, items 5, 6, from Silifke, and pl. 45, item 3, from near Tapureli.

Capitals with spiny acanthus were frequently produced in the Proconnesos for export, and analysis of the marble of the Sardis example shows that it was probably imported from the Marmara region.²⁵⁰ If the capital was used in the Church EA building complex, it should be attributed to one of the ancillary facilities or to a repair of the church. However, its style is not similar to that of the impostes that can be attributed to the Church EA building complex with somewhat greater certainty.

11.2 Revetment Moldings

The three revetment moldings reused in a medieval repair of the narthex floor²⁵¹ were probably taken from Church EA or its ancillary facilities. These moldings could have come from one of the additions abandoned in the medieval period, for instance the North Chapel or the Northeast Unit.²⁵² The profile of the moldings used to repair the mosaic differs significantly from that of the original moldings²⁵³ of Church EA: its design is simple and flat, rather than three-dimensional. Its flat character, with a single plane articulated only by parallel grooves, matches that of some of the revetment base moldings in situ in the Church of St. Irene in Istanbul.²⁵⁴ The St. Irene base moldings are found on walls constructed in the sixth century;²⁵⁵ the Sardis moldings may be attributed to the same general period.

11.3 Doorjambes

Ten fragments of doorjambes were found in the excavations, but only one may be attributed to the Church EA complex with certainty.²⁵⁶ The heterogeneous materials and profiles suggest that the jambes were scavenged and reused,

probably in the medieval reconstruction of Church EA or in the construction of Church E. Nevertheless, some jambes may have been created for Church EA,²⁵⁷ for repairs to the church, or for its ancillary facilities. Material and workmanship of one of the doorjamb fragments²⁵⁸ are similar to the column bases, shafts, and impostes described above in section 11.1 that may have been created for a repair or addition to Church EA.

When attempting to establish a chronology for the doorjambes from the Church EA excavations, comparisons to jambes at other sites are inconclusive and may be used to date the jambes from Sardis only very generally.²⁵⁹ Three jambes have profiles with three recessed fasciae flanked by a cyma;²⁶⁰ thus, they are similar to the revetment door frames found in situ in Church EA²⁶¹ and may have been created for the original construction of the church;²⁶² however, these forms may have been used for an extended period of time, and the jambes could also have been created for the ancillary facilities. The jamb of the major door in the Lower City Church at Amorium shares this profile; its first phase has tentatively been dated to the late fifth century.²⁶³ Similar profiles were also used in the Church of St. John at Ephesos.²⁶⁴ Jambes found in and near the Great Palace in Istanbul have profiles²⁶⁵ similar to these jambes and to

257 Chapter 1, section 5.7.3, for the possibility that one group (chapter 5, jambes 6.1–6.4) was created for the original construction of Church EA.

258 Chapter 5, jamb 6.5 (Fig. 279).

259 The profiles of doorjambes are seldom adequately recorded in publications; they can be evaluated only in cross sections at a large scale; doorjambes may easily be dismantled, transported, and reused, making chronological attributions difficult.

260 Chapter 5, jambes 6.1–6.4, four fragments that may be attributed to three jambes.

261 Chapter 1, section 5.7.2; chapter 5, moldings 5.1.1–5.1.3 (Figs. 25–27, 92, 258).

262 Chapter 1, section 5.7.3.

263 Particularly Lightfoot and Ivison, "Amorium 1994," 105–20; Lightfoot et al., "Amorium 1996," 324–26; Lightfoot, "Amorium," 308–9, fig. 8. My observations were made on site in 1998; I am grateful to Chris Lightfoot and Eric Ivison for their generous hospitality and for sharing information and ideas about the church.

264 Hörmann, *Johanneskirche*, 145–47, figs. 34–36; Russo, "Efeso," 44–45, figs. 44–46, for an analysis of the marble and workmanship but without cross sections and a conclusion that the jambes were created for the church, but not necessarily for the Justinianic construction; Falla Castelfranchi, "Efeso," 93, figs. 2, 5, without cross sections, describes the jambes of the baptistery and church, and draws conclusions that fail to consider their possible reuse; since these pieces may have been reused, they are not necessarily dated to the Justinianic period together with the church.

265 Demangel and Mamboury, *Manganes*, 71, fig. 75, for a jamb like that of Sardis jamb 6.5; Martiny, "Buildings," 12, pl. 13, fig. 4, for jambes found in the peristyle and attributed to phase 2, and *ibid.*, 16–17, for an attribution of peristyle phase 1 to ca. 410, and phase 2 to ca. 550; however, all of these jambes could have been reused.

250 Barsanti, "Proconneso," with references to earlier studies, textual evidence, and numerous examples; Asgari, "Quarries," for production methods employed at the Proconnesos quarries; Terry, "Sculpture," 55–59, for conclusions, based upon the extensive sixth-century examples at Poreč, that differ from those of previous studies; Terry concludes that some of the carving at Poreč may have been executed locally, while some may have been created by the nearby provincial workshops of Ravenna and Grado.

251 Chapter 5, moldings 5.2.1–5.2.3 (Figs. 38, 259); chapter 3, section 2.3, for the medieval floor repairs.

252 Chapter 3, especially section 4, for the ancillary facilities of Church EA that were abandoned during the medieval reconstruction.

253 Chapter 5, moldings 5.1.1–5.1.3 (Figs. 25–27, 92, 258).

254 George, *Saint Eirene*, pls. 7, 14. The total height of the base molding is 0.635 m, and the grooved articulation begins 0.16 m above the floor; the distance between the grooves varies between 0.025 and 0.07 m; the grooves usually measure 0.025 m in height, but near the top one indentation with a flat rear plane is 0.045 m high. Author's notes and sketches are of 1975.

255 Peschlow, *Irenenkirche*, for a description of the church and for the chronology.

256 Chapter 5, jambes 6.1–6.9 (Figs. 275–85), and section 1.2, above, and Fig. 46.

others found in the PN sector.²⁶⁶ In Philippi jambs have been recorded in Basilica B that are also similar to this group of Sardis jambs, but in Basilica A the profiles are somewhat simpler.²⁶⁷

Eleven doorjamb profiles have been recorded at St. Irene in Istanbul.²⁶⁸ There are several variations, but the outer profiles of the door at the east end of the north aisle, of the door between the narthex and the north aisle, and of the north door between the narthex and atrium²⁶⁹ have three or four recessed fasciae next to the door opening and thus are similar to those of the Sardis jambs mentioned above;²⁷⁰ however, in St. Irene the fasciae are flanked not only by a cyma, but also by a large scotia, a feature that does not occur in the Sardis jambs. In St. Irene, the inside profiles of the north and central doors between the atrium and narthex, and of the door at the east end of the north aisle, are also similar to those of the same group of Sardis jambs in that they have a flanking cyma.²⁷¹

In contrast to the jambs of St. Irene, the jamb profiles of St. John of the Stoudios, dated 453, differ decidedly from those of the Sardis jambs,²⁷² as do those of St. Sophia,²⁷³ and of other recorded churches in Istanbul.²⁷⁴ The numerous jamb profiles recorded in the Church of St. Nicholas in Myra also differ significantly from those at Sardis.²⁷⁵

11.4 Parapet Components

The only inscription (IN73.11) found in the excavations that may be relevant to Church EA is a small fragment from the upper edge of a closure slab that was decorated

with a cross.²⁷⁶ The inscription, *τος αρχιδιακο[νος]*, has been attributed epigraphically to the fifth or, much more probably, to the sixth century.²⁷⁷ Six other fragments of closure slabs decorated with similar crosses and border profiles were also found in the PN excavations.²⁷⁸ We have no way of knowing where any of these closure slabs were originally located.²⁷⁹

Some of the crosses and border profiles are similar to those found on pillars and slabs that we have attributed to the original chancel barrier of Church EA.²⁸⁰ However, this cross form is a common feature in carved decoration from the latter part of the fourth until the early seventh centuries,²⁸¹ and the profiles have been documented over an extended period of time. The inscribed slab apparently belongs to a later phase of the chancel barrier. Moreover, the fully preserved heights of two of the slabs differ from the height of the original pillars of the chancel barrier of Church EA, and one of the slabs could not have been used with these pillars.²⁸² Therefore, some of the slabs decorated with crosses could have been carved for the original chancel barrier of the church, some could have been created during the fifth or sixth centuries for a repair of the original chancel barrier, and some could have been created for secondary parapets erected either in Church EA, or in one of the ancillary facilities. It is possible that all were created for such secondary parapets. Two small pillar fragments probably come from a secondary parapet.²⁸³

266 Chapter 5, jamb 6.5; the profile is similar to that of the other jambs, but the cyma is replaced by a cavetto or torus, the number of fasciae is reduced, and the carving is less carefully executed.

267 Lemerle, *Philippes*, pl. 30:3, 15 for Basilica A, pl. 73 for Basilica B (some of the latter illustrations are too small to recognize details).

268 George, *Saint Eirene*, pls. 14, 15.

269 Peschlow, *Irenenkirche*, 206–14; idem, “Irenenkirche,” for the architectural chronology; the jambs need not have been created for the doors in which they were found.

270 Chapter 5, jambs 6.1–6.4.

271 The jambs from St. Irene have only two recessed fasciae, rather than three as in the examples from Sardis, but the Sardis examples are from the exterior of the doorway, which usually had richer profiles than the interior.

272 Van Millingen, *Churches*, figs. 18, 19.

273 My observations are of 1975 and 2001; none of the 16 doorjamb profiles recorded is very similar to those found in the excavations of Church EA.

274 For instance, Van Millingen, *Churches*, figs. 68 (Church of Christ Pantepoptes, or Eski Imaret Camii), 75 (Church of Christ Pantocrator, or Zeyrek Camii), 99, 100 (Church of Christ of the Chora, or Kariye Camii).

275 Peschlow, “Nikolauskirche,” 334–41, fig. 46, with references to other similar jamb profiles; idem, “H. Nikolaus,” 230–31, fig. 5.

276 Chapter 5, closure slab 7.6 (Figs. 299, 300).

277 Chapter 5, n. 86.

278 Chapter 5, closure slabs 7.7–7.12 (Figs. 301–6).

279 Chapter 5, section 10.2, for possible reconstructions.

280 Chapter 1, sections 3.2 and 5.7.4, for the original chancel barrier; chapter 5, pillar 8.3 (Figs. 326, 327), for the pillar decorated with a cross with splayed ends.

281 Comparable examples are extremely numerous, and only a small selection can be referenced here: Dinkler and Dinkler-v. Schubert, “Kreuz,” 26–127, with numerous examples and further references; Deichmann, “Ephesus”; Ötügen, *Kleinasien*, 88–91, figs. 15, 16, pls. 10, 11; Deckers and Serdaroglu, “Silivri-Kapı,” for a sarcophagus dated after 415; Mango, “Sarcophagus,” 307, fig. 1, for a sarcophagus attributed to Heraclius decorated with an outlined cross with splayed ends like that of closure slabs 7.7 and 7.8 but with much richer border moldings; Belting, *Euphemiakirche*, 75–76, fig. 26, pl. 13:a and c; Orlandos, *Chios*, pl. 3, from the Church of St. Isidore; Sodini and Kolokotsas, *Aliki*, pls. 31:a, 34:b; Lemerle, *Philippes*, pl. 13:a, from Basilica A; Kapitän, “Siracusa,” 85–92, fig. 9, and 98–106, 114–18, figs. 18, 20, 21, 28–30, for carved slabs decorated with an outlined cross with splayed ends dated to the sixth century.

282 Chapter 5, section 10.2.

283 Chapter 5, pillars 8.5 and 8.6 (Figs. 330–32).

12 Rooms Accessible from an Atrium

Other spaces adjoining church atria are known in late antiquity, although their form and purpose are generally unclear. In some instances such rooms may have been lost or inadequately recorded. However, differences in functional requirements, and perhaps in available financial resources, must typically have determined the design of such church additions: the number and form of ancillary rooms differ in each example. The extent and type of services must have differed not only from church to church but also over time: in some church complexes, numerous additions and changes can be traced through the course of the fifth and sixth centuries.²⁸⁴

In western Asia Minor, the Temple Church (most probably the cathedral) of Aphrodisias,²⁸⁵ the Large Church at Miletos,²⁸⁶ the church at Gülbahçe near Izmir,²⁸⁷ Church C at Knidos,²⁸⁸ the basilica at the Letoon of Xanthos,²⁸⁹ and the church at Alakilise in Lycia²⁹⁰ have rooms accessible from an atrium west of the church. Further examples exist in Italy, Germany, the Balkans, Greece, Syria, the Holy Land, and North Africa. In some examples, for instance, the church at Beth Yerah (Khirbet al-Karak) on the south shore of the Sea of Galilee²⁹¹ and in Basilica A at Demetrias in Greece,²⁹² as at Sardis, the initial construction was followed by several phases of additions and changes, including an atrium west of the church.

Though at Sardis and several other sites the ancillary rooms appear to have been rather loosely grouped according to changing functional requirements and the constraints of preexisting conditions, a strong formal architectural organization is evident in some of the complexes built in

the latter part of the fifth century and in the sixth century. Examples include the Euphrasian phase of the cathedral at Poreč²⁹³ and Basilica A at Nea-Anchialos.²⁹⁴

Of particular interest are churches in the same city, some with and some without ancillary facilities adjoining an atrium west of the church. The churches in Caričin Grad provide such an example. The cathedral has several rooms accessible from an atrium west of the church, but the numerous other churches in Caričin Grad, some of which were also constructed with an atrium, were provided only with one or two such rooms, or none at all.²⁹⁵ In Gerasa both the cathedral and the Church of St. Theodore had rooms off an atrium west of the church, yet both of these churches were part of a single architectural ensemble and may have shared in providing some services.²⁹⁶

The evidence is ambiguous and requires further study. Some churches with rooms accessible from a western atrium were certainly cathedrals, but others were probably not; some episcopal churches lack rooms surrounding their atria, and some lack atria.²⁹⁷ Thus the configuration of the atrium and its associated rooms does not constitute evidence concerning the hypothesis that Church EA was the cathedral of Sardis.

13 Chronological Summary and Functional Interpretations

The available evidence provides a rather clear picture of major and minor building phases—probably between the mid- to late fourth and early seventh centuries—in which the ancillary facilities of Church EA were constructed, expanded, and changed to meet increasing demands, more complex needs, and changing conditions, some of which must have been liturgical. Changes and repairs to Church EA are also evident.

The ancillary facilities of Church EA cannot be dated with certainty. The chronology is not based on

284 Delvoye, "Atrium," for a general review and numerous examples; Picard, "Atrium," with references to earlier studies and examples from Italy, Germany, Switzerland, Austria, Istria, and North Africa that do not necessarily reflect conditions in Asia Minor.

285 Cormack, "Temple," 80, figs. 1, 4:a–c; rooms are located at the northeast and southeast corners, but other rooms may have existed since the area is not completely excavated; Smith and Ratté, "Aphrodisias 1997, 1998," 227–29.

286 Müller-Wiener, "Grosse Kirche"; idem, "Milet," fig. 2; Knackfuss, *Milet*, 216, fig. 222; a baptistery occupies the north side of the atrium, an entrance portico the west side, and other rooms the south side.

287 Weber, "Gül-Bagtsché," for an atrium flanked by rooms on the north and south.

288 Love, "Knidos 1971," 395–97; idem, "Knidos 1972," 101–2, for an atrium with rooms located on the north.

289 Metzger, "Xanthos 1962–1965," fig. 1, for an atrium with rooms located on the west and north.

290 Harrison, "Lycia," 126–29, fig. 3; rooms are recorded only on the north side of the atrium but the remains are apparently incomplete; also Hill, *Cilicia*, 15, for atria in Cilicia, some with attached rooms.

291 Ovadiah, *Churches*, 40–43, fig. 26:a–d, with references.

292 Pallas, *Monuments*, 54–55, fig. 32; Bakhuizen et al., *Demetrias*, 239–42, pls. 21, 31, 49; Marzollf, "Demetrias."

293 Prelog, *Poreč*, 7–16, fig. p. 13; Terry, "Mosaic," figs. 1, 11.

294 Sotiriou, "Θήβατ"; similar symmetrical complexes in southern Syria that are designated monasteries are discussed in Restle, "Hauran," 992.

295 Kondić and Popović, *Caričin Grad*, 25–39 and passim; Popović, "Tsaritchin Grad"; Hoddinott, *Churches*, 204–20.

296 Crowfoot, "Churches," especially 171–73, for a summary, 176–80, for the *domus ecclesiae* and its functions, 211–25, for the churches; Lassus, *Sanctuaires*, 38–41 and 216–42, presents additional evidence and draws similar conclusions.

297 Sodini, "Groupes épiscopaux," for early Christian examples in Turkey, and the conclusion that there are few, if any, architectural features that clearly define cathedral complexes; Lassus, "Edifices," for examples from Syria and North Africa that do not usually involve atria; Duval et al., "Groupes épiscopaux," 215–44, for examples from North Africa and an extensive discussion of the features presented here only peripherally.

firm evidence, such as inscriptions or texts; however, the evidence of functional relationships, floor mosaic similarities, construction sequences, and masonry types allows for approximate attributions that produce a sequence of expansion, development, and change.

The earliest project seems to have been the construction of the East Building, of which only the exterior west side is known. The East Building may cautiously be attributed to the fourth century and could have been constructed either before or after Church EA.

The atrium, Entrance Bay, North Courtyard, and perhaps the West Unit appear to have been planned together in a unified design. Other ancillary facilities, such as the North Chapel and Northeast Unit, were apparently added, and earlier facilities modified, not according to a general architectural conception, but as liturgical and other needs arose. The evidence at Sardis suggests that functional requirements and usage were in rapid flux during the fifth and sixth centuries.

A large atrium was added west of the narthex. Only the atrium's northeastern corner and a small portion of its west wall are known, enough to reconstruct its overall size but not its interior configuration. The atrium was probably almost square and as wide as the basilica. It had floor mosaics of unknown extent. Whether the atrium had a peristyle or a colonnade is not known, and the central portion of the wall between the narthex and the atrium has not been excavated. A low bench was constructed of masonry in the northeast corner of the atrium, against the north wall. The atrium was probably constructed in the latter part of the fourth century or in the early fifth.

A major entrance near the center of the north wall of the atrium provided access from a small vestibule, the Entrance Bay. The Entrance Bay also had a mosaic pavement. Initially, the doorway between the Entrance Bay and the atrium probably contained no doors. On the north the Entrance Bay opened to the Street of Pipes, which was parallel to the basilica. This street led northeast to the city, probably through a gate still preserved in the city wall. To the west, the street now ends at the scarp washed out by the Pactolus River but may have originally continued up the Pactolus valley.²⁹⁸ The main doors to the Church EA precinct were probably located in the opening between the Entrance Bay and the Street of Pipes during this period, but the possibility that the church complex remained open to the street must also be considered. The Entrance Bay was constructed slightly later than the atrium, probably in the late fourth or at the beginning of the fifth century.

The North Courtyard, a long unpaved area located between the basilica and the Street of Pipes, appears to have extended from the east side of the Entrance Bay to an unexcavated area beyond the eastern end of Church EA. The North Courtyard was entered through a door in the north wall of the atrium, and probably also through an opening in the east wall of the Entrance Bay, and gave access to doors in the north aisle of the basilica. The area was probably used by catechumens as an approach into the church, an approach less monumental and less well furnished than the main entrance through the Entrance Bay, atrium, and narthex.

Steps were constructed in the north aisle of Church EA, at the west door in the north wall, indicating that this door was being used when the ground level of the North Courtyard had risen. The construction of the steps indicates that circulation through the North Courtyard into the church emanated from the west when the steps were built. In the North Courtyard there was a basin, probably used by the catechumens, fed by a vertical pipe built into the north wall of the narthex.

Access from the Entrance Bay and atrium through the North Courtyard to the north aisle was eventually blocked by the construction of the North Chapel into the western end of the North Courtyard. The North Chapel had an elongated apse at the east and was entered from the atrium and, probably, from the Entrance Bay by doors that had formerly given access to the North Courtyard. When the North Chapel was built, access to the north aisle from the west by way of the North Courtyard must no longer have been required, a condition that would be explained if the North Courtyard approach to the north aisle was used by catechumens: either their number diminished with time, or another church now provided services for them. However, after the construction of the North Chapel, the North Courtyard was still in use, because the basin north of the narthex was rebuilt after the North Chapel was constructed.

In contrast to the basilica, the atrium, and the Entrance Bay, the North Chapel was furnished with a floor of large reused tiles. A low ledge along the walls and apse could have provided a place for donations, suggesting that the North Chapel was a diaconicon. A low column, the support of an altar slab, stood in the center of the apse. Though there is no direct evidence to indicate the date of the North Chapel, it may have been built between the second quarter of the fifth century and the early sixth.

The doors that originally separated the Entrance Bay from the Street of Pipes were probably relocated to the opening between the Entrance Bay and the atrium, which apparently contained no doors in its first phase. Steps were constructed on the north side of the Entrance Bay

298 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 44–45, fig. 23; the Street of Pipes may be the southwest extension of the *embolos* of Hypaepa, known from a building inscription and from archaeological remains inside the city wall.

to provide better access to the Street of Pipes, which was now at a higher level because of the rise in ground level. Apparently these changes (construction of the North Chapel, relocation of the doors, and construction of the steps) were carried out at the same time, making the Entrance Bay and the North Chapel permanently accessible from the street and thereby permitting the placement of offerings in the North Chapel at all times.

The sealing of the doorway between the Entrance Bay and the Street of Pipes by the addition of a niche implies a change in the function of the North Chapel.²⁹⁹ Originally, worshippers entering the Church EA complex could have left their donations in the North Chapel, adjacent to the main entrance; this would not have been possible after the doorway was sealed. Possibly these changes are related to the construction of the Northeast Unit, perhaps also as a diaconicon, in the second half of the fifth or, more likely, in the sixth century; thereafter the North Chapel could have served another function.

When the doorway from the Street of Pipes to the Entrance Bay was blocked, the major entrance to the Church EA building complex must have been relocated, and the Entrance Bay and the North Chapel were accessible only from the atrium. The two known doors of the West Unit, or another, unexcavated, entrance provided access to the church complex during this period. This important change could reflect an equally important change in the function or orientation of the church complex.

We have observed elsewhere that Church EA may have been the cathedral when it was constructed,³⁰⁰ even though Building D, probably a church, is larger and is located near the center of the city and so appears to be more suitable as the episcopal church of Sardis. Building D has been attributed to the sixth century.³⁰¹ Perhaps after the construction of a new cathedral near the center of the city, the bishop's seat was transferred from Church EA to the new building.³⁰² The doorway between the Entrance Bay and the street could have been blocked

after this supposed transformation.³⁰³ The most important approach to Church EA may no longer have been from the city. The relocation of the main entrance to the building complex could also reflect other changes in extra-urban circulation patterns. Remnants of numerous walls similar in appearance to Masonry Types B and C in the Pactolus scarp southwest of the church complex suggest that in the fifth and sixth centuries dwellings were constructed in a sizable area southwest of the church, up the Pactolus valley. If Church EA now functioned as a parish, rather than an episcopal church, then its orientation, away from the city to the northeast and toward new residential quarters to the southwest, may have been useful.

The Northwest Unit, located north of the atrium and west of the Entrance Bay, seems originally to have been an open, unpaved courtyard. The Northwest Unit was probably constructed about the same time as the Entrance Bay and the North Courtyard. Only its east end is preserved, and there is no evidence for the location of its entrance. During an undetermined phase, probably in the sixth century, a large pier was added next to the wall between the Northwest Unit and the atrium. The pier may have supported a roof or an upper floor; it was, perhaps, part of a general building program west of the atrium, since similar masonry was used in reconstructions of the West Unit.

Fragmentary but clear evidence suggests that rooms existed west of the atrium. Though the north portion of this area has been lost to the erosive action of the Pactolus, the south portion remains within the unexcavated earth of the Pactolus scarp. Only one room, designated the West Unit, has been partially uncovered. It is located approximately on the major east–west axis of the church and was connected with the atrium, and at times also with the area west of the church complex, by doors. The West Unit was paved with a mosaic floor that is decorated in a style that differs from those of the mosaic floors in the north aisle, the atrium, and the Entrance Bay. Nevertheless, the rooms west of the atrium may originally have been constructed in the fifth century, not very long after, or together with, the rooms north of the atrium. Two major reconstructions may be traced in the walls of the West Unit, which are exceptionally thick and may have supported vaults or upper floors. The reconstructions were probably carried out between the mid-fifth and early seventh centuries.

Additions were also constructed east of Church EA. The open area between the north aisle of Church EA

299 The niche need not have been constructed when the change occurred.

300 Chapter 1, section 6.

301 The possibility of a predecessor on the same site, or of another episcopal church within the city walls, must also be considered.

302 Chapter 1, n. 295, especially Hattersley-Smith, *Public Architecture*, 169, 205, 236, and *passim*, for examples of cities in Greece and the southern Balkans in which the focal point of the Christian community was relocated from areas outside the urban centers, at times beyond the city walls, to new locations inside the walls only toward the end of the fourth century or in the course of the fifth; Sodini, "Groupes épiscopaux," 416, for the location, within the urban fabric, of cathedral complexes in early Christian cities in Turkey, and 420–24, for the relocation of the episcopal seat from one church to another in the same city, for instance, at Miletos and Ephesos.

303 This may have been a precondition for the construction of the niche on the north side of the Entrance Bay, but not a reason for its construction. The niche must also have had another, as yet unexplained purpose, since the relocation of the main entrance to the Church EA complex would not have required the door to be blocked by a niche; locked doors or a straight masonry wall would have served equally well to block the door.

and the East Building was enclosed by the walls of the Northeast Unit. The masonry of these walls is similar to that of the reconstructions west of the atrium. A masonry bench or table was probably built up against the east end of the north wall. The floor level of the Northeast Unit was somewhat higher than that of Church EA. Although a well-built drain was located underneath the floor, no baptismal font was found. The drain entered the Northeast Unit through its south wall and emptied into the North Courtyard.

The drain, if it was connected to the Northeast Unit, suggests that the room may have been a diaconicon. We have also identified the North Chapel of Church EA as a diaconicon, and it is unlikely that both rooms served that function simultaneously. Thus, although other interpretations are possible, the Northeast Unit may have been constructed to replace the North Chapel as the diaconicon. If the North Chapel was constructed as early as the second quarter of the fifth century, the Northeast Unit could have been built in the second half of the fifth century. However, the North Chapel could also have been built as late as the early sixth century, and the Northeast Unit could have been built during a late construction phase in the sixth century. The Northeast Unit may have been constructed in response to changing liturgical

practices. A room similar to the Northeast Unit may have been added to Church EA east of the south aisle, but here the excavated remains are too fragmentary to permit more than conjecture concerning its specific form.

The motifs, coloring, and techniques used in wall painting fragments found at the foot of the north face of the north wall of the Northeast Unit indicate that a tomb was located here in the North Courtyard after the Northeast Unit was built. The wall painting was apparently created in the fifth or sixth centuries and does not provide a date for the Northeast Unit.

An opus sectile pavement that was laid over the original mosaic floor of the nave of Church EA is the only known repair of the church during this period. There is also evidence of a floor repair in the north aisle.

A number of carved architectural elements, including column bases, column shafts, imposts, revetment moldings, doorjambs, parapet pillars, slab fragments, and a single acanthus capital may perhaps be attributed to the additions and repairs to Church EA. None was found in its original location and reconstructions are hypothetical. One of the closure slab fragments contains an inscription, probably of the sixth century, reconstructed as the word *αρχιδιακονος*; it is the only inscription found in the excavations that may be attributed to the church.

Chapter Three

CHURCH EA: MEDIEVAL ADDITIONS, RECONSTRUCTIONS, AND REPAIRS

Church EA and some of its ancillary facilities remained in use for as much as nine centuries. Medieval additions, reconstructions, repairs, and changes document history of the building complex through this long and little-known period.

The church buildings appear to have been damaged, perhaps early in the seventh century. Some walls may have survived to a considerable height, but others were leveled almost to the floor of the basilica. Considering the methods of warfare current in the early middle ages, it is unlikely that the substantially constructed masonry of the church was extensively destroyed during the hostilities or when the city was invaded. Rather, it is probable that the church was partially destroyed and remained roofless and exposed to weathering over an extended period of time, perhaps several centuries. Earthquakes may also have caused the destruction or accelerated the decay.

1 The West Chapel

The West Chapel was built inside the atrium, next to the doorway to the Entrance Bay (Figs. 3, 9, 45, 86). Most of the West Chapel walls had been removed or robbed prior to excavation; only part of the north wall and about three-fourths of the apse are preserved.¹ The north wall, 0.66 m thick, is preserved to a maximum height of 0.80 m over a length of ca. 2.50 m. It was built against the north wall of the atrium and rests directly on the atrium mosaic floor. The east end of the north wall is flush with the west jamb of the

major doorway to the Entrance Bay (Figs. 45, 86);² its west end is broken away. The masonry of the east wall is bonded with that of the north wall. The apse, with a wall thickness of only 0.55 m, is almost semicircular on the interior and segmental in plan on the exterior; its inner radius is 1.25 m. Assuming a symmetrical plan, the building would have been approximately 3.25 m wide. Plaster without wall paintings was found in spots on the wall and in the debris inside the apse.

1.1 Masonry Type D

The masonry in the West Chapel (Masonry Type D) is composed of small, roughly hewn ashlar, field stones, and reused bricks and brick fragments, at times laid with little regard for courses (Figs. 45, 85, Tables 3–5). Only occasionally—for instance, at corners—are larger, more carefully hewn blocks and more regular courses used (Fig. 86). The masonry is bonded throughout with very fine, almost white mortar of a dry, crumbling consistency. The mortar is composed primarily of cement, with little or no aggregate.

1.2 The Floor

A carefully constructed floor of reused marble slabs and occasional tiles set in a hard, white mortar bed was preserved in the apse (Fig. 85). The marble slabs extend slightly underneath the lowest interior wall courses; thus the floor was installed while the walls were under construction. A subfloor composed of mustard-colored clay was found 0.15–0.20 m below the chapel floor and 0.07 m above the original mosaic floor of the atrium.

1 Hanfmann, "Sardis 1962," fig. 13, bottom. The exterior of the apse was uncovered in 1962, the remaining portions in 1980; SFB 1980 Church EA, 24–26. I am grateful to Barbara McLaughlin for her help in the excavation of 1980.

2 Chapter 2, section 2.2.

One of the floor slabs was apparently taken from the stylobate of Church EA: it has exactly the same width, 0.62 m; moreover, it is marble of the same quality and worked with the same tooled finish. Another distinctive marble slab, 0.69 × 0.90 m, was reused in the center of the apse (Figs. 85, 87). Its simple but competently worked raking profile projects slightly above the surrounding floor. A shallow circular cavity, which probably held a section of column shaft, was cut into the center of the slab. The stump, which undoubtedly supported an altar, was not in situ when the chapel was excavated; rather, a crudely worked marble block, 0.27 × 0.40 × 0.43 m high, was found on the slab slightly off-center and resting on a thin layer of earth. This block apparently represents a crude replacement for the original support of the West Chapel altar.

1.3 Chronology

No firm evidence permits the attribution of the West Chapel to a specific date, but its place in the relative chronology of the Church EA building complex may be established. The reuse of a slab from the stylobate of Church EA in the chapel floor implies that Church EA had been destroyed when the West Chapel was constructed and argues for a date probably after the early seventh century. The distinctive masonry of the West Chapel, which does not resemble any used in Church EA and its ancillary facilities, corroborates this chronology.³

Since the chapel's east end is flush with the doorway in the atrium north wall, the walls of the atrium and of the spaces to the north must have been visible, and possibly in use, when the West Chapel was constructed. These walls were eventually buried and no longer known during the medieval period; the area was filled with Christian graves, some cut directly into the walls.⁴

However, the West Chapel was probably constructed before the major medieval reconstruction of Church EA:⁵ it is unlikely that a piece from the stylobate of the original basilica would have been reused in the floor of the West Chapel after the basilica was again in use. Moreover, unlike the masonry of the West Chapel, the masonry used in the medieval reconstructions and changes to Church EA was constructed without mortar. All of these medieval construction programs utilized a minimum of effort and material to make usable only the most important parts of the building—the original basilica and the narthex.

2 The Major Medieval Reconstruction

In a major reconstruction and restoration of Church EA, the west wall of the nave and the east and west walls of the north aisle were extensively repaired,⁶ and walls were built next to and over the stylobates of the nave colonnades. These walls and repairs, built of Masonry Type E (Figs. 3, 10), were preserved as high as 1.40 m above the original Church EA floor when they were excavated, but in most areas their preserved height was less than 0.60 m. By the time the reconstruction was undertaken, the original masonry had all but disappeared next to the doorways in the west wall of the nave; the irregular, broken edges of the preserved Type A masonry rise diagonally away from the openings in a manner characteristic of ruins exposed to weathering and perhaps to earthquakes. (Figs. 23, 88, 89). The evidence of the west wall therefore indicates that the church was a ruin when the repairs were undertaken.

2.1 Masonry Type E (E-1–E-3)

Masonry Type E appears to have been almost entirely composed of reused material. Roughly cut ashlar, field stones, rounded river stones, and fragments of carved architectural pieces were used, as well as bricks and brick fragments of various colors and sizes. Many of the bricks seem to have been worn or weathered when they were reused, and bricks of the same color and size as those used in the original construction of Church EA occur frequently. These bricks, as well as rounded river stones typical of the original basilica walls, were probably salvaged from the ruins of Church EA. Instead of mortar, fine, dark earth in very thin layers was used throughout Masonry Type E.

The appearance of Masonry Type E is not as consistent as the material and methods used in its construction. There are three distinctive patterns: in the first, stones, often rounded and measuring between 0.20 and 0.35 m, are placed at irregular intervals and surrounded by brickwork that is generally horizontal but not in long continuous courses (Type E-1, Figs. 79, 92); in the second, individual ashlar blocks are interspersed in coursed brickwork (Type E-2, Figs. 90, 91); in the third, courses of ashlar alternate with courses of brick (Type E-3, Figs. 23, 89, 93). Only small areas of Type E-3 masonry have survived, but in one location four brick courses with a total height of 0.26 m were used (Fig. 93).

The differences between Masonry Types E-1, E-2, and E-3 are unusual in a medieval Byzantine building, because they cannot be explained by different periods of construction: both Types E-2 and E-3 occur in the walls

3 Chapter 2, section 10.

4 Section 3.3, below, and Appendix.

5 Section 2, below.

6 Chapter 2, section 9.1, n. 207, for the masonry that blocked the doors in the north wall of the north aisle; while this masonry could have been installed before the destruction of Church EA, it may also have been installed during the medieval period.

built over the stylobates of the north and south colonnades, which must have been planned and built together. Perhaps crews of masons working in different traditions were brought from different locations to work on Church EA. This explanation implies that there was little or no existing masonry tradition at Sardis at the time and fits well with the suggestion that the reconstruction of Church EA was undertaken after a lapse of an extended period of time. The reconstruction of Church EA may have been the first major construction effort of the period undertaken in the city. It would not be surprising that the first major building to be reconstructed in a medieval Byzantine city after a period of damage and inactivity would be an important church.

2.2 The Reconstruction of the Nave and Aisles

2.2.1 The Narthex East Wall

The doorways between the narthex and nave and the narthex and north aisle were carefully reconstructed with well-built jambs. The new masonry flanking the major door between the nave and narthex is positioned next to the sockets in the original tread; thus the original door size was approximately maintained, as well as the original floor level (Figs. 23, 88, 89).⁷ Masonry Type E-3 was used in the new jambs of both doorways. A fallen section of Type E-3 masonry was found in debris near the south side of the doorway between the narthex and the north aisle (Fig. 93). The short side of this section of masonry had a finished face, indicating that it was part of the doorjamb.

2.2.2 The North Aisle East Wall

The door in the east wall of the north aisle was sealed with masonry of Type E-1, suggesting that the Northeast Unit was abandoned at the time of the reconstruction (Figs. 79, 92). The steps that must have connected Church EA with the much higher floor of the Northeast Unit may have been removed when the doorway was sealed. The east face of the new masonry is built over the top of the irregular edges of the deteriorated original wall (Fig. 79); the new masonry rises from the level of the original church floor.

2.2.3 The Walls Flanking the Nave

The walls next to and over the stylobates in the west part of the nave constitute the most extensive known reconstruction in Masonry Type E. Although these walls differ in length and design, the similarities of their locations, dimensions, orientation, materials, and methods of construction permit no doubt that they were planned and constructed at the same time.

Only about 1.15 m of the south wall, constructed of Masonry Type E-3, was excavated. It is 0.80 m wide and has a clean face on its east end, 5.00 m from the west wall of the nave. Its south face overlies the south colonnade stylobate by 0.10 m; most of the wall rests directly on the opus sectile floor of the nave (Figs. 3, 10, 82–84).⁸

The plan of the north wall is more complex (Figs. 3, 10, 15, 21). An engaged pier, 0.40 × 0.94 m, which projects from the south side of the north wall, stands 4.40 m east of the nave west wall; another engaged pier, 0.40 × 0.70 m, which projects from its north side, stands 1.08 m farther to the east. To the west of the south pier, the north wall is 0.80 m wide, but it is 1.00 m wide to the east of the south pier. The wall ends with a broken surface at its east end, 7.48 m from the west wall of the nave. This wall also overlies the stylobate; its north face stands 0.10 m north of the south face of the stylobate. The west parts of the wall are mostly of Masonry Type E-2 (Fig. 90); however, some portions of the piers and the walls near them are built almost entirely of ashlar. There are open joints near the piers, but the masonry seems to be the same on either side of them, and some stones and bricks overlap the open joints. The extensive use of ashlar in the piers and the open joints may probably be explained by structural considerations.⁹ When excavated, the north wall masonry continued over the top of Type A masonry in the western nave wall (Fig. 88), indicating that here the original wall of Church EA stood only 1.00 m high at the time of the reconstruction.

The eastern portions of the walls flanking the nave were probably removed when Church E was constructed in the thirteenth century.¹⁰ No masonry of Type E, which used no mortar, was found in the rather extensive excavations of the Church E foundations with one exception: one small segment of Masonry Type E-4 was preserved in the south wall of the “Pseudocrypt,” a pit built into the south aisle of Church E.¹¹ Most of the Type E-4 masonry was covered by plaster and frescoes, but the exposed portions were constructed of ashlar and reused bricks bonded with earth (Figs. 3, 94, Tables 3–5). The north face of this wall is located 0.90 m north of the south stylobate (which was not excavated in this area), and 0.20 m north of the north face of the medieval south wall in the western part of the nave (Fig. 3). Thus, the Masonry Type E-4 wall in

⁸ Chapter 2, section 9.2, for the opus sectile floor.

⁹ The ashlar in the piers is stronger than the masonry of mixed brick and field stones, and the open joints reduce cracking in the wall due to uneven settling caused by uneven loading conditions; also chapter 2, section 10.8, for open joints.

¹⁰ Chapter 4 for Church E. The walls of masonry Type E would still stand inside the foundations of Church E if they were not removed.

¹¹ Evidence of this Type E-4 masonry was found on the interior but not on the outside of the wall.

⁷ Section 2.3, below, for the floors during this reconstruction campaign.

the Pseudocrypt was almost certainly part of the same nave support system as the medieval south wall flanking the nave; the discrepancy of 0.20 m in their north faces may easily be explained by irregularities in the masonry or construction, or an intentional change in the thickness of the wall. As noted above, the width of the north stylobate wall varies by 0.20 m.

The south wall of the Pseudocrypt differs from the walls flanking the west part of the nave primarily in that it stands on a foundation, rather than on the floor of Church EA. The wall projects at level *89.65, creating a narrow ledge, and continues down 0.68 m below the floor level to *88.98 (Figs. 94, 95, Table 1). The face of the foundation wall was not finished as neatly as the wall above it. About 0.40 m above the ledge is a shelf 0.25 m wide built of well-squared marble blocks and integral with the wall; it became part of the floor of the Pseudocrypt when Church E was constructed.

Two well-preserved graves (Gr72.2 and Gr73.19) were found under the Pseudocrypt floor next to (north of) the bottom of the foundation constructed of Type E-4 masonry.¹² The construction of the foundation wall next to the graves would have been hindered by the graves if they were in place before the foundation was built; on the other hand, it would have been impossible to build the medieval foundation from the other side (i.e., from the south), since access to this side was blocked by the foundation of the original stylobate of Church EA. Moreover, the bottom of the medieval masonry (*88.97) is almost level with the bottom of the graves (*89.10–*89.00). These observations lead to the conclusion that the medieval foundation wall and the graves were planned together and built about the same time (Fig. 94). The contemporaneous construction of the graves and wall provides the best explanation for the construction of the medieval foundation: the medieval walls at the west end of the nave stand on the floor of Church EA with no foundations below the floor level. The construction of the medieval foundation wall here probably became necessary because the fill over the graves would have provided an insecure base for the new medieval wall flanking the nave.

2.2.4 Function of the Walls Flanking the Nave

The purpose of the two walls that flank the nave is only partially clear. The lack of mortar, the relatively poor quality of the masonry, and the rather narrow dimensions of the walls probably preclude the use of vaulting in the reconstruction. Their location next to the stylobates suggests that the walls were constructed to support the

roof: it is probable that some of the original supports of the nave colonnades¹³ were lost or severely damaged when Church EA was destroyed and replacements may have been difficult or impossible to obtain. Moreover, the position of the walls in the nave next to the stylobates, rather than on them, would have reduced the clear span of the wooden roof beams or trusses by 1.40 m, an obvious advantage if good building material was scarce.

The medieval north wall separated the nave from the north aisle for a distance of at least 7.48 m, or about one-quarter of the church length. This permitted worshippers in the western part of the north aisle little direct participation in church ceremonies. Thus one additional function of the flanking nave walls was probably the visual and physical separation of the nave from the aisles. An open arcade on piers would have supported the nave roof as well as a solid wall and would have retained the circulation between nave and aisles that characterized the original church; it also would have avoided the use of columns and required less building material than the wall. Nave arcades would have been an option, since a number of churches with nave arcades supported by piers are known in Asia Minor, some probably as early as the sixth century.¹⁴

The walls along the stylobates cannot, however, have served to limit the usable portion of Church EA to the nave. An opening in the south wall linked the south aisle to the nave,¹⁵ and the north aisle could still be entered from the narthex. The east and west walls of the north aisle were extensively repaired,¹⁶ and there is no indication that the floor levels differed in the nave and aisles at this time. The isolation of the aisles from the nave must therefore be explained by functional as well as structural considerations. The absence of an apse or apsidiole in the modifications of the east end of the north aisle indicates that the north aisle was not an independent chapel, but no other archaeological evidence remains to indicate how the isolated side aisles of the medieval reconstruction were used.¹⁷

¹² Chapter 4, sections 4.3 and 4.4, for these graves and their contents in the context of Church E.

¹³ Chapter 1, section 1.4, for the supports of the nave colonnades, which could have been standard columns or double-engaged columns.

¹⁴ For instance, Nausch, *Pfeilerbasilika*, passim; idem, "Pfeilerbasilika"; Deichmann, "Pfeilerbasilika"; Adam, "Kydna"; Peschlow, "Nikolauskirche"; Cuneo, "Basiliche."

¹⁵ Since the south aisle was not excavated, its existence during this period may only be assumed by analogy with the north aisle.

¹⁶ The doors in the north wall of the north aisle may also have been blocked at this time (chapter 2, section 9.1, especially n. 206).

¹⁷ Section 2.6.3, below, for comparable evidence concerning isolated side aisles and independent chapels.

2.3 The Church Floor during the Major Medieval Reconstruction

There is evidence that during the medieval reconstruction phase the original floor of Church EA continued to be used: apparently at this time the narthex mosaic floor was crudely repaired with reused building material, including a simple revetment molding, probably of the sixth century (Fig. 38).¹⁸ Other medieval repairs in the church seem no longer to have maintained the original Church EA floor level.¹⁹ The ruined condition of the church at the time of the major medieval reconstruction suggests that the floors were also damaged. Thus the floor repairs, which indicate that the floor was still in use, were probably carried out during the major medieval reconstruction. The threshold of the major door between the narthex and nave appears also to have been used during the same period.²⁰ The medieval walls that flank the west part of the nave stand directly on the opus sectile floor,²¹ and no evidence of another, higher floor was uncovered in the nave.

The ledge in the Pseudocrypt south wall (level ca. *89.65), which is contemporary with the major medieval reconstruction, is also approximately at the level of the original Church EA floor.²² Thus the ledge apparently represents the approximate floor level during the medieval reconstruction: the wall below the ledge was a foundation. No trace of mosaic or opus sectile floor, or of another floor, was found at this level next to the ledge; the original floor was probably removed during the major medieval reconstruction to build the foundation wall and graves underneath the Pseudocrypt.²³ However, two pinkish red tiles, measuring 0.32–0.33 m square × 0.035–0.04 m and aligned with the sides of the church, were found in a tamped earth floor 0.06 m higher than the ledge, at *89.71, the approximate level of the opus sectile floor in the western part of the nave (Fig. 95).²⁴ The tamped earth floor could be attributed to the major medieval reconstruction phase, since the floors were not level and the difference of 0.06 m is not significant; alternatively, the tamped earth floor may date to a later medieval period.

2.4 Wall Painting

The wall constructed of Masonry Type E-4 in the Pseudocrypt was plastered above the level of the Pseudocrypt floor and at least one layer of wall painting was applied before the wall was incorporated into the fabric of Church E.²⁵ This painting layer continues behind the later masonry of Church E and clearly demonstrates that the medieval reconstruction of Church EA included wall paintings. The poorly preserved remains include a horizontal border frieze of white diamonds and areas of mottled colors perhaps representing marble revetment.

Numerous fragments of wall painting in two layers were found in fill within the apse of Church EA.²⁶ Though neither a specific decorative system nor stylistic features can be ascertained, the second layer of wall painting seems to have contained flesh tones, robe folds in various colors, and extensive areas of bright blue over black, probably the background for figural representations. It is probable that the original Church EA wall paintings, and perhaps the entire apse, were in a damaged condition when Church EA was reconstructed, and that new wall paintings were created during the major medieval reconstruction.²⁷ However, even though the only subsequent medieval repairs to Church EA seem to have been haphazard,²⁸ the application of new wall paintings during a later medieval repair is a possibility. Thus the upper layer of wall painting certainly dates to the medieval period, and it is possible that both were applied then.²⁹

2.5 Carved Architectural Sculpture

A number of carved architectural elements found in various contexts may be attributed to the major medieval reconstruction. A large decorated impost block may have belonged to a binate window, perhaps in the center of the apse.³⁰ Other pieces, including fragments of closure slabs, octagonal colonnettes with attached capitals, and lintel blocks, were probably produced for the chancel barrier of the major medieval reconstruction of Church EA.³¹ Most

18 Chapter 1, section 3.3.2, for the mosaic floor; chapter 5, moldings 5.2.1–5.2.3, for the revetment border moldings; chapter 2, section 11.2, for comparable evidence and chronological attribution.

19 Section 3, below.

20 Chapter 1, section 2.4, for the original threshold; section 2.2.1, above, for the threshold during the major reconstruction of Church EA.

21 Section 2.2.3, above.

22 Chapter 1, section 3.3.1, for the levels of the north aisle mosaic, ca. *89.57–*89.63; chapter 2, section 9.2, for the level of the opus sectile floor at ca. *89.69–89.66; section 2.2.3, above, for the south wall of the Pseudocrypt.

23 Section 2.2.3, above.

24 Chapter 2, section 9.2, for the opus sectile floor.

25 Chapter 4, section 4.2, for a detailed description.

26 Chapter 1, section 3.4, for a description; SFR Majewski, 1973, 1–2, states that the second wall painting layer was applied on a layer of lime plaster about 1.5–2 mm thick.

27 This conclusion may be drawn from the ruinous condition of other features, for instance the nearby east and west ends of the north aisle, described in sections 2.2.1 and 2.2.2, above.

28 Section 3, below.

29 Chapter 4, section 3.4, for further, more circumstantial, evidence of wall painting that may be attributed to the medieval reconstruction phase.

30 Chapter 5, capital 4.8 (Figs. 254–57).

31 Chapter 5, closure slabs 7.13–7.18 (Figs. 307–14); capitals 8.7–8.9, colonnette 8.10 (Figs. 333–39); lintel fragments 9.1–9.3 (Figs. 340–51).

decorative motifs used on these pieces are similar and include interlace in circular, square, and lozenge patterns as well as arcades, palmettes, crosses, rosettes, whorls, stars, hexagons, octagons, and animals. Some of the pieces were reworked for reuse in Church E during the thirteenth century, demonstrating that they were readily available at that time and that they were produced earlier. Their large number and relatively consistent style make it likely that all of these members were taken from Church EA, rather than from another site, by the builders of Church E.

Even though no direct evidence was found for the form and location of the chancel barrier of the reconstructed church, comparable evidence and the extant carved fragments provide a general impression of its appearance.³² The chancel barrier probably spanned the nave. Its octagonal colonnettes probably stood on square pillars. The colonnettes, crowned by integrated geometric capitals, supported lintels with a decorated raking face. The lintels probably did not support icons. A doorway was located in the center, and perhaps also at each side. The parapets between the colonnettes contained decorated closure slabs.

2.6 Comparable Evidence and Chronology

2.6.1 Numismatic Evidence

Although coins struck in the seventh century occur in other parts of Sardis, no coins struck between 614 and 820 were found in PN, suggesting that activity there was minimal in the medieval period until the ninth century.³³ The numismatic evidence thus suggests that the major medieval reconstruction of Church EA may cautiously be attributed to the mid- or late ninth century. While the dating evidence is not compelling, it would be surprising if one of the most important churches of the city was not reconstructed during a period of recovery.³⁴

32 Chapter 5, section 10.3, for a reconstruction.

33 The three ninth-century coins found in the PN sector bear no direct relationship to the medieval reconstruction of Church EA; all were found north of the church: Bates, *Byzantine Coins* (Sardis M1), nos. 1107 and 1108 (Michael II, dated 821–829), and no. 1113 (Leo VI, dated ca. 890–908); Buttrey et al., *Coins* (Sardis M7), 209; Foss, *Byzantine and Turkish Sardis* (Sardis M4), 48, 50, 53–54, 57, 59–61, for a review of coins found at several locations in Sardis and their implications for the history of the site.

34 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 53–76, for the history of Sardis during this period; Foss and Scott, “Sardis,” 618–22, emphasize the recovery of Sardis in the ninth century; Ivison, “Urban Renewal,” for evidence of imperial support of urban construction projects during the period 730–1025, including a number of documented ninth-century examples in western Asia Minor; Charanis, “Diversity,” for ninth-century conditions that may apply only generally to Sardis.

2.6.2 Masonry

As we have seen, the evidence of the masonry suggests that the reconstruction of Church EA was a first, initial building campaign after a lapse of an extended period of time.³⁵ This archaeological evidence therefore corresponds generally with the evidence of the coins, which suggests a lapse of approximately 200 years.

Masonry similar to Type E-3, in which horizontal courses of ashlar alternate with several courses of brick, is used in Asia Minor, Istanbul, and Greece in churches and other structures dating to the eighth, ninth, and tenth centuries.³⁶ The same masonry type was also used in one portion of the Sardis Acropolis.³⁷ Even though similar masonry was used during other periods,³⁸ the form of masonry Type E-3 indicates that a date for the reconstruction of Church EA in the ninth century is plausible.

2.6.3 Isolated Side Aisles

Church EA is not the only early Byzantine church in western Asia Minor that was rebuilt with walls between the nave and side aisles during the medieval period: on the contrary, such walls appear to have been rather common. Similar walls are recorded, for instance, in the church within the Temple of Apollo at Didyma,³⁹ in two churches at Hierapolis in Phrygia⁴⁰ in the basilica at the Letoon of Xanthos,⁴¹ and in the Church of the Evangelists

35 Sections 2–2.2, above.

36 Buchwald, *Sige*, 57–58, with numerous examples, some of which are firmly dated, and further references; the ratios between the brick and stone courses of these walls cannot be compared with those of the Church EA reconstruction, because the latter are too poorly preserved.

37 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 59 and fig. 34, right; *ibid.*, 57–59, 61, 70–71, for the medieval Byzantine Acropolis; the masonry of this small section is not similar to that of the initial construction of the Acropolis fortifications, which is attributed by Foss to the seventh century.

38 Chapter 1, section 4.2, especially n. 66; Tunay, “Tekniğine,” *passim*, for a survey of Byzantine masonry in Turkey combining brick and stone; Deichmann, *Architektur*, 21–33, for generally comparable masonry dated between the first century and the sixth in Asia Minor and elsewhere; Ward-Perkins, “Structure,” for similar building materials and methods in Constantinople and Asia Minor during the early Byzantine period; Ousterhout, *Builders*, 169–80, for medieval Byzantine wall construction, with numerous examples and good illustrations of wall surfaces of coursed brick and stone, some dating as late as the fourteenth century.

39 Knackfuss, “Heiligtum,” 43, Fotografien pls. 61, F 105, 64, F 108, F 109, Zeichnungen pl. 3, Z. 131; the walls were removed after excavation.

40 Verzone, “Ultime fasi,” 849–55, fig. 1; *idem*, “Hierapolis 1960, 1961,” 640–41; *idem*, “Hierapolis,” *RbK*, 1220–21, fig. 5; the medieval transformations are not fully described and illustrated in the publications. My own notes and photographs of these changes are of 1979.

41 Metzger, “Xanthos 1962–1965,” 111; the description of the walls is extremely brief.

at Alahan.⁴² No evidence regarding the dates for these walls has been published.

At Alahan the side aisles, which were subdivided by new cross walls, were connected with the nave by doors in the new walls. In the church near the theater of Hierapolis, the walls between the nave and side aisles are relatively well preserved. They are built between earlier piers that replaced the columns of the original nave colonnades. Doors near the west end of these walls connect the aisles with the nave. Apparently, the door from the narthex to the north aisle remained in use, but the equivalent door to the south aisle was sealed with masonry. Perhaps somewhat later, the north aisle was subdivided into three compartments. The west compartment could be approached from the nave or narthex; the others were connected only internally.

Thus the evidence indicates that at Alahan and Hierapolis, as in Church EA, the side aisles remained in use after the medieval reconstruction and that their use was probably related to that of the nave. In all three examples the openings between the side aisles and the nave, and the size and shape of the aisle compartments, probably rule out their use for habitation.⁴³

Similar reconstructions have been recorded in Greece, for instance, in basilicas at Delos, Kubaras, and Glyphada.⁴⁴ The walls built over the stylobates in these churches are usually interpreted as the exterior walls of the reconstructed medieval church, the side aisles having been abandoned. However, in the Church of St. Cyriacus on Delos, perhaps a medieval reconstruction of an earlier church, the aisles were connected to the nave by doors near their east and west ends and so were probably not abandoned.⁴⁵

Solid walls between the nave and side aisles were also constructed in the Bema Church at Corinth. At Corinth, the aisles, which are nearly as wide as the nave, have

exedrae at their east ends. Even though the aisles may not be contemporary with the nave, the Bema Church is of particular interest because its early phase has been dated, partially on numismatic evidence, to the ninth or tenth century,⁴⁶ roughly the period during which Church EA may have been reconstructed.

The Church of the Virgin at Skripou was built in 873–874 with solid walls between the nave and aisles, interrupted by small openings near the east and west ends and by a transept with a dome at the crossing.⁴⁷ Amy Papalexandrou has reasonably interpreted the isolated side aisles of the Skripou scheme as independent churches parallel with the nave,⁴⁸ an interpretation unlikely for the medieval reconstruction of Church EA, since its side aisles apparently did not have exedrae at their eastern ends.⁴⁹

It is tempting to compare the isolated aisles of these churches with chapels such as those identified by Thomas Mathews, which had exedrae and were used for “private liturgy.”⁵⁰ Among the churches considered above, however, exedrae or exedral wall niches in the aisles are recorded only at Corinth.⁵¹ The aisles of the Corinth church are almost as large as its nave, suggesting that they were separate, parallel churches (such as those proposed in the Church of the Virgin at Skripou), rather than chapels used for “private liturgy.” Thus, further study of these and other churches reconstructed during the medieval period is needed before the functions of the isolated side aisles in Church EA can be identified.

2.6.4 Carved Ornamentation

The decorative motifs and style of carved pieces attributed to the medieval reconstruction of Church EA find numerous

42 Gough, ed., *Alahan*, 94, 150–52, figs. 41, 42; Gough, “Alahan,” especially 178, fig. 1; the walls between the nave and side aisles extend only about two-thirds of the distance from the bema to the west wall of the original church, where the nave was enclosed on the west by a new facade apparently contemporary with the flanking nave walls; inside the nave, the flanking walls were articulated at regular intervals by piers that probably supported diaphragm arches, vaults, or both; the original exterior church walls were repaired during the medieval period. The medieval walls were removed after excavation.

43 Verzone, “Hierapolis,” *RbK*, 1221, for the suggestion that the side aisles of the basilica near the theater were used, in part, for habitation, but without supporting evidence.

44 Orlandos, “Délös,” 68–84, figs. 1, 4; idem, “Ναοὶ Καλυβίων”; idem, “Συμπληρωματικά Καλυβίων”; idem, “Glyphada”; idem, *Μνημεία*, 153–55.

45 Orlandos, “Délös,” 71–84. Although the church has been attributed to the fifth century because of the carving style used in its furnishings, it is possible that it is a medieval reconstruction of an earlier building from which the furnishings were salvaged, an interpretation supported by the fact that its floor was made of irregular, apparently reused, stone slabs rather than of mosaic or opus sectile.

46 Scranton, *Corinth*, 42–46, fig. 3, pls. 5, 6, with a very complicated history of the building in four periods between the late ninth and twelfth centuries; the nave and side aisles are attributed to different periods to explain the solid walls between them; however, as we have seen, this solution is not uncommon, and the essential features of the nave and aisles may be contemporary. Regardless of such speculations, the church seems to have been functioning for several centuries with the nave separated from the aisles by solid walls.

47 Papalexandrou, “Skripou,” 1–155, 234–334; also Megaw, “Skripou”; Stikas, “Scripou”; Sotiriou, “Ναός της Σκριπούς”; Strzygowski, “Inedita.”

48 Papalexandrou, “Skripou,” 258–87, for an extensive, carefully argued, well-documented account of the solution she identifies as a “triple church arrangement,” with numerous references.

49 The south aisle remains unexcavated and could, perhaps, have an apse even though the north aisle has none.

50 Mathews, “Private Liturgy.”

51 N. 46, above.

parallels in Asia Minor,⁵² Constantinople,⁵³ Thrace,⁵⁴ and Greece,⁵⁵ but also elsewhere.⁵⁶ Such decoration is usually attributed to the period from the ninth to the twelfth centuries, although similar decoration could also have been produced somewhat earlier or later.

52 Stylistically, the cited examples here and in ns. 53–56 diverge considerably but have basic patterns and motifs in common. The following references provide only a sampling of the published examples: Grabar, *Sculptures*, 96–97, pl. 44:2, dates a chancel barrier lintel block from the Sardis area now in Istanbul to the ninth or tenth century; this lintel was first published by Butler, *Sardis* 1, 87–88, fig. 86:d; Peschlow-Bindokat and Peschlow, “Kumbaba,” 351–52, 357, nos. 87, reverse, and 95, pls. 123:2, 124:4; Peschlow, “Ambo,” figs. 3, 8–14; Ötügen, *Kleinasiens*, 85–96, pls. 7–10, 13; Conze et al., *Stadt*, 313–20; Buchwald, “Geometry,” 294–96, figs. 1–8; Hetherington, “Well-Head,” pl. 14; Orlandos, “Γλυπτὰ Σμύρνης,” 135–52, nos. 12–16, 24; Knoll, *Marienkirche*, 66–71, figs. 80, 82, 87; Strzygowski, “Ornament”; Miltner, *Cömeterium*, 63, fig. 70; Karwiese, “Marienkirche,” 17, fig. 10; Sotiriou, “Ev Εφέσω,” 109–10, 175–78, figs. 23, 49–52; Peschlow, “Didyma,” particularly 232–33, nos. 49–54; Firatli, “Sébastē,” 161–66, figs. 14–31, with ornamentation attributed to the tenth century that is far richer than that of Church EA; Lightfoot and Ivison, “Amorium 1995,” 295–96, fig. 6; Taşlıalan, *St. Paul*, 12–14; Öney, “Elements,” pls. 15:b, 17:a, 18:a and b, 20:e, for examples reused in Seljuk buildings; Calder, *MAMA*, 132, 206, nos. 248, 394; Buckler et al., *Monuments*, 12–13, 32, 35, nos. 38, 40, 45–48 (from Afyon Karahisar, the latter with an inscription dated 934–935 by the authors), nos. 95, 111 (from Sohut Kasaba, the first with an inscription dated 1063–1064 by the authors); Strzygowski, “Inedita”; Demirez, “Atabey,” 89–93, figs. 4–19; Rott, *Denkmäler*, 12, fig. 4 (a slab in Ağras, modern Atabey), 285–87, figs. 104–5 (the so-called Throne of Melegob, which may have been carved between 969 and 976), and 327–41, fig. 128 (a slab from a tomb in St. Nicolas in Demre [Myra]); Peschlow, “H. Nikolaus,” 220–40, pls. 42–45; Feld, “Innenausstattung,” nos. 40–43, 46; Sodini, “Xanthos,” 119–48, pls. 34–38; Morganstern, “Lycia”; Dennert, “Ambone,” 138–47, pls. 49, 51–54.

53 For instance, Van Millingen, *Churches*, 169–77, fig. 55 (Gül Camii), 243–52, fig. 81 (Kilise Camii); the latter shown better in Eyice, *Bizans*, figs. 124, 126, 127; Mathews, *Churches*, 55–61, fig. 47 (St. John in Hebdomon); Demangel and Mamboury, *Manganes*, 127–28, nos. 33–36, figs. 161–65; Striker and Kuban, “Kalenderhane,” 314–15, fig. 12; Hjort, “Kariye,” 267–68, no. 4, fig. H, pl. 94.

54 For instance, Mango, “Vize,” fig. 8.

55 For instance, Panayotidi, “Monuments,” pls. 18 (Thessaloniki), 35 (Kastoria), 53–55 (Thebes), 59–62 (Skripou); Papalexandrou, “Skripou,” 156–233, with an interpretation of the contextual program of the carving, dated 873/4; Megaw, “Skripou”; Sotiriou, “Ναός Θεολόγου,” 14–17, figs. 21–23, 27, for related examples dated 872/3, also discussed and reproduced together with other similar examples in Grabar, *Sculptures*, 90–124, pls. 39–44; Schultz and Barnsley, *Saint Luke*, pls. 12–15, 22–29; Bouras, *Διάκοσμος*, 130–32, pls. 137–72; Biesantz, “Larissa,” 84, fig. 11; Michel and Struck, “Athen,” 281–324, figs. 8, 12, 13, 17, 20, 21; Frantz, *Church*, 14–17, figs. 6, 7, pls. 10:c, 11:a–j; Sotiriou, “Καθολικόν Πετράκη,” 110–11, pls. 49:1, 2, 50:1, 2; Scranton, *Corinth*, 103–4, nos. 4, 6, 9, 10, pls. 19, 20; Drandakis, “Μάνης,” pls. 6, 8–10, 13; idem, *Νικητᾶς*, 20–44, pls. 1–16.

56 Summaries are presented in Sodini, “Sculpture,” *DA*, 591–93; Grabar, *Sculptures*, 90–137, pls. 39–64; Ulbert, *Reliefplastik*, 45–88; idem, “Reliefplatten,” 345–57; Delvoye, “Cancelli,” 920–31. Cf. also, for instance, Bošković, “Nerezi”; Korać, “Sculpteurs”; Sheppard, “Slabs”; Brenk, “Marmorschranken.” Certain similarities also exist with material found in Italy and other Western countries that may be dated to the eighth, ninth, and tenth centuries; while there are many obvious stylistic differences, there are equally obvious analogies in the use of some interlace patterns and individual motifs; for an overview that is still relevant, see particularly Kautzsch, “Oberitalien” and “Schmuckkunst,” which point out basic similarities as well as stylistic differences.

In some cases, carved architectural pieces have been attributed to a specific period by comparisons with dated examples. However, particularly in Asia Minor, we do not know how long specific motifs or techniques were employed, nor do we understand the history of their geographical diffusion:⁵⁷ for instance, although dated examples are more plentiful in the eleventh century, similar decoration may also have been produced much earlier. No attempt has been made to organize the considerable evidence available in Asia Minor stylistically or chronologically. Thus, at present a stylistic analysis of the Sardis ornamentation serves only to demonstrate that associating these pieces to the major medieval reconstruction, perhaps in the second half of the ninth century, is plausible.

Impost Block. The large decorated impost block perhaps from a binate apse window, attributed to the medieval reconstruction of Church EA,⁵⁸ is apparently unique in the published literature. Although its shape differs from known examples, the motifs can be found among published medieval Byzantine capitals.⁵⁹ For instance, the whorl, carved on what is probably the inside face, is found on imposts from Pergamon,⁶⁰ from Yeşilyuva-Kayser (Phrygia),⁶¹ from Atabey,⁶² and on a capital in Izmir from Eski Foça.⁶³ In the latter example, the framing interlace bands are unusually similar to those of the Sardis piece in their compositional layout, suggesting that both may have been produced around the same time. The complex looped, interlaced knot on the other side of the Sardis block may be compared with designs on capitals at Kuşadası⁶⁴ and Sebaste.⁶⁵ Both motifs also occur frequently on other medieval Byzantine furnishings, and the whorl is known in architectural ornamentation already in the Hellenistic and early Imperial periods.⁶⁶

57 Ulbert emphasizes the continuity of motifs over extended periods of time and the accompanying impossibility of stylistic attribution of many examples.

58 Chapter 5, impost block 4.8 (Figs. 254–57).

59 Dennert, *Kapitelle*, 135–42, pls. 51–55, for an overview.

60 Conze et al., *Stadt*, 310, no. 20, fig. 20.

61 Dennert, *Kapitelle*, 88, no. 186:b, pl. 34.

62 *Ibid.*, 51, no. 112, pl. 20.

63 *Ibid.*, 51, no. 113, pl. 20.

64 *Ibid.*, 87–88, no. 184, pl. 33. Dennert compares features of the capital with those he attributes to the eleventh century, but as his comparisons demonstrate, the same motifs were used during several centuries and cannot be employed to date the capitals with precision.

65 Firatli, “Sébastē,” 166, no. 8, fig. 31, probably from a church attributed to the tenth century.

66 For instance, Hoffmann, “Gadara,” fig. 1, pl. 40.

Chancel Barrier Capitals. The shape and decorative motifs of the Sardis chancel barrier capitals⁶⁷ are also rather common at medieval Byzantine sites. Martin Dennert has noted examples with the same basic geometric form, connecting an octagonal shaft below to a capital square in plan above, at Ephesos, Uşak, Konya, Istanbul, Chios, Santorini, Athens, Daphni, Hosios Lukas, Makrinitza (Volos), Mt. Athos, Ochrid, and Venice.⁶⁸ None of Dennert's examples are similar in detail to the Sardis capitals: some are plain, and others are more richly ornamented, using niello technique and decorated with acanthus and other motifs not found on the Sardis pieces. Moreover, none of the motifs of the Sardis chancel barrier capitals are found on the examples of this type published by Dennert. Chancel barrier capitals made for octagonal shafts at Kumbaba,⁶⁹ Myra,⁷⁰ Corinth,⁷¹ and Philippi⁷² are more similar to the Sardis capitals than those published by Dennert in that their diagonal faces are undecorated, although the motifs on their other sides are not similar to those at Sardis.

Closure Slabs. Because of the fragmentary preservation of the closure slabs attributed to the medieval reconstruction of Church EA,⁷³ a detailed comparison of their composition, style, and motifs with those of examples from other sites is not meaningful: too many elements that could have existed originally in the Sardis pieces are missing.

Chancel Barrier Lintels. In a previous study of more than 80 pieces from chancel barrier lintels decorated with arcades roughly comparable to those of Church EA,⁷⁴ I found that, although lintels decorated with carved arcades exist in Asia Minor, Greece, Macedonia, Ukraine, and Italy, they are particularly common in southwestern Asia Minor and southern Greece. This motif does not seem to be documented on chancel barrier lintels from Istanbul. The

rare firmly dated examples demonstrate that these lintels were produced from the late ninth to the late twelfth century, although some were probably created somewhat earlier and others somewhat later. This type of lintel appears to have originated, probably during the period of iconoclasm, in one of the provincial cities in the area where they are most common, perhaps in Ephesos or in southern Greece. The lintels were probably carved by specialized itinerant craftsmen, rather than by the work crews responsible for the construction of the churches. The carved arcades that decorate them probably represent the Gates of Heavenly Jerusalem (Revelation 21:12–14). This interpretation suggests that the understanding of the chancel barrier as a demarcation between spirit and matter, as described in later Byzantine texts, probably existed already by the ninth century and perhaps earlier. The dearth of datable examples, as well as the apparent longevity of styles and motifs, makes it difficult to trace stylistic developments across time and geography. Nevertheless, the Sardis lintel blocks are stylistically more closely related to examples at Ephesos and Pergamon than to those at other sites: the similarities include the use of horseshoe arches, double columns, stepped bases, narrow arcade proportions, and the lack of capitals in the carved arcades.

The historic context should be taken into account when considering the chancel barrier lintels at Sardis. Since chancel barriers were required in every church, many chancel barriers in Asia Minor, as in other provinces, must have been produced in the course of reconstruction programs after the devastations of the seventh and eighth centuries. In Sardis the original chancel barrier of Church EA would probably no longer have been acceptable by the ninth century, even if it had survived the severe damage that is evident in the church: the chancel barrier of the earlier church lacked the colonnettes and lintels that had become standard features of chancel barriers by the ninth century.⁷⁵

67 Chapter 5, pillars 8.7–8.9.

68 Dennert, *Kapitelle*, 135–42, pls. 51–55, with additional examples in n. 1000; for further examples and illustrations, Ötügen, *Kleinasien*, 72–75, items İz 68a and İz 69, fig. 7, pls. 6:3, 6:4, from Iznik; Demangel and Mamboury, *Manganes*, 116, figs. 138, 140–42, of unknown provenance but perhaps from the Church of St. George of the Mangana.

69 Peschlow-Bindokat and Peschlow, “Kumbaba,” 356–57, no. 94, pl. 124:2 and 3, with an attribution of the piece, which may come from Kandira, to the tenth to eleventh centuries.

70 Peschlow, “H. Nikolaus,” 238–40, no. 24a.b, pl. 43:2, with an attribution to the eleventh century based upon comparisons with numerous dated examples. The Sardis carving is not nearly as rich and three-dimensional as many of the pieces in the same group at Myra.

71 Scranton, *Corinth*, 107, no. 37, pl. 23.

72 Lemerle, *Philippes*, pl. 32:22 and 23, from the crypt chapel of Basilica A.

73 Chapter 5, closure slabs 7.13–7.18 (Figs. 307–14).

74 Buchwald, “Lintels,” figs. 1–42, with references.

3 Later Medieval Repairs and Changes

3.1 The Transformation of the Narthex (Masonry Type F)

The doorway between the north aisle and the narthex was sealed with Masonry Type F (Figs. 10, 96, 97, Tables 3–5). Type F masonry is composed of reused ashlar and bricks laid in a haphazard pattern, although a tendency to alternate single courses of brick and ashlar can be seen in places. The courses are very irregular: the bricks are little more than broken fragments and the joints are very large and filled with earth. This masonry is distinct from and inferior to that of the major reconstruction in Type E masonry, which it abuts

75 Chapter 5, n. 139, for scholarship concerning the forms, development, and meanings of Byzantine chancel barriers.

and which must be attributed to an earlier period. When the doorway was sealed, the threshold was apparently removed, and it may have been reinstalled in the nearby doorway between the narthex and the atrium. The threshold found in that doorway did not originally belong there: its upper surface is adjusted neither to the level of the narthex floor nor to that of the atrium (Fig. 24).⁷⁶

A short wall extending westward from the wall between the nave and narthex, 5.20 south of the narthex north wall, was apparently constructed at the same time (Figs. 3, 10, 96 far right). Built of Masonry Type F, this wall is 0.50 m thick and 1.30 m long and has a finished face at its west end. The wall rests on the mosaic floor and was 0.70 m high when excavated.

The construction of this wall and the sealing of the doorway between the narthex and the north aisle created a semienclosed space and reduced access to the northern part of the narthex. This area was reached from the narthex and the atrium; the doorway to the atrium may have contained a new door held in place by the reused threshold. A section of column, large, roughly dressed stones standing upright, and fragments of a large storage jar were found on fill at a slightly higher level than the original mosaic floor (Fig. 96), suggesting that this spatial unit was used for residential or other purposes, possibly by the clergy.

3.2 Changes to the Major Nave Doorway (Masonry Type G)

The doorway between the nave and narthex on the major axis of the church was narrowed by 0.87 to approximately 1.44 m in Type G masonry. This masonry is distinct from and inferior to that of earlier repairs to the same doorway in Type E masonry (Figs. 23, 88, 89, 98, Tables 3–5).⁷⁷ Type G masonry is composed of reused ashlar, carved architectural spoils, and bricks laid in a haphazard pattern, although a tendency to alternate single courses of brick and ashlar can be seen (Fig. 98). The joints are large and filled with crushed brick and small stone chunks packed in mud. Masonry Type G is similar to, but not the same, as Masonry Type F. The differences could be explained by differences in the availability of certain building materials and perhaps by structural considerations: the reconstructed doorjambs supported a lintel and the higher parts of the wall, while the masonry of the sealed doorway supported only itself. Thus both repairs may have been carried out at the same time. On the other hand, we have no way of knowing how long this type of coarse masonry was used, and the repairs could, therefore, also have been carried out during different periods.

⁷⁶ Chapter 1, section 2.4, for the doorway during the original construction period.

⁷⁷ Chapter 1, sections 1.1, 2.4, for the original door; section 2.2.1, above, for its medieval reconstruction.

One of the spoils in the repaired jambs of the major entrance to the nave is the bottom of a double-engaged column that was probably created for the original Church EA (Fig. 98).⁷⁸ This suggests that portions of the original basilica that may still have been standing during the major medieval reconstruction had been damaged before the doorjambs were repaired again.⁷⁹ The bottom of the Type G masonry does not rest directly on the marble threshold of the doorway but on earth and small chunks of rubble at *89.82 (Fig. 98, Table 1), approximately 0.16 m above the opus sectile floor of Church EA. Thus, at the time of this repair the Church EA floor, which had been maintained during the previous reconstruction, may have been covered by fill.

The reduction of the clear width of the major doorway of the church can best be explained by assuming that the lintel over the door had been damaged and could not be replaced.⁸⁰ It seems unlikely (though possible) that only the lintel would be destroyed without damage to other parts of the building, and this repair may therefore reflect a general renovation of the church.

3.3 Numismatic Evidence, Graves, and Chronology

A rough *terminus ante quem* for the changes in the north part of the narthex is suggested by the graves located there. Several graves were found in the north part of the narthex and in the northeast corner of the atrium. The graves fail to take the preexisting walls into consideration: Gr73.24 is located in the doorway between the narthex and the atrium, its top about 0.30 m above the narthex floor (Fig. 99), and Gr73.32 intrudes obliquely into the atrium north wall (Fig. 100), demonstrating that the doorway and the adjacent walls of the narthex and atrium were no longer standing when the graves were constructed.⁸¹ Three coins

⁷⁸ Chapter 5, column 3.7 (Fig. 98).

⁷⁹ Although the reused piece could have been found anywhere on the site, other fragments of double-engaged columns were reused in Church E in the thirteenth century, and in graves closely related to Church E, suggesting that all of these fragments were readily available and that they may have been taken from the ruins of Church EA. Columns 3.1, 3.2, and 3.6 were found in graves immediately west of Church E, columns 3.5 and 3.8 were built into its walls or vaults.

⁸⁰ A reduction in the size of the congregation would not justify reducing the size of the door, nor would the loss of the door leaves, which could easily be replaced with wood from the forests of the Sardinian hinterland.

⁸¹ Hanfmann, *SPRT*, 205–7, and “Sardis Campaign 1973,” 40–41, for preliminary reports concerning graves in the church area; Appendix for the graves; SFB 1973 PN/E IV, 111, 145A, for Gr73.23 (grave numbers are unclear on p. 145A, but the sketch indicates that Gr73.24 protruded over the threshold); *ibid.* V, 182, with a photograph of the same grave labeled 73.24, which is described in *ibid.* 184–85; a finger ring (M73.7, Waldbaum, *Metalwork* [M8], no. 822) found in the grave has been attributed to the period 1000–1200; SFB 1973 PN/E IV, 183, 188, for Gr73.32. These graves were constructed in a manner similar to that of many others in the vicinity, and a marble slab 0.22 × 0.48 × 0.04 m decorated with a

struck between 1059 and 1071 were found not far from the graves, perhaps dating the burials to the latter part of the eleventh century.⁸² (The graves may have been related to the Seljuk invasions after the Battle of Mantzikert.) The changes in the north part of the narthex must have been carried out before the coins were deposited and well before the graves were dug; the deterioration of these walls to the extent that their existence was unknown would probably have required an extended period of time. However, the possibility that the graves were dug after the coins were deposited must also be considered: none of the coins were found inside the graves. Whether the graves are contemporary with or later than the coins, the changes in the north part of the narthex were carried out before the mid-eleventh century, and if the coins and graves are contemporary, the changes must have been completed well before the mid-eleventh century.

If the repairs to Church EA reflected by the reconstruction of the jambs of the major doorway are not contemporary with the transformation of the narthex, then they could have been required because of damage to the church caused by Seljuk expansion into Asia Minor following the Battle of Mantzikert in 1071.⁸³ Long breaks in the coin sequences between the late eleventh century and the late twelfth century at the Acropolis, in the PN sector around Church EA, and in the Bath-Gymnasium complex, but not in the residential area near the Temple of Artemis, suggest that activity at Sardis resumed only slowly after the end of the eleventh century.⁸⁴ Thus the church repairs reflected by the reconstructed jambs may have been carried out during the slow recovery from the beginning of the twelfth century until the early thirteenth century, before the decision was made to construct Church E to replace Church EA.⁸⁵

cross with splayed ends (not included in chapter 5) was probably used to cover Gr73.29; the graves are therefore clearly Christian.

82 C73.133, Constantine X (1059–67); C73.142 and C73.147, Romanus IV (1068–1071). Hanfmann, *SPRT*, 206; idem, “Sardis Campaign 1973,” 40; SFR Hanfmann 1973, 7, 12; SFB 1973 PN/E IV, 88–89, for C73.133, found next to the atrium north wall in earth about 0.55 m above the mosaic floor; *ibid.* V, 37, for C73.142, found over the wall between the narthex and the atrium, just south of the doorway; *ibid.* V, 135, for C73.147, found near grave Gr73.42 in the narthex, south of the door to the atrium, in earth slightly above the mosaic floor.

83 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 70–71.

84 *Ibid.*, 70–75, for a summary of archaeological evidence at Sardis, the history of Sardis during this period, and the sources.

85 Chapter 4 for Church E.

4 Summary

The small West Chapel was built into the atrium next to its north wall during a period when Church EA was probably an unused ruin, but when the walls of the atrium and the Entrance Bay remained visible and these spaces were still used. It may have been constructed around 660, when limited building activity appears to have resumed at Sardis. The altar of the chapel was repaired or replaced, perhaps already in the eighth century, but perhaps later, between the early twelfth and early thirteenth centuries.

A major medieval reconstruction of Church EA was undertaken after the church was destroyed, and apparently after an extended period of disuse. The reconstruction included many of the church walls, in some places almost from the ground up, as well as the construction of walls and engaged piers between the nave and side aisles, the application of new wall paintings, the creation of a new chancel barrier and of a decorated impost, repairs to the original mosaic floor in the narthex, and the construction of important graves, probably thought to be those of saints, near the south wall of the nave. Numismatic evidence from other parts of Sardis implies that this reconstruction may cautiously be attributed to the second half of the ninth century, although earlier or later dates are also possible.

The north part of the narthex was converted into a semienclosed space that may have been used for habitation during a period after the major reconstruction of Church EA. The major entrance of Church EA was again reconstructed, perhaps reflecting a more general repair of the medieval church, either at the same time as the changes in the narthex, or after damage, perhaps caused by the Seljuk invasions. If so, then these repairs would have been carried out between the early twelfth century and the early thirteenth century.

No evidence of medieval changes or repairs to the North Chapel, Entrance Bay, Northwest Unit, Northeast Unit, East Building, or West Unit was found. These areas were probably abandoned in the medieval period: they must have suffered the same destruction as the basilica. The atrium appears to have remained in use, at least for circulation to Church EA and the West Chapel; however, it was in a ruined condition and no longer known when Christian graves were built into its doorway and north wall no later than the thirteenth century.

Chapter Four

CHURCH E

Some portions of Church EA may have continued in use until it was replaced by Church E in the thirteenth century.¹ This new church, a small but well-built and attractive structure with five domes, was constructed over the eastern part of the nave of Church EA and partially overlaps the original north aisle; its floor is approximately 1.8 m above the floor of Church EA. The apse of Church E was constructed inside the apse of the earlier church, and its eastern walls were built against the eastern walls of Church EA (Figs. 2, 3, 13, 14, 101, 102). The main axis of the new building is somewhat to the north of the main axis of Church EA, probably because of the decision to incorporate portions of a medieval wall of Church EA into the south wall of the new church.² Graves that were located next to this medieval wall were also integrated into the new building.³ These graves, which seem to have been a controlling factor in the disposition of the new church, contained reburied remains, perhaps of saints, and thus may have provided the incentive for the construction of Church E.

No other parts of Church EA were integrated into the new building. The extant walls of Church EA near Church E, including the medieval modifications, were leveled to a height ca. 0.70 to 1.30 m above the original floor, and material that seems to have been salvaged from the earlier church was reused in the construction of Church E.⁴ Spoils probably from Church EA were also used to construct graves.⁵ Other carved architectural spoils were laid out carefully, perhaps “piously,” with respect for their antiquity, in earth just above the original mosaic floor of the Church EA north aisle, most probably by the builders of Church E (Fig. 104).⁶

There is no indication that debris had covered Church EA when Church E was built. Church E’s foundation is constructed directly on the floor or subfloor of the original basilica, and the material beneath the level of the Church E floor is clean fill rather than destruction debris.⁷ However, the ground level south of Church E seems to have risen over an extended period, approximately to the level of the Church E floor.⁸

1 Church E was identified as a Byzantine church with five domes by Howard Crosby Butler (*Sardis*, 33) and designated as “E” on his maps of the site (*ibid.*, ill. 18 and map 1). Many of the references in chapter 1, n. 2, deal with the excavations of Church E as well as EA. The major efforts were carried out in the seasons of 1962, 1963, and 1972 by Mario Del Chiaro, A. Henry Detweiler, Andrew Ramage, and Hans Buchwald. See especially Hanfmann, “Sardis 1962,” 15–16; *idem*, “Sardis 1963,” 14–20; Greenewalt, “Sardis 1972,” 17–19; Hanfmann, “Sardis 1972,” 60; Buchwald, “Church E”; *idem*, “Lascarid.” Some of the interpretations and reconstructions presented in the excavation reports are based upon insufficient evidence, as will be explained below.

2 Section 4, below.

3 Section 4.3, below.

4 Chapter 5, fragments 3.5, 3.8, 5.2.5, 7.17, for the individual carved pieces. Hanfmann, “Sardis 1962,” 19, 21.

5 Chapter 5, fragments 3.1, 3.2, 3.6, 7.7, 7.8, for the spoils; Appendix for the graves.

6 Chapter 5, fragments 11.9, 11.10.

7 Section 3.2.4, below.

8 Section 3.6, below, for evidence concerning the grade levels when Church E was constructed.

1 Description

1.1 The Floor Plan

Despite the almost total destruction of the building, the remains of Church E clearly indicate that the plan consisted of a naos, narthex, and sanctuary organized about a major east–west axis (Fig. 103).⁹ The narthex and naos of the church were separated by a wall with three openings, one on the major axis and the others against the north and south walls of the church. The church was subdivided by six columns into a nave and aisles, each of which was closed on the east by a segmental apse. The four western columns formed a square with sides at equal distances from the naos north, south, and west walls; the two eastern columns stood at the midpoints between the eastern corners of this square and the east wall. Thus the major features were organized on the principle of the inscribed-cross church,¹⁰ with the peculiarity that columns rather than walls separated the bema from the flanking aisles. The two east columns gave the plan a basilical character unusual in inscribed-cross churches.

The exterior dimensions of the church, including the apse, are 10.99×19.33 m, measured at the foundation walls; the interior of the naos and bema, without the apse, measure 8.85×11.12 m.¹¹ The distances between the four west columns, measured center-to-center, are 4.24 m (north side), 4.33 m (south side), 4.45 m (east side), and 4.53 m (west side).¹² The nave is 3.70 m wide, and the width of the aisles is 1.80. The chord of the major apse measures 3.22 m, and the distance between the chord and the apse wall is 1.21 m on the major axis; the same measurements for the north and south apses are 0.90 and 0.36 m, and 1.01 and 0.40 m, respectively. The interior dimensions of the narthex are 3.25×8.45 m. The exterior walls are 0.93 m thick, and the wall between the naos and the narthex is 1.28 m thick. The central opening between the naos and narthex is 1.65 m wide, and the two flanking openings measure 1.02 m.

9 Although the building is oriented with its apse approximately toward the northeast, features will be described using standard cardinal points with the apse toward the east. The north wall of the church is oriented 72.268° east of north.

10 This church type is also called, less appropriately, “cross-in-square,” “quincunx,” and “four-column.” Buchwald, “Geometry,” 303–9, for a description of the inscribed-cross church type; Mango, *Architecture*, especially 110–18, for examples.

11 As in most medieval Byzantine buildings, the measurements are only approximate because the construction materials and techniques used are not precise and because precision does not usually seem to have had a high priority in the minds of the builders. Poor preservation of many walls often prohibits an accurate definition of the wall face, which would, at any rate, have been modified by the application of plaster or veneer that have been lost. All dimensions given in the text are therefore approximate.

12 The differences in these dimensions, up to 0.29 m, or almost 7%, illustrate the lack of precision in the methods employed in the construction of Church E.

Careful measurement of Church E using surveying instruments suggests that its major dimensions were established in accordance with the geometric system of proportion known as *quadratura*.¹³ The smallest unit of its design is a square, approximately 4.3–4.4 m on each side, drawn through the centers of the four columns under the central dome (Fig. 105). This square may be diagonally inscribed into a larger square with its corners at the inner faces of the west, north, and south naos walls. The second square, in turn, may be diagonally inscribed into another square; this third square defines the nine central bays of the church. Finally, the third square may be diagonally inscribed into a still larger square; the east and west corners of this last square determine the inner faces of the major apse and narthex west wall, respectively. Although the corners of the squares are not exactly 90 degrees, the minor divergences should be explained by the reused, irregular materials and the unsophisticated methods of measurement and construction employed by the builders, and by the poor state of preservation of the church. In some churches of similar plan, *quadratura* was also used to determine vertical dimensions.¹⁴ For Church E this suggests that the height of the naos, measured to the stringcourse underneath the drum of the major dome, may have been the same as its width, 8.85 m.

1.2 The Standing Remains

Most walls stand 0.6 to 0.7 m high (Figs. 13, 14, 102), while the best-preserved walls, near the southwest corner of the building, stand 1.30 m above the probable level of the original floor (Fig. 106, Table 1). Still, the major features of the lowest portions of Church E are recognizable. Simple rectangular pilasters 0.60–0.80 m wide projected 0.35–0.40 from the inner faces of the naos walls opposite each column and apparently also from the inner faces of the east and west narthex walls. The narthex pilasters are not on the axes of the nave columns; instead, they apparently divide the narthex into three bays proportioned so that the central bay is almost square in plan.¹⁵

13 Fonseca, “Ad Quadratum,” for a general survey with emphasis upon ancient and contemporary examples and with further references; Kidson, “Proportions”; Buchwald, “Church E,” 271–72; idem, “Lascarid,” especially 280–82, figs. 4–9; idem, “Geometry,” particularly 297–300, for Byzantine examples; Kuniholm and Striker, “Holy Apostles,” 14–15, fig. 8; Ousterhout, *Builders*, 74–81; Wiemer and Wetzl, “Geometry,” for *quadratura* in medieval architectural design; Wu, ed., *Ad Quadratum*, for Western medieval examples, some contemporary with Church E; Vitruvius, *De Architectura*, Book 9 Preface, for the *quadratura* as a method of doubling the area of a square according to Plato.

14 Buchwald, “Geometry,” 298–99, figs. 11, 12.

15 The pilasters in the narthex were poorly preserved at the time of excavation and have deteriorated since; their exact locations and dimensions are not as certain as those of the naos.

Pilasters with stepped profiles richly articulated the north, south, and west facades (Figs. 101, 106, 107). The pilaster articulation of the facades reflects the major features of the church plan: the western facade echoes the division of the church into a nave and side aisles, and the north and south facades indicate the narthex, the sanctuary, and the bays of the naos. The pilaster profiles of the west facade of the church are stepped twice, but the pilasters on the north and south facades are articulated more rhythmically: those flanking the central and outer bays are stepped three times, and the pilasters that flank the intermediate bays are stepped only once or twice.¹⁶

The eastern facade of Church E, as far as can be judged from its scanty remains, is not articulated with pilasters in its lowest parts. The five facets of the main apse exterior vary in length and orientation with respect to the major axis of the church: the north face meets the naos east wall at a distinctly wider angle than its southern counterpart. The flanking apses are segmental in plan on the exterior.

1.2.1 Masonry (Type H-1)

With one small exception,¹⁷ the masonry in the extant walls of the church is uniform in character (Masonry Type H-1, Tables 3–5).¹⁸ Neither fissures nor joints are evident, indicating that the major features of the plan belong to a single building effort. The walls were constructed of mortared rubble faced with brick and marble ashlar blocks.

Courses of well-squared marble blocks alternating with two to five courses of brick formed the lower exterior facing, but not enough of the walls remains to determine whether the builders used a consistent pattern of alternating courses (Figs. 106–10). The facing of the upper, partly decorated, portions of the facades and the substructures of the domes are built primarily of brick.¹⁹ The lowest course of marble blocks is between 0.20 and 0.45 m high, with a typical height of 0.30 m. It rests upon a single course of brick that seems to have served a leveling function. This course, in turn, rests upon a stylobate²⁰ of large, well-cut marble blocks that, on the exterior, crowns the high foundation walls (Figs. 106, 107, 109). Occasionally a single vertical brick is inserted

between two ashlar blocks, in a manner reminiscent of the cloisonné technique (Figs. 109, 110).²¹

The interior facing of the church walls is in general less regularly and less carefully constructed than the exterior facing, probably because the interior was plastered while the exterior was exposed to view (Figs. 111–13). Two pedestals (Figs. 111, 113, 114, 122) were built into the masonry of the interior pilasters, one as part of the western pilaster of the north wall, the other as part the middle pilaster of the south wall.²² In other areas, field stone, broken ashlar blocks, and brick, sometimes laid without courses, are more frequent. Even where regular courses of ashlar are used on the interior, the blocks are not generally as well squared or uniform in size as are those on the exterior.

All of the building material seems to have been reused. The sizes of the ashlar blocks and bricks (Table 5) are not uniform, and broken fragments are more common than whole pieces, even in well-preserved masonry. Many ashlar blocks and bricks that appear to be in good condition have broken surfaces turned toward the rubble core. Generally, the pieces used in the facades are in better condition, at least on the exposed surface, than those used in the interior walls. The builders exploited differences in size and color among the bricks, and between the bricks and ashlar blocks, to create a richly polychromatic, collage-like surface that must have been attractive.

Bricks visible in the facades range in size from 0.035 × 0.16 to 0.08 × 0.40 m. For the most part, the mortar joints range from 0.03 to 0.055 m in height; thus, the ratio between the height of the brick and that of the joint ranges very approximately between 1:0.5 and 1:1. The visual impression is that the bricks are slightly taller than the mortar joints. The mortar is very consistent in character and of high quality; it is fine in texture and light or medium gray in color. Crushed marble or stone, river sand, and very fine pebbles are used as aggregate.

1.2.2 Column Bases

Bases for five of the church's original six columns were found in situ (Figs. 3, 107, 111, 113).²³ All five of the badly damaged bases have Attic profiles, indicating that they were probably spoils taken from Imperial or late antique buildings. The two western bases are smaller than the others: the northwest base measures 0.69 m square in plan at the plinth and 0.31 m high including the plinth; the corresponding measurements for the southwest base are 0.74 and 0.30 m. The two central bases are the

16 The evidence is ambiguous in poorly preserved portions of the masonry, but enough remains to be certain that the rhythmic organization of the facade articulation described here was a dominant feature of the exterior of the church, whether or not it was consistently carried out in every detail.

17 Section 4.1, below, for the inclusion of earlier medieval masonry in the south wall of Church E.

18 Section 3.2.1, below, for the masonry of the foundation walls.

19 Sections 2.1, 2.2, 2.2.1, below.

20 In this chapter, the term *stylobate* is used to designate the stone slabs that form the tops of the foundation walls on the exterior even though they do not support columns.

21 Ousterhout, *Builders*, 173–74, for the cloisonné technique in Byzantine buildings, with further references.

22 Chapter 5, pedestals 11.2, 11.3.

23 Chapter 5, section 1.2, for descriptions.

only ones with equal dimensions, 0.80 and 0.32 m. With measurements of 0.90 and 0.34 m, the base on the south side of the sanctuary is considerably larger. The five bases differ also in the number of dowel holes in their upper surfaces. The northwest base has none, the southwest and southeast bases one each, the north central base three, and the south central base two.

1.2.3 Doors

Evidence for doorways was found on the west, north, and south sides of the narthex and on the north and south sides of the naos (Fig. 103). The central location and large size of the doorway in the narthex west wall (the opening in the masonry is 1.70 m wide) give it the appearance of being the most important entrance to the church. The portion of the stylobate within the doorway is well preserved and served as a threshold (Fig. 115). Its upper surface is recessed 0.07 m in an area 1.27 m wide, leaving raised bases ca. 0.21 m wide for doorjambes on either side. A recess 0.14 m deep extends 1.33 m across the eastern, inner edge of the threshold. This recess, which is only 0.03 m thick, may have served to receive the doors. If the door leaves rested in this recess, they would have measured ca. 0.66 m wide each and opened inward. Unlike the floor slabs in the narthex east of this doorway, and the threshold of the door in the narthex south wall, the threshold and stylobate west of the doorway have rough, unworn faces. Thus, despite its prominent size and location, this doorway seems not to have been used.

The appearance of the outer face of the Church E west foundation wall corroborates the hypothesis that the narthex west doorway did not serve as an entrance to the church. It was built of decorative masonry that was probably meant to be seen (Fig. 110).²⁴ There is no indication that a stairway gave access to the western portal of Church E. If such a stairway had been built with an arched support, then traces of a seat for the arch would remain in the western foundation wall, which is in good condition. A stairway resting on grade is equally unlikely: the stairway, or at least its substructure, probably would have survived when, during the Turkish period, the grade level in the area west of the church was raised to match the level of the Church E floor.²⁵

The builders of Church E may, of course, have anticipated that the area west of the church would eventually be filled to the level of the church floor. But they apparently expected that about a meter and a half of the well-built west face of the church foundation would remain exposed to view after the church was finished; and

they made no provision for access to the major portal of the church. It is illuminating that the church was constructed without direct access to the largest portal, located on the major axis of the building. The location of the major portal seems to represent an ideal solution dictated by architectural tradition rather than by functional necessity. These observations provide an insight into the attitudes involved in the design of medieval Byzantine churches.²⁶

The narthex north portal is 1.22 m wide with well-preserved finished masonry faces on the east and west. The threshold of the door is also well preserved (Fig. 116). Its upper surface has small square cavities at both ends probably to hold door pins or jambes, and a smaller cavity in the center to hold a vertical locking bar. The threshold may have been a spoil. As in the west doorway, neither the threshold nor the stylobate adjacent to it shows signs of extensive wear: apparently here, as at the narthex west door, the exterior grade level was much lower than the church floor when the church was constructed, and therefore the door was never used.²⁷

The door in the south wall of the narthex seems to have been used most frequently (Figs. 106, 117, 118). The narthex south wall is almost entirely lost to the east of the doorway, but the original position of the doorway is indicated by the substructure of the wall. The doorway was apparently equal in size to the narthex north door. This door seems to have lacked a stone threshold, although such a threshold could have been removed before excavation. The upper surface of the block on the south side of the stylobate adjacent to the opening is well worn near the center of the doorway and rather roughly finished near the sides. Since the well-worn surface is close to the western jamb, the door must have been hinged on the eastern jamb.

The doorway in the north wall of the naos, which is only 0.96 m wide, does not seem to have had a separate stone threshold (Fig. 119). Bricks and brick fragments in a bed of gray mortar occupy the threshold position; the upper surface is at the same level as the stylobate. The lack of mortar in subsequent repairs or additions to the church suggests that this masonry threshold belongs to the initial building campaign.

A similar threshold of broken bricks and tiles embedded in gray mortar was used in the doorway in the south wall of the naos. This doorway, only 0.92 m wide, was sealed by a wall 0.76 m thick, flush with the surface of the church facade (Figs. 11, 120). Both the interior and exterior faces of this wall are very similar in character to

24 Section 3.2.1, below.

25 Section 5.1, below, for Turkish construction west of the church.

26 Buchwald, "Retrofit," 17–19 and n. 38, for the galleries of the Paregoretissa at Arta (early 1290s), also apparently constructed to reflect an ideal solution without functional justification.

27 Section 3.6, below, for the probable grade level near the west end of the north facade.

those of the adjacent church walls. However, its masonry (Masonry Type H-2) differs from that of the original church walls: the masonry in the doorway is bonded with earth rather than mortar, and there is no brick leveling course underneath the lowest marble blocks. The doorway must therefore have been sealed at a time when the masonry forms of Church E were still current, not long after the initial construction period.

Some of the doors of Church E may have been furnished with reused profiled marble doorjambs. The remains of jambs for at least four doors, probably carved between the fourth and sixth centuries for different buildings or construction phases, were found in the excavations and may have been reused in the church.²⁸ One jamb was found near the major west door of Church E, and could perhaps be associated with that doorway.²⁹

1.2.4 Windows

Traces of windows exist in the major bay of the naos north wall and in the south bay of the narthex west wall. The location of the window on the north side of the naos is indicated by a section of wall 2.55 m wide recessed 0.20 m from the inner face of the wall. The recessed section, which begins 0.40 m above the probable level of the original church floor, was built of rubble bonded with the gray, fine-grained mortar typical of the initial building phase (Fig. 111 far right).

In the west wall of the narthex south bay, a recessed section of wall 0.60 m thick and 1.30 m wide, flush with the inner face of the wall and recessed on the exterior, also probably provides evidence of a window (Fig. 121). The recessed wall, which would have formed the parapet underneath the window, was razed to the level of the stylobate before the final destruction of the church, transforming the window into a crude door.³⁰ However, the extant remnants of the parapet bond with the church walls on both sides, demonstrating that the opening initially was probably a window.

Further evidence concerning the windows of Church E is provided by over 100 pieces of thin, flat, translucent glass found in the Pseudocrypt of Church E³¹ and elsewhere close to the church.³² Some of the pieces were found in a builders' dump. A tamped earth floor at *90.50 east of the Church E apse continued over the remains of the Church

EA apse. Above this floor were saucer-shaped dumps, which, judging by their contents, were probably left by the builders of Church E.³³ The broken and irregular fragments of excavated glass are rose, yellow, pale blue, blackish blue, blackish purple, olive, and green in color. One rim piece has a rounded edge, two pieces have large, curved, folded edges, and one fragment, with a pontil mark, contains the concave-convex central portion of a circular pane ("bull's eye").³⁴ Window panes with diameters of about 0.11 and 0.20 m have been reconstructed and scratched lines that correspond in several examples to the shape of the fragment probably indicate that the glass was held by frames.³⁵ Thus, at least some of the windows of Church E were probably glazed with colored, translucent glass, making Church E one of the relatively few Byzantine churches with direct evidence for colored glazing.³⁶

1.2.5 Floor

Large, roughly squared stone slabs with worn upper surfaces were found in situ near the central pilaster of the naos south wall and the western pilaster of the naos north wall, as well as in the narthex near the western door. The slabs near the naos south wall, which are 0.12 m thick and have their upper surface at ca. *91.29, may be attributed to the original floor with certainty. Since they are partially held in place by the masonry of the adjacent pilaster, they must have been installed in their present positions during the initial construction of the church (Fig. 114, Table 1); the extent to which they project into the open area of the church indicates that they are not part of the pilaster. These slabs rest on a thick bed of mortar above the top of the foundation and do not appear to be part of the foundation.

The stone slab near the naos north wall may also, with somewhat less certainty, be attributed to the original church floor (Fig. 122). It is pinned under the masonry of the western pilaster, but since it protrudes only 0.20–0.25 m beyond its western face, it could be interpreted as part of the pilaster. However, the slab near the north wall corresponds closely in shape and position with the floor fragment near the naos south wall, suggesting that it was also part of the original church floor.

The slabs near the narthex west door are similar in form and position to the slabs of the naos floor (Figs. 115,

28 Chapter 5, doorjambs 6.1–6.9.

29 Chapter 5, doorjamb 6.1.

30 Section 5.1, below, for the Turkish changes.

31 SFB 1963 Bldg E, 28.

32 Saldern, *Glass* (Sardis M6), no. 780; SFB 1972 PN/E, 71. Also SFR Hendrik, 2000; SFR Vandiver, 2000, for pieces of glass found in debris in the central bay of Church E in 2000.

33 Section 1.4, below; SFB 1972 PN/E, 71; SFR Ramage 1972, 3–4; the dump also contained mosaic tesserae that must come from the Byzantine church and not from the later, Turkish use of the building (section 5, below).

34 Saldern, *Glass* (Sardis M6), no. 780.

35 SFR Ramage, 1972, 3–4, for the possibility that the frames were of plaster, since an abundant amount of plaster, but no metal, was found within the apse.

36 Section 6.2, below, for comparable evidence.

123, Table 1). While their upper faces lie at *91.25 near the doorway, the slabs slope down toward the center of the narthex to *91.03, probably because of uneven settling. In some areas they are broken into small, irregular fragments, but in most places the large, rectangular slabs from which the smaller pieces came can still be recognized. Together with the evidence in the naos, the narthex slabs give a good indication of the original appearance of the floor. The floor seems to have been composed of large, usually rectangular stone slabs, probably spoils, placed roughly parallel with the major axis of the church. Apparently, no attempt was made to align the joints between the slabs or to use pieces of uniform size.

Evidence suggesting that opus sectile may have been used in some portions of the church floor was also found. A large number of marble pieces cut in simple geometric shapes, including squares and diamonds measuring between 0.05 and 0.10 m, were found in Byzantine debris that filled the Pseudocrypt.³⁷ These pieces were probably removed from the floor of Church E during the Turkish period.³⁸ It is likely that the opus sectile floor from which these geometric marble pieces probably came was located in a small but important area within the church, perhaps the bema or the center of the naos. The opus sectile pieces from Church E were probably salvaged in the thirteenth century from the opus sectile used to repair the mosaic floor of Church EA.³⁹ The geometric forms are similar, and the floor of Church EA would have been accessible to the thirteenth-century builders.⁴⁰ Some of the excavated opus sectile pieces were partially burned. They could have been burned to produce lime, but the fact that many other pieces of marble from Church E have survived in relatively good condition makes this suggestion unlikely.⁴¹

The floor of the naos was removed sometime before the final destruction of the church, apparently when the church was converted into a domestic and industrial building in the Turkish period.⁴² The floor remnants still in situ in the naos were probably too difficult to remove because they were pinned underneath the masonry of the

nearby pilasters. The better condition of the narthex floor may be explained by the fact that the narthex was separated from the naos after the transformation of the church and appears to have had a different function.⁴³

1.3 Chancel Barrier

Recovered carved marble fragments suggest the possible appearance of the chancel barrier, although its precise location is not known.⁴⁴ The chancel barrier of Church E was probably constructed of closure slabs and lintels, supported by eight colonnettes, as a straight unit across the nave and side aisles. It stood either west of the two eastern columns of the church or west of the two eastern columns under the major dome.

The chancel barrier of Church E was composed primarily of pieces salvaged from the chancel barrier of the major medieval reconstruction of Church EA. One lintel block, however, was created for the chancel barrier of Church E in the thirteenth century as a skillful imitation of lintel blocks that had been carved for the medieval reconstruction.⁴⁵ The lintel blocks of the barrier were held together by clamps, and probably did not support icons.

1.4 Mosaics

Numerous gold tesserae were found near the surface in Church E, to the north and west of the church, and in debris within the Pseudocrypt.⁴⁶ The builders' dump described above⁴⁷ contained thick, coarse glass lumps, probably stock from which glass tesserae were made, as well as irregularly cut glass tesserae that were apparently discarded. The predominant color is an almost opaque lemonish green, but several pieces of opaque, streaked brownish red were also found. Thus, Church E must have been decorated with mosaics, though the remnants of wall painting still extant in one of the minor domes of the church⁴⁸ indicate that the use of mosaic was limited, probably to the major dome and perhaps the apse.

43 Sections 5.1, 5.2, below.

44 Chapter 5, section 10.4, for comparable examples and for the reconstruction, with possible alternatives, and references to the individual pieces in the catalogue.

45 Chapter 5, lintel block 9.4.

46 SFB 1963 Bldg E, 28; SFB 1962 Bldg E I, 48. Also SFR Hendrik, 2000; SFR Vandiver, 2000. More than 200 glass tesserae in blue, green, black, red, and yellow, some with gold leaf, as well as limestone tesserae were found in the debris under the major dome. Some tesserae were still in their plaster setting beds; the plaster originally contained vegetal fibers and was apparently applied in horizontal strips. The findspots of these tesserae, immediately underneath the major dome, provide strong additional evidence that the dome was decorated with mosaics. Fragments of red and tan wall painting on hard plaster surfaces, applied to bricks, were found in the same context as the tesserae.

47 Section 1.2.4, above; SFR Ramage, 1972, 3–4.

48 Section 2.2.4, below.

37 SFB 1963 Bldg E, 26; chapter 5, section 10.1 for the Byzantine carved marble fragments found in the Pseudocrypt.

38 Section 5.1, below, for the Turkish changes.

39 Chapter 2, section 9.2, for the opus sectile floor repairs of Church EA.

40 Chapter 3, sections 2.3, 3.2, for the medieval floor levels of Church EA.

41 Hanfmann, "Sardis 1963," 19, for this suggestion; section 5.2, below, for the ash layers that were found near the center of the church, which, however, contained no lime deposits; chapter 5, fragments 8.7–8.10, and section 9, for carved marble pieces used or reused in Church E that are relatively well preserved.

42 Section 5, below, for the Turkish occupation and the conversion.

1.5 The Well

A well was located immediately west of the Church E foundation (Figs. 3, 128 far right).⁴⁹ Its inner diameter measured 0.83 m, and its head was at *90.50, or about 0.90 m above the original mosaic floor of the Church EA nave. In its upper part, down to a depth of 1.30 m, the shaft was constructed of mortared ashlar and bricks, masonry that is comparable with that of Church E. The lower shaft was constructed of field stone. The bottom of the well, at *78.80, or 11.70 m below the head, was paved with large stones.

The well was entirely cleared, but no objects that date it or identify its users were found. It is unlikely that the well was constructed, near the center of the nave, when Church EA was in use. Moreover, this area was covered by structures at a higher level during the Turkish period.⁵⁰ The well was therefore probably constructed during the Byzantine occupation of Church E; the grade west of Church E appears to have been only somewhat higher than the floor of Church EA after Church E was built.⁵¹

2 Masonry Fragments

The poorly preserved excavated walls and the foundation of Church E do not provide an adequate image of its original appearance. However, several masonry fragments found in and near the church provide a basis not only for the reconstruction of the church's vaulting system and exterior articulation, but also for a stylistic and chronological analysis of the building (Figs. 108, 124–30). All of the important fragments are presented below.⁵²

2.1 Facade and Lower Vault Fragments

Fragment 1. Fragment 1 was found partly in the ground, 5.00 m to the east of the south apse of Church E, with its interior, conch-shaped surface facing upward and the center of the conch turned toward the major apse (Figs. 124, 125 foreground, 131).⁵³ The fragment, which measures 2.75 × 1.65 × 1.00 m high, was lifted out of the ground in 1972, exposing a polygonal facade articulated by a blind arcade of brick set

in gray mortar (Figs. 132–35). Although only small portions of four blind arches remain, the fragment provides a fairly clear picture of the original wall treatment.

With spans ranging from 0.75 to 1.10 m, the extant arches are not equal in size, but each seems to have received the same ornamental treatment. The brick voussoirs in Fragment 1 are the same size (0.05–0.06 × 0.17–0.19 m) as those of the larger facade arches preserved in Fragments 5, 6, and 8.

Above the extrados of these arches, a series of three concentric courses of brick alternate with two friezes of ceramic cylinders, originally probably with quatrefoil heads (Figs. 133–35).⁵⁴ Quatrefoil friezes of the same type are found in Fragments 5, 8, and 13, and numerous similar ceramic cylinders were found loose in the excavations. The cylinders, which range in length from 0.10 to 0.14 m, are closed on the end that was inserted into the wall; the other end, placed flush with the face of the wall, had an open head in the form of a hollow quatrefoil (Figs. 136–38). The maximum dimension of the quatrefoil head ranges between 0.06 and 0.07 m, the diameter near the opposite end between 0.035 and 0.05 m. The quatrefoils are set close together, producing the effect of a richly modeled chiaroscuro band.

The outer faces of the three concentric brick courses, the two quatrefoil friezes, and the extrados of the arches lie in the same plane. The concentric brick courses and the quatrefoil friezes surrounding one arch continue into those of the adjacent arch without interruption, giving the articulation a strong sense of lateral continuity. The lunettes of the arcades are decorated by a brick herringbone pattern, of which only small fragments remain (Figs. 133, 135). Some of the extant bricks forming the herringbone pattern were carefully trimmed to fit exactly into their positions. The faces of the lunettes are recessed 0.06–0.08 m from the outer faces of the surrounding arches.

Fragment 1 must have occupied a position in the major apse of Church E. The extant fragment represents about half the circumference of the major apse. The two larger arches of Fragment 1 measure 1.10 and 0.90 m; these dimensions correspond almost exactly with the two southern facets of the major apse. The third arch spans 0.75 m, and only a very small portion of the fourth remains at the right end of the piece. However, the third and fourth arches lie in the same plane; assuming that the fourth arcade had the same span as the third, this side of the facade was originally 1.50 m long, matching the length of the central face of the major apse. These two arches of equal size on the major axis of the church could imply that a binate window was located in the center of the apse.

49 SFB 1962 PN II, 138; SFB 1962 PN IV, 28, 36, 78; SFR Hansen, 1962, 6; Hanfmann, "Sardis 1962," 21.

50 Section 5, below.

51 Section 3.6, below. Hanfmann, "Sardis 1962," 20, fig. 13, for a site plan that shows the well with an incorrect top elevation, *88.80, well below the level of the Church EA mosaic floor at ca. *89.60; however, excavation photographs clearly show that the well head was above the Church EA floor level, and the elevation provided here was recorded in the excavation notes.

52 Over 30 fragments were numbered by the excavators in chronological sequence as they were excavated. The original numbers are provided in footnotes. Some fragments do not provide information regarding the walls and vaulting of the building and so are omitted from this study. The descriptions of the masonry fragments were made in 1972–73.

53 Originally Fragment 8.

54 The fragment is described in its reconstructed position.

Fragment 2. Fragment 2 preserves portions of the vault of the northeast bay of Church E, together with further evidence concerning the facade ornamentation.⁵⁵ This fragment is 2.40 m long, 1.60 m wide, and 1.30 m high at its highest point. It contains remnants of a cylindrical exterior surface and of a domed interior surface. Before excavation it was almost entirely above the surface, with its long axis oriented east–west, its eastern end resting on the wall of the major apse, and its exterior surface facing up and toward the south (Figs. 124, 125 far right, 126 center).

The mortar and bricks—almost all in situ but lacking preserved exterior surfaces—are characteristic of Church E. The bricks are in horizontal courses except in a chevron frieze 0.42 m high (Figs. 139, 140). Above the frieze, a wide horizontal mortar joint was decorated with small inserted horizontal brick chips.⁵⁶ At the left side, the curved exterior surface stops against a straight exterior surface set at a slight angle. The chevron pattern continues on the straight surface for 0.20 m and then stops (Fig. 141). At the right side the bricks of the chevron are missing, but their imprint in the mortar backing shows that, here too, the chevron stopped, indicating that the surviving cylindrical surface represents its full extent. The circumference of the cylindrical surface, 1.60 m, corresponds with the exterior circumference of the flanking apses. Because portions of the apse exterior that are extant in Fragment 2 are also preserved in Fragment 3, which may be reconstructed as part of the south apse, Fragment 2 must be reconstructed as the upper part of the north apse.

The bricks of the vault on the interior surface of Fragment 2, which spring from a point 0.15–0.20 below the level of the exterior chevron frieze, are laid in concentric courses sloping toward the center of the vault (Figs. 142–44), like those of Fragments 3 and 4. The lowest extant course is almost horizontal, indicating that it was near the bottom of the vault; the upper extant course is at an angle of about 45 degrees. The inner profile of the vault therefore seems to have been only about twice as long as the extant remains in Fragment 4, in which remnants of six courses of the original vault are preserved. The radius of the lowest well-preserved course is 0.90 m, a measurement that corresponds with the radius of the vault that must have covered the eastern bay of the north aisle, but is much larger than the radius of the conch of the north apse. On the other hand, if the vault had been a pendentive rather than a dome, its *upper* brick course would have a radius of 0.90 m and the radius of its *lower* courses would be greater. The extant remains of vaulting in Fragment 2 must therefore be reconstructed as a dome covering the northeast bay of

the church, analogous to that of the southeast bay, which is traceable in Fragments 3 and 4.

Fragment 3. Fragment 3, excavated in 1972, measures 2.25 × 2.00 m in plan and is 1.00 m high at its highest excavated point.⁵⁷ It was found, upside down, with its northern edge 4.00 m south of the south wall of the church, immediately opposite the pilaster between the two eastern naos bays and just south of Fragments 7 and 14. An unmortared Turkish rubble wall was built on top of the northwestern corner of Fragment 3, its axis approximately southwest–northeast (Figs. 124, 145).

Because Fragment 3 has finished exterior surfaces on two adjacent sides, it must have occupied a corner position in the church; the location in which it was found indicates that it was a portion of the southeast corner. The eastern exterior face, which measures a maximum of 1.00 × 1.20 m, is built of ashlar blocks and typical exterior brickwork without ornamentation.⁵⁸ This finished exterior surface ends abruptly on the north with a vertical edge. Beyond this edge, an amorphous mass of mortared rubble is recessed from the finished surface immediately next to their common edge, but then juts out (toward the east) farther north; the recess was probably created by the brick facing, which is now missing, while the other portion must belong to the mortared rubble core of the south apse (Fig. 146).

The southern face of Fragment 3, originally part of the upper eastern corner of the south facade, is less well preserved. A number of bricks laid at a 45-degree angle may be distinguished, indicating that here the facade was decorated by a herringbone or basket-weave pattern. Because this surface lacks the stepped articulation of the lower portions of the facade, it must come from the spandrel above the eastern arcade.

Remnants of a dome exist on the interior of Fragment 3 (Fig. 147). Though only a small portion of the vault is preserved, it is sufficient to establish that the center of the vault was roughly on the axis of the south apse and that it was constructed of concentric courses of brick. Raked pointing is evident in some of the mortar joints. Not enough of the vault is extant to measure its original radius. However, the distance between the eastern face of Fragment 3 and the farthest preserved portion of the vault, measured perpendicular to the face, is 1.80 m, a plausible measurement if the vault covered the southeast bay of the church, but much greater than would be possible if the vault were the conch of the south apse. The vault extends farther from both the south and the east exterior surfaces

55 Originally Fragment 4.

56 The fragment is described in its reconstructed position.

57 Originally Fragment 10.

58 The fragment is described in its reconstructed position.

of Fragment 3 than would be possible if it had been a pendentive supporting a dome.

Fragment 4. Fragment 4 is apparently a portion of the same vault as Fragment 3 (Figs. 124, 148–50).⁵⁹ It was found in the southern part of the southeast bay of the church in 1962. Its overall dimensions are 1.20 × 1.10 m in plan, and it is 0.60 m high. No exterior surfaces are preserved in Fragment 4, but one side of the fragment retains remnants of six brick courses of a dome similar to that of Fragment 3, and another side has a smooth surface of mortar with impressions of bricks in horizontal courses.⁶⁰ The latter surface is straight in the horizontal plane but slightly curved in vertical section, indicating that the bricks belonged to a barrel vault. Because this surface is almost vertical and because the lowest extant course of bricks in the dome is almost horizontal, Fragment 4 must have occupied a position near the bottom of both vaults.

Parallel with and 0.15 m from the surface of the barrel vault, 0.05 above the bottom of the piece, there is a horizontal channel 0.10 × 0.10 m in cross section that must have contained a timber tie beam (Fig. 150). Remnants of plaster with an admixture of straw, but no trace of wall painting, are extant on the face of the vault. The relationship between the tie beam, the dome, and the barrel vault as well as the location in which the piece was found indicate that Fragment 4 was originally located between the major eastern barrel vault of the church and the southeast bay, with the tie beam parallel with the barrel vault; the tie beam was apparently located above an arch connecting the southeast column and the naos east wall.

Fragment 5. Other portions of the dome preserved in Fragment 2, as well as important evidence for the reconstruction of the church facades, are preserved in Fragment 5.⁶¹ This fragment remained in situ, 1.00 m north of the north facade, opposite the pilaster between the two eastern facade bays, until 1973 (Figs. 124, 151–53). Its overall dimensions are 2.50 × 1.80 × 1.40 m at its highest point, and it was found with long axis roughly parallel with the north wall of the church. Extensive remains of a richly decorated facade lunette, enclosed by recessed arches with their crowns toward the ground, are extant on the exterior side of the piece (which faced north in its fallen position), and remnants of a vault cling to the mortared rubble core on its interior side.

Although only small portions of the brick courses of the vault are preserved, their measurements indicate that

the vault had an elliptical profile and that the radius of some of the courses was considerably less than 0.90 m, the minimum radius of pendentives that must have been used underneath the domes of the side aisles (Figs. 151, 153). The vault must therefore have been the dome that covered the northeast bay of Church E, a reconstruction that corresponds closely with the location in which Fragment 5 was found.⁶² The extant bricks of the dome and imprints of bricks in the adjacent rubble core indicate that the crown of the dome was located at approximately the same height as the crown of the outer arch of the facade articulation and that the dome continued without interruption down to a point considerably below the lowest extant portion of the facade lunette. The face of the lunette is 1.10 m from the dome, and the center line of the lunette lies slightly east of the center line of the dome; these dimensions correspond with the floor plan of the northeast bay of the church.

The facade lunette of Fragment 5 is decorated by a checkerboard pattern. Three other fragments with similar facade lunettes are preserved (Fragments 6, 7, and 9). The checkerboard pattern is carefully constructed of bricks and brick fragments laid in courses with continuous vertical and horizontal mortar joints (Figs. 152–54). Both vertically and horizontally every second brick end is recessed slightly and covered with particularly fine-grained mortar to produce the checkerboard pattern. The exposed ends of the bricks are unusually regular, measuring 0.05–0.06 × 0.08–0.10 m, with mortar joints between 0.01 and 0.03 m. The recessed bricks are often broken fragments or chips.

The two concentric arches above the facade lunette are built of bricks measuring 0.05–0.06 × 0.18–0.20 m, placed radially with their long edges exposed. The mortar joints measure 0.02–0.04 m near the center of each arch, and the mortar is the same in character as that of other facade areas of Church E. The face of the inner arch is recessed 0.06–0.08 m from the face of the outer arch, and the face of the lunette is recessed 0.06–0.08 m from that of the inner arch.

Surrounding the outer arch are two concentric brick courses, laid with their faces flush with the face of the outer arch; in a mortared field 0.10 m high between these two brick courses is a frieze of ceramic quatrefoils like those of Fragment 1. Horizontal brick courses have left impressions in the mortared rubble core of the spandrel to a point 2.25 m west of the center line of the lunette of Fragment 5. A channel for a timber beam 0.10 × 0.10 m in cross section was found in Fragment 5, perpendicular to the facade and 1.25 m west of the center line of the lunette, at a height roughly equivalent to that of the middle of the vault (Fig. 153). This beam would have continued from the

59 Originally Fragment 27.

60 The fragment is described in its reconstructed position.

61 Originally Fragment 3.

62 The fragment is described in its reconstructed position.

north facade to a position above the northeast column of the church, probably at about the same height as the tie beam of Fragment 4.

Fragment 6. Poorly preserved remnants of a lunette with the same decorative facade treatment—checkerboard, arches, and quatrefoils—are also preserved in Fragment 6.⁶³ This fragment is 2.40 m long and 0.80 high at its highest point. In 1962, Fragment 6 was located 1.50–2.00 m north of the north facade, opposite the wall between the naos and narthex (Figs. 124, 155). Like Fragment 5, its decorated facade faced north and the crowns of its recessed arches were toward the ground. The reconstructed radius of its inner arch, which is better preserved than that of Fragment 5, corresponds closely with the dimensions of the facade articulation of the northwest naos bay but is much smaller than would be required in the north facade of the narthex.

The upper portion of a lunette that originally faced the interior of the church is preserved on the other side of Fragment 6, 0.90 m from the surface of the exterior lunette (Figs. 156, 157).⁶⁴ It is built of slightly arched brick courses, laid more haphazardly than those of the facade. The crown of the interior lunette is 0.05–0.10 m lower than the crown of the outer brick arch of the facade: the arch of the brick course is not concentric with that of the lunette. The center line of the interior lunette lies 0.40 m east of the center line of the exterior lunette; this divergence reflects the dimensions of the pilaster articulation on both sides of the north wall of the northwest naos bay.

Fragment 7. Fragment 7⁶⁵ preserves extensive remains of a lunette decorated by a checkerboard brick pattern like those of Fragments 5 and 6. In 1962, Fragment 7 (Figs. 124, 154, 158) was partially buried 1.90 m south of the facade opposite the east bay of the south aisle, with its decorated lunette surface facing the ground and the crown of its lunette toward the southwest.⁶⁶ It measures 1.45 × 1.06 m high, and the greatest wall thickness is 0.87.

The outer radius of the lunette is not preserved but may be approximately reconstructed: the lunette is 0.90 m high at its center, and the maximum distance from the center of its bottom to several of its preserved edges is also 0.90 m.⁶⁷ When it was excavated, the crown of the lunette was surrounded by a brick arch (Fig. 159, compare Fragments 5 and 6). This arch, which was not attached to its mortared

rubble core, remained in the ground when the fragment was turned over.

Fragment 8. In 1962, Fragment 8 was attached to Fragment 7, between Fragment 7 and the south facade (Figs. 124, 160, 161).⁶⁸ Its overall dimensions are 1.30 × 1.20 × 0.88 m high. The finished surface was articulated by brickwork in the form of a flat facade pilaster 0.76 m wide and by remnants of two concentric brick arches that sprang from the top of the pilaster toward the right.⁶⁹

Seven horizontal brick courses of the pilaster are extant. The pilaster ends with a straight vertical finished brick face 0.34–0.36 m wide at the left and with a brick reveal recessed 0.06–0.08 m from the face of the pilaster, 0.18 wide at the right. The inner arch sprang from the recessed brick reveal, the outer arch from the right side of the pilaster; the outer faces of the arches are flush with those of the reveal and the pilaster. Above the outer arch is a single raking brick fragment that must have formed the end of a concentric brick course above the outer arch (as in Fragment 5). At the top of the piece, 0.48 m above the spring line of the inner arch, the face of the pilaster is decorated by a horizontal frieze of ceramic cylinders (originally with quatrefoil heads presumably, see Fragment 1). The facade above the frieze is lost, but it may probably be reconstructed by comparison with Fragment 5.

On the left side of the pilaster, at the same height as the quatrefoil frieze, a single brick 0.18 m long (the length of bricks in the extrados of arches in Fragment 7) was probably the lowest voussoir of an arch that sprang from the top of the pilaster toward the left. Above this brick another brick, of which only a fragment remains, was laid at a steep angle. This brick was probably part of a concentric brick course comparable to the bricks above the facade arches in Fragment 5.

The profile of the pilaster preserved in Fragment 8 corresponds in plan with the pilaster between the two eastern bays of the south facade but not with other pilasters near the area where the piece was found. The findspots of Fragments 7 and 8 suggest that the lunette of Fragment 7 was located east of Fragment 8 and that the arch found loose in the earth surrounding the lunette (Fig. 159) was a continuation of the inner arch remnants on the right side of Fragment 8.

The mortared rubble core that projects toward the right and left of the facade surfaces of Fragment 8 also projects 1.20 m perpendicular to the face of the pilaster. Because the south wall of the church has a maximum thickness of 1.10 m in this area, this mortared rubble projection must come from the vaults over the south aisle.

63 Originally Fragment 11.

64 The fragment is described in its reconstructed position.

65 Originally Fragment 31.

66 When excavated, Fragment 7 was attached to Fragment 8.

67 The fragment is described in its reconstructed position.

68 Originally Fragment 29.

69 The fragment is described in its reconstructed position.

Other parts of the south facade found in the ground next to Fragments 7 and 8 extend our knowledge of the facade to a point 0.60 m below the spring line of the inner facade arch and 0.70 m east of the eastern edge of the reconstructed lunette. These walls had no decoration and were made of courses of horizontally laid brick and of marble ashlar. When they were found, they were no longer held together by mortar or by a mortared rubble core. They were left in situ, with their finished surfaces toward the ground (Fig. 162).⁷⁰

Fragment 9. A fourth masonry fragment decorated with a brick checkerboard pattern like those of Fragments 5, 6, and 7 was built into a wall of the second, or upper, Turkish village about 10 m north of the northeast corner of Church E.⁷¹ This fragment, excavated in 1962, measures 1.20 × 0.80 × 0.40 m high (Figs. 163, 164). Because its decorated surface measures only 1.20 × 0.40 m, the piece may have been a portion of one of the same lunettes preserved in Fragments 5 or 6 and therefore provides no new information concerning the original appearance of Church E. It does, however, provide important evidence for the date of the destruction of the church.⁷²

Fragment 10. Fragment 10 was found 1.40 m south of the second bay from the east of the south facade, with its long axis lying approximately north–south at about the same level as the stylobate of Church E (Figs. 124, 165).⁷³ It measures 1.25 × 0.82 × 0.60 m high. One side has a finished exterior face 0.85 m long and 0.40 m high constructed of marble ashlar blocks surrounded by single bricks that measure 0.05–0.06 × 0.22–0.23 m (Fig. 165). The length of the surface indicates that this fragment does not come from one of the pilasters, none of which is more than 0.75 m wide, and the predominance of ashlar indicates that it does not come from a spandrel over the arches, for they seem to have been built of brick.⁷⁴ Therefore, the fragment probably occupied a position below one of the lunettes in the blind arcades of the south facade.

The finished interior surface of Fragment 10 is parallel with the exterior surface and its masonry, roughly cut ashlar and brick in horizontal courses, is comparable to other interior surfaces of the church. The thickness of the wall is only 0.66 m, considerably less than the usual thickness of the walls near ground level. The interior

face is 1.00 m long but is only 0.30 m high; it ends along a straight horizontal line followed by mortared rubble that projects 0.15–0.20 m beyond the interior face. The rubble could not have belonged to a vault, for there is no space between the interior wall face and the mortared rubble for the seat of a vault, and the adjacent vault would probably have been an arch or pendentive requiring a lunette form rather than a straight horizontal edge. The rubble projection must therefore belong to a portion of the wall below the interior face, and the edge between the face and the rubble must have been a ledge at the top of the lower, thicker wall. No evidence exists to indicate the height of this ledge.

Fragment 11. Fragment 11 was found in 1962 or 1963; its findspot is unknown. Its overall dimensions are 0.90 × 0.65 × 0.65 m.⁷⁵ On one side is a finished face of horizontal brickwork that measures 0.80 m in length and is 0.45 m at its highest point. Three sloping bricks at one edge of the brick surface must have been part of an arch (Fig. 166). The sizes of the bricks vary, but typical horizontal bricks measure 0.035, 0.045, or 0.055 × 0.18 × 0.30 m, and the bricks of the arch are 0.18 m long. The height of the finished surface is insufficient to determine whether it was curved or straight in section, and the radius of a conjectural arch cannot be derived from the three sloping bricks. Moreover, the other surfaces of the piece are composed of irregularly shaped mortared rubble. Only generally, therefore, can Fragment 11 be attributed to one of the spandrels over the facade arches or to one of the major barrel vaults of the church, above one of the minor arches.

2.1.1 Reconstruction

The evidence of Fragments 1–11 permits a relatively complete reconstruction of the lower vaults and facades of Church E, even though no evidence was found concerning the narthex or the major bays of the north and south facades. Fragments 2, 3, 4, and 5 clearly demonstrate that the eastern bays of the side aisles were vaulted with domes that were elliptical in cross section.⁷⁶ While we have no evidence concerning their immediate supports, the vaulting systems of other medieval Byzantine churches suggest that the vaults were either pendentive domes or domes supported by pendentives. Direct evidence of the major barrel vaults spanning the nave and cross arms exists only in Fragment 4, which was originally situated between the eastern barrel vault and the south aisle. A system of

⁷⁰ Some pieces were lifted individually to determine the character of the masonry face of the facade.

⁷¹ No number was assigned to the piece when it was found.

⁷² Section 5.3, below, for the destruction of Church E.

⁷³ Originally Fragment 30.

⁷⁴ Fragments 3, 5, and perhaps 11.

⁷⁵ Originally Fragment 21.

⁷⁶ The elliptical cross section was identified only in Fragment 5 from the northeast bay, but the symmetry that is common in medieval Byzantine churches implies that the dome of the southeast bay and probably the other domes were also elliptical.

timber beams at the level of the lower vaults was used to stabilize the building (Fragments 4, 5).

The exterior of the church was richly decorated. The north and south facades were articulated by recessed arches that sprang from pilasters (Fragments 5–8). The preserved articulation of the lower west wall of Church E suggests that the west facade was articulated in a similar manner. The blind arcades apparently reflected the vaulting of the interior generally, though not in detail: the vaults of the interior did not continue to the facades (Fragments 5, 6). One or two courses of bricks concentrically surrounded the extrados of some, and perhaps all, of the facade arches (Fragments 1, 5, 8). In some areas, and perhaps throughout the facades, these courses were augmented by friezes of ceramic cylinders with hollow quatrefoil ends that were inserted into the wall (Fragments 1, 5). Similar friezes were also used at least occasionally as horizontal bands (Fragment 8).

The lunettes of at least some, and perhaps all, of the recessed arches were decorated with brick checkerboard patterns (Fragments 5–7, 9). The use of these lunettes in three different parts of Church E (the eastern and western naos bays of the north facade and one of the eastern bays of the south facade) suggests that the decoration of the church was consistent and carefully ordered.

Below the lunettes, the walls appear to have been faced with well-cut, probably reused ashlar blocks, usually of marble, and with reused, frequently broken bricks that were only occasionally placed vertically into the ashlar joints (Fragments 8, 10). The spandrels above the arches and the upper parts of the pilasters appear to have been faced with brick (Fragments 3, 5, 8, 11) and were at least occasionally treated ornamentally with herringbone or basket-weave patterns (Fragment 3).

The exterior of the major apse was articulated by continuous recessed arches (Fragment 1). These arches, in contrast to those of the other facades, did not spring from broad pilasters. A single arch spanned each of the five facets of the apse except on the east, where two arches were used, suggesting that a binate window existed below the arcade on the major axis of the church. Alternating courses of brick and friezes of ceramic quatrefoils surrounded the arches concentrically as in the flanking facades, but in the apse the motif was used twice, producing particularly strong chiaroscuro effects.⁷⁷ The lunettes of the arches in the main apse were decorated with brick herringbone patterns.

The cylindrical exterior of the north apse was treated less ornately (Fragment 2). At about the same height as the lower vaults on the interior, there was a brick chevron

frieze in masonry entirely of brick. Above the frieze, a wide horizontal mortar joint was decorated with small inserted horizontal brick chips. Although we have no direct evidence for the decoration of the south apse, the regular distribution of other facade motifs suggests that both flanking apses received the same treatment.

2.2 The Corner Domes

Fragments 12–15. Important evidence for the reconstruction of the church is provided by the remains of four fairly well-preserved domes, Fragments 12, 13, 14, and 15.⁷⁸ All four are the same in size, construction, and, with minor exceptions, exterior decoration. Their interior diameters measure 1.80 m, and the interior surfaces are elliptical in profile and smooth, without ribs or arrises. On the interior, the domes seem to have rested directly on the pendentives that supported them—without drums—while on the exterior, each dome has a low, cylindrical drum that was almost certainly without windows (Figs. 128–30, 167). The exterior diameters of the drums measure 2.50 m; the height of the only drum that is completely preserved is 0.85 m.

The exterior surfaces of the drums and the interior surfaces of the domes are constructed entirely of brick; mortared rubble like that used in the lower walls of Church E forms the core. The bricks of the drums are usually laid in horizontal courses. The vaults are constructed of concentric brick courses laid with a long edge of the brick toward the interior (Fig. 168). As in the lower church walls, the sizes and colors of the bricks in the drums and domes vary. Typical brick heights are close to 0.04 and 0.06 m, and bricks that are 0.16–0.18 and 0.22–0.25 m long are common. The colors range from rich red to brownish red and buff. The gray mortar is more granular than that of the church walls except in the mortar joints of the brick decoration, where it is particularly fine. The joints are usually raked slightly and range in height from 0.03 to 0.05 m. The use of broken and variously sized bricks apparently did not allow the use of a regular pattern of vertical mortar joints.

Fragment 16. Fragment 16 was found in 1962 or 1963, but its findspot was not recorded (Fig. 169).⁷⁹ It measures 1.90 × 0.90 × 0.75 m and has two very poorly preserved finished surfaces. The better-preserved surface is convex and is constructed of a single course of radially placed bricks; it must therefore have been part of the exterior of a wall built upon a circular plan, and not part of a vault. The radius of the curve cannot be reconstructed from the existing fragment; however, the curve, clearly too small to have been the drum of the major dome, approximately fits the

77 Similar double friezes may have existed on other facades even though no direct evidence for them was found.

78 Originally Fragments 1, 2, 6, and 7.

79 Originally Fragment 19.

radii of the minor domes. Thus, the preserved bricks must come from the bottom course of the drum of one of the minor domes. The other finished surface of Fragment 16, constructed of bricks with thick mortar joints, is too small and too poorly preserved to ascertain its original form (Fig. 170). However, its location 0.44 m from the curved exterior surface confirms the reconstruction, for the drums of Fragments 12, 13, 14, and 15 have approximately the same thickness.

2.2.1 Brick Decoration

Near the upper rims of the drums of Fragments 12, 13, 14, and 15, a brick meander frieze, 0.46–0.48 m high, decorates two-thirds to three-quarters of the circumference (Figs. 129, 167, 171–73). Presumably, the building's higher portions blocked the view of the undecorated areas. In order to form the meander, vertical bricks are placed at regular intervals with their long edges facing the surface of the drum; shorter horizontal bricks alternately close the top and then the bottom of the open areas between the vertical bricks. The brick heights range between 0.05 and 0.06 m. The lengths of the vertical bricks are 0.32 or between 0.28 and 0.30 m, and the lengths of the horizontal bricks are either between 0.14 and 0.16 or 0.18 and 0.19 m.

Probably because the visual effectiveness of the meander depends upon the regularity of the brick sizes, the bricks used here are far more consistent in size than in other walls of the church, and within the pattern of each dome the dimensions are usually even more consistent. The intervals between the vertical bricks are between 0.05 and 0.10 m and are filled with particularly fine-grained mortar. Although the central parts of these mortar surfaces are flush with the outer faces of the bricks, at the sides the mortar is raked inward toward each brick, and the bricks are thus set off with subtle shadow lines (Figs. 172, 175). The precision with which this technique was carried out demonstrates the great care and skill employed in the construction of the church. The fine-grained mortar of these joints, which is only 0.01–0.03 m thick, is backed by a mass composed of brick chips and fragments embedded in thick, coarse mortar.

This typical meander frieze is expanded in Fragment 15 by the addition of a second, smaller meander above the first (Figs. 174–76). In the smaller meander, the vertical bricks are only 0.16 m high, giving the entire pattern a height of 0.70 m. Since the horizontal bricks that close the intervals between vertical bricks at the top of the lower frieze also close the intervals between vertical bricks at the bottom of the upper frieze, both friezes are integrated into a single pattern that may be read either horizontally or vertically. The richer decoration of this dome suggests that it occupied a particularly prominent position in the church.

A brick dentil course is located immediately above the meander of Fragment 13, below the upper rim of its drum (Figs. 167, 173). The bricks and brick fragments of this course are 0.055 m high and are placed in the wall at a 45-degree angle so that their outer corners are flush with the surface of the wall. Though small, the extant remains of the dentil course show that it matched the length of the meander pattern. The drums of the other domes are sufficiently well preserved to be certain that they were not decorated by brick dentils in similar positions.

A simple cross at the crown inside the vault in Fragment 14 (Figs. 168, 177) is the only other brick ornamentation that seems to have existed in the domes.

2.2.2 Roofing

Portions of the top of the dome are particularly well preserved in Fragments 12, 14, and 15 (Figs. 127 center, 178, 179). Small flat stones and tiles are embedded in a thick layer of coarse cement that covers the tops of the drum and vault. Though the top of the drum rises much higher than the bottom of the dome, probably in order to counteract the horizontal thrust of the vault with additional weight on its haunch, the top of the drum was not as high as the extrados of the dome. A smooth transition between the top of the drum and the extrados was achieved by giving the cement layer a gentle S-shaped profile that probably reflects the form of the roof: the concave curve over the drum flows gradually into the convex curve over the crown of the dome. Rounded impressions in the upper surface of Fragment 15 may have been made by roofing tiles.

2.2.3 Supporting Vault

Remnants of the lower vault that supported the dome are extant only in Fragment 13, which was found with its crown toward the ground in the central bay of the church (Figs. 108, 128–30, 167, 181, 182).⁸⁰ Large, mostly amorphous masses of masonry composed of field stone, rubble, brick, and brick fragments embedded in coarse mortar cling to the drum around its entire circumference. The largest and best preserved mass, near the southeast corner (Fig. 182), includes a finished vertical face of badly damaged horizontal brick courses 0.80 m east of the drum. At its greatest extent, this face reaches 1.15 m above the upper rim of the drum when the piece is viewed upside down as it was found (Figs. 129, 130, 182). Near this brick surface is a second badly damaged finished brick face 0.35 m south of the drum. The brick courses of this face (Fig. 167) slope slightly but distinctly up toward the east. This feature cannot be explained as accidental or as due to later distortion of

⁸⁰ The fragment is described in its excavated in-situ position. Since the notes and sketches for this text were made (1972–1975), the fragment has slipped and, like most other fragments, deteriorated.

the masonry because other nearby brick courses inside the same masonry are horizontal: rather, the sloping bricks probably reflect the shape of the church vaults beneath Fragment 13 in its original position.⁸¹ The sloping face extends to a point 1.40 m above the upper rim of the drum. While the west side of the masonry mass appears to have a very poorly preserved, straight, unfinished surface 0.20–0.30 m west of the drum (Fig. 181), no regular surface can be recognized on the north side of the fragment, where no portion of the masonry mass extends more than 0.20 m beyond the drum (Fig. 180).

In the brick surface that faces east, 0.30 m above the bottom of the masonry mass, two parallel horizontal friezes of ceramic cylinders are separated by a single course of brick. Only small fragments and impressions of the cylinders are preserved in the masonry, but numerous complete examples with hollow quatrefoil heads were found in the excavation; they have the same forms as those in Fragment 1.

2.2.4 Wall Paintings

Extensive remains of plaster and of wall paintings were found on the interior surface of Fragment 13. The wall paintings are limited to the dome and include only a simple decorative scheme of frames and tantalizing but very fragmentary remains (Fig. 183). Because of their very poor condition, the decorative schemes do not readily lend themselves to iconographic or stylistic analysis.

2.2.5 Reconstruction

The original locations of the four domes may be determined with reasonable certainty. Their interior diameters correspond with the dimensions of the square bays adjacent to the central dome. Although the eastern bays of the side aisles have the same dimensions, they were covered by domes without drums, extensive remains of which are preserved in other masonry fragments.⁸² The domes do not fit the bays of the narthex, and they could have been used there only with the aid of complicated and irregularly shaped supporting vaults. They must therefore have covered the four square bays of the side aisles on the diagonal axes of the major dome.

The decorated brick surfaces of Fragment 13 face east and south, the northern and western surfaces of the drum are not decorated, and the northern and western sides of the lower vault contain no finished faces. These observations suggest that the dome of Fragment 13 originally covered the bay northwest of the major dome. When the church

was destroyed, apparently by a violent earthquake, the dome must have fallen diagonally to the southeast, turning over once, landing in the central bay of the church on its crown. The decorated brick surfaces would have originally faced north and west, where they would have been seen from the direction of the Pactolus River; the undecorated and unfinished surfaces would have faced south and east, where they would have been either attached to or blocked from view by the higher northern and western arms of the church. The attribution of Fragment 13 to another location in the church would presuppose either that the decorated brick surfaces faced inward toward higher parts of the building or that its fall had been so complex that its relatively good preservation would be unlikely.

Fragments 12 and 15 were found with their crowns facing up over the ruined south wall of the church close to its center, Fragment 12 to the west, and Fragment 15 to the east (Figs. 124–27). They were apparently not far from their original positions in the bays to the southwest and southeast of the major dome. Fragment 14, on the other hand, was found standing on edge, with the inside of its crown facing east, approximately one meter south of the south wall, and must have rolled to that position from its original location over the bay northeast of the major dome.

The richer decoration of the domes facing northwest (Fragment 13, with a brick dentil) and southeast (Fragment 15, with a double meander) implies that the views from these directions were particularly important. Unfortunately we know next to nothing about urban features near Church E when it was constructed. Although the building was usually entered from the south near its western end,⁸³ somewhat more distant views of Church E may have been of greater interest to the builders. Views of the church may have been possible from traffic routes that could have existed along the Pactolus to the northwest, and from the Acropolis in the southeast.

The decoration of each drum continued only on those sides that could be seen. Since the decoration of the northwest dome continued around the west side of the drum, it must have been seen from the west. Therefore, the narthex probably had no gallery here, because the gallery would have blocked the view of the drum from the west.

2.3 The Major Dome

Fragment 17 was found just north of Fragment 4, between the bema and east bay of the south aisle, with its long axis in an east–west position (Figs. 124, 126 left, 127, 184 foreground right, 195 rear left).⁸⁴ Its west end rested on the base of the southeast column, and the piece was exposed

81 Section 2.2.5, below, for the reconstruction; this surface originally faced west and was situated near the north facade, above the vault over the bay northwest of the major dome.

82 Fragments 2–5, above.

83 Section 1.2.3, above.

84 Originally Fragment 5.

1.00 m above the surface before it was excavated. The overall dimensions of Fragment 17 are now 1.20 × 1.40 × 1.75 m; at the time of excavation, Fragment 17 was somewhat larger, before brickwork and other masonry were lost when the piece was moved to permit excavation of the church.

The side of the piece that faced north when it was excavated retains a portion of a brick dome; the preserved surface is 1.40 m long, measured parallel with the brick courses, and 1.30 m high (Fig. 185). The bricks used in the surface of the dome are unusually regular in size, measuring 0.05–0.06 × 0.18–0.19 × 0.30 m. The mortar is the same in character as that found in other masonry fragments, with joints between 0.03 and 0.06 m high. Raked pointing is evident in several places. Although not enough of the dome remains to reconstruct its radius, it was much larger than the domes of the side aisles. Fragment 17 must therefore have been part of the major dome of Church E.

Additional information about the original form and location of Fragment 17 is provided by a finished brick surface on the side of the piece that faced south when it was excavated. Though the surface is now lost, it can be partially reconstructed with the aid of photographs taken in 1962 and impressions left by the bricks in the rubble core. In most areas the brickwork is horizontal and seems to have been articulated by a pillar with a recessed profile; in one area, however, the extant brick fragments and impressions are not horizontal but slope up at an angle to the left and right. The sloping bricks were probably remnants of arches above the windows of the drum. The brickwork below this area has a total depth that was apparently much greater than that of brick facing in other extant areas of the facade; it was probably a portion of the pier between two drum windows. If this interpretation of the photographs and the scanty remains is correct, Fragment 17 must originally have occupied a position not far from the top of the drum of the major dome.

2.4 Masonry Fragment Preservation

It is apparent that in the preserved masonry fragments, small building components that contain vaults or arches are better preserved than other architectural elements. For instance, all four of the small corner domes with exterior drums are relatively well preserved (Fragments 12–15), while only a very small portion of the major dome remains (Fragment 17); several portions of the small domes of the eastern bays of the side aisles are preserved (Fragments 2–5), while only a single very small portion of the large barrel vaults is preserved (Fragment 4); several portions of small facade arches and their lunettes are preserved (Fragments 1, 5–8), while nothing of the large arches that must have articulated the central bays of the north and south facades remains.

This contrast between, on the one hand, the preservation of small architectural components that contain domes and arches and, on the other hand, the loss of main dome and larger arches is probably not coincidental: it suggests that smaller vaulted and arched architectural forms were better able to resist destruction from earthquakes.

Possibly medieval Byzantine architects made similar observations and designed their churches accordingly. The often-noted small size of medieval Byzantine churches and their almost universal construction with domes, other vaults, and arched facade articulation may, at least in part, have been chosen as strategies to counteract, or at least to ameliorate, the destruction of churches by earthquakes. On the other hand, the use of columns as supports in Church E, and in many similar churches, made them quite vulnerable to earthquake damage.

3 The Foundations

Church E rests on a high, solidly constructed, and extensive foundation (Figs. 107–10). Eight trenches were opened within and around the foundation to reveal their construction and explore the relationship between the exterior foundations and those supporting the interior columns and domes.⁸⁵

3.1 Description

The foundation has the same plan as the church but differs in significant details (Figs. 2, 3, 186, 187). For instance, the foundation includes a secondary cross wall between the bema and naos, and the naos is subdivided by four secondary walls on east–west and north–south axes that intersect underneath the columns of the church. These secondary foundation walls, which do not support walls of the church, divide the foundation into small compartments that reflect the vaulting of Church E.⁸⁶ The cross inscribed into a square that was the dominating feature of the Church E vaulting scheme, visible on the exterior and the interior, was therefore already an integral part of the foundation.

With one exception, all excavated foundation walls had clean vertical faces on both sides without footings or other underpinnings.⁸⁷ The foundation exterior measures 11.20

⁸⁵ The trenches were in the following locations: the center of the bema and apse; the south part of the naos west bay; the naos northwest corner; the northeast corner of the church; the southeast corner of the church; underneath the Pseudocrypt in the south aisle; outside the major apse; outside the central bay of the south facade (Figs. 128–30, 187). The foundations were excavated to a level at least 1.00 m below the top of the foundation walls on all exterior sides.

⁸⁶ Neither doorways nor other openings exist in the foundation walls and the interior foundation walls do not reach the floor level of the exterior walls, precluding the possibility that a usable floor ever existed within the foundations of Church E.

⁸⁷ The exception is a low wall built against the east side of the foundation wall immediately west of the bema; the wall is stepped up toward the foundation north wall (Fig. 193).

by 18.40 m (19.70 m with the major apse). The dimensions of the foundation walls vary considerably. The northern and western exterior walls of the foundation are 1.70 m thick; the south wall and the foundations underneath the flanking apses (which are straight underneath the exedrae) are only 1.30 m thick. The foundation underneath the major apse is 1.60 m thick. The foundation wall between the naos and the narthex is 1.65 m thick, while its counterpart underneath the eastern columns measures only 1.15. The eastern secondary naos wall on a north–south axis is 1.00 m thick, while its western counterpart ranges in thickness from 0.86 to 0.92 m. The northern secondary naos wall on an east–west axis is 1.00 m thick, and its southern counterpart ranges between 0.80 and 0.85.

The top of the foundation is almost level, but the walls vary in depth. The southern and western exterior walls are 2.00–2.20 m deep; the depth of their northern and eastern counterparts ranges between 1.60 and 1.90 m. Many portions of the exterior foundation walls stand directly on the floor or subfloor of Church EA. The four major north–south walls are 1.60–1.70 m deep; the east–west walls in the naos range from 1.30 to 1.45 m in depth. The four secondary walls of the naos are deeper under the columns and shallower toward the surrounding walls.⁸⁸

Thus the thickness and depth of the foundation walls are not correlated for the most part. However, the exterior walls, as well as the wall between the naos and narthex, are deeper and thicker than the other walls. Although the southern exterior wall is 0.40 m thinner than its northern counterpart, it is 0.20 to 0.40 m deeper (both of these walls would have carried approximately the same weight). Similarly, the northern secondary wall of the naos is 0.15–0.20 m thicker than its southern counterpart, even though both walls are about equal in depth and both apparently rest on clean fill of about the same consistency. We may only speculate about the reasons for these discrepancies: some, of course, may be due to lack of job-site coordination, while others, for instance the more substantial exterior walls, were probably caused by structural considerations. Differences in the grade when Church E was constructed and presence of the south stylobate of Church EA, which lies almost underneath the south foundation wall of Church E, may also have been taken into consideration.

3.2 Construction

3.2.1 Masonry (Type H-3)

The entire foundation was apparently constructed in a single building program, with the exception of a small

portion of masonry on the south side of the Pseudocrypt.⁸⁹ The foundation walls built for Church E were faced on both sides with reused material including brick, field stone, ashlar (mostly rough cut, occasionally well cut), and carved architectural pieces such as column drums (Figs. 188–94, Table 5). Larger stone blocks are used more frequently in the lower wall portions and on the exterior. Brick is generally not used lower than ca. 1.00 m below the top of the foundation and is usually used to fill spaces between the stones; the rare brick courses are seldom longer than 1.00–2.00 m.

Brick is used more extensively in the west face of the foundation west wall, underneath the west facade of the church. Continuous brick courses are located 0.28, 0.48, 0.70, and 1.06 m below the top of the stylobate, and shorter courses are located in the lower areas of the wall (Fig. 110). Between the two lower brick courses in the northern portion of the wall, vertical bricks are inserted between large, decorative ashlar blocks. The ornamental quality of this brickwork suggests that the west face of the foundation was meant to be seen.

Although none of the foundation walls were dismantled to investigate their inner construction, they were probably built with a mortared rubble core like other walls of Church E. The mortar is of the same hard, gray variety that was used in the upper walls of the church. Throughout the foundations, raked pointing is used frequently.

3.2.2 Timber Beams

Channels or cavities 0.09–0.10 × 0.09–0.10 m in section were found in many areas where the tops of the Church E foundation walls were well preserved (Figs. 187, 195, 196). Although no wood remains in the uncovered channels, rusted spikes 0.085–0.11 m long were found at the intersections of some of the channels, and the imprint of wooden grain was preserved in some of the mortar of the channels, showing that the channels originally contained long wooden beams joined by iron spikes.⁹⁰ Tightly packed in very fine, particularly hard mortar, the timbers were either inside the masonry of the foundation walls or in a leveling course of broken bricks and tiles laid in thick cement at the tops of the walls.

Two parallel timbers ran along the entire length of most foundation walls;⁹¹ the timbers were at times made up of

89 The masonry of the major medieval reconstruction of Church EA integrated into the south wall of the Pseudocrypt is described below in section 4 and is excluded in the description of other foundation walls.

90 Cf. also Buchwald, “Church E,” 274–75; Hanfmann, “Sardis 1963,” 17–18.

91 In foundations that support existing walls, the channels may be seen only in exposed areas, for instance at doorways, and are assumed to continue in other parts of the foundation; the tops of some of the foundation walls near the center of the church are in poor condition, making it difficult to trace the channels: the timbers of the north–south

two or more pieces that were spliced or spiked together. The timbers were placed 0.20–0.40 m from the outer faces of the thicker walls; in the thinner walls they were placed flush with the outer faces. In cross walls the timbers were located at the very top of the foundation, and the cement subfloor that underlay the church floor covered the tops of the timbers. In the walls on east–west axes, timbers located 0.09–0.10 m below the top of the foundation passed underneath the timbers of the cross walls; at the intersections the timbers were secured by iron spikes. Only occasionally do the timbers in cross walls continue into the exterior foundation walls.

Short timbers, usually at irregular intervals of 1.00–2.00 m, crossed the parallel timbers of each wall (Fig. 196). The locations of the cross timbers in parallel walls are not coordinated, indicating that the cross timbers did not continue underneath the church floor in the areas between the foundation walls.⁹² The cross timbers at the periphery of the foundation could originally have been cantilevered out beyond the foundation walls to support scaffolding for the construction of the church; the cantilevered portions would then have been sawn off after work was completed (Figs. 110, 189, 198).⁹³

The purpose of the timber system seems to have been to add cohesion to the foundation; the wood would bear tensile stresses better than masonry, which is suited to bear compression. The structural behavior of the timbers would have been somewhat comparable to that of the steel rods (rebars) used in reinforced concrete. The tight packing of the timbers in high-quality mortar implies that the builders were aware of the necessity of combining the structural qualities of both materials, the timber and the masonry, in order to obtain optimum structural efficiency.⁹⁴

3.2.3 Open Masonry Joints

Although the exterior walls of the foundation are neatly bonded at the corners, the major cross walls, where they were excavated, abut the exterior walls, except in the lowest portion of the north end of the eastern cross wall. The four inner, secondary walls of the naos are bonded at their intersections but not with any other walls. The foundation walls were therefore constructed as four independent structural units: the exterior walls, the wall between the naos and narthex, the eastern cross wall, and the four inner, secondary walls.

foundation west of the major dome may not have continued into the south bay; the west wall of the narthex may have contained only a single timber.

92 Hanfmann, "Sardis 1963," fig. 8, is incorrect in this respect.

93 Ousterhout, *Builders*, 184–92, with a description of this practice, other examples, illustrations, and references.

94 Section 3.7, below, for the structural understanding of the builders.

The open joints were not caused by a sequence in the wall construction. It would be unreasonable to build the exterior walls to their full heights before the other walls were constructed, because then the building material of the interior walls would have to be transported over the exterior walls. On the other hand, it is improbable that the smaller secondary, inner walls were constructed first, because they abut the cross walls and exterior walls.

Rather, the foundation was probably conceived as four structurally independent units in order to counteract uneven settling. The loads and thrusts of the walls and vaults were distributed unevenly among the foundation walls, creating stresses between areas that carried heavier loads and those that carried lighter ones. If the entire foundation were built as a single structural unit, these stresses would result in cracks. But with the construction of the foundation in structurally independent units, each portion of the building (the exterior walls, the wall between the naos and narthex, the four central columns underneath the major dome, and the two eastern columns) could settle at a different pace without causing cracks in the foundation. Because of their relatively fluid construction of brick with large mortar joints and mortared rubble, the vaults may not have been seriously affected by the uneven settling that can be seen in the large number of distorted but still structurally sound Byzantine vaults preserved in a number of buildings.⁹⁵

3.2.4 Fill between the Foundation Walls

The spaces between the foundation walls were filled with clean, well-packed earth and clay that contained few potsherds, large field stones, or ashlar blocks. At least two hard tamped clay floors, at different levels, 0.60–0.80 m apart, were found in some compartments of the foundation. These packed floors indicate that the entire foundation was built in horizontal layers: after the foundation had been completed as high as building material could conveniently be lifted, the spaces between the finished walls would be filled with earth and clay, and then the construction of the walls would continue. This method would have facilitated the movement of building material and reduced the need for scaffolding.⁹⁶ Moreover, the packing and compression of these fill layers by the work crew helped to avoid excessive settling in the church floor and added stability to the foundation.

95 The distortions are visually evident in many vaulted Byzantine buildings, but they are not usually recorded in measured drawings and publications; St. Sophia is an exception, cf. Van Nice, *St. Sophia*, pls. 3–5, 18, 22, 28; Mainstone, *Hagia Sophia*, 18, 63, 85–88.

96 Section 3.2.2, above, for exterior scaffolding, which would still have been needed to construct the superstructure of the church.

3.2.5 Stylobate

The exterior walls of Church E are narrower than the foundation walls upon which they stand. The rising walls are offset toward the interior face of the foundation, creating a continuous ledge between 0.14 and 0.38 m wide at the top of the foundation on all sides of the church exterior. The upper surface of this ledge is finished as a stylobate by a course of well-cut marble blocks. The outer faces of these blocks are placed flush with the outer faces of the foundation walls; the rising walls overlay their interior faces (Figs. 110, 187–90). The sizes of these reused blocks vary greatly, but most are approximately 0.20–0.30 high \times 0.50–0.65 \times 0.70–1.50 m. Many of these spoils must have come from a single building, for they are worked in the same manner and adjacent blocks frequently have matching cavities for clamps. At least some of the blocks must have previously been used as floor slabs because their upper surfaces are worn smooth in areas immediately in front of or underneath the rising walls of the church.

The top of the stylobate is exceptionally well preserved and almost level (Table 1): the northwest corner of the stylobate lies at *91.39, the northeast corner at *91.41, the southeast corner at *91.30, the southwest corner at *91.32, and the center of the apse at *91.37. The upper surfaces of the foundation blocks underneath the column bases have almost the same levels: the northwest base, for instance, is at *91.35, the southeast base, *91.39, and the southwest base, *91.44 (Figs. 107, 111, 196).⁹⁷ The relatively minor deviations between these levels is surprising, considering that the church was built at least seven centuries ago and has suffered from at least one major and undoubtedly numerous smaller earthquakes.

3.3 Differences between the Foundation and the Church Plan

The plan of the foundation and the plan of the church above diverge in certain particulars. Two of the south column bases are located to the east of the intersections of the foundation walls underneath them (Fig. 187), and the north column bases are located somewhat to the north of the intersections of the walls beneath them, so that only about half of each column base rests upon the intersection (Figs. 113, 187). These differences are not due to later movements in the foundations or in the column bases, such as would be caused by an earthquake. Rather, they existed already when the superstructure of Church E was under construction: an additional masonry substructure, approximately a quarter circle in plan, was built to compensate for the eccentric position of the base underneath the central column of the north aisle (Fig.

196). Moreover, the interior pilasters of the church south wall correspond almost exactly with the columns opposite them, but not always with the foundation walls beneath them. And since the northern pilaster of the naos west wall was built in line with the north columns rather than the northern secondary foundation wall, the foundation was extended with a large stone slab that spans diagonally the angle where the two walls meet (Figs. 187, 197 left).

These discrepancies suggest that the builders had only a general conception of the major features of the building when they began work on the foundation. Thus, perhaps the construction was divided between a construction team responsible for the foundations and an architect who designed the building but became involved only after the foundation was completed.⁹⁸

3.4 Wall Paintings

Small areas of painted plaster, none with identifiable motifs, were found in several spots on interior foundation walls and on the exterior face of the foundation north wall. A fragment on the north wall, which measures only 0.04 \times 0.05 m, is brownish red; nearby is a second fragment, 0.08 \times 0.19, with three pinkish red areas separated by thick curved white lines, suggesting highlighted flesh tones. The largest piece, measuring 0.10 \times 0.30 m, is near the north end of the east face of the eastern cross wall, just below the top of the wall, and is painted in a buff tone. Toward the center of the same wall is another patch, 0.10 \times 0.28 m, with red and yellow stripes separated by thin white highlights, perhaps representing robes.

The supposition that the entire foundation was once covered by wall paintings must be discarded, for such a wall decoration would have served a purpose only if the foundations had contained usable chambers. However, no usable chambers existed in the foundations of Church E.⁹⁹ Moreover, mortar used in the construction of the foundation wall overlaps the edge of one of the painted fragments, demonstrating that the paint had already been applied before the stone block was built into the foundation wall. The other painting fragments must also have been attached to the blocks before they were reused in the walls.

98 I use the term *architect* in today's sense as the person who designs the building, regardless of his title or training during the medieval period; Mango, *Architecture*, 14–15, for an account of architects, technicians, and others responsible for the design of churches in the early Byzantine period; Ousterhout, *Builders*, 39–57, for the interpretation that during the medieval Byzantine period a church was not designed by an "architect" with a "liberal arts" education, but rather by a "mason" of the construction team; see Buchwald, "Builders," a review of Ousterhout, *Builders*, with a rejection of this interpretation. The evidence of the foundations of Church E implies that *both* an "architect" *and* a "master mason" were present at the job site.

99 N. 86, above.

97 Hanfmann, "Sardis 1963," 16; SFR Hanfmann, 1973, 14.

The relatively good condition of the painting fragments suggests that the blocks were taken from a nearby structure that was still intact rather than from a ruin. Probably they were taken from the walls of the major medieval reconstruction of Church EA, since there is evidence that it was decorated with wall paintings.¹⁰⁰

3.5 Tomb with Lydian Sarcophagus

A Lydian sarcophagus held in place by large masonry pillars was built against the north side of the foundation, its long axis parallel with the north wall of the church (Gr62.1; Figs. 3, 11, 198).¹⁰¹ The overall dimensions of the sarcophagus are 1.03 × 2.69 × 0.74 m high, and its top is located 0.64 m below the top of the stylobate. Both ends of the sarcophagus rest on roughly constructed underpinnings built of large, reused ashlar blocks, which rest on sandy earth mixed with small stones 0.40–0.50 m above the Church EA floor. Well-built rectangular pillars 0.80 × 1.20 m in plan and 0.30 high stand on the masonry underpinnings at both ends of the sarcophagus (Figs. 198, 199); the entire grave measures 1.20 × 3.85 m. In contrast to the underpinnings, the pillars have finished faces that include brick courses similar to those of the church facades (Masonry Type H-1). Thus, the pillars appear to have been exposed to view even though they are at a level that would normally be hidden by fill, since they are below the top of the foundation. The flat upper surfaces of the pillars would have been suited to carry the arch of an arcosolium. Gray mortar of the same character as that used throughout Church E was used in the pillars and in the underpinnings of the sarcophagus.

The sarcophagus must have contained a Christian burial. Numerous Christian graves, including some covered by marble slabs carved with crosses, were found next to and around Church E;¹⁰² the sarcophagus tomb is also effectively a part of the church and must therefore be Christian. The use of gray mortar in the pillars and underpinnings suggests that they were built soon after the completion of the church.¹⁰³ Although three Turkish coins were found in the sarcophagus,¹⁰⁴ these coins were

probably lost in the grave not when it was constructed, but rather when it was plundered, sometime after the conquest of this part of Sardis by Turkish forces.¹⁰⁵

3.6 Grade Levels outside the Foundation Walls

The grade west of the church was apparently not much higher than the floor of Church EA after the completion of the foundations (Table 1).¹⁰⁶ The same observation may be made concerning the western part of the north side of the foundation, where a Christian tomb with a Lydian sarcophagus, and probably an arcosolium, was constructed against the foundation wall on fill approximately 0.40–0.50 above the floor of Church EA.¹⁰⁷

Turkish walls, perhaps dating to the fourteenth century, provide further evidence for the grade level west of the foundation during the Byzantine period.¹⁰⁸ Here, Turkish walls stood on earth fill that covered Christian graves immediately west of Church E (Figs. 200, 201).¹⁰⁹ For the most part, the graves lay near the level of the original floor of Church EA. The top of the earth fill was roughly 1.00 m above the original floor of Church EA (ca. *90.60), about 0.70 m below the top of the stylobate of Church E.¹¹⁰ This was probably the grade level when Turkish construction began, and no doubt the grade level differed little when the Byzantine use of Church E ended.

On the other hand, the door in the south wall of the narthex appears to have been used by the congregation to enter the church.¹¹¹ Therefore, when Church E was constructed, the grade south of the church appears to have been almost the same as the top of its stylobate, *91.41–*91.30, or approximately 1.80 m above the mosaic floor of Church EA. The level of the builders' dump to the east of the apse (*90.50) implies that the grade level there had also risen considerably.¹¹²

100 Chapter 3, section 2.4, and section 3.4, above, for evidence of wall paintings in the major medieval reconstruction of Church EA.

101 Hanfmann, "Sardis 1962," 16–17, 21; SFB 1962 PN I, 97–98, with photo, states that large schist slabs covered the sarcophagus when it was excavated.

102 Hanfmann, "Sardis 1962"; Appendix for the graves and chapter 5, closure slabs 7.7, 7.8.

103 Section 1.2.3, above, for a later modification to Church E, carried out during its use as a church, but no longer using mortar.

104 Table 9; SFB 1962 PN I, 97–98; Hanfmann, "Sardis 1962," 17; Buttrey et al., *Coins* (Sardis M7), xxiv. Two coins, IS 2 (C62.187) and IS 3 (C62.186), are identified as İshak b. İlyas, 1374–1388, the other, IS 221 (C62.188), as Murad I, 1388.

105 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 90–92, for the Turkish invasion and early occupation.

106 Section 1.2.3, above, for lack of access to the major west door; section 3.2.1, above, for the decorative appearance of the west face of the foundation, which was clearly meant to be seen; section 5.1, below, for the rise in grade immediately west of the church during the Turkish occupation.

107 Section 3.5, above.

108 Section 5, below, for Church E during the Turkish occupation.

109 Most of the Turkish village houses elsewhere in sector PN were built on grade without foundations, but here the walls, approximately 1 m in height, served as a foundation that raised the level of the floor of the Turkish rooms to that of the narthex of Church E, to which the rooms were connected by a door.

110 Appendix for the graves; Hanfmann, "Sardis 1962," 16–17; SFB 1962 PN II, 91–92; SFR Del Chiaro, 1962 Mid-Campaign, 6; SFR Del Chiaro, 1962 Final, 1.

111 Section 1.2.3, above.

112 Section 1.2.4, above, for the builders' dump.

The south side of the church faces the lower haunches of the Sardis Acropolis, and it is therefore not surprising that accumulation of earth would be greatest there. The average rise in ground level at Sardis has been estimated at very roughly two meters in a thousand years; soil accumulation of approximately 1.80 m between the fourth and thirteenth centuries fits that approximation well.¹¹³ The level of the top of the foundation, which is approximately the floor level of Church E, may have been determined by the level of the accumulated fill next to the south side of Church EA.

3.7 Conclusions

The foundations of Church E were built with a considerable degree of skill and technical competence. The excellent condition of the foundations, almost perfectly level, attests the sturdiness of their construction and the precision of the builders. The system of reinforcing timbers as well as the carefully considered use of open joints reflect at least an awareness of structural forces, if not necessarily an understanding of structural theory. These observations concerning the reasons for some of the structural features of the foundations are based upon current understanding of structural behavior rather than upon medieval sources. It is not necessary to assume that the builders of Church E fully understood the reasons for these structural features, for they were working within a long tradition of accumulated practical experience and not necessarily of theoretical understanding; nevertheless, even the application of rules of thumb to an individual building presumably required at least some understanding of specific structural problems and their solutions.¹¹⁴

The foundation of Church E also shows that the superstructure of a medieval Byzantine church cannot always be reconstructed directly from its foundations. For instance, if the superstructure of Church E had entirely

disappeared, the church might have been reconstructed with a major wall over the large foundation between the naos and the sanctuary. However, the extant walls, column bases, and vaulting fragments demonstrate that no wall existed in that location, and in any case, an inscribed-cross church with a thick solid wall between the naos and the bema is an unlikely solution. Thus, the evidence uncovered in the foundation of Church E appears to show that the location of foundation walls was determined by the (supposed) structural stability of the entire foundation, irrespective of the specific design of the superstructure, which may not have been known in detail when the foundation was constructed.

4 The Pseudocrypt

4.1 Description

The “Pseudocrypt,” a pit measuring 1.29 (north–south) × 1.73 m, was built into the floor of the central bay of the south aisle (Figs. 186, 187, 202).¹¹⁵ The floor of the Pseudocrypt lies at *90.07, or 1.22 m below the probable floor level of Church E (Table 1). Its south wall and the wall of the church directly above it are set back 0.25 m from the alignment of the rest of the south wall of the church (Figs. 94, 95). On its west side, a very steep flight of steps 0.50 m wide rises northward from the floor of the Pseudocrypt to the floor of the naos (Figs. 202–4).

For the most part the Pseudocrypt floor is constructed of well-squared, carefully fitted, probably reused marble slabs 0.03–0.05 m thick. These slabs were set in a bed of mortar 0.05–0.07 m thick that rests on clean earth fill. The east, west, and north walls of the Pseudocrypt are built of Masonry Type H-1: large, well-squared ashlar blocks, carved architectural marble spoils, and courses of bricks bonded with gray mortar (Fig. 204).¹¹⁶ However, most of the interior face of the south wall is built of coarse ashlar masonry without mortar (Fig. 94). The masonry of this wall face is similar to the masonry used in the major medieval reconstruction of Church EA (Masonry Type E-4, Tables 3–5).¹¹⁷

Although its south side integrates masonry from the earlier Church EA and its walls do not bond with those of the church foundation, the Pseudocrypt must have been built together with Church E. The masonry of its east, north, and west walls is identical in character to that of the later church, and the south wall of the naos continues

113 Chapter 1, section 4.1, n. 64, and chapter 2, section 9.1, for other examples of possible earth accumulation at Sardis.

114 Mainstone, “Structural Invention,” and idem, “Structural Insights,” for early structural thought and intuition, including examples approximately from this period; *ibid.*, 336–38, observes that both intuition and understanding were required on the job site; Ousterhout, *Builders*, 4–5, 39–57, believes that Byzantine architects during the medieval period lacked conceptual training, but see Buchwald, “Builders,” a review of Ousterhout. Most, and perhaps all, structural features of the Church E foundations could have been applied by the work crew following rules of thumb passed down from previous generations, but the application of these rules to a specific building required at least some understanding of the structural principles involved. That understanding was probably ultimately based upon personal observation, primarily of failed or destroyed structures. At least some of these observations, and the accompanying understanding of structural principles, must be attributed to medieval Byzantine builders: even though late antique and early Byzantine construction practices may have been known to medieval builders because of workshop traditions, medieval Byzantine buildings were quite different in form and structural behavior from those of the late antique and early Byzantine periods and would not have presented quite the same structural problems.

115 Hanfmann, “Sardis 1963,” 16–19, figs. 8, 9, mistakenly identifies the Pseudocrypt as a baptistery; Hanfmann, “Sardis 1972,” 60, fig. 5; Buchwald, “Church E,” 275–76, figs. 3–5, 10.

116 Section 1.2.1, above, for the masonry of Church E.

117 Chapter 3, section 2.1, for Masonry Type E, and section 2.2.3, for the south wall of the Pseudocrypt and Masonry Type E-4; standard Church E Masonry Type H-1 was used on the outside of this wall (Fig. 11).

in typical Church E masonry on both sides of the earlier, recessed masonry of the Pseudocrypt (Figs. 94, 207, 208). The finished faces of these flanking walls continue down to the level of the paved floor of the Pseudocrypt, indicating that it was planned with its present dimensions when the south foundation wall of Church E was constructed.

A brick pier $0.25 \times 0.50 \times 0.74$ m high stands against the Pseudocrypt south wall on the lowest step of the stairway on its west side (Figs. 202, 203). A mortar bed 0.07–0.08 m thick covers the upper surface of the pier. Though mortar was not used in other changes to Church E carried out after its initial construction, none of the original masonry of the lower part of the building is entirely of brick, and the pier does not bond with the south wall. It is possible that the pier was built, probably not long after the Pseudocrypt, to support a large floor slab or wooden trap door that covered the stairway when it was not in use, a measure that would have made it almost impossible to descend into the Pseudocrypt except during predetermined periods.

4.2 Wall Painting

Extensive remains of plaster and several layers of poorly preserved wall painting were found on the south wall of the Pseudocrypt, continuing in some areas around the corners to the east and west walls (Figs. 205–9). Since the plaster and wall paintings on the south wall continue without interruption above the level of the church floor, the Pseudocrypt was open to the naos.¹¹⁸ The surviving paintings do not allow for a reconstruction of major motifs; the only identifiable features are simple borders or decorative elements that do not readily lend themselves to iconographic or stylistic analysis.¹¹⁹

The key to a relative chronology of the wall painting is provided by an area near the west edge of the south wall where several painted layers are close to each other (Fig. 207). The most distinctive layer has a horizontal border in oxblood red 0.35 m above the Pseudocrypt floor, and a vertical border in the same color 0.38 m from the west edge of the south wall (layer D). A blue field lies to the east of the vertical border, a white field to the west.

A small patch of wall painting that partly covers layer D is preserved in the same area (layer E). A horizontal field 0.08 m high and 0.35 above the Pseudocrypt floor is painted in apparent imitation of marble revetment: the colors include mottled reddish purple, violet, yellow, dark green, and black with white highlights. Below this field is

an area of white, above it a field of bluish gray. In the same area, wall painting layer C is directly underneath layer D. Beginning 0.30 m above the pit floor, layer C is painted solid white, red, and orange brown in shapes with curved edges up to a horizontal line 0.34 m above the Pseudocrypt floor; layer C then continues upward in red. Not enough remains to recognize the forms.

Still another distinct wall painting layer exists in the lower western corner of the south wall (layer A). A gray horizontal border 0.18 m high decorates the bottom of the wall immediately above the floor. In the center of the border there is a frieze of horizontal white diamonds 0.09 m long and 0.04 high. Above the border a large field of mottled red and orange, perhaps representing marble revetment, continues as high as 0.83 m above the floor. In the southwest corner of the Pseudocrypt, the earlier masonry of the south wall (Masonry Type E-4) continues westward behind the Church E masonry of the Pseudocrypt west wall (Masonry Type H-1), and wall painting layer A continues together with the earlier masonry to a point 0.06 m west of the corner, behind the Church E masonry (Figs. 207, 210). Wall painting layer A therefore precedes the construction of Church E and must be attributed to the medieval reconstruction of Church EA. The wall paintings of layer A appear to be the earliest applied to the south wall of the pit.

Another painted area 0.22×0.09 m high was found near the remains of layer A but closer to the center of the south wall (layer B). This patch is decorated by three irregular horizontal stripes: the lowest, against the floor, is light grayish blue, the center is white, and the upper is brick red. It is clear that the stripes of layer B cannot have belonged to the border pattern represented by layer A.

A number of other areas with wall painting decoration can be related to these layers. The most extensive and best-preserved painting lies in the eastern part of the south wall (Fig. 209). An oxblood red border 0.05 m wide frames a narrow, vertical rectangular field of lozenges. The vertical border continues on the adjacent east wall. The lower horizontal border, which lies 0.35 m above the Pseudocrypt floor, continues to the west to frame a second field of lozenges, the same in size and character, at the west edge of the south wall (wall painting layer D). The wall is painted white below this lower horizontal border. The lozenge pattern is created by dark, diagonally crossed lines and the lozenges themselves are arranged in diagonal rows alternating white with green diamonds and white with red diamonds. At the bottom of each lozenge there is a simple, white quatrefoil. Between the two fields of lozenges is a blue field, separated from the oxblood red border by a thin white line. The focal point of the composition, presumably a figure, probably occupied the center of this blue field.

118 The trap door reconstructed above probably covered only the portion of the Pseudocrypt over the steps.

119 The wall paintings were exposed and first drawn and photographed in 1963. They are described here as they were in 1973 and 1975, by which point they had already suffered some loss of paint; since then, they have deteriorated considerably.

Deep orange probably belonging to layer C is evident beneath this layer of wall painting, both on the south and east walls of the Pseudocrypt. On the east wall the orange pigment seems to have been applied directly to the masonry, without plaster.

A small patch of particularly well-preserved wall painting near the center of the south wall, 0.22 m above the Pseudocrypt floor, is decorated with areas of deep red and white with red spots. Its coloring and its location below the lower borders of layers D and E imply that this patch was part of the decorative system of layer A.

The same may be true of another patch 0.28 m from the east edge of the south wall. This patch, which measures 0.14 × 0.22 m, has an upper edge 0.10 m above the floor. Two slightly curved, almost horizontal lines of deep reddish orange shaded into white from the lower part; a small area of blue is extant at the bottom. In the upper portion of the patch, a gray field is separated from a white field by a thin, almost vertical whitish line. Since no wall painting layer can be seen underneath this patch, it was probably part of layer A. Similar colors occur in a 0.07 × 0.18 m patch found 0.10 m from the western edge of the south wall and 1.07 above the pit floor. Painted deep red, gray, and mottled orange, this patch contains unidentifiable, horizontally oriented shapes with slightly curved edges. The mottled orange is particularly similar to that used in layer A.

An extensive layer of wall painting that extends from the south to the west wall covers several other layers. Its highest point lies 1.03 m above the Pseudocrypt floor, and it extends to a point 0.21 m north of the southwest corner. The small spots of washed-out coloring remaining on its surface indicate that this wall painting layer was probably exposed to the weather. The recognizable areas of purple, pink, light yellow, and mottled green relate this painting to layer E.

To summarize the evidence of the wall paintings in the Pseudocrypt, four or five layers apparently decorated its walls. Layer A is the earliest and belongs to a decorative scheme of the predecessor of Church E, the medieval reconstruction of Church EA. The border of layer B, like the border of layer A, is located at the very bottom of the wall. However, the difference in the borders themselves indicates that layer B cannot have been part of the same decorative system as layer A. Layer B could have been applied before the construction of Church E. Layer C was the first layer applied to walls of Church E. It is possible, but by no means certain, that layers B and C are identical. Layer D was applied directly over layer C; unlike the previous wall paintings, its lower border is 0.35 m above the Pseudocrypt floor. Layer E, which covers parts of layer D, appears to have been the last wall painting in the Pseudocrypt.

4.3 Graves

When the Pseudocrypt was excavated in 1963, the soil and debris near its floor were unusually moist, leading the excavators to believe that it had been built with waterproof cement and that it must have been a baptistery.¹²⁰ However, excavation underneath the floor revealed no drainage system but rather two graves at about the same level, *89.30–*89.20, or about 0.80 m below the marble floor of the Pseudocrypt (Fig. 94; Table 1).¹²¹

The grave closer to the center of the Pseudocrypt (Gr72.2) was built of tiles, 0.035 and 0.045 thick × 0.20 × 0.20 m, and had no lid.¹²² Though the bones, which were placed together in a pile, were those of an adult, the grave measured only 0.35 × 0.85 × 0.20 m deep (Figs. 94, 211). Thus, the grave must have been a reburial. In the center of the grave a large, mature, and unusually thick skull, which had a long hole in the cranium, was found with the top of its cranium up.¹²³ Immediately below the skull and in almost perfect condition was a small glass bottle with a squat ovoid body and a conical neck with flaring rim (Fig. 212). The bottle has been attributed to the very late fourth or fifth century.¹²⁴

The second grave (Gr73.19) was only partially excavated because most of it lies beneath the foundation of the northwest corner of the Pseudocrypt.¹²⁵ The grave was opened by cutting through its schist lid, which was pinned underneath the foundation (Fig. 213). The top of the lid, measuring 0.97 × 0.55 m, was at *89.30, or 0.77 m below the Pseudocrypt floor. The excavated portion of the grave was 1.13 × 0.35 m. As with Gr72.2, the bones in this grave had also been disturbed and the skeleton was not in a laid-out position. A coin (C73.131) minted 364–367 by Valentinian I (364–375) or Valens (364–378) was found at *89.60 in earth fill above the graves, underneath two tiles that were laid side by side horizontally in the earth with their tops at *89.71 (Fig. 95; Tables 1, 9).¹²⁶

120 Hanfmann, "Sardis 1963," 17, fig. 9.

121 Chapter 3, section 2.2.3; Greenewalt, "Sardis 1972," 18 (which mistakenly states that three graves were found underneath the pit); Hanfmann, "Sardis Campaign 1973," 33–37 and fig. 6, which shows the Pseudocrypt after removal of Gr72.2; Hanfmann, "Sardis 1973," 20–21 and fig. 28, the caption of which should read "looking south" rather than north.

122 SFB 1972 PN/E, 65.

123 The grave was disturbed in a rainstorm immediately after excavation and before adequate photographs were taken.

124 G72.1:8181; Saldern, *Glass* (Sardis M6), no. 509, pls. 14, 26.

125 Hanfmann, "Sardis Campaign 1973," 33–37; SFB 1973 PN/E IV, 31, 43, 65.

126 Hanfmann, "Sardis Campaign 1973," 37; SFR Hanfmann 1973, 11a.

4.4 Conclusions

The purpose of the Pseudocrypt seems to have been the preservation of a venerated holy image, probably related to the graves underneath the floor, that was first painted during the major medieval reconstruction of Church EA; otherwise, there would be no apparent reason for preserving the earlier masonry and wall paintings of the Pseudocrypt south wall. The fact that Gr72.2 was a reburial and the inclusion in the grave of a glass bottle, unique among the more than 100 similar graves found in the vicinity, suggests that the grave was probably thought to be that of a saint.¹²⁷

The location of the graves 0.20–0.30 m below the original floor level of Church EA, the date of the coin found in the fill above the graves, and the date of the glass bottle could mean that the graves were created together with Church EA, or near the time of its initial construction, in the fourth century.¹²⁸

However, it is more probable that the graves are contemporary with the major medieval reconstruction of Church EA.¹²⁹ Much of the earth above the graves must have been removed to construct the graves and the foundation under the Pseudocrypt. Therefore, the fourth-century coin is not valid as dating evidence. The contents of the two graves may have been taken from a location that was abandoned when Church EA was reconstructed during the medieval period, either in the EA complex or elsewhere. The placement of the graves within the nave of Church EA—unrelated to the major features of the church, not in a separate structure, and away from the main altar—is noteworthy.¹³⁰ While no altar was found in the Pseudocrypt and the size of the Pseudocrypt is unsuited

for an altar, an altar related to the graves could have existed in the major medieval reconstruction of Church EA.

A hypothetical but plausible sequence of construction may be constituted as follows: Church EA was originally constructed above, or close to, the graves of Christian martyrs. A separate chapel or martyrium, which has not been excavated, was built alongside or near Church EA. The original chapel or martyrium was eventually destroyed. It was not rebuilt during the medieval reconstruction of Church EA, but the contents of the original graves were exhumed and placed in new graves located next to the wall flanking the south side of the nave. These medieval graves and the closely related, venerated paintings on the adjacent wall were integrated into the design of Church E in the thirteenth century. Since the floor of the new church was almost two meters higher than the floor of Church EA, the Pseudocrypt was built in order to preserve the paintings.

Other explanations for the reburial in Church EA are possible. For instance, the contents of the graves may have been transferred from another location inside Church EA during the medieval reconstruction; or they could have been brought from another church. However, if the graves had originally been closely related to the main altar of Church EA, then that location would probably have been retained during the medieval reconstruction of the church; other relics may already have occupied that location when these two graves were first interred.¹³¹

5 The Period of Turkish Occupation

Church E was probably no longer used for Christian worship after Sardis fell to Turkish forces.¹³² Although the excavation of Church E provided no direct evidence for the date when Turkish occupation began, the contents of nearby houses show that their fourteenth-century occupants were Turkish.¹³³ The Turkish use of Church E continued until the building was destroyed, most probably by a violent earthquake, at the end of the sixteenth century.¹³⁴

5.1 The Turkish Conversion of Church E

Normally the major church of Sardis would have been converted into a mosque upon the arrival of the Turks. However, Church E was apparently never converted into

127 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 31, 64–65, for two third-century Christian martyrs, Theron and Apollonius, and a martyr of the iconoclast period, Saint Euthymius.

128 Hanfmann, "Sardis Campaign 1973," 33–37, for this interpretation of the evidence.

129 Chapter 3, section 2.2.3, for the ninth-century reconstruction.

130 For the location of relics during this period, particularly, Mango, "Mausoleum"; Sodini, "Cryptes"; Deichmann, *Einführung*, 47–67; idem, "Mausoleum," 56–109. Deichmann points out that with time tombs were directly related to the altars of churches; however, numerous examples of saints' graves located in independent chapels or martyria are also known, for instance, idem, "Märtyrerbasilika"; Ward-Perkins, "Memoria"; Grabar, *Martyrium*, passim; Lassus, *Sanctuaires*, especially 101–83; Duval, *Martyrs*, 501–16, 581–87, and passim, each with extensive further references. See also Kirsch and Klauser, "Altar," 343–49; Wessel, "Altar." Evidence in Asia Minor is very sparse, but see, for instance, Hörmann, *Johanneskirche*, 179–84, pls. 39:1, 39:4, 40:1–3, and Restle, "Ephesos," 180–81, fig. 6, for the tombs at the altar of St. John's at Ephesus, which may be atypical because of the great importance and the cruciform floor plan of the church; the evidence at Constantinople may but need not necessarily be relevant to Asia Minor; see, for instance, Kleiss, "Chalkopratenkirche," 223–29, figs. 5–8, for a crypt at the altar of the Church of the Virgin Chalkoprateia; Mathews, *Churches*, 27, figs. 8, 10, for a crypt in a similar location in St. John of the Stoudios.

131 Chapter 1, section 1.1, for the chancel of Church EA, which was excavated only in very small areas, providing no firm archaeological evidence concerning its appearance.

132 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 90; Crane, "Notes."

133 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 90–104, for the history of Turkish Sardis with further references; Hanfmann, "Sardis 1962," 14–15; SFR Del Chiaro, 1962 Mid-Campaign, 1–2; SFR Hanfmann, 1963, 1–3, for the excavations.

134 Section 5.3, below, for the final destruction of the church.

a mosque. The Turkish alterations to the church are not appropriate for the transformation of the building into a mosque, nor is there any other evidence that Church E was ever used as one.¹³⁵ Indeed, early European travelers' reports of a mosque that had once been a church in Sardis¹³⁶ suggest that the conquering Turks found a church larger and more suitable than Church E standing and usable upon their arrival. Thus, Church E may not have been the only church at Sardis in the thirteenth century.

Significant changes to the building were carried out by the Turkish inhabitants at a time when the church furnishings were still complete and in rather good condition. Extensive remains of the chancel barrier, including almost the complete epistyle, were reused in various Turkish contexts.¹³⁷ The several, probably contemporaneous, changes to the building described below, apparently guided by a unified plan, could not have been made by the Christian occupants as they would have made the building unusable as a church. Rough walls composed of unmortared reused building material sealed the doorways between the naos and narthex and the doorway in the western narthex wall, thus separating the narthex from the main part of the church (Masonry Type I; Figs. 12, 123). Walls of similar construction on east–west axes subdivided the western part of the naos into three compartments, each accessible only from the east, and separated the bema from the north aisle.¹³⁸ The window in the narthex west wall, south of the major portal, was transformed into a doorway by breaking through its parapet wall. The new doorway connected the narthex with a group of rooms added west of the church, the largest of which had a curved wall on its northwest side (Masonry Type I; Figs. 12, 200, 201); the floors of these rooms were raised approximately to the level of the narthex floor.¹³⁹ The marble floor of the church was removed, and the Pseudocrypt was filled with Byzantine spoils and rubble.

135 There is no evidence of a mihrab or of other changes typical of the conversion of a church into a mosque, and the industrial use of the building before its destruction seems certain (section 5.2, below).

136 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 98, 101, for eighteenth-century travelers' reports that a mosque that had been a church existed at Sardis. Church D, which remains unexcavated, is much larger than Church E, but it is unknown whether it was still standing in the thirteenth century.

137 Carved lintel blocks from the chancel barrier were found in the rubble inside the Pseudocrypt, in the foundation walls of the Turkish addition west of Church E, and apparently in the fill used to raise the floor level of this addition. Chapter 5, section 10.1, for a summary of the locations in which individual pieces were found, with references to the catalogue descriptions.

138 Alternatively, the latter wall could have been a late Byzantine addition.

139 Section 3.6, above, for a discussion of the grade around Church E.

5.2 Function

The function of the eastern parts of Church E during the Turkish occupation appears to have been industrial. The abundance of ash found near the center of the naos suggests that the church was used for an industrial purpose, one that required fire probably fed with wood or charcoal (Fig. 214). Numerous layers of very fine, medium gray ash 0.05–0.15 m thick alternate with layers of fine black ash 0.01–0.05 m thick. The total thickness of the ash layers is over 0.50 m near the center of the church and becomes thinner near the edge of the pile. The fire must therefore have been concentrated underneath the major dome, which, without its original glass windows, would have served as a flue or rudimentary chimney. The use of this area as a hearth must have continued for a considerable length of time to produce such thick layers of ash. As the debris from the church vaults rested directly on the ash when the church was excavated, the industrial activity probably continued until the final destruction of Church E.¹⁴⁰

Two pithoi were found with their bottoms sunken in the earth floor of the naos.¹⁴¹ A large Lydian sarcophagus with drainage holes, probably used as a water container, was standing upright in the south aisle near the Pseudocrypt.¹⁴² Remains of a Turkish floor were found near the northwest and southwest column bases of the naos, 0.32 m below the tops of the nearby foundation walls. The floor surface is formed of small stones and brick fragments pressed into hard clay. Above this floor is a second floor composed of a layer of clean clay 0.05 m thick with a hard upper surface, covered by a layer of earth mixed with occasional small chunks of charcoal 0.05 m thick (Fig. 214). Above this

140 The debris in the central bay of Church E was excavated in 2000 after the dome (Masonry Fragment 13), previously preserved in that location, slipped from its position. The findings include remains of building material from Church E similar to that found in other parts of the church as well as pieces of colored glass, ceramics, and metal objects; sections 1.2.4 and 1.4, above, for windows and mosaics. Eleven thin layers of black, red, brown, gray-yellow, and gray clay were also found, as well as evidence of ash layers like those described above. A rectangular platform, 2.10 × 2.25 m (north–south), constructed of large reused marble and schist blocks that are oriented with the church, was located near the southeast column of the central bay. Its floor is almost level and lies about 0.40 m below the original floor level of Church E; on the north and south its sides are raised slightly. The purpose of the platform has not been identified. No evidence of burning was found on the platform, which may have been covered by earth before the burning underneath the dome commenced. Therefore, the platform appears to have been in use during a period preceding that of the ash layers, a plausible conclusion considering that the Turkish occupation of Church E lasted between two and three centuries. The finds from this excavation shed no additional light upon the specific use of Church E during the Turkish period but confirm that the building was used neither as a lime kiln nor for the production of glass, as had once been thought. For the excavation, SFR Hendrik, 2000; for glass production, the mosaic tesserae, and the fragments of wall paintings, SFR Vandiver, 2000.

141 SFB 1962 Bldg E, 109–10.

142 Hanfmann, "Sardis 1962," 15.

layer are small, flat marble chips laid horizontally; these chips are in turn covered by a thick layer of loose earth underneath the rubble from the destruction of Church E.

The narthex, which was separated from the rest of the church during the Turkish period, had a different function. Cooking pots, pithoi, small charcoal deposits, animal bones, and Turkish coins were found in the narthex, which was connected with the rooms added west of the church, suggesting that this entire suite served as a dwelling.¹⁴³ A bronze bowl and a large bronze cauldron with iron ring handles, lying in the midst of charcoal and ashes, as well as numerous vessels and fine, green-glazed, shoe-shaped lamps, were found just north of the added rooms, at levels of *91.00 to *90.50.¹⁴⁴ This area may have served as an open courtyard for the residents of the western portion of the church and the western additions.¹⁴⁵ A skeleton was found lying full length on its back next to the western wall inside the narthex at *90.80. Its head was toward the south, and a large pithos and a marble block were on its chest (Gr62.51). There is no indication that the body was deliberately buried or that the interior of Church E was ever used for burials.¹⁴⁶

5.3 Destruction of Church E

There can be little doubt that Church E was destroyed by a violent earthquake. The masonry fragments of Church E were found in positions that can be explained by the destruction of an earthquake but would be difficult to explain otherwise. Numerous fragments from the upper parts of the lateral facades were found, some upside down, one or two meters from the walls from which they had fallen; a large portion of the major apse (Fragment 1) was found several meters from its original location. The four minor domes were scattered about the site, one having rolled for several meters to rest on edge beyond the confines of the church. There is no evidence that the church was destroyed by fire, and it is unlikely that the systematic destruction of this well-built church was caused by explosion or weapons.

The period, and even the year, of the destruction of Church E may be established with the aid of a decorated lunette fragment that comes from one of its facades

(Fragment 9).¹⁴⁷ The piece was built into the wall of a house belonging to the second or upper Turkish village excavated to the west, north, and east of Church E (Fig. 163).¹⁴⁸ Objects and coins found in the second Turkish village indicate that it was occupied from the seventeenth to the nineteenth centuries. The second Turkish village was built over the ruins of the first, or lower, Turkish village, which contained objects and coins dating primarily from the late fourteenth, fifteenth, and sixteenth centuries. Thus the first Turkish village was destroyed about 1600.¹⁴⁹ A major earthquake in 1595, which is reported to have leveled Sardis, may have destroyed the lower Turkish village and Church E, making a fragment of its masonry available for reuse in the upper Turkish village.¹⁵⁰

6 Comparable Evidence and Chronology

In an earlier publication, I proposed a thirteenth-century date for Church E based upon a stylistic analysis of numerous features and suggested that for historical, stylistic, and archaeological reasons it was probably built during the Lascarid period (1204–1261), the reign of John Vatatzes (1222–1254) being the most likely time for its construction.¹⁵¹ While it is not necessary to repeat the arguments here in detail, it is useful to present a summary of these and other issues.

Neither in western Asia Minor nor elsewhere during the Byzantine medieval period was it unusual for a small church to be constructed within the ruins of a larger, late

147 Section 2.1, Fragment 9, above.

148 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 91–92; SFR Del Chiaro, 1962 Mid-Campaign, 1–4; idem, 1962 Final, 1–2.

149 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 91–92; Hanfmann, "Sardis 1962," 14–15; Hanfmann, "Sardis 1963," 14; Hanfmann, "Sardis 1964," 3; Hanfmann, "Sardis 1965," 25.

150 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 97.

151 Buchwald, "Church E," 277–99; idem, "Lascarid," especially 280–96; in *ibid.*, 292–93, I proposed a more specific date for Church E, between about 1230 and about 1245, based on a stylistic analysis the limitations of which are discussed in section 6.1, below; the possible construction date of the Church of the Panaghia Krina on Chios during the last decade of the twelfth century (n. 174, below) implies that this church, that I previously attributed to the Lascarid period, was probably built somewhat earlier. However, my stylistic analysis ("Lascarid," 262–93) indicated that the church at Krina is the earliest church of the group and the period of the Latin conquest of Constantinople in 1204 is an unlikely time for construction activity. Thus the other buildings were probably constructed in the Lascarid period even though the Krina church is somewhat earlier. Foss, "Sites," for additional Lascarid sites; Savvides, *Byzantium*, especially 53–122, for the Lascarids in Asia Minor; Rheidt, "Bautechnik," for roughly comparable masonry in twelfth- and thirteenth-century domestic buildings in Pergamon; Kidonopoulos, *Konstantinopel*, 230, for the almost complete lack of new construction in the capital during the Latin occupation; also Ousterhout, *Builders*, 157–69, for comparable evidence concerning medieval Byzantine foundations, 192–94, for the Byzantine use of wood reinforcement, and 194–200, for Byzantine facade decoration, each with references; Hill, *Cilicia*, 12, for the use of timber reinforcement in walls of Cilician buildings.

143 Hanfmann, "Sardis 1962," 15; Buttrey et al., *Coins* (Sardis M7), IS 91 (C62.134), IS 114 (C62.1772), IS 151 (C62.1744), IS 296 (C62.131), IS 297 (C62.132), IS 298 (C62.135), IS 351 (C62.129), IS 363 (C62.130), dated to the fourteenth and early fifteenth centuries; also found in the narthex, a pair of iron shears, Waldbaum, *Metalwork* (Sardis M8), no. 241 (M62.5:4165).

144 Hanfmann, "Sardis 1962," 15. Waldbaum, *Metalwork* (Sardis M8): a chisel (no. 162, pl. 18, M62.44:4364), a wood plane (no. 167, pl. 18, M62.45:4365), the rim of a cauldron (no. 519), and a bronze bowl (cat. 510).

145 SFB 1962 PN I, 125–32.

146 SFB 1962 Bldg E, I, 140, states that the skeleton was clearly not in a grave; also Appendix, Gr62.51.

antique or early Byzantine basilica. Examples can be found at Hierapolis in Phrygia,¹⁵² Didyma,¹⁵³ Side,¹⁵⁴ Gürses,¹⁵⁵ Sura,¹⁵⁶ Carpasia (Cyprus),¹⁵⁷ Chios,¹⁵⁸ Glyphada,¹⁵⁹ Eleusis,¹⁶⁰ Aigosthena,¹⁶¹ and Philippi.¹⁶² Most of these medieval churches remain undated. Many of them are little more than simple chapels, although inscribed-cross churches roughly equivalent to Church E are represented at Side, Carpasia, Chios, and perhaps at Sura. These buildings dramatically illustrate the change of scale in Byzantine church construction between the early and medieval periods.

Although the earliest securely dated inscribed-cross churches with five domes were built in the twelfth century, other churches of the same type may be attributed to the tenth or eleventh centuries on stylistic grounds. The great majority of five-domed inscribed-cross churches were built during the Paleologan period, for the most part in the fourteenth century, but the type is spread chronologically over five centuries and geographically from Calabria to Russia. However, Church E in Sardis shares particularly strong similarities with a small group of Paleologan churches in Mistra and Nessebar. The similarities include a spacious bay inserted between the apse and the major dome, domes or pendentive domes over the eastern bays of the side aisles, a fully developed narthex with its central bay probably covered by a dome or pendentive dome, a polygonal apse articulated by a blind arcade, and the use of quadratura in the plan of the church.¹⁶³

Although brick meander bands are among the most popular motifs in the medieval Byzantine repertoire and can be found in buildings dating from the eleventh to the fourteenth centuries, the double-meander frieze on one of the Sardis drums can probably be dated more closely (Figs. 167, 171–76). The earliest double meanders, which are less fully developed than the Sardis frieze, are found

in the Argolid and date to the second and third quarters of the twelfth century. Later examples, which are more fully developed than the double meander in Sardis, are found in Epirus, northern Greece, and Macedonia; these date from the last quarter of the thirteenth century to the first quarter of the fourteenth century. These comparisons suggest a date for the Sardis frieze in the period from the last quarter of the twelfth to the third quarter of the thirteenth century.¹⁶⁴

Herringbone brickwork, which is found in the apse arcades of Church E, is known in a number of Constantinopolitan examples of the eleventh and twelfth centuries. However, except for examples in the Veneto and Russia that seem to be directly dependent upon Constantinople, the motif does not seem to appear in the Byzantine provinces before the thirteenth century, and most examples of herringbone brickwork are datable to the end of the thirteenth and early fourteenth centuries.¹⁶⁵

The chevron frieze, seen on the north apse of Church E, does not seem to be found in Byzantine architecture before the thirteenth century (Figs. 139, 140).¹⁶⁶

Although checkerboard patterns generically similar to those of the Sardis lunettes are found in Epirus and Macedonia in the thirteenth century, checkerboards constructed of brick and organized vertically like that of the Sardis facades are unknown before the beginning of the fourteenth century (Figs. 152–54, 158). The motif was used extensively in northern Greek and Serbian churches of the fourteenth and early fifteenth centuries.¹⁶⁷

Taken individually, none of these parallels would provide a convincing date for Church E. Many relevant monuments may have been lost, and new evidence may require revised dates for monuments that are already known. Taken together, however, these observations make it difficult to avoid the conclusion that Church E was built no earlier than the thirteenth century.

The only architectural feature of Church E that is characteristic of an earlier period and unusual in the thirteenth century is the cylindrical form of the drums of the minor domes (Figs. 129, 130, 167, 171). The cylindrical drum seems to be a characteristic feature of ninth-, tenth-, and early-eleventh-century buildings. However, the cylindrical drums at Sardis may perhaps be explained as a revival of earlier design features: the imitation of earlier

152 Verzone, "Ultime fasi," 853–54.

153 Knackfuss, "Heiligtum," 45, Zeichungen pl. 4, Z. 92.

154 Mansel, *Side*, 164–65, fig. 133; idem, "Side," pl. 44, fig. 2; Buchwald, "Asia Minor," 226–27, figs. 23, 24.

155 Harrison, "Lycia," 140–42, fig. 17:8.

156 Ibid., 143, fig. 18; also Feld, "Myra," 411–13, fig. 66.

157 Megaw, "Cyprus," 64, fig. C, dates the later building, which was a domed inscribed-cross church, to the twelfth century.

158 Pennas, "Basilica," 332–34, figs. 1–3, 8; Orlandos, *Chios*, pls. 1, 6; Bouras, *Chios*, 49, 64–65.

159 Orlandos, "Glyphada"; idem, *Mνημεία*, 153–59.

160 Kuruniotis, "Ελευσίς"

161 Orlandos, "Αιγιοσθενών," fig. 2.

162 Pelekanides, "Philippi," 346, fig. 3.

163 Buchwald, "Church E," 277–83.

164 Ibid., 283–89, for a detailed description, examples, and references; also, for instance, Velenis, "Decoration"; idem, *Ερμηνεία*, passim, for additional brick facade ornamentation in northern Greece and the Balkans during the following period; Ousterhout, *Builders*, 194–200, for a general discussion of medieval Byzantine facade decoration.

165 Buchwald, "Church E," 289–93.

166 Ibid., 293.

167 Ibid., 293–95.

building types and individual design features was common in Lascarid architecture.¹⁶⁸ Moreover, while window arches are structurally sturdier and easier to construct in the straight walls of drums built on a polygonal plan, the Sardis drums had no windows. In the absence of windows, there is no need for polygonal drums; the simpler cylindrical drum is more logical.

Within the thirteenth century, only during the rule of the Lascarid dynasty did Sardis enjoy the safety and prosperity that make the construction of a new and well-built church likely. As mentioned above, the reign of John Vatatzes, who spent much of his time near Sardis and is known to have funded other buildings in the area, is the most likely period for the construction of Church E. Although Church E could also have been built during the Paleologan period, Byzantine building efforts were concentrated in the recaptured capital and the European provinces after 1261; Turkish raids in Lydia are reported already during the first decades of Paleologan rule. The territory surrounding Sardis was, at any rate, in the hands of Turkish forces before the end of the thirteenth century, and Sardis itself fell at an unknown date not long after 1300. Since the wall paintings of the Pseudocrypt were restored or repainted twice after their original application, the church must have been built at least several decades before the fall of Sardis.¹⁶⁹

6.1 The Lascarid Architectural Context

Church E in Sardis is one of a small group of buildings in western Asia Minor that may be attributed to the thirteenth century. Perhaps closest to Church E, stylistically and geographically, is the church of the Prophet Nahum in Alaşehir (Philadelphia). In Alaşehir as in Sardis, the major apse seems to have had five faces while the minor apses were cylindrical. The masonry below the window zone at Alaşehir is reminiscent of Church E, with strata of brick alternating with courses of ashlar and vertical bricks occasionally placed between ashlar blocks. Recessed blind arcades very similar to those of Church E were used not only to articulate the major apse facade but also, in contrast to Sardis, the minor apse facades. The lunettes at Alaşehir were also decorated with brick patterns. A simple brick meander band somewhat similar to that used on the drums of Church E was used above the window zone of the eastern facade at Alaşehir. The pattern of brick crosses and

Christograms on the south apse of the church in Alaşehir as well as the blind arcade above it are much richer than the decoration of the minor apse of Church E.¹⁷⁰

The largest church on Kahve Asar Adası in the Bafa Gölü (the ancient Latmos Gulf) near ancient Heracleia has similarities with both Church E and the church of the Prophet Nahum in Alaşehir. The building was a typical inscribed-cross church with the corner bays of the naos and the three narthex bays covered by barrel vaults. On Kahve Asar Adası, the major apse is directly attached to the central bay, and the plan of the church was not designed in accordance with quadratura. As in Church E, generous archways allow the bema to open directly into the flanking chapels. The strongest similarities between Sardis and the church on Kahve Asar Adası are the techniques employed in its construction and facade decoration. The collage effect of ashlar courses alternating with courses of brick is very similar in both buildings, as is the use of recessed blind arcades and ornamental brickwork.¹⁷¹

The most distinctive ornamental feature in the church on Kahve Asar Adası is the meander frieze above the window arches of the major apse. This frieze has the same unusual form as the double meander on one of the Sardis domes (Figs. 174–76), except that on Kahve Asar Adası the vertical bricks of the upper band correspond with every second brick of the lower band, rather than with each brick as in Sardis. Other features of the church on Kahve Asar Adası that may indicate that it was built later than Church E include the use of stone voussoirs alternating with brick in the facade arches and perhaps also the lack of consistency in the application of brick facade ornamentation. In some areas of the facade at Kahve Asar Adası very narrow bricks and brick chips are placed between the courses of larger bricks in a manner reminiscent of the recessed brick technique, variants of which were used from the tenth century until the fourteenth.¹⁷²

The major church on the island of İkiz Adası, also in the Bafa Gölü, was built in the same tradition, perhaps somewhat later than the church on Kahve Asar Adası: stone voussoirs alternate with brick not only in its facade arches but also in the arches over its windows. The window

170 Buchwald, "Lascarid," 279–80, 285–93, for more detailed descriptions, comparisons, references, and possible chronology; the church is not preserved and is known only from a publication without a floor plan.

171 Ibid., 268–72, 280–93, figs. 5, 10–13; Peschlow, "Latmos," 682–86, 716, figs. 18–20, with further references. Klinkott, *Stadtmauern*, 100–101, for a summary of fortifications attributed to the Lascarid period at Pergamon, constructed employing a system of wooden tie beams similar to that used in Church E and in the church on Kahve Asar Adası.

172 Vocotopoulos, "Technique," for previous studies and numerous further examples; Aran, "Euergetes," 223–28; Ousterhout, *Builders*, 174–79.

168 Buchwald, "Lascarid," particularly 293–94, for the eclectic character of Lascarid architecture; idem, "Concept," 8–10; idem, "Imitation," 42–47, for the retrospection evident in Lascarid architecture; ibid., 44–47, for the "collage" technique, uniting forms borrowed from different earlier Byzantine periods, that appears to underlie the design of Church E.

169 Buchwald, "Church E," 295–97, with further references; Foss, *Byzantine and Turkish Sardis* (Sardis M4), 76–89, for the fall of Sardis.

arches of the church in Kahve Asar Adası are built entirely of brick.¹⁷³

The church of the Panaghia Krina near Vavyli on Chios is also related to this group. It shares with them facades articulated by profiled blind arcades, rich brick facade ornamentation, and exterior walls faced for the most part with courses of ashlar alternating with courses of brick. The similarities among the eastern facades of this church and those on Kahve Asar Adası and in Alaşehir are particularly striking. The same decorative motifs, a meander band and a chevron frieze, occupy similar positions in the lunettes of the major facade arches at the Panaghia and at Kahve Asar Adası, and recessed brickwork is used in both churches. However, neither stone voussoirs nor double-meander bands are found in the Krina church. It was apparently built at the end of the twelfth century.¹⁷⁴ If so, then the forms of Lascarid architecture may, in part, be derived from local tradition to a greater extent than previously surmised.¹⁷⁵

The church of the Holy Apostles at Pyrgi, also on Chios, was built within the same provincial tradition, although not necessarily during the same period. It lacks rich brick facade ornamentation, the blind arcade articulation of the east facade, and facing of alternating brick and ashlar. It is nevertheless important as a comparable example because ceramic quatrefoil friezes are used extensively to emphasize the extrados of the facade arches (compare Figs. 133, 136–38). At Pyrgi, a small cupola on a cylindrical drum covers the central bay of the narthex, and the major apse is cylindrical in form. The frieze of brick triangles on the drum of the major dome at Pyrgi is also found in Constantinople in the Gül Camii, which was probably built in the twelfth century.¹⁷⁶

Although other interpretations are possible, an attribution of the church in Pyrgi to the twelfth century would give answers to difficult questions concerning some of the forms of Church E. The ceramic quatrefoil friezes, which are not found in other churches related to Church E, could then be interpreted as a feature borrowed from a

local pre-Lascarid tradition, as could the cylindrical form of the drums of its minor domes.¹⁷⁷

The palace in Kemalpaşa (Nif or Nymphaeum), which was probably built in the Lascarid period, is not directly comparable with the churches attributed here to the same period.¹⁷⁸ Even though many features of the churches do not occur in the palace, the structural techniques used in the palace are comparable. Particularly similar is the use of alternating layers of brick and ashlar. Although this technique was used in Asia Minor as early as the third century, the exterior walls of the palace above the ground floor are faced with a distinctive, unusually regular, and pronounced striped pattern in which the ashlar courses have almost exactly the same height as the brick courses. The same striped effect, with the same ratio of brick to ashlar, is used in the flanking facades of the Panaghia Krina church below the major string course. In the palace the striped masonry is the most striking feature of the simple and elegant facade, while at the Panaghia Krina church the alternation of brick and ashlar is subordinate to the rich articulation of blind arcades and brick decoration.

It is improbable that church construction continued in the area of the Bafa Gölü after the third quarter of the thirteenth century, since Turkish forces took Tralles and Melanudion in 1280.¹⁷⁹ The suggested attribution of the churches on Kahve Asar Adası and İkiz Adası to a period later than the construction of Church E therefore implies a construction not much later than the second quarter of the thirteenth century for the Sardis church. This conclusion is consistent with an attribution of Church E to the reign of John Vatatzes, between 1222 and 1255.

The suggested chronological sequences depend, in part, upon assumptions concerning stylistic development, for instance, that more complex decorative facade features were used during this period, in this area, later than simpler ones.¹⁸⁰ This assumption is not unreasonable: even more richly decorated church facades were constructed in Constantinople and Greece in the late thirteenth and early fourteenth centuries.¹⁸¹ Nevertheless, some of the differences observed in the forms of Lascarid buildings may have been caused by differences in local traditions, in workshop practices, in patronage, and in the available resources. Therefore, since none of the Lascarid buildings is dated by

173 Buchwald, "Lascarid," 272–74, figs. 6, 31.

174 Buchwald, "Lascarid," 274–76, 280–96, figs. 7, 18–21, with a date between 1225 and about 1240 that must be revised; Pennas, "Chios," for wall paintings with inscriptions that appear to date the church to the last decade of the twelfth century; also Bouras, *Chios*, 30–34; idem, *Nea Moni*, 109, 122–26; idem, "Octagon Plan," 26–27, with an attribution to the twelfth to thirteenth centuries; Vocotopoulos, "Technique," 250.

175 Buchwald, "Lascarid," especially 285–91, for stylistic currents in Lascarid architecture.

176 Buchwald, "Lascarid," 278, fig. 33, with further references; Bouras, *Chios*, 42–45, fig. p. 39; idem, *Nea Moni*, 109, 126; idem, "Octagon Plan," 26–27, with an attribution to the thirteenth or fourteenth centuries based on the floor plan; Vocotopoulos, "Technique," 252, for additional discussion and references.

177 Buchwald, "Lascarid," 293–96, with further references, for possible origins of the Lascarid architectural style.

178 Buchwald, "Lascarid," 263–68, with further references.

179 Buchwald, "Lascarid," 291–92, with further references.

180 Buchwald, "Lascarid," 280–96, for forms and criteria that suggest chronological sequences.

181 For instance, Mango, *Architecture*, 141–60; Krautheimer, *Architecture*, particularly 415–53; Velenis, "Decoration"; idem, *Επιμνησία*, passim; Vocotopoulos, "Epirus."

documentary evidence, the proposed sequential attributions are tentative and remain open to other interpretations.

6.2 Window Glazing and Mosaics

Colored window glass has been found in several medieval Byzantine churches.¹⁸² Most notable are the richly decorated fragments found at the Church of Christ Pantocrator (Zeyrek Kilise Camii) in Istanbul. These fragments have been attributed to about 1126.¹⁸³ Stained glass fragments, accompanied with remnants of stucco frames, were found at the Church of Christ of the Chora (Kariye Camii) in Istanbul; these fragments are also, in part, decorated. The decorated glazing is attributed to the early twelfth century, the undecorated glazing to the Paleologan period.¹⁸⁴ Undecorated stained glass fragments, together with window frame fragments of gypsum mortar, were also found in the Church of the Virgin Pammakaristos (Fethiye Camii) in Istanbul.¹⁸⁵ The fragments from the Pammakaristos Church are faint green in color. Some pieces are circular (diameter about 0.20 m); the original location of this glazing was not identified, but the circumstances of the find make it evident that the glass was probably produced in an unknown period before the church was converted into a mosque in 1586.¹⁸⁶ The polychrome glazing of the Lower City Church at Amorium is the only currently known

medieval example in Asia Minor, except for that of Sardis Church E.¹⁸⁷ Other examples, later than that from Sardis, were found in Serbian churches.¹⁸⁸ These comparisons indicate that the colored glazing from Church E was created within a strong Byzantine tradition of which only fragmentary evidence remains.

The use of colored glass in the windows of Church E, combined with the mosaic and painted decoration of the church, suggests that the aesthetic impact of mosaic schemes at least in some medieval Byzantine churches was originally quite different from that experienced today: the colors of mosaic and painted decoration seen in colored light differ considerably from the colors when seen in clear light. In colored light it is not possible to recognize the “true” colors of the mosaic or painted decoration that are now seen in some churches and museums and that are usually described in publications or shown in illustrations.

Because many medieval Byzantine churches outside Constantinople were decorated only with frescoes, the use of mosaics in Church E underscores the building’s importance. The use of mosaics in Church E also offers an insight into the possible origins of Paleologan mosaic style. Even though the style of the mosaics in Church E is unknown, the existence of mosaics in the church demonstrates that there was a school of mosaicists at work in Lascarid Asia Minor in the period preceding the advent of Paleologan art in Constantinople. Therefore, an influence of Lascarid mosaic style on that of the capital must be considered in the formation of Paleologan art.

6.3 Carved Architectural Pieces

The only architectural piece that seems to have been specially made for the chancel barrier of Church E is a lintel block carved in imitation of lintel from the medieval chancel barrier of Church EA.¹⁸⁹ It therefore provides no insight into the specific forms typical of Lascarid ornamentation. However, even though its imitative character may have been conditioned by the reuse of spoils from the earlier chancel barrier, imitation is also in keeping with the eclectic style of Lascarid architecture.¹⁹⁰ The Lascarid block was competently carved with motifs that were more uniform than in the earlier models; also, the horseshoe arches of the earlier pieces were transformed into semicircular arches, and capitals were added to the columns, thereby reflecting classical aesthetic attitudes.

182 For instance, Henderson and Mundell Mango, “Glass,” 339–56; Ousterhout, *Builders*, 151–56; Lightfoot and Ivison, “Amorium Excavations 1995,” 107–8, for fragments of colorless and slightly blue-green glass, occasionally in round plaster frames measuring between 0.10 and 0.24 m in diameter, some from the medieval phase of the Lower City Church; Macridy et al., “Lips,” 266–67, fig. 58, for a perforated panel (without glazing) attributed to the chancel barrier by Macridy, but more reasonably described as a window grille by Mango; Baatz, “Glasfenster”; Loerke et al., “Window”; Günter, *Wand*, 37–38; I am grateful to David Winfield for drawing my attention to paintings in the church at Asinou (Cyprus) that depict colored roundels probably representing stained glass windows.

183 Megaw, “Istanbul,” for a detailed account and references to early Byzantine examples as well as comparisons to examples in the West and in Islamic buildings; see reviews of Megaw by Wentzel (Wentzel, “Istanbul”) and Grodecki (Grodecki, “Vitreaux”) as well as Lafond, “Vitreaux,” for somewhat different interpretations of the evidence; Henderson and Mundell Mango, “Glass,” 346–56, for a technical analysis that concludes that “the production of Constantinopolitan and Western window glass used entirely different manufacturing traditions.”

184 Megaw, “Istanbul,” 365–67, figs. 23–25; Ousterhout, *Kariye*, 31, 89; idem, *Builders*, 153–54.

185 Hallensleben, “Pammakaristoskirche,” 180–81, with references to other examples that are not from the medieval Byzantine period; the frames were made of a mixture of plaster and mortar that was, apparently, applied to the glass in an uncured state. Mathews, *Churches*, 36–37, for the dating of the church and a bibliography.

186 Hallensleben, “Pammakaristoskirche,” does not date the glazing and notes only that it is from a context that contained builders’ debris; Ousterhout, *Builders*, 153, states that the pieces were found in a Paleologan context; however, the glass may also have been created for the church before the Paleologan period, or alternatively during a repair after the Turkish conquest in 1453.

187 Ivison, “Polychromy,” 120, with references.

188 Ousterhout, *Builders*, 153–54, with references.

189 Chapter 5, section 9 and lintel block 9.4, for a detailed description and a comparison with the earlier carving.

190 Buchwald, “Lascarid,” particularly 293–94; idem, “Concept,” 8–10; idem, “Imitation,” 42–47.

Place of find and decoration indicate that two closure slab fragments belong either to Church E or to a Turkish ensemble.¹⁹¹ Both are carved with tightly organized interlace patterns that are preserved only in small fragments; in neither piece can the overall composition be readily identified. The first piece (7.22, Fig. 318) is composed primarily of curved repetitive interlaced bands. The second piece (7.23, Fig. 319), of which even less remains, contains a rectilinear geometric pattern. Both fragments were found in Turkish contexts together with typical Byzantine carving from Churches EA and E. They are apparently not closely related to any known Byzantine carving. Nevertheless, since no examples that may be securely attributed to Lascarid stone carvers are currently known (with the exception of the lintel block noted above), we cannot be certain that the pieces are not Lascarid, and they could, perhaps, have been produced for Church E in the thirteenth century.

However, an attribution to the Turkish period is more probable. Even though no medieval Turkish building is now known in Sardis and Church E was not transformed into a mosque, Sardis must have had a mosque as soon as Turkish occupation began: the decorative marble carving of these two pieces could have been created in Sardis for a mosque or another Turkish building. Similar geometric interlace bands with shallow V-shaped indentations at their centers are common in Turkish carved decoration, for instance in the Huand Hatun Camii and Türbe (1237–1238) at Kayseri,¹⁹² Sırçalı Medrese at Konya (1242),¹⁹³ Sahip Ata Camii at Konya (1258),¹⁹⁴ Sahibiye Medrese at Kayseri (1267),¹⁹⁵ Hacı Kılıç Camii and Medrese (1273–1275)¹⁹⁶ and Döner Kümbet (1276)¹⁹⁷ at Kayseri, Sultan Han near Aksaray (1229, restored 1278),¹⁹⁸ and the Sungurbey Camii at Niğde (1335).¹⁹⁹ These comparisons suggest that the pieces could have been carved already in the late thirteenth century.

Seljuk and early Ottoman stone carving in this area could have had similarities with carved ornamentation of

the Lascarid period. In this part of western Asia Minor, there may not have been very much difference between Lascarid carved stone decoration and that produced after the Turkish conquest, beyond the elimination of Christian motifs such as crosses. Stone carving for Turkish patrons could have been produced by Greek-speaking craftsmen.²⁰⁰

7 Church E Reconstruction

With the aid of the evidence presented above, the original superstructure of Church E in the thirteenth century may be reconstructed with reasonable certainty (Figs. 103, 215–19). The major dome over the crossing had windows and was probably articulated on the exterior by recessed reveals; the interior articulation of the vault surface and exterior decoration are not preserved. There is only minimal evidence of the four major arches that projected in the form of a cross from the central naos bay and no evidence concerning the pendentives that must have supported the major dome; however, these features may be reconstructed based upon the numerous well-preserved examples of similar churches. There is ample evidence of the four corner domes of the naos, which were rather steep, windowless pendentive domes with elliptic profiles (Figs. 217, 219) and of the two somewhat shallower pendentive domes over the eastern bays of the north and south aisles (Fig. 217). No direct evidence exists concerning the vaulting solution of the narthex. The remains demonstrate that timber tie beams were used near the bottom of the lower vaults to stabilize the structure.

All but the eastern facades were articulated by tall arcades that were recessed once, twice, or three times: the larger arcades of the central bay and narthex were recessed more often than the shorter arcades of the other bays (Fig. 215). Ample evidence suggests that the lunettes of these arcades were decorated with brick reticulation (checkerboard patterns). The arches of the facade arcades were surrounded by bands of concentrically placed bricks and ceramic quatrefoils. The arcades reflect the floor plan of the building generally but not exactly: the arches of the arcades do not continue into the facade walls and are thus not continuous with the vaults of the church. The lower facade walls were built of alternating courses of roughly cut, reused ashlar and of reused brick, while the upper portions of the facades appear to have been built entirely of brick: in some locations the spandrels above the arcaded articulation were decorated by herringbone or chevron patterns.

Evidence clearly shows that the upper portion of the major apse facade was also articulated by recessed arcades

191 Chapter 5, closure slabs 7.22, 7.23.

192 Ögel, *Tezyinatı*, 33, 35, figs. 42a, 45; Schneider, *Bauornamente*, 191, figs. 18, 20.

193 Ögel, *Tezyinatı*, 42, fig. 55a; Oral, "Sırçalı," figs. 3, 5; Öney, *Süsleme*, 17–19, fig. 9; also Kuran, *Medreseleri*, for Seljuk medrese types and their origins.

194 Ögel, *Tezyinatı*, 53–54, fig. 78.

195 Akok, "Gevher Nesibe"; Schneider, *Bauornamente*, 191, fig. 21.

196 Ögel, *Tezyinatı*, 163, fig. 55; Schneider, *Bauornamente*, 191, fig. 15; Öney, "Hacı Kılıç," figs. 6, 7, 12–15, for additional illustrations.

197 Schneider, *Bauornamente*, 191, fig. 17.

198 *Ibid.*, 193, fig. 36.

199 Öney, *Süsleme*, 52, fig. 36; see also Rice, "Sculpture," 51–53, pl. 23, for similar examples attributed to the Seljuk period.

200 Foss, *Byzantine and Turkish Sardis* (Sardis M4), 92, for the continuity between Byzantine and Turkish populations at Sardis.

that, however, did not continue down to the lower parts of the facade. One arcade was located on each of the four outer facets, two equal arcades on the central facet, suggesting that the apse had a binate window on the major axis of the church. The lunettes of the arcades were decorated by simple brick herringbone patterns (Fig. 133). Continuous

friezes of concentric bricks and two rows of ceramic quatrefoils surrounded the arches of the arcade. The top of the north flanking apse was decorated by a brick chevron pattern (Fig. 140), but no evidence exists concerning either its southern counterpart and or the facades of the narthex.

Chapter Five

ARCHITECTURAL SCULPTURE AND FURNISHINGS

Numerous carved architectural pieces that were found in sector PN illuminate the details and furnishings of Churches EA and E. Rather than offer a comprehensive list of all carved architectural sculpture found in the excavations, the following catalogue presents those finds that may be related directly or indirectly to the construction, renovation, or furnishing of the churches. Restorations of the chancel barriers of Church EA, of its medieval reconstruction, and of Church E are also included in this chapter, since they are closely tied to the carved pieces in the catalogue. Comparable evidence and questions of chronology are addressed in chapters 1 to 4, in the context of the building components and construction phases for which the carved architectural elements were created.

The material is arranged to reflect the sequence of construction. Accordingly, the catalogue begins with structural supports, from the bottom up (sections 1 through 4), and continues with pieces used in walls and doorways (sections 5 and 6). Pieces found in situ are listed first in their categories. Church furnishings are listed in sections 7 through 9; section 10 provides reconstructions of the chancel barriers of the several construction phases of Churches EA and E. Miscellaneous pieces, which in some cases can be only tentatively related to the churches, are described separately, in section 11. All dimensions are in meters and are frequently approximate, when the pieces are in poor condition. The following abbreviations are used:

D. = depth
diam. = diameter
H. = height
L. = length

P. = preserved
Th. = thickness
W. = width

Most of the pieces found were probably carved of local marble, which was quarried in a gorge known as Mağara Deresi, approximately four kilometers south of Sardis. Quarries are cut into the sides of the gorge at a number of different locations, and the material differs widely in color, grain, and veining. The marble is generally coarse to medium grained, with coarse predominating, and, while it varies in color from medium gray to white, very light gray or white is most common. The gray veins also vary greatly and may be light or dark, thin or thick, and sparse or numerous.¹ Currently there is no evidence to indicate when production at the quarries ended, or whether they were worked during the medieval period; evidence of medieval quarrying at other sites need not be relevant to Sardis.² Even though the direct evidence does not indicate that every carved piece of the medieval period was cut from reused pieces, many or all of them may have been produced from spoils.

1 Hanfmann and Ramage, *Sculpture* (Sardis R2), 4–7, for the marble quarries, a description of the marble, laboratory analyses of the marble, and further references, with emphasis upon marble used in the sculpture of antiquity found at Sardis; Greenwalt and Rautman, “Sardis 1994 and 1995,” 502–4; Sodini, “Marble”; also Yegül, *Bath-Gymnasium* (Sardis R3), 141–43; Monna and Pensabene, *Marmi*, 177–81; Asgari, “Quarries,” and idem, “Proconnesus,” for quarry procedures and tools; also Alpan, “Mermer,” passim; Herz, “Marble.”

2 Ousterhout, *Builders*, 136–39, and Sodini, “Marble,” 135–36, for evidence of limited quarrying in medieval Byzantium.

1 Column Bases

Twenty-one column bases were found in the PN excavations, including five in situ in Church E. Most were in poor condition and their findspots were not noted. Eleven bases that cannot be related to either church have not been included in the catalogue. Some of these bases were found in secondary use in Turkish houses excavated north of the churches, and others were found near the surface; these bases could have been brought to the site during the Turkish occupation.

1.1 Column Bases Related to Church EA

The dimensions of two column bases, 1.1.1 and 1.1.2, are roughly compatible with those of the stylobate, and they may originally have been used to support nave columns.

Three column bases (1.1.3–1.1.5) may also be attributed to the Church EA building complex, or to a nearby building, because they belong to a relatively large group of carved elements, including column shafts, impost blocks, and doorjambs related by similarities in material, tooling, profiles, or dimensions.³ It seems unlikely that such a large group of related carved pieces would have been brought to the site from elsewhere. Although similar bases from other sites have been attributed to the second half of the fifth and to the sixth century, I hesitate to ascribe a more specific date to the Sardis pieces until more evidence has been accumulated.⁴

Five column bases found in the vicinity of Church EA have diameters of ca. 0.30 m at the upper face, one with an Attic profile, but only two (1.1.4, 1.1.5) have been described here. The relatively large number of these smaller bases may suggest that they, too, were used in the church complex or in a nearby building.

1.1.1 Fig. 220. Marble. H. 0.28; diam. of upper face 0.50; plinth 0.64 × 0.64, H. 0.07. Found in PN sector, exact location unknown.⁵

Portions missing. Well-worked Attic profile. Mason's marks Π and possibly O on upper face. No dowel hole.

1.1.2 Fig. 221. Coarse white marble. H. 0.27; diam. of upper face 0.50; plinth 0.64 × 0.64, H. 0.075. Found in PN sector, exact location unknown.

Poorly preserved, with portions missing. Well-worked Attic profile. Square dowel hole (0.06 m) in center of upper face, with diagonal channel. The similar

profiles and dimensions of 1.1.1 and 1.1.2 suggest that they may have been carved for the same building, and their dimensions are compatible with the stylobate of Church EA. The preserved stylobate is between 0.62 and 0.64 m wide and was probably encased in revetment.⁶ But regardless of whether 1.1.1 and 1.1.2 were used in Church EA, the approximate fit between these bases and the stylobate contributes important information for the reconstruction of the original Church EA nave colonnade, if it was supported by standard columns.⁷ If the bases were, indeed, used in Church EA, they were probably spoils.

1.1.3 Fig. 222. Coarse white marble. H. 0.19; diam. of upper face 0.38; reconstructed plinth 0.60 × 0.62, H. 0.065. Found in PN sector, exact location unknown.

Poorly preserved with large portions missing. The workmanship is coarse; rough chisel marks are evident on the surface. The profile is reduced to a large and a small truncated conical form with rounded edges. Dowel hole in upper face (0.04 × 0.05 m). The material and workmanship are comparable to those of other column bases, impost blocks, column shafts, and doorjambs,⁸ suggesting that, because of the large number of pieces with similar characteristics, this group was either carved for the Church EA building complex or for a building in the immediate vicinity. Although the plinth would fit on the EA stylobate, the style and workmanship of this base are not compatible with the pieces found in situ in Church EA,⁹ and with others attributed to the original construction of Church EA.¹⁰ Therefore, if 1.1.3 was carved for the church, it was probably created for a repair or reconstruction.¹¹

1.1.4 Fig. 223. Coarse white marble. H. 0.23; diam. of upper face 0.29; plinth 0.40 × 0.41, H. 0.07. Found in PN sector, exact location unknown.

Tooling comparable with 1.1.3. The profile consists of a lower part composed of a vertical face with a beveled top and an upper part in the form of a truncated cone. Square dowel hole (0.045 m) in center of upper face, with diagonal

³ The group consists of bases 1.1.3–1.1.5, columns 2.2.1–2.2.4, impost blocks 4.1–4.6, and doorjamb 6.5, below.

⁴ Chapter 2, section 11.1, for comparable examples and chronology; very few of the comparable examples are firmly dated by documentary evidence.

⁵ SFB 1973 PN/E IV, 101.

⁶ Chapter 2, section 9.2, for evidence concerning revetment on the stylobate of Church EA; the revetment would probably have been applied only after the columns were set and would not have supported the loads of the columns.

⁷ Chapter 1, sections 1.4 and 2.3, for the stylobate and alternative reconstructions of the nave colonnades of Church EA; section 2, below, for the column shafts.

⁸ Architectural pieces 1.1.3–1.1.5, 2.2.1–2.2.4, 4.1–4.6, and 6.5, below.

⁹ Revetment moldings 5.1.1–5.1.3, below.

¹⁰ For instance, pillars 8.1–8.4; section 10.2, below.

¹¹ Chapter 2, section 9.2, for repairs to Church EA; chapter 2, section 11.1 for comparable evidence.

channel. Slots for closure slabs (0.06×0.16 and 0.06×0.08 m) are located in the centers of two opposite sides.¹²

1.1.5 Fig. 224. Coarse white marble. H. 0.20; diam. of upper face 0.28; plinth 0.42×0.42 , H. 0.05. Exact findspot unknown.

Tooling comparable with 1.1.3 and 1.1.4. The profile consists of a lower zone with a vertical face and an upper zone that tapers gradually in a curve toward the top. Slots for closure slabs (0.02×0.06 m) are located in the centers of two opposite sides (fully preserved on only one side). Material, workmanship, and size link 1.1.4 and 1.1.5, and only these two column bases were cut for closure slabs. The material, tooling, and the distinctive profiles, each differing slightly, correspond to those of 1.1.3 and four other column bases not included here due to their poor preservation.¹³

1.2 Column Bases in Situ in Church E

Five column bases were found in situ in Church E; the northeast column base is missing.¹⁴ All have well-carved Attic profiles (Fig. 225) and are probably spoils. Since none of their plinths would have fit on the stylobate of Church EA, the column bases of Church E must have been salvaged from other buildings.¹⁵

1.2.1 Fig. 120 upper right. Coarse white marble. H. 0.34; diam. of reconstructed supporting surface 0.70; reconstructed plinth 0.80×0.80 , H. 0.09. In situ, east column of the south colonnade.

Badly damaged, fracturing. Square dowel hole (0.05 m) off-center in upper face, with diagonal channel.

1.2.2 Figs. 107 far right, 120 upper left. Coarse white marble. H. 0.32; diam. of supporting surface 0.60; plinth 0.83×0.83 , H. 0.09. In situ, central column of the south colonnade.

Two square dowel holes (0.055 m) in upper face, 0.30 m apart, each with diagonal channel.

1.2.3 Figs. 196, 226. In situ, central column of north colonnade.

Material, dimensions, and description as 1.2.2, but with three aligned square dowel holes in the upper face (0.05, 0.04, and 0.05 m), each with a diagonal channel. Lead clamp setting in upper face.¹⁶

1.2.4 Figs. 107 center, 227. Coarse white marble. Badly damaged. H. 0.30; diam. of supporting surface 0.61; plinth 0.74×0.74 , H. 0.075. In situ, west column of south colonnade.

Square dowel hole (0.055 m) in center of upper face, with diagonal channel.

1.2.5 Fig. 113. Coarse white marble with thin, medium to light gray diagonal veining. Badly damaged. H. 0.31; diam. of supporting surface 0.60; plinth 0.69×0.69 , H. 0.08. In situ, west column of north colonnade.

No dowel hole.

2 Column Shafts

Thirty-one column shaft fragments were found in the excavations of PN, in and around Churches EA and E, most in such poor condition that they are not described here. The locations in which they were found were not usually recorded.

Although the importance of column shaft proportions and profiles is recognized in the design of classical buildings, both subjects are often ignored in investigations of Byzantine architecture. This lacuna exists not only in general accounts of Byzantine architecture, but also in many reports on individual buildings. Moreover, the paucity of securely dated buildings with column supports and the widespread reuse of column shafts from earlier buildings make the interpretation of the material difficult. Accordingly only tentative conclusions concerning the Sardis column shafts are possible.¹⁷

In late antique and early Byzantine buildings, the bottom diameter and the total height of the shaft are often related by proportions between 1:5 and 1:8.¹⁸ The only complete column shaft found in the excavation of the PN sector (2.2.1) has proportions close to 1:8. If we assume, for the moment, that column bases 1.1.1 and 1.1.2, or others with similar dimensions, were used in the major

¹⁷ Among the few attempts to deal with the column shaft in Byzantine architecture are Deichmann, "Ordnung," with an emphasis on how columns were reused and positioned in churches; Günter, *Wand*, 37–38, which emphasizes column shaft materials and surface appearance and points out that in some early churches in Italy the reused column shafts were chosen for their rich veining or strong colors; and Michelis, *Aisthetikos*, 141–52, which offers a rather subjective approach to the topic. These studies deal with column shaft proportions and details only peripherally, if at all. Wilson Jones, "Genesis," 62–64, for proportions of the column shafts of the Arch of Constantine in Rome, 1:8 (lower diameter to height of shaft) and comparisons with numerous earlier monumental Roman buildings that employed the same column shaft proportions.

¹⁸ The observations concerning column shafts are my own. They were made using published photographs, plans, and drawings and are only approximate, for they must be checked by measurements of the monuments on site. Also, frequently the shafts are reused, and differ, one from the other, in the same monument; nevertheless, within the same monument the shafts tend to have similar proportions.

¹² Chapter 2, section 11.1, for comparable evidence.

¹³ Chapter 2, section 11.1, for comparable evidence.

¹⁴ Chapter 4, section 1.1, for the Church E floor plan; chapter 4, section 1.2.2, for the column bases in the church; chapter 4, section 3.3, for the relationship of the column bases to the foundations.

¹⁵ Chapter 1, section 2.3, for the stylobate of Church EA.

¹⁶ Waldbaum, *Metalwork* (Sardis M8), no. 291 (M62.79:4827), no longer in situ.

colonnades of Church EA, then the diameter of their upper faces, about 0.50 m, must be about the same as the bottom diameter of the column shafts that they supported. The heights of such column shafts would probably have been between 3.00 and 4.00 m. Assuming a taper of three percent,¹⁹ the upper diameter of these shafts would have been about 0.38–0.41 m. Only one of the shaft fragments found in the excavations (2.1.3) may approximately have had these dimensions.

2.1 Column Shafts with Taper, Apophyge, and Astragal

Only nine column shafts or shaft fragments were found with top and/or bottom preserved. Their profiles may be divided into two distinctive groups, one traditional (section 2.1) and the other simpler (section 2.2). The second group is larger than the first and is related by size, material, and workmanship to column bases 1.1.4 and 1.1.5, which also have simple profiles. Although the evidence is circumstantial, the pieces in section 2.2 could have been created for one of the Church EA additions or repairs.²⁰

2.1.1 Fig. 228. Reddish and white brecciated marble. P.H. 0.64; diam. at preserved top 0.31. Found in PN sector, exact location unknown.

The profile and appearance are roughly comparable with columns found in late Roman Sardis buildings such as the Bath-Gymnasium. If the proportion of this shaft was 1:6, with a taper of three percent, its total height would have been about 2.28 m, its bottom diameter about 0.38. These dimensions would be compatible with column base 1.1.3. With a proportion of 1:8, the shaft length would have been about 3.20 m, the bottom diameter about 0.40.

2.1.2 Fig. 229. Brownish red and white brecciated marble. P.H. 0.49; diam. at preserved top 0.27. Found in PN sector, exact location unknown.

Assuming a three percent taper, with a proportion of 1:6, the shaft would have had a height of about 1.98 m and a bottom diameter of about 0.33; with a proportion of 1:8, the height would have been about 2.80 m, the bottom diameter about 0.35.

19 In contrast to some investigations, which measure the diminution as a percentage or fraction of the shaft bottom diameter, here the diminution is a percentage of the shaft height, since the ends of most shafts and double-engaged columns found in the excavations are not preserved. For instance, the shaft (including both engaged columns and the flat pier between them) of double-engaged column 3.1 (below) diminishes 0.03 m in width in 1.01 preserved length; Yegül, *Bath-Gymnasium* (Sardis R3), 148–50, for examples from Sardis.

20 Chapter 2 for additions and repairs to Church EA; the atrium, for instance, which is only partially excavated, may have required a number of columns.

2.1.3 Fig. 230. Gray and white brecciated marble. P.H. 1.34; reconstructed diam. at partially preserved top 0.34. Found probably in 1962 in or near Church E.²¹

Dowel hole in center of top (diam. 0.03 m). Assuming three percent taper and a shaft proportion of 1:6, the shaft would have been about 2.70 m high, with bottom diameter 0.45. With a shaft proportion of 1:8, the shaft height would have been about 3.92, the bottom diameter about 0.49, compatible with column bases 1.1.1 and 1.1.2.

2.2 Column Shafts with Little or No Taper and Apophyge and with Rectilinear Neck Profiles

2.2.1 Figs. 231, 232. Coarse white marble with strong, straight, light to dark gray vertical veins. H. 2.21; diam. at profiled top 0.265, at profiled bottom 0.28, of shaft at top below profiles 0.24, of shaft at bottom above profile 0.26. Found in PN sector, exact location unknown.

Complete column in three pieces. Horizontal chisel marks and rough tooling recall those of column bases 1.1.3–1.1.5. The upper profile consists of two fillets rather than an astragal (upper H. 0.03, lower H. 0.02 m, total projection from shaft 0.02); the lower profile consists of one fillet (H. 0.04 m, projecting 0.005). The shaft has a very slight taper of 0.9 percent. Round dowel hole in center of top (diam. 0.04 m) with diagonal channel; square dowel hole 0.03 in center of bottom, without channel. The shaft has a proportion of 1:7.89, or almost 1:8.

Six plug holes (0.025 × 0.025 m), three each on opposite sides, 0.305, 0.705 and 1.205 m (on centers) from column bottom. On one side the holes contain horizontal iron rods (0.005 × H. 0.015 × L. 0.025 m), bent down, set into each hole with lead. A shallow slot (W. 0.08 m) in the profiled bottom, on axis with the plug holes and on the same side of the column as the iron rods, suggests that the rods may have been used to fasten a closure slab to the column.

2.2.2 Figs. 233, 234. Coarse medium gray marble with white and dark gray vertical veins. P.H. 0.59; diam. of preserved top (oval) 0.29 × 0.26. Found in PN sector, exact location unknown.

The surface is more smoothly worked than in 2.2.1, and without distinctive tool marks. Very slight apophyge. The profile consists of two fillets (H. 0.05 m and 0.015 m, total projection of 0.015). Square dowel hole (0.045 m) in center of top, with diagonal channel. Illegible mason's mark incised in top. Assuming a very slight taper of about one percent and a proportion of 1:6, the original height of the shaft would have been about 1.86; with a proportion of 1:8, the height would have been about 2.48 m.

21 SFB 1963 Bldg E, 16, with a sketch of this shaft within a group that was apparently excavated in 1962.

2.2.3 Fig. 235. Coarse white marble with murky, broad gray diagonal veins. P.H. 0.78; diam. of preserved bottom 0.36. Found in PN sector, exact location unknown.

Very slight taper and slight apophyge. The profile consists of a fillet (H. 0.035 m) that projects 0.01 m from a second fillet (H. 0.02). Mason's mark A incised on bottom face. Two slots (both 0.015 × H. 0.05 m) 0.555 m from bottom on opposite sides. If the shaft had a proportion of 1:6, its original height would have been about 2.16 m; if it had a proportion of 1:8, the height would have been about 2.88 m. The material, workmanship, and simple rectilinear profile recall 2.2.1.

2.2.4 Fig. 236. White marble with slight, light gray veins. P.H. 0.27; diam. of partially preserved top 0.385. Found in PN sector, exact location unknown

Smoothly finished surface. Very slight apophyge. Profile same as 2.2.3, except outer fillet is 0.045 m high, inner fillet 0.025 m high. Mason's mark A incised in top. Square dowel hole (0.035 m) in center of top, with traces of diagonal channel. The shaft was cut off, apparently for reuse, with a roughly finished surface.

2.3 Column Shaft Fragments without Preserved Neck Profiles

2.3.1 Fig. 237. Coarse white marble with strong, straight, light to dark gray vertical veins. P.H. 1.33; diam. 0.29. Found in PN sector, exact location unknown.

Three joining fragments. Weathered surface. Little or no taper. The size, material, tooling, and lack of pronounced taper relate this shaft to the group constituted in 2.2.1 and 2.2.2. One end, finished but without profile, is notched (0.03 × 0.03 m), probably for secondary use.

2.3.2 Fig. 238. White medium-grained marble. P.H. 1.24; diam. of preserved top 0.35, diam. of broken bottom 0.36. Found in PN sector, exact location unknown.²²

Weathered surface. The size appears to be compatible with that of column base 1.1.3.

2.3.3 Fig. 239. Yellow and gray brecciated marble. P.H. 0.88; diam. at least 0.58. Found in PN sector, exact location unknown.

Surface smoothly finished. Slot (0.035 × H. 0.055 m) in surface. This column shaft was too large to be used in the major colonnades of Church EA but could have served as one of the supports of Church E.²³

2.3.4 Fig. 240. Gray and white brecciated marble. P.H. 1.42; diam. 0.42. Found in PN sector, exact location unknown.

Badly weathered surface. Little or no taper. Although the diameter is roughly compatible with the reconstructed top diameter of columns possibly used in the Church EA colonnades, that reconstructed diameter depends upon an assumed three percent taper, which this shaft does not appear to have.

3 Double-Engaged Columns

Nine fragments of double-engaged columns were found reused in medieval repairs and changes to Church EA, in Church E, and in graves in or near the churches, indicating that these pieces were available on the site over an extended period of time.²⁴ Their quantity and the contexts of their reuse suggest that the double-engaged columns were made for Church EA. The pieces are consistent in form and workmanship, though not in size. They were designed with a slight taper and with apophyge. The white marble, without apparent veins, used in all of the fragments is similar to that used in revetment moldings that were part of the original interior decor of Church EA, and the character of the double-engaged columns is also compatible with that of the moldings.²⁵

The nine fragments come from at least six individual double-engaged columns. One fragment has a preserved top (3.1), five have preserved or partially preserved bases (3.3, 3.4, 3.6, 3.7, 3.9), and three have only a preserved mid-portion (3.2, 3.5, 3.8; Table 7). The dimensions of the preserved single top are 0.36 × 0.495 m; the dimensions of the preserved bottoms range in width from 0.20 to 0.25 m, and in length from 0.42 (reconstructed) to 0.525 m. The shaft dimensions (in cross section) range in width from 0.17 to 0.31 m, and in length from 0.40 (reconstructed) to 0.505.

The differences between the maximum and minimum dimensions of the shaft are 0.14 m (width) and 0.105 m (length). The dimensions of the shaft, which are more completely known than the other dimensions, tend to fall into three groups: large (3.2, 3.3, 3.5); medium (3.1, 3.4, 3.7); and small (3.8, 3.9). However, these differences are not sufficiently pronounced to be distinctive. For instance, the smallest column of the group of large columns is not very much larger than the largest of the middle group, and some of the differences within each group are almost as great as the differences between the groups. Moreover, although the shaft length of fragment 3.3 is large (0.505 m), the width of the shaft (0.225 m) is relatively small.

22 SFB 1973 PN/E I, 41, with dimensioned sketch.

23 Chapter 1, section 2.3, for the Church EA stylobate; chapter 4, section 1.2.2, for the column bases in situ in Church E.

24 Chapter 3 for the major medieval reconstruction of Church EA; chapter 4 for the construction of Church E; Appendix for the graves.

25 Chapter 1, section 5.7.1, for comparable examples of double-engaged columns; section 5.1, below, for the moldings.

The upper dimensions of the double-engaged columns are of interest because they indicate the thickness of the walls that the columns supported.²⁶ The upper lengths and widths may be only approximately reconstructed by comparison with the best-preserved example, column 3.1: its top length is about 0.045 m greater and its width about 0.05 greater than the length and width at the broken bottom of the column; its top length is 0.075 m greater than the length of the shaft immediately below the capital; its shaft length diminishes 0.03 m in a height of 1.01, or about three percent. Thus, as a rule of thumb the reconstruction of the top dimensions of the double-engaged columns adds 0.05 to the shaft length of bottom pieces, and 0.04 to the shaft length of middle pieces. Since the shaft width of column 3.1 differs only very slightly between the top and broken bottom, 0.05 is added to the shaft width of all pieces to obtain reconstructed top widths. In column 3.3, the well-preserved bottom is 0.02 m longer than the shaft immediately above the base, and 0.025 m wider; thus, as a rule of thumb, and in consideration of shaft diminution, 0.04 is added to the lower shaft dimensions to obtain the reconstructed bottom lengths and widths.

The bearing capacity of the double-engaged column depends not only upon its dimensions, but also upon the area of its cross section, which differs considerably between the largest and smallest fragments. For instance, in pieces 3.4, 3.7, and 3.9 the area of the shaft cross section is only about 0.09 m square while in 3.2 and 3.5 it is about 0.15.

The erratic dimensions, and other observations discussed below, make it difficult to draw convincing conclusions concerning the original use of the double-engaged columns. The double-engaged columns could have been used as supports of the nave colonnades at the level of the nave, as colonnade supports at the gallery level (if the church is reconstructed with a gallery²⁷) and, perhaps, as window mullions.²⁸ While comparable evidence is useful in clarifying how the columns may have been used, the archaeological evidence must also be considered: for instance, the dimensions of most EA double-engaged columns are roughly compatible with the dimensions of the stylobate, but not with those of the outer walls.²⁹ If the double-engaged columns were used at gallery level, closure slabs would normally have secured

the gallery. However, slots or other signs of attachments are found on the lower part of only one of the EA double-engaged column fragments (3.9), even though equivalent parts of three others (columns 3.3, 3.4, 3.7) have been preserved. While double-engaged columns are at times used as window mullions, evidence of attachments, possibly for window frames or grates, exists in only one of the preserved fragments (3.9). Moreover, one of the double-engaged columns (3.2) is embellished by a cross carved in relief on the face where the window frames or grates would normally have been attached.

3.1 Fig. 241. Coarse white marble. P.H. 1.33; top 0.495 × 0.36, P. bottom 0.45 × 0.31; reconstructed bottom 0.49 × 0.35. Found in 1962 immediately west of Church E, forming one side of grave Gr62.38, below the Church EA nave floor level, next to the north stylobate; removed from the grave in 1973.³⁰

Only the upper part is preserved. The capital, consisting of a slightly tapering, undecorated frieze between two flat, vertical fillets, is attached directly to the equally unadorned abacus. Columns with slight apophyge. Uniform chisel marks are horizontal, except on the abacus and upper fillet, where they are vertical.

The grave where the piece was found must have been created not long after the completion of Church E, at a time when carved architectural pieces salvaged from Church EA were readily available and the ground level west of Church E had hardly risen above that of the original Church EA floor.³¹

3.2 Fig. 242. Material and workmanship as 3.1. P.H. 0.62; P. top 0.485 × 0.305, P. bottom 0.49 × 0.31; reconstructed top 0.525 × 0.355; reconstructed bottom 0.53 × 0.35. Found 1962 immediately west of Church E, between grave Gr62.38 and grave Gr62.45 at *89.14, beneath the Church EA nave floor level, near the grave in which 3.1 was found; recorded and removed 1973.³²

Only the shaft is preserved. Uniform, fine horizontal chisel marks on the entire surface; traces of mortar. A cross with equal arms in relief is incised into the surface, near the top of the piece, on one of the flat faces between the two engaged columns. A slot (0.01 × 0.04 m) is located 0.25 m below the broken top, opposite the cross, in the face between the columns. Because of its dimensions, this piece cannot have come from the same double-engaged column as 3.1.

26 Chapter 1, section 5.7.1.

27 Chapter 1, section 5.5, for the possible reconstruction of Church EA with galleries.

28 Chapter 1, section 5.7.1; if some double-engaged columns were used as window mullions, then they were probably located not in the outer walls, but in the clerestory wall above the nave colonnades.

29 Chapter 1, section 1.4, for further discussion of the major nave supports; chapter 1, section 2.3, for the stylobate, which is 0.62–0.64 m wide.

30 SFB 1962 PN II, 120; SFB 1973 PN/E III, 158, and IV, 37.

31 Chapter 4, section 3.6, for the grade level west of Church E at the time of its construction; Appendix for the grave.

32 SFB 1973 PN/E IV, 162–63, and V, 6–7; Appendix for the graves.

3.3 Fig. 243. Material and workmanship as 3.1. P.H. 0.255; P. top 0.505×0.225 , bottom 0.525×0.25 ; reconstructed top 0.555×0.275 . Found in PN sector, exact location unknown.

Only the bottom of the two engaged columns and a vertical base fascia (H. 0.07 m), are preserved. Uniform, fine horizontal chisel marks on the entire surface; traces of mortar on finished surfaces. A thin vertical line on one side must have been used to set out the carving. Since the width of the piece is considerably less than that of 3.1 and 3.2, 3.3 must come from another double-engaged column.

3.4 Fig. 244. Material as 3.1. P.H. 0.29; top 0.46×0.20 , bottom 0.50 (reconstructed) $\times 0.20$; reconstructed top 0.51×0.25 . Found in PN sector, exact location unknown.

Only the lowest parts of the engaged columns and a small part of the vertical base fascia (H. 0.045 m), are preserved. Surface finished smoothly with little trace of chisel marks. Since the width is not compatible with that of 3.1 or 3.2, 3.4 must come from another double-engaged column.

3.5 Figs. 202, 245. Material as 3.1. P.H. 0.76; reconstructed P.L. 0.50, reconstructed W. 0.30; base H. 0.05; reconstructed top 0.54×0.35 , reconstructed bottom 0.54×0.34 . In situ, reused in the north wall of the Pseudocrypt of Church E.³³

Only the central shaft portion is preserved. Surface smoothly finished, with traces of mortar, probably from the construction of the Pseudocrypt floor. The distance between the two engaged columns is 0.15 m at the top and 0.16 at the bottom, dimensions that are not compatible with those of 3.1–3.4; therefore, this fragment must come from another double-engaged column.

3.6 Material and workmanship as 3.1. P.H. 0.38; bottom P.W. 0.18, L. not measurable; shaft W. 0.17. Found reused in grave Gr62.45 immediately west of Church E, below the floor level of Church EA, near the grave in which 3.1 was found.

The grave was not completely excavated and the column was left in situ; one side of the piece was buried. Only the bottom of one of the engaged columns and the base (H. 0.06 m) were visible. Its narrow width precludes that 3.6 came from the same double-engaged columns as 3.1, 3.2, and 3.5; although its size seems to be compatible with that of 3.4, it must be the bottom of a different double-engaged column.

3.7 Fig. 98. Material and workmanship as 3.1. P.H. 0.22; bottom 0.46×0.225 , shaft 0.44×0.205 ; reconstructed top

0.49×0.255 . Reused in medieval repair of Church EA major portal south jamb.³⁴

Only the bottom is preserved. The dimensions are not compatible with those of 3.2, 3.4, and 3.5. In complete Sardis double-engaged columns the dimensions at the bottom are greater than those at the top; therefore, 3.7 does not come from the same piece as 3.6.

3.8 Material as 3.1. Max. accessible H. 0.39; accessible preserved shaft 0.38×0.135 , reconstructed shaft section 0.47×0.25 ; reconstructed top 0.51×0.30 , reconstructed bottom 0.51×0.29 . The piece is embedded in mortared rubble in Masonry Fragment 14, which comes from one of the corner domes of Church E.³⁵

Only a small portion of the mid-part is preserved. Workmanship similar to that of 3.1, but with very rough horizontal chisel marks. Badly weathered surface. Its known dimensions are compatible with those of several of the pieces described above.

3.9 Fig. 246. Material as 3.1. P.H. 0.37; P. top 0.36×0.20 , P. bottom 0.38×0.23 , reconstructed bottom 0.44×0.27 ; reconstructed shaft 0.40×0.23 , reconstructed top 0.45×0.28 ; base H. 0.05. Found in 1962 in a wall on the north stylobate of Church EA that belongs to the major medieval reconstruction of the church.³⁶

Parts of the bottom and the shaft are preserved. All finished surfaces are very roughly worked, in part with a claw chisel, perhaps indicating that the piece remained unfinished. Square cutting (0.04 m) 0.18 above the bottom of the piece in the centers of both flat faces between the engaged columns could have been used for fastening closure slabs or window frames. The broken edge is roughly finished for secondary use.

4 Impost Blocks

Not a single capital was found that may be attributed stylistically to the fourth century. One spiny acanthus capital typical of the late fifth and early sixth centuries was found, but its archaeological context does not establish its use in Church EA.³⁷ Although it is possible that all capitals were removed from the site to be reused elsewhere after the destruction of Church EA,³⁸ it is also

34 Chapter 3, section 2.3, for the repair.

35 Chapter 4, section 2.2, for the dome fragment.

36 Chapter 3, section 2, for the medieval reconstruction, and section 2.2.3, for the wall.

37 Capital 11.1, below (Fig. 358).

38 Chapter 3, section 2, for the destruction of Church EA; chapter 4 for the construction of Church E on the same site—the capitals of Church EA would have been too small to be reused in Church E; chapter 1, section 1.4, for the size of the capitals that may have been used

33 SFB 1963 Bldg E, 30–31; chapter 4, section 4, for the Pseudocrypt.

possible that standard columns and capitals were not used in the church.³⁹ Instead, double-engaged columns may have been used as the supports of the nave colonnades in Church EA.⁴⁰

The remains of seven undecorated, elongated impost blocks and one elongated impost block with ornamental carving were found in the excavations of the churches, and these may perhaps be related to the Church EA building complex. Chancel barrier capitals are described below in section 8.

All seven undecorated impost blocks found in the excavations have an elongated form that was undoubtedly produced for double-engaged columns or similar supports. The simple design of these pieces leaves open the possibility that they served as column bases, either originally or in reuse. Some pieces have cuttings that may have held window frames or, if they were used as bases, closure slabs.

Six impost blocks, similar in material, workmanship, and the simple but varied forms, were apparently produced together (4.1–4.6). Their characteristics, simple, unprofiled forms and coarse detailing, are also similar to those of column bases 1.1.3–1.1.5, shafts 2.2.1–2.2.4, and doorjamb 6.5, together forming a rather sizable group of 14 architectural pieces that could have been produced for the Church EA building complex.⁴¹

These six impost blocks should not be attributed to the original construction period of Church EA: their simple, varying forms and coarsely executed carving are incompatible with architectural sculpture clearly produced for the original construction of the church. The revetment wall moldings found in situ in Church EA (moldings 5.1.1–5.1.3, below) were carefully designed, precisely executed, and consistent in form, using late classical detailing; the same high quality may be observed in the better-preserved double-engaged columns attributed to the initial building phase of Church EA. If these impost blocks were, indeed, created for the Church EA building complex, they were probably produced for a repair of the church, for an addition, or for a building that has not been excavated.⁴²

While the dimensions of the largest impost block (4.2) are generally compatible in size with the reconstructed tops of some of the double-engaged columns we have attributed to Church EA (Table 7, columns 3.3, 3.4), the dimensions

of the other blocks (Table 8) do not closely match those of the excavated double-engaged columns. Moreover, the lengths of their tops are too great to fit the probable width of the nave or clerestory walls.⁴³ Their top lengths are 0.14 to 0.27 m less than the thickness of the Church EA exterior walls, and blocks 4.1, 4.2, and 4.4 have cuttings that could have held window frames. These impost blocks could, thus, have been produced to support arches in a repair of the exterior walls of Church EA, or in walls that have not been excavated.

4.1 Fig. 247. Coarse white marble. H. 0.27; P. bottom 0.24 × 0.38, P. top 0.33 × 0.76. Found in 1963 in the southeast bay of Church E, at floor level.⁴⁴

The original impost block had a rectangular plan at the top and bottom, a vertical fillet (H. 0.06 m) at the top, and beveled sides with a segmental cross section near the bottom. Smoothly finished, weathered surface. Tool marks comparable with those of 1.1.3–1.1.5 and 2.2.1. No dowel holes are evident. One side has been cut away. A vertical slot (W. 0.07 m) is located near the center of the preserved side. A horizontal slot (H. 0.055 × W. 0.12 m) is located in the cut face, and another slot (H. 0.035 × W. 0.12) is located 0.045 m above it. The horizontal slots must have been added during the secondary use of the block.

4.2 Fig. 248. Coarse white marble. H. 0.24; bottom 0.26 × 0.56, top 0.37 × 0.76. Found in PN sector, exact location unknown.

Portions missing. Vertical fillet (H. 0.05 m) at top. In plan the top and bottom are rectangles with rounded corners; the sides are beveled. Tooling as 4.1. Shallow vertical slot (W. 0.12 m) near the center of each side. No dowel holes.

4.3 Fig. 249. Material and tooling as 4.2.1. H. 0.16; bottom 0.20 × 0.46, top 0.30 × 0.64. Found in PN sector, exact location unknown.

The form is similar to 4.2, but without vertical slots.

4.4 Fig. 250. Coarse white marble. H. 0.23; bottom 0.22 × 0.44, top 0.32 × 0.63. Found in PN sector, exact location unknown.

Slightly rounded rectangular plan at top and bottom; vertical fillet at top. Below, the short sides are concave, the long sides beveled. Tooling as 4.1. Shallow vertical slots on each side, off-center (W. 0.06 m), 0.22 m from one end, 0.35 from the other end.

in Church EA; section 1.1, above, for the sizes of column bases that may have been used on the stylobate of Church EA.

39 Chapter 1, sections 1.4, 5.7.1, for further discussion of alternative solutions for the Church EA nave supports.

40 Section 3, above, for the double-engaged columns.

41 Chapter 2, section 11.1, for further discussion of this group and comparable examples.

42 Chapter 2 for repairs and additions to Church EA; other additions and buildings may also exist, since the site was only partially excavated.

43 Chapter 1, section 5.7.1.

44 SFB 1963 Bldg E, 8.

4.5 Fig. 251. Coarse white marble. H. 0.19; bottom 0.19 × 0.55, top 0.36 × 0.67. Found in PN sector, exact location unknown.

Rectangular plan at the top and bottom; vertical fillet (H. 0.09 m) at the top. The sides are beveled, but on one side the raking face is much more steeply sloped than on the other, and the impost block is therefore asymmetrical in cross section. Poor workmanship, roughly worked surface.

4.6 Material and tooling as 4.2.1. H. 0.19; preserved bottom 0.19 × 0.24, preserved top 0.27 × 0.35. Found in PN sector, exact location unknown.

More than half missing. Rectangular top; rounded, rectangular bottom; vertical fillet (H. 0.06 m) at top, beveled sides. No dowel holes preserved.

4.7 Figs. 252, 253. Material as 4.1. H. 0.24; bottom 0.23 × 0.45 (reconstructed), top 0.38 × 0.76 (reconstructed). Found in 1962 west of the Turkish addition to Church E at ca. *90.60, the approximate grade level when Turkish occupation commenced.⁴⁵

The plan of the top and bottom is a rectangle with rounded corners; the sides are beveled. Vertical slot (W. 0.10 m) in the center of each side. The vertical fillet (H. 0.08 m) at the top turns to form a border at each side of the slots, and the slots are more substantial than in the other impost blocks. No dowel holes.

This impost block is more carefully designed, detailed, and executed than the others, and the fillet that turns to form a border at each side of the slot is not found in 4.1–4.6. It should therefore not be attributed to the same group. Since only one impost block was found with these distinctive forms, its attribution to Church EA is less probable. The slots at both sides, as well as the length of the top, imply that this impost block supported window arches in an exterior wall, and that it was probably supported by a pier or a double-engaged column without an integral capital, like that in the apse of Church M at Sardis.⁴⁶

4.8 Figs. 254–57. Coarse white marble. H. 0.20; bottom 0.19 × 0.24, bottom plate 0.15 × 0.20, top 0.50 × 0.67. Found in 1962 in the Turkish addition west of Church E at *91.30, the approximate floor level of Church E and probably also of the Turkish addition.⁴⁷

⁴⁵ SFB 1962 Bldg E, 100, with photo; chapter 4, section 3.6, for the grade levels of the Turkish and pre-Turkish periods in this area; chapter 4, section 5.1, for the Turkish addition west of Church E.

⁴⁶ Butler, *Sardis* 1, ill. 119, 121.

⁴⁷ SFB 1962 Bldg E, 86; chapter 4, section 1.2.5, for the floor of Church E; chapter 4, section 5.1, for the Turkish addition west of Church E.

Portions missing. The bottom has a slightly raised plate in the center probably used to set the impost block on the mullion that supported it. Each side is beveled and has a trapezoidal face. Vertical fillet at top, H. 0.04 m. Vertical slots in the centers of long sides (W. 0.10 m on one side, 0.06 on the other). Hole in center of bottom (0.016 × 0.02 m).

Both short sides are carved with ornamental motifs composed of a central circular element within an interlace border that outlines the perimeter of the face. The better-preserved decorated face contains a whorl in the center; the other, which is weathered, contains a large rosette of interlace bands. Except within the rosette, the interlace bands are divided into three strands of equal width; the outer strand on the perimeter of the trapezoidal face is the outer edge of the face, thus integrating figure and ground. In the rosette the interlace band is divided into two strands. The better-preserved interlace strands and the incisions of the whorl are V-shaped in cross section. A small star is located in the center of the rosette and flat interlace bosses fill the upper corners, between the rosette and the outer frame. The design and execution of the decorated surfaces demonstrate great care and precision.

Although there is no direct evidence for an attribution of 4.8 to Churches E or EA, a similar style of carving was used in the ornamentation of a chancel barrier apparently produced for the major medieval reconstruction of Church EA.⁴⁸ Impost block 4.8 was probably produced for the same reconstruction. The fact that the impost block was found together with other pieces probably taken from Church E supports this attribution. The block could have been salvaged from Church EA and reused in Church E. Its size implies that it was produced for an outer wall.⁴⁹ It may have been supported by the central mullion of a binate window in an important location, perhaps the major apse.⁵⁰ The weathering of the face decorated by a rosette indicates that it faced outward, exposed to the elements.

⁴⁸ Section 10.3, below, for the medieval Church EA chancel barrier; chapter 3, section 2.6.4, for comparable evidence.

⁴⁹ Chapter 1, section 5.7.1, for a comparison between the dimensions of window mullions and those of nave supports.

⁵⁰ The apse walls of both Church EA and Church E are 0.93 m thick. The known exterior walls of the medieval Church EA reconstruction utilized the ruined existing walls of Church EA and have the same thickness, 0.90 m. Therefore, if the apse wall was rebuilt during the medieval reconstruction, it probably had the same thickness as the original apse wall. Assuming that the window mullion was centered in the wall, the masonry—or an impost above the capital—would have projected 0.13 m on the interior as well as the exterior. In Church E the projection would have measured only 0.09 m because, even though the apse wall thickness is the same, the lunette above the apse window, which is preserved in Masonry Fragment 1, was inset 0.08 m from the exterior face of the apse wall. A similar lunette solution could also have been employed in the medieval reconstruction of Church EA.

5 Architectural Moldings

Architectural moldings have often been ignored in accounts of Byzantine architecture—both in reports of individual buildings and in comprehensive summaries. Only tentative observations can be made concerning the development and chronology of the architectural moldings found in the excavations in and around Churches EA and E. Three door frame moldings were found in situ, but the attribution of other moldings to the churches remains conjectural.

5.1 Door Frame Moldings Found In Situ in Church EA

Fragments of profiled marble revetment door frames were found in situ in three locations in the north aisle of Church EA. All three are carved with the same profile and produced of similar marble, and all three are locked in place by the mosaic floor of the north aisle. Their design and execution continue the classical tradition.⁵¹

When they were excavated, 5.1.1 and 5.1.2 were flanked on the outside by additional, narrower and deeper moldings, perhaps moldings 5.3.4–5.3.6 below, that have not survived in situ. The vertical fillet of these moldings was positioned on the side away from the door opening and was parallel with the wall. These moldings therefore provided a continuation of the profiles of the revetment door frames. Originally 5.1.1–5.1.3, together with moldings 5.3.4–5.3.6, apparently framed the doors on both sides and at the top.

The plasticity and high quality of molding 5.2.4, as well as the competent workmanship and simple design, maintaining late classical features, of moldings 5.2.5 and 5.3.3 are in keeping with the character of moldings 5.1.1–5.1.3, implying that they may also have been produced for the original construction of Church EA. Although the profile and workmanship of revetment molding 5.3.2 are not the same as those of moldings 5.1.1–5.1.3, it may also, perhaps, be attributed to the original construction of Church EA. The profiles of moldings 5.2.6, 5.3.1, 5.3.2, and 5.3.4–5.3.6 are similar, even though differences of quality exist, and these moldings could have been used together with moldings 5.1.1–5.1.3, or other similar moldings, to frame the doorways of Church EA. The differences of quality and workmanship in these similar pieces need not reflect differences of chronology: pieces of high quality may have been used in prominent locations, while less successful pieces, produced by less talented stonemasons or by apprentices, may have been located where they were less visible.

5.1.1 Figs. 25, 26. Coarse white marble with consistent texture and little or no veining. P.H. above mosaic floor 0.35; W. 0.33; Th. 0.03–0.035. Found in 1962 on the interior west side of the western door in the north wall of the north aisle of Church EA.⁵²

The profile (beginning at the door opening) consists of three fasciae (W. 0.06, 0.06, and 0.075 m), a cavetto (0.05 m), a vertical fillet (0.012 m), a rounded groove (0.013 m), and a vertical fillet (0.03 m). Each fascia is recessed 0.007 m; the recesses are neatly formed of beveled surfaces and recede gradually inward, toward the door opening. The profile is skillfully cut at an angle from a thin rectangular piece of marble; it is placed at an angle to the wall, so that all of the fasciae are parallel with the wall plane, thereby requiring less marble than if the profile had been cut out of a wedge-shaped block placed parallel with the wall.

The bottom of the molding is hidden and locked into position by the mosaic tesserae of the north aisle floor,⁵³ which are applied directly up to the face of the frame. Remnants of thick mortar, perhaps from the later opus sectile floor, or from another floor repair, cling to the lower surface of the frame and to the mosaic tesserae.⁵⁴

5.1.2 Figs. 25–27, 258. Material as molding 5.1.1. P.H. above mosaic floor 0.27; W. 0.33. Found in 1962 on the interior east side of the west door in the north wall of the north aisle of Church EA.⁵⁵

This piece is an almost exact counterpart to 5.1.1 in material, dimensions, and the form of the profile. The frame is locked into its position by the mosaic tesserae as in 5.1.1. Remnants of mortar cling to the surface of this revetment frame as in 5.1.1.

5.1.3 Fig. 92. Material as 5.1.1. P.H. above mosaic floor 0.206; P.W. 0.195; Th. 0.03. Found on the interior south side of the doorway in the east wall of the north aisle of Church EA, partially hidden behind the foundation of Church E.

Only portions of the three inner fasciae are preserved. The forms of the preserved profiles and their dimensions are the same as those of 5.1.1. Here, too, the mosaic tesserae of the north aisle floor are laid directly up to the surface of the revetment frame, locking the piece in place.

5.2 Moldings Found In Situ, Reused in Church EA and in Church E

The pieces in this section did not function as moldings in their secondary use. Moldings 5.2.1–5.2.3, reused in a

51 Chapter 1, section 1.1, for the north aisle; chapter 1, section 3.1, for further discussion of these pieces; chapter 1, section 5.7.2, for comparable evidence.

52 SFB 1962 PN II, 63–64.

53 Chapter 1, section 3.3.1, for the mosaic floor.

54 Chapter 2, section 9.2, for opus sectile floor repairs in the nave.

55 SFB 1962 PN II, 63–64, 75.

repair to the narthex mosaic floor, have almost the same widths and similar simple profiles and seem originally to have belonged to the same revetment. Other apparently similar revetment moldings reused in the same floor are not described because the floor was only partially cleaned and excavated; all these pieces were left in place. The plasticity and high quality of molding 5.2.4 are more in keeping with the character of moldings 5.1.1–5.1.3 than with that of moldings 5.2.1–5.2.3.

5.2.1 Figs. 38, 259. Revetment molding. Coarse, very light gray marble. W. 0.29; L. 0.56; Th. 0.02. Found in 1973 embedded in the narthex mosaic floor, the profiled surface facing upward.⁵⁶

The face is divided into five fasciae (W. 0.04, 0.015, 0.075, 0.015, and 0.105 m). All fasciae are in the same plane and are separated by shallow rounded grooves (W. 0.01 m).

5.2.2 Fig. 38. Revetment molding. Material as 5.2.1. W. 0.25; P.L. 0.55; Th. 0.02. Found in 1973 embedded in the narthex mosaic floor, broken into several pieces, the profiled surface facing upward, end to end with 5.2.1.

Description as 5.2.1, but the end fascia is 0.075, not 0.105 m wide, and the grooves are very shallow.

5.2.3 Fig. 38. Revetment molding. Material as 5.2.1. W. 0.29; L. 0.49; Th. 0.02. Found in 1973 broken into several pieces with the profiled surface up, embedded in the narthex mosaic floor in line with moldings 5.2.1 and 5.2.2.

Similar to 5.2.1 and 5.2.2, but the profile consists of a fascia (0.045 m), a groove with one raking side (0.02 m), a fascia (0.012 m), a rounded groove (0.01 m), a fascia (0.07 m), a groove with one raking side (0.02 m), a fillet (0.012 m), a rounded groove (0.01 m), and a fascia (0.09 m). As in moldings 5.2.1 and 5.2.2, all fasciae are in the same plane.

5.2.4 Figs. 90, 260. Architectural molding fragment. Coarse white marble. P.H. 0.24; P.L. 0.22; P.W. 0.38; profile P.L. 0.18, P.W. 0.14. Found in 1962, built into medieval wall on north stylobate of Church EA.⁵⁷

The partly preserved profile consists of a fillet (0.03 m), an astragal (0.02 m), a second fillet (0.03 m), a cavetto (0.03 m), and a second cavetto, only partly preserved (P.H. 0.04 m). The bottom has a smoothly finished face (P.L. 0.19 m), suggesting that the fragment was part of a lintel or jamb. The plasticity and high quality are more in keeping with the character of moldings 5.1.1–5.1.3 than with that of

moldings 5.2.1–5.2.3. A further, if circumstantial, indication that the piece could have been produced for the initial building phase of Church EA is that a number of pieces of undecorated marble revetment like that found in situ in Church EA were also reused in the same wall.⁵⁸

5.2.5 Figs. 261, 262. Cornice. Coarse white marble. H. 0.14; P.W. 0.50; P.L. 0.43. Found built into Church E, underneath the mortar of the subfloor.⁵⁹

The profile from top to bottom is composed of a vertical fillet (0.03 m), a raking concave face (H. 0.07, W. 0.075 m), a torus carved with a twisted rope motif (H. 0.035, W. 0.03 m), and an almost horizontal raking face (W. 0.06 m). The profiled edge is concave in plan, and the piece may have articulated an exedra. The original radius cannot be determined; however, it is possible that this piece was taken from the major apse of Church EA, perhaps when it was dismantled to make way for the construction of Church E. The competent workmanship and the simple design that maintains late classical features are in keeping with the moldings in situ in the church (moldings 5.1.1–5.1.3). A second piece from the same cornice was also found in 1962 in Church E (molding 5.3.3).

5.2.6 Fig. 263. Molding. Coarse white marble. H. 0.07; W. 0.06; accessible L. 0.39. Found in 1973 reused as a lintel above the drain opening in the north wall of the Northeast Unit.⁶⁰

From top to bottom the profile consists of a vertical fillet (0.015 m), a cavetto (0.025 m), and two raking faces in the same plane (0.015 m each), separated from each other by shallow grooves with beveled sides (0.01 m each). This piece is similar to moldings found in situ framing the west door in the north wall of Church EA.⁶¹ The reuse of molding 5.2.6 in the Northeast Unit therefore may indicate that Church EA had been damaged or remodeled before the Northeast Unit was constructed, making the molding available for reuse. At any rate, the molding must have been carved before its reuse in the Northeast Unit, probably in the sixth century.⁶² Nine more pieces with similar profiles were found in the PN excavations (5.3.4 below).

56 SFB 1973 PN/E V, 174, 177–79, and VI, 5, for excavation photographs and the excavation context; chapter 2, section 11.2, for comparable evidence; chapter 3, section 2.3, for the medieval repair of the narthex mosaic floor.

57 Chapter 3, section 2.2.3, for the medieval wall.

58 Chapter 3, section 2.2.3, for the medieval wall; chapter 3, section 2.2.1, for a description of its masonry; chapter 1, section 3.1, for the dado originally on the walls of the Church EA north aisle.

59 Chapter 4, section 1.2.5, for the floor of Church E.

60 Chapter 2, section 7.4, for the drain of the Northeast Unit.

61 Moldings 5.1.1 and 5.1.2. The moldings found framing revetment moldings 5.1.1 and 5.1.2 are not included in the catalogue. Also chapter 1, section 3.1.

62 Chapter 2, section 7.7, for the chronological attribution.

5.3 Other Architectural Moldings

5.3.1 Figs. 264, 265. Revetment molding. Coarse, almost white marble with little or no veining. H. 0.365; L. 0.75; Th. 0.04. Found in PN sector, exact location unknown.

Profile consists of three fasciae (0.085, 0.08, 0.095 m), a cavetto (0.035 m), fillet (0.02 m), a groove with beveled sides (0.01 m), and an outer fillet (0.045 m). A square piece (0.10 × 0.10 m) has been cut out of one corner. The profile is similar (but not identical) to that of molding 5.1.1: as in 5.1.1, each of the three contiguous fasciae is recessed slightly, but the other features of the profile lack the cohesion of 5.1.1. Thus molding 5.3.1 could have been created for one of the additions to Church EA,⁶³ but its use in the original decoration of Church EA cannot be excluded: similar moldings differing somewhat in quality could have been produced at the same time.

5.3.2 Fig. 266. Revetment molding. Coarse white marble. H. 0.33; original complete L. 0.42; Th. 0.025. Found in PN sector, exact location unknown.

The profile consists of a raking fascia (0.04 m), a vertical fascia (0.10 m), a raking fascia (0.115 m), a rounded groove (0.015 m), a vertical fascia (0.02 m), a rounded groove (0.01 m), and a vertical fascia (0.03 m). Remnants of mortar cling to the finished face. Similar but not identical in profile and workmanship to molding 5.3.1. The raking fasciae of 5.3.2 appear to represent a poorly worked, perhaps misunderstood version of the recessed fasciae in 5.1.1–5.1.3 and 5.3.1. Nevertheless, they could be contemporary.

5.3.3 Fig. 267. Cornice. Coarse white marble. H. 0.135; W. 0.54; L. 0.44. Found in 1962 west of the dome in the center of Church E at the approximate floor level.⁶⁴

The profile from top to bottom is composed of a vertical fillet (0.025 m), a raking concave face (0.11 m), and a torus carved with a twisted rope motif (0.04 m). The profiled edge is concave in plan. Remnants of mortar cling to the bottom and rear faces. The piece is a counterpart to 5.2.5.

5.3.4 Figs. 268, 269. Nine moldings. Coarse white marble. Average L. 0.20 to 0.30; total P.L. 2.27. Found probably in PN sector, perhaps in 1962, exact locations unknown.⁶⁵

Description generally as molding 5.2.6, although differences of quality and occasionally of detail exist among them. Remnants of mortar cling to the undecorated

surfaces of some pieces. The reuse of a similar piece (5.2.6) in the construction of the Northeast Unit indicates that this type of molding existed on the site before the Northeast Unit was built, probably in the sixth century.⁶⁶ As already pointed out (molding 5.2.6), all of these moldings could have been applied to the walls next to the revetment frames surrounding the doors of Church EA.

5.3.5 Figs. 270 back, 271. Two moldings. Coarse white marble. Combined L. 0.62. Found in 1963 in PN sector, exact location unknown.

Profiles similar to 5.2.6 and 5.3.4, but not the same; they consist of a fillet (0.015 m), a cavetto (0.02 m), and two raking faces (0.015 and 0.01 m), separated by a groove with beveled sides (0.01 m). Remnants of mortar cling to the undecorated surfaces of one piece. The workmanship, dimensions, and forms of these two pieces are similar to those of molding 5.3.4, and they could have belonged to the same decorative system.

5.3.6 Figs. 270 front, 272. Molding. Coarse white marble. L. 0.26. Found probably in PN sector, exact location unknown.

The profile consists of a fillet, a second, smaller, recessed fillet, a cyma, and a small raking fillet with dimensions similar to those noted in molding 5.3.5. This piece, too, could have been created for the same decorative system as moldings 5.2.6, 5.3.4, and 5.3.5: the material, quality of carving, general appearance, and overall dimensions are similar, even though the profiles are not exactly the same.

5.3.7 Fig. 273. Cornice. Coarse white marble. L. 0.55; H. 0.095; W. 0.11. Found in PN sector, exact location unknown.

From top to bottom the profile consists of a vertical fillet (0.03 m), a cavetto (0.02 m), a torus (0.02 m), a torus (0.025 m), a cavetto (0.04 m), and a horizontal fillet (0.02 m).

5.3.8 Fig. 274. Molding. Coarse white marble. H. 0.08; W. 0.07; L. 0.44. Found in 1973 inside the Northeast Unit next to and parallel with north wall near original floor level.

The profile consists of a fillet, a cyma recta, an astragal, a dentil, and a second astragal. The carving is very precise and the detailing is richer, in terms of the classical vocabulary, than in other cornices found in the PN excavations. If this molding was used to decorate the Northeast Unit, it must have been reused: its quality and classical features indicate that it was carved before molding 5.2.6, a spoil built into the Northeast Unit.

63 Chapter 2, for the known additions.

64 SFB 1962 Bldg E, 96.

65 SFB PN 1962 II, 17, indicates that some pieces may have been found then. Two of these could have been the pieces found flanking moldings 5.1.1 and 5.1.2, above, at the western door in the north wall of the north aisle of Church EA but no longer in situ.

66 Chapter 2, section 7.7, for the chronological attribution.

6 Doorjambs

Nine doorjamb fragments were found in the excavations of the churches, in addition to one doorjamb block found in situ.⁶⁷ Some or all of the doorjambs could have been brought to the site from elsewhere. However, some of the jambs were in Turkish masonry or fill together with architectural sculpture that was probably taken from Church E, suggesting that they came from Church E when it was partially dismantled by the Turkish inhabitants.⁶⁸ One, doorjamb 6.4, was found near the major west door of Church E. Since the nine fragments originally came from at least six doors, they could all have been used in Church E, which had five exterior and three interior doors.⁶⁹ If so, they were spoils, for the differences in the profiles indicate that they were not all created at the same time; in thirteenth-century Sardis it was easier to salvage doorjambs from ruined buildings than to carve new ones. We may assume that the builders of Church E would have used doorjambs salvaged from Church EA or from its adjuncts, if they were still available in the thirteenth century.

Since the same profile was probably used at the top and on both sides of the doorway, at least three pieces with the same profiles would have been required for each door. The nine pieces were produced for at least six doors. Jamb pieces 6.1–6.4 have the same profile and are of the same material, red and white brecciated marble—because of their dimensions, they probably represent three jambs belonging to two different doors.⁷⁰ The profiles of jambs 6.6 and 6.7 are similar to each other and were probably carved for the same door but do not belong to the same jamb. The profiles of jambs 6.5 and 6.8 are generally similar to 6.6 and 6.7, but differ in significant details and so were produced for different doors. Jamb 6.9 differs from all other pieces because its profile is symmetrical around a central torus.

6.1 Fig. 275. Red and white brecciated marble. H. 0.16, W. 0.39, L. 0.83; profile W. 0.174, P.L. 0.73.⁷¹ Found in 1962 in the Turkish addition, immediately west of the west door of Church E.⁷²

67 Chapter 2, section 1.2, for the in-situ doorjamb.

68 Chapter 4, section 5, for the Turkish changes; section 10.1, below, for a summary of findspots of chancel barrier components probably taken from Church E by the Turkish builders.

69 Chapter 4, section 1.2.3, for the Church E doors.

70 Chapter 1, section 5.7.3, for the possible creation of these doorjambs for the original construction of Church EA; chapter 2, section 11.3, for comparable evidence and for the additional possibility that they were created for a repair or an addition to Church EA.

71 Height (H), width (W), and length (L) refer to the component not in its reconstructed original position; the profiles, however, are described as if the jamb is in its original position within the doorway.

72 SFB 1962 Bldg E, 79–80, with photographs; the excavator believed that the jamb may have fallen from the west door of Church E, which,

The profile, from the outside to the inside of the door opening, consists of a fillet parallel with the wall (0.028 m), a cyma with convex portion much larger than the concave portion (H. 0.07 m), three fasciae (H. 0.024, 0.02, 0.02 m, each recessed 0.018), fascia perpendicular to the face of the wall (0.065 m) projecting 0.04 from the jamb face facing the door opening (0.22 m); this jamb face meets a finished convex surface (0.11 m), which is the rear of the fragment. Thus the complete cross section of the jamb is preserved. The door leaf closed against the 0.04 m projection. The piece is worked with precision except for the side facing the door opening. This surface, which is roughly worked, apparently with a claw chisel, may originally have been plastered. The profile ends 0.085 m before the finished end of the piece; the unprofiled portion must have been at the bottom of the jamb.

6.2 Fig. 276. Red and white brecciated marble. H. 0.17, W. 0.39, L. 0.57; profile P.W. 0.174, P.L. 0.57. Found in 1962 in PN sector, exact location unknown.

Profile and execution as in 6.1, with the jamb face against the door opening meeting a finished convex surface (0.11 m) that is the rear of the jamb. However, several dimensions differ. For instance, the width of the fascia perpendicular to the face of the wall is 0.078 m rather than 0.065, and the width of the jamb face facing the door opening is 0.17 m rather than 0.22. These variations indicate that 6.1 and 6.2 cannot have come from the same piece; the considerable difference in the width of the face against the door opening indicates that 6.1 was produced for a different doorway. Nevertheless, the similarities in design indicate that both were probably produced at the same time for the same building.

6.3 Fig. 277. Red and white brecciated marble. H. 0.18, W. 0.395, L. 0.90; profile P.W. 0.155, P.L. 0.84. Found in 1962 in or near Church EA, perhaps in a Turkish addition west of Church E.⁷³

Profile and execution as in doorjambs 6.1 and 6.2, but several profile dimensions differ. The width of the fascia perpendicular to the face of the wall is 0.07 m rather than 0.065 or 0.078. While this fragment cannot have come from the same jambs as 6.1 or 6.2, the differences are slight and it may have been used in the same doorway.

however, was found blocked by masonry that fit tightly into the door opening, indicating that the jamb cannot have fallen from the doorway (SFB 1962 Bldg E, 69, and SFB 1962 PN I, 93–94, with photo).

73 SFB 1962 Bldg E, 93, for one or two doorjamb fragments reused in the Turkish addition west of Church E, one of which appears to be this piece. Fig. 201 shows the jambs in situ in the wall.

6.4 Fig. 278. Red and white brecciated marble. L. 0.97; profile P.L. 0.56. Found in 1962 in PN sector, near surface, north of Church E.⁷⁴

Profile and all other dimensions as doorjamb 6.3. The forms and dimensions indicate that this piece could be part of doorjamb 6.3, of which a total length of 1.87 m is preserved.

6.5 Fig. 279. Coarse white marble with light gray veins. H. 0.175, W. 0.54, L. 1.73; profile P.L. 1.53. Found 1962, forming the south side of grave Gr62.37, located in the nave near the north stylobate.⁷⁵

The profile, from the outside to the inside of the door opening, consists of a fillet parallel with the face of the wall (0.025 m), a cavetto (0.08 m), a raking fillet (0.025 m), three fasciae (W. 0.012, 0.018, 0.023 m, each recessed 0.0075–0.0175 m), and an inner fascia perpendicular to the face of the wall (W. 0.17 m). The jamb face facing the door opening is 0.28 m wide and recessed 0.07 m and roughly finished with chisel marks at right angles to its length.

The profiled portion of the jamb and the adjacent fasciae are finished at one end with a rough chamfer that must have been located at the top of the door to receive a piece with similar features at right angles. The unprofiled portion of this end of the jamb has a roughly finished surface that forms a right angle to the jamb face, probably a slight notch that secured this jamb to the adjacent jamb. Doorjamb 6.5 could have been either the vertical supporting jamb, or the lintel above the door.⁷⁶

This piece is generally similar in character to doorjambs 6.1–6.4, but its profile is simpler and less carefully executed. The material and workmanship, including the distinctive tooling marks, are reminiscent of those found on column bases 1.1.3–1.1.5, column shafts 2.2.1–2.2.4, and impost blocks 4.1–4.6, all of which may have been produced for repairs or additions to the Church EA building complex.

6.6 Figs. 280, 281. Coarse white marble. H. 0.175, P.W. 0.41, P.L. 0.90; profile P.L. 0.76. Found in 1973 during the excavation of Church EA, exact location unknown.

Two joining fragments. The profile, from the outside to the inside of the door opening, consists of a fillet (0.03 m), a V-shaped fillet (0.015 m), a cavetto (0.05 m), a sharp arris (0.01 m), a scotia with a complex curve (0.03 m), a raking fillet (H. 0.02 m), a torus (H. 0.02, W. 0.038 m), and a fascia (0.06 m) perpendicular to the face of the wall. The

latter fascia projects 0.05 m beyond the jamb face facing the door opening, of which about 0.20 m is preserved. The profile is more complex than those of doorjambs 6.1–6.5; it connects the cavetto with the scotia without an intervening convex element.

6.7 Fig. 282. Coarse white marble. H. 0.21, L. 0.60, W. 0.395; profile P.L. 0.60, W. 0.215. Found in 1973 during the excavation of Church EA, exact location unknown.

Carving and profile as in doorjamb 6.6, with variations in the dimensions. For instance, the outer vertical fillet is 0.04 m rather than 0.03, the inner fascia is 0.08 m rather than 0.06, and projects beyond the jamb face 0.08 m rather than 0.05. This fragment therefore could have been produced for the same doorway as 6.6, but it is not from the same jamb.

At one end the profiled portion of the jamb is finished with a rough chamfer that must have been located at the top of the door to receive a piece with similar features at right angles. The unprofiled portion of this end of the jamb is furnished with a notch (0.09 m) that secured this jamb to the adjacent jamb. Another notch (W. 0.06 × 0.04 m) is located in the central part of the profile, 0.11 m from the end of the chamfer. Molding 6.8 could have been either the vertical supporting jamb or the lintel above the door.

6.8 Fig. 283. Red and white brecciated marble. H. 0.165, W. 0.24, L. 0.61; profile W. 0.17, P.L. 0.40. Found in 2000 in rubble underneath Masonry Fragment 13 in the central bay of Church E in a Turkish context.⁷⁷

Profile, from the outside to the inside of the door opening, consists of a fillet parallel with the face of the wall (0.03 m), a torus (0.06 m), a raking fillet (0.025 m), a fillet (0.022 m, recessed 0.02), a fascia (0.07 m, recessed 0.015), and a face facing the door opening (0.195 m, recessed 0.04) that meets a convex face (0.11 m). The profile differs from those of all previously described doorjamb pieces.

6.9 Figs. 284, 285. Very coarse white marble; H. 0.13, W. 0.42, P.L. 0.68; P.L. of profile 0.66. Found in 1962 in the narthex of Church E near the north door.⁷⁸

Unlike other jambs from the excavations, the profile of 6.9 is symmetrical about its torus. On each side of the torus (W. 0.05 m, projection 0.033) there are three fasciae, each recessed with a beveled surface equal in width to the width of the fascia (0.015 m). An outer fillet (0.025 m), parallel with the face of the wall, and an inner fascia (0.075 m), perpendicular to the face of the wall, are generally similar to those of the other jamb profiles. The inner fascia projects

74 SFB 1962 Bldg E, 80, with photograph.

75 SFB 1962 PN II, 90, and III, 60, with photograph; Appendix for the grave.

76 The notch could imply that this piece represents the support, and that the lintel had a rectangular projection that rested in the notch; however, it is also possible that this fragment was a lintel, and that the jamb had a vertical projection that fit the notch and stabilized the lintel.

77 Chapter 4, section 5.2, n. 140.

78 SFB 1962 PN I, 86.

0.05 m from the jamb face facing the door opening, which is 0.125 m wide. The face facing the door opening joins a finished face at right angles, indicating that the complete cross section of the molding is preserved. One profiled end is finished with a chamfer, indicating that it was located at the top of the door, and a notch 0.05 m.⁷⁹ A band incised in the rear face, which would have been located against the wall, indicates that the jamb was cut from a spoil. The finished surfaces of doorjamb 6.9 are less precisely executed and less smoothly finished than the surfaces of the other jambs. The repetitive rhythm and symmetrical organization of the profile ignore the directional coherence reflected in the profiles of 6.1–6.8.⁸⁰

7 Closure Slabs

Closure slabs were standard features of chancel barriers in Byzantine churches during all periods, but closure slabs were also used for other purposes, like separating the nave from the side aisles, or as parapets in galleries, chapels, windows, or in fountains, and as decorative components of facades. Although the excavated closure slabs from the PN sector are poorly preserved, they provide important information concerning features of Churches EA and E. Summaries of the findspots of the slabs and reconstructions of the chancel barriers for which some of the slabs were probably created are provided in section 10 below.

The slab decoration may be divided into five groups:

1. Slabs decorated with lozenge or scale patterns (7.1–7.5, mid- to late fourth century)
2. Slabs decorated with crosses (7.6–7.12, fifth to sixth century)
3. Slabs decorated with interlace patterns (7.13–7.18, ninth century)
4. Slabs decorated with animals (7.19–7.21, medieval)
5. Slabs decorated with tightly organized interlace patterns that are probably Turkish (7.22–7.23, medieval/Turkish)

Group 1 was probably created for the chancel barrier of Church EA, while Group 2 may more probably be attributed to changes, repairs, or additions to Church EA. Group 3 and perhaps also Group 4 were probably carved for the chancel barrier of the major medieval reconstruction of Church EA. While Group 5 may have been created for Church E, it is much more likely that it was carved for a Turkish building.

⁷⁹ N. 76, above.

⁸⁰ Chapter 2, section 11.3, for comparable evidence concerning doorjamb profiles. I know of no example similar to this unusual, anti-classical doorjamb.

7.1 Figs. 286–91. Several dozen lozenge-pattern fragments carved in openwork technique. Coarse white marble with occasional gray veins. L. of largest piece 0.53; Th. varies between 0.03 and 0.07, probably because of spalling. Found in 1962 and 1963 in PN sector, exact locations unknown.

Some fragments preserve portions of the border: at least three different profiles are preserved. One is articulated by a fillet (0.05 m) and a cyma (0.07 m) on both sides; in another similar piece the fillet measures 0.05 m and the cyma 0.045 m and is carved on one side only; other border profiles consist of a fillet (0.06 m), a V-shaped groove (0.01 m), a smaller fillet (0.017 m), a cavetto (0.06 m), and a fillet (0.01 m, recessed 0.01) on one side only. The top of one corner piece is furnished, at the end farthest from the corner, with a clamp cutting composed of a horizontal slot (L. 0.085, W. 0.02, D. 0.015 m), and a vertical slot (L. 0.02 × D. 0.015 m) at one end of the horizontal slot (Fig. 291). The profiles and clamp cutting have counterparts in chancel barrier pillars 8.1 and 8.2, suggesting that they were produced for the same ensemble.⁸¹

7.2 Figs. 286, 292–95. Seven scale-pattern fragments carved in openwork technique. Coarse white marble. L. of largest piece 0.285; Th. as 7.1. At least one piece found 0.20–0.30 m below the pre-excavation surface in 1962 near Church E;⁸² the others were found in PN sector, exact location unknown.

The two pieces with preserved borders have profiles comparable with, but less well executed than, those of 7.1; while the upper border is profiled, the side border, W. 0.08 m, is not. The top of one corner piece is furnished with a clamp cutting composed of a horizontal slot (L. 0.095, W. 0.015, D. 0.02 m) and a vertical slot (L. 0.015 × D. 0.02 m) at one end of the horizontal slot (Fig. 295). The clamp cutting is similar in plan to those in 7.1 and pillars 8.1 and 8.2, but is offset from the center by 0.015 m. The similarities in the carving and cuttings demonstrate that the slabs were probably created for the same ensemble as slab fragments 7.1 and pillars 8.1–8.4.

7.3 Fig. 296. Corner fragment, carved on both sides with a scale pattern. Coarse white marble. H. 0.36; L. 0.47; Th. 0.12. Found in 1962 in the Turkish addition west of Church E at ca. *91.30, the approximate floor level of the church, and probably also of the Turkish addition.⁸³

⁸¹ Chapter 1, section 3.2, for a discussion of 7.1–7.5 and of other pieces, in the context of Church EA, and chapter 1, section 5.7.4, for comparable evidence.

⁸² SFB 1962 PN I, 30–32, with sketch.

⁸³ SFB 1962 Bldg E, 91; chapter 4, section 5.1, for the Turkish additions west of Church E; chapter 4, section 1.2.5, for the floor level of the adjacent Church E narthex; chapter 4, section 3.6, for the grade levels of the Turkish and pre-Turkish periods.

Three scales are preserved; at its widest point the only fully preserved scale measures 0.18 m. Portions of the flat border are preserved at the top (W. 0.07 m) and on one side (W. 0.04 m). Traces of red pigment and remains of mortar on the faces.⁸⁴ A rectangular slot (W. 0.025 × H. 0.05) is located 0.03 m below the top and 0.02 from the broken end. The similarity of motif and the context in which this piece was found suggest that it, too, came from a closure slab that was created for the same ensemble as slab fragments 7.1 and 7.2 and pillars 8.1–8.4.

7.4 Fig. 297. Fragment, carved on both sides with a scale pattern. Coarse white marble. H. 0.34; L. 0.24; Th. 0.07. Probably found in PN sector, exact location unknown.

Portions of four scales are preserved, but none fully. On one side, probably the front, the relief is deeper. Slab 7.4 was probably created for the same ensemble as 7.1–7.3.

7.5 Fig. 298. Corner fragment, carved on one side with a scale pattern. Coarse white marble. H. 0.20; L. 0.32; Th. 0.09. Probably found in PN sector, exact location unknown.

A cavetto border (0.05 m) is preserved at the top and the border of the side (0.065 m) is undecorated. Portions of two scales are preserved; the one closer to the center of the slab is pierced in openwork technique. The combination of solid and openwork technique and the thickness of 7.5 distinguish this piece from 7.1–7.4; although it cannot have been part of one of these closure slabs, it appears to belong to the same ensemble.

7.6 Figs. 299, 300. Border fragment with inscription (IN73.11). Coarse white marble. H. 0.15; L. 0.23; Th. 0.05. Found in 1973 near the north wall of the North Courtyard, ca. 3.00 north of the northeast corner of Church EA at ca. *91.00.⁸⁵

The top of the face is decorated by a molding composed, from top to bottom, of a fascia (0.035 m), a V-shaped groove, a fascia (0.02), and a cavetto (0.025). The upper fascia contains a fragmentary inscription (H. 0.025 m), the only documentary evidence related to the churches found in the excavation of the PN sector. It reads *τος αρχιδιακο[νος]*, but the name of the archdeacon is missing.⁸⁶ A corner of the splayed end of a cross is preserved immediately below the molding; its surface was chiseled away without

damage to the surrounding background. Such alteration is characteristic of spoils exposed to view during reuse in the Turkish period.

7.7 Figs. 301, 302. Right side of a slab with cross. Coarse light gray marble with strong, dark gray parallel veins at the top and sides. H. 0.77; L. 0.60; Th. 0.06. Found in 1962 reused over grave Gr62.42, in the nave of Church EA west of Church E, the decorated surface facing down.⁸⁷

The complete original height of the slab is preserved. The profile of the border at the top, from the outside to the inside of the slab, consists of a fascia (H. 0.04 m), a V-shaped groove (0.01 m), a second fascia in the same plane (H. 0.02 m), and a slightly raking fascia (H. 0.05 m); at the bottom of the slab the profile is the same, but the two outer fasciae measure 0.05 and 0.035 m, the inner fascia 0.03. The profiled border moldings continue horizontally around the well-preserved right edge of the slab, demonstrating that this end of the slab was neither inserted into a pillar nor abutted against a column or wall. The slab face is decorated by a cross with splayed arms in flat relief, outlined by a second cross with the same form, also in flat relief; the carved planes of the cross continue into the fasciae of the border. The back of the slab is roughly finished.

The top of the slab is smoothly finished at the right end for a length of 0.23 m, but is roughly finished or broken on the left; the left portion is ca. 0.02–0.03 m higher than the right portion, a discrepancy that does not exist in other preserved slab fragments from PN.⁸⁸ A small hole (0.02 × 0.025 m), set diagonally, filled with a lead plug, is located in the top 0.13 m from the right end of the slab, and a clamp cutting is located 0.025 m from the same end; it is composed of a horizontal slot (L. 0.04 × W. 0.02 m) and a vertical slot at one end of the horizontal slot (L. 0.02 × D. 0.03 m). Unlike the similar slots in 7.1 and 7.2, the horizontal slot of the clamp is at right angles to the length of the slab and extends to the back of the slab, its vertical slot close to the slab front. The clamp must have been used to fasten the right end of 7.7 to another slab standing perpendicularly behind it. The upper and lower border moldings of 7.7 probably continued on this adjacent slab.

84 Section 10.1, below, for mortar on such surfaces.

85 SFB 1973 PN/E V, 25.

86 Hanfmann, "Sardis Campaign 1973," 40, with a date in the fifth to sixth centuries by Ihor Ševčenko; Cyril Mango has kindly conveyed that epigraphically the inscription should be dated to the sixth century. Also Buchwald, "EA and E," 201, fig. 293. Section 10.2, below, for the possible original use of this and the following slabs (7.7–7.12); chapter 2, section 11.4, for comparable evidence.

87 Appendix for the grave; Hanfmann, "Sardis 1962," 17, n. 7, where the grave number is, erroneously, 62.42; SFB 1962 PN II, 127–28, with a photograph and the grave number 62.40; section 10.2, below, for the possible original use of the slab; chapter 2, section 11.4, for comparable evidence.

88 The slightly higher, roughly worked portion may have been designed for an attachment, perhaps a parapet cover or a small shelf.

7.8 Figs. 303, 304. Edge fragment with cross. Coarse white marble. P.H. 0.39; P.L. 0.49; Th. 0.06. Found in 1962 in grave Gr62.50, west of Church E, approximately 0.50 below the original floor level of the Church EA nave, at *89.11.⁸⁹

The profiled molding of the border is more crisply cut and more complex than that of 7.7 and consists, from the outside to the inside of the slab, of a fascia (0.075 m), a V-shaped groove (0.01 m), a fillet (0.015 m), a cavetto (0.04 m), and an arris. The back of the slab is carved with a border having the same profile. The face is decorated by a cross with splayed arms in flat relief, outlined by a second cross in flat relief with the same form. Only one arm of the cross remains. Though similar in form to the cross of 7.7, this cross is not connected to the border.

7.9 Figs. 305, 306. Fragment with cross. Coarse white marble. H. 1.10; P.W. 0.76; Th. 0.045. Found in 1973 at *90.00 about 21.00 m north of Church EA, reused as a paving slab, decorated side facing down, in a room of an excavated villa.⁹⁰

The slab is broken into at least five joining pieces; the complete height of the slab is preserved. The profile of the border is similar to that of 7.8 but somewhat less crisply carved; from the outside to the inside of the slab it consists of a fascia (0.04 m), a V-shaped groove (0.01 m), a fascia (0.025 m), a cavetto (0.045 m), and an arris. The face is decorated by a cross with splayed arms in flat relief that differs from those of 7.7 and 7.8 because it is not outlined and because the cross ends are concave. The face of the slab is executed with vertical chisel marks, and the vertical cross arms with horizontal chisel marks. Only parts of the left end of the finished top are preserved; here a clamp cutting (0.035 × 0.02 m), with a lead plug, is located 0.095 m from the (reconstructed) upper left corner. Since the fully preserved heights of 7.7 and 7.9 greatly differ, they cannot have belonged to the same parapet: 7.9 must have been produced for another architectural ensemble.

7.10 Fragment with cross. Marble. H. 0.165; W. 0.165; Th. 0.045. Found in 1973 at *90.90 immediately south of the southeast corner of Church E.⁹¹

Decorated by a cross with splayed arms in flat relief as in 7.7, but not outlined. Only one arm is preserved.

7.11 Edge fragment with cross. Coarse white marble. P.H. 0.19; P.W. 0.09; Th. 0.055. Found in 1962 near Church E at the surface.

One fragmentary splayed arm of a cross is preserved. Not enough of the border remains to describe its profile. Remnants of mortar cling to the surface of the cross.

7.12 Edge fragment with cross. Coarse white marble. H. 0.24; W. 0.34; Th. 0.055. Found in 1962 in PN sector near the pre-excavation surface, exact location unknown.

The profiled molding of the border consists, from the outside to the inside of the slab, of a fascia (0.03 m), a V-shaped groove (0.015 m), a fillet in the same plane as the fascia (0.015 m), a cavetto (0.02 m), and an arris (0.01 m). Two fragmentary splayed ends of a cross are preserved.

7.13 Fig. 307. Corner fragment with interlace. Coarse white marble. H. 0.30; L. 0.43; Th. 0.08. Found in 1963 in the Church E Pseudocrypt fill.⁹²

Traces of mortar on both faces and on several broken surfaces.⁹³ Only one corner is preserved, decorated with interlace in the form of a rectangular outer frame and a tangent roundel. A simple leaf with a broad V-shaped central groove is positioned between the corner and the roundel. The interlace bands are composed of three equal strands, each with a broad V-shaped cross section; the band at the edge of the decorated field is integrated with the adjacent undecorated border. Form and detailing of the carving are comparable with a slab fragment from the Acropolis, but the corner roundel in 7.13 is about 0.06 m greater in diameter and the slab is not as thick; thus, although the two fragments could not have been parts of the same closure slab, they are similar and could have been carved for the same ensemble.⁹⁴

7.14 Fig. 308. Edge fragment with interlace. Coarse white marble. H. 0.28; L. 0.44; Th. 0.09. Found in 1963 in the Church E Pseudocrypt fill.⁹⁵

Decorated with interlace, probably originally similar to 7.13 and 12.2.1. Only portions of a roundel, tangent on one side with the border of the slab, and on another side with a diagonal band, are preserved. An interlace motif that is not knotted to the other elements and has no logical relationship to them is used to fill the space next to the

89 Appendix for the grave; Hanfmann, "Sardis 1962," 17, n. 7; SFB 1962 PN III, 59, 60, 62; section 10.2, below, for the reconstruction; chapter 2, section 11.4, for comparable evidence.

90 SFB 1973 PN/E I, 107, with sketch; section 10.2, below, for the reconstruction; chapter 2, section 11.4, for comparable evidence.

91 SFB 1973 PN/E II, 35, with sketch; section 10.2, below, for the reconstruction; chapter 2, section 11.4, for comparable evidence.

92 SFB 1963 Bldg E, 24–25, with sketch.

93 Section 10.1, below, for conclusions that may be drawn from the findspot and mortar: this piece was probably reused in its broken condition in Church E.

94 Section 10.3, below, for the reconstruction of the chancel barrier, and chapter 3, section 2.6.4, for comparable evidence, n. 174, below, for the Acropolis slab.

95 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt.

roundel. The interlace bands are composed of three equal strands, each with a broad V-shaped cross section; as in 7.13, at the edge of the slab the outer strand is integrated with the flat border. Fragment 7.14 was probably not from the same closure slab as 7.13, which does not seem to have contained illogical interlace components that are not tied into the composition. However, the general pattern, interlace details, and workmanship of 7.14 are very similar to those of 7.13.⁹⁶

7.15 Figs. 309, 310. Fragment with interlace. Coarse white marble. H. 0.24; L. 0.34; Th. 0.08. Found in 1962 west of the Turkish addition west of Church E, not far from closure slab 7.16, in fill at *90.60–*90.50,⁹⁷ probably the approximate grade level when Turkish occupation commenced.⁹⁸

The face is decorated by interlace in the form of a circle with an outer radius of 0.145 m, which inscribes a hexagonal motif of looped, somewhat narrower interlace bands. The circle is attached on two adjacent sides to a rectangular interlace frame so poorly preserved that it cannot be described in detail. The major features of closure slab 7.15 are similar to those of 7.13 and 7.14, and the detailing of the central hexagonal motif of 7.15, with interlace composed of three equal V-shaped strands, is also very similar. However, the interlace of the circular element in 7.15 is not composed of three equal strands, but rather of a wide, rounded band flanked on each side by a V-shaped groove, demonstrating that both band types could be used in a single piece.⁹⁹

7.16 Figs. 311, 312. Fragment with interlace. Coarse white marble. H. 0.25; L. 0.37; Th. 0.05. Found in 1962, west of the Turkish addition west of Church E at ca. *90.60–*90.50, not far from 7.15.¹⁰⁰

All surfaces are worn and the carved face is poorly preserved. Decorated by interlace in two stands forming three linked concentric circles that surround an eight-pointed star composed of two interlocking squares. The interlace knots of the circles are positioned to relate to the points of the central star. The composition emphasizing circles, the use of a strong central motif, and some details are common to slabs 7.13–7.15.¹⁰¹

96 Section 10.3, below, for the reconstruction of the chancel barrier, and chapter 3, section 2.6.4, for comparable evidence.

97 SFB 1962 Bldg E, 103, with photograph.

98 Chapter 4, section 3.6, for the grade level when Turkish occupation commenced; chapter 4, section 5.1, for the Turkish changes.

99 Section 10.3, below, for the reconstruction of the chancel barrier, and chapter 3, section 2.6.4, for comparable evidence.

100 SFB 1962 Bldg E, 103, with photograph; chapter 4, section 3.6, for the grade level when Turkish occupation commenced, and section 5.1 for the Turkish changes.

101 Section 10.3, below, for the reconstruction of the chancel barrier for which these pieces were probably produced; chapter 3, section 2.6.4, for comparable evidence.

7.17 Fig. 313. Edge fragment with interlace. Coarse white marble. H. 0.18; L. 0.25; Th. of thinner portion 0.08; total Th. 0.11. Found in 1962 in or near Church E, exact location unknown.¹⁰²

The raised border is probably from the top of a closure slab; it is decorated by circles formed of interlace. One circle encloses a rosette with six incised petals inscribed in a hexagon; the other circle encloses a whorl. The interlace is composed of three equal strands. Below the border, on the face of the slab, only the edges of curved forms, apparently comparable with those of the border, can be discerned. The style and workmanship are comparable with those of 7.13–7.15, but this style is common during several centuries, and none of the other closure slab fragments found in the excavations of Church EA and Church E have similar raised borders. Therefore, if the closure slab was produced for Churches E or EA, it was probably produced for an architectural ensemble of which no other closure slabs were found.

7.18 Fig. 314. Fragment with interlace. Coarse white marble. P.H. 0.10; P.L. 0.18; Th. 0.035. Found in 1963 in the Church E Pseudocrypt fill.¹⁰³

The face is decorated with interlace comparable with that of 7.13, 7.14, and 7.16 but too little remains to reconstruct its original design.

7.19 Fig. 315. Fragment with animals (S63.47:5554). Coarse white marble. P.H. 0.32; P.L. 0.45; Th. 0.083. Found in 1963 in Church E, reused in the lowest step of the Pseudocrypt, decorated face down.¹⁰⁴

A camel is flanked on the left by a lion, of which the hind part is lost, and on the right by a rosette. To the right of the rosette another form is barely preserved at the broken edge of the fragment. A remnant of a circular grooved form (perhaps interlace) is preserved at the top of the piece; the lower border has horizontal grooves. Both animals are carved in flat relief and are enclosed in irregular, rounded forms with raised edges; perhaps the background remained unfinished, and the raised edges were to be removed. The surface of the camel is finely chiseled to represent hair; the surface of the lion is decorated with fine, curved incised lines. Traces of cement adhere to the slab face, apparently applied when the piece was reused in Church E.¹⁰⁵ The piece must have

102 SFB 1962 Bldg E, 131, with photograph.

103 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt.

104 SFB 1963 Bldg E, 29–30.

105 Section 10.1, below, for conclusions that may be drawn from findspots and remnants of mortar on carved pieces.

been readily available when it was reused by the builders of Church E in the thirteenth century, suggesting that it may have been salvaged from Church EA.¹⁰⁶

7.20 Fig. 316. Fragment carved with the head of a monster (S63.45A:5546). Coarse white marble. P.H. 0.12; P.L. 0.21; Th. 0.025. Found in 1963 in the Church E Pseudocrypt fill, ca. 0.60 m below the level of the church subfloor.¹⁰⁷

Head and part of neck of an animal with long jaws, tongue, teeth, one eye, two ears, collar band, and scales, perhaps a dragon or sea monster, are represented facing right in flat relief, the features incised in the surface. The surface treatment of the animal is comparable to that of 7.19. Because of this similarity, and because it was found in a context that contained other material from Churches EA and E, this piece was probably created for the church complex. The thinness of the slab and the fact that the animal head is neatly cut away from its background suggest that the piece was part of an inlay decoration.¹⁰⁸

7.21 Fig. 317. Fragment carved with the head of a monster (S63.45B:5546). Coarse white marble with large gray spots. P.H. 0.12; P.L. 0.18; Th. 0.025. Found in 1963 with 7.20 in Church E Pseudocrypt fill, ca. 0.60 m below level of church subfloor.¹⁰⁹

Part of the head, neck, and (probably) body of an animal exactly the same as that of 7.20 is represented, facing left, in flat relief with incised features. Remnants of red pigment are preserved in the incisions. Only one eye, two ears, collar band, and scales preserved. The preserved edges of the animal are neatly cut away from the background as in closure slab 7.20. Slabs 7.20 and 7.21 are probably from the same piece, or from two slabs created for the same ensemble.

7.22 Fig. 318. Fragment carved with interlace pattern. Coarse white marble. P.H. 0.26; P.L. 0.32; Th. 0.10. Found in 1962 in or near Church E, exact location unknown.¹¹⁰

The face is decorated with an elaborate interlace pattern, of which not enough remains to reconstruct its original composition. The interlace pattern is curvilinear

and is formed of a single strand carved with a slight, broad, V-shaped indentation in the center. Neither the form nor the configuration of the interlace is closely related to that of 7.13–7.18.¹¹¹

7.23 Fig. 319. Fragment carved with interlace pattern. Coarse white marble. P.H. 0.19; P.L. 0.26; Th. 0.08; P. carved pattern 0.12 × 0.21. Found in 1962 in the Turkish addition west of Church E.¹¹²

The face is decorated by interlace in an intricate geometric pattern of which too little remains to reconstruct its original composition. The pattern is tightly organized and rectilinear in character. Two (or four) interlace bands are parallel, some passing under or over others in pairs; two bands are bent back in sharp angles. The bands fill the available space entirely, leaving no background. Each band has beveled sides and a very narrow, flat ridge.¹¹³

8 Chancel Barrier Supporting Members

Remains of a number of pillars, columns, and capitals that may be attributed to the chancel barriers of Churches EA and E were found in the excavations in and around the churches. The capitals and pillars are formed of a single piece of marble. Capitals 8.7 and 8.9 were found in the same Turkish contexts as several other chancel barrier fragments. Some features of these capitals are so similar to those of closure slabs and lintels that the conclusion that they belonged to the same ensembles cannot be avoided. Though none of these pieces were found in situ, and all could therefore have been brought to the site from other buildings, the large number from the same ensembles indicates that they were probably used or reused in the churches. Additionally, the styles of their ornamentation are compatible with the phases of construction, reconstruction, and repair of Churches EA and E.¹¹⁴ It is therefore much more likely that they came from these churches, which must have had chancel barriers, than that they were brought to the site from elsewhere.

Four pillars or pillar fragments (8.1–8.4) may be attributed to a chancel barrier produced for the original construction of Church EA.¹¹⁵ Two pillar fragments (8.5 and 8.6) were probably produced for a secondary parapet in Church EA, or for a parapet in one of its ancillary

106 The preserved decoration is too fragmentary, and undated medieval Byzantine examples of animals in flat relief too plentiful, to make a discussion of comparable evidence meaningful.

107 SFB 1963 Bldg E, 26, with sketch.

108 For instance, Megaw, "Istanbul," 335–40, fig. B, for somewhat similar pieces, representing fish, from an opus sectile floor of the twelfth-century Church of Christ Pantocrator (Zeyrek Kilise Camii) in Istanbul; however, inlay decoration may also have been used in other contexts; n. 106, above, for the limitations of comparable evidence for this piece.

109 SFB 1963 Bldg E, 26.

110 SFB 1962 Bldg E, 129, with photograph.

111 Chapter 4, section 6.3, for comparable examples and a probable Turkish origin.

112 SFB 1962 Bldg E, 85, with photograph.

113 Chapter 4, section 6.3, for comparable examples and a probable Turkish origin.

114 Chapter 1, section 5.7.4, and chapter 3, section 2.6.4, for comparable evidence and chronology.

115 Chapter 1, sections 3.2 and 5.7.4, for the original chancel barrier of Church EA; section 10.2, below, for the reconstruction of the barrier.

facilities, apparently somewhat later than the Church EA chancel barrier.¹¹⁶ Three capitals or capital fragments and a partially preserved column (8.7–8.10) may be attributed to a chancel barrier produced for the medieval reconstruction of Church EA; they were probably then reused as spoils in the chancel barrier of Church E.¹¹⁷

8.1 Figs. 320–22. Pillar. Coarse white marble with occasional light gray veins. H. 0.90; cross section at top 0.29 × 0.27, at bottom 0.28 × 0.27, at face 0.25 × 0.22. Found in 1963 in PN sector, exact location unknown.

Almost completely preserved. Front with finished faces; rear roughly finished. The same horizontal molding is used on the front and back at the top and bottom; it consists of a fascia (H. 0.055 m) and a cyma (H. 0.06 m). The top molding turns and continues for 0.08 m on both sides, apparently to stabilize the flanking closure slabs. The lower molding continues 0.01 m beyond the pillar face and stops without turning the corners, leaving a vertical strip (W. 0.10 m) on each side; the vertical strips are particularly rough where the pillar was attached to closure slabs. Traces of mortar adhere to these surfaces. The profiles at the top and bottom match those of some closure slabs (fragments 7.1 and 7.2), and this pillar appears to have belonged to the same ensemble.

Clamp cuttings (for attachment of closure slabs) are incised at the centers of opposite sides of the roughly finished top; they are composed of a horizontal slot (L. 0.055, W. 0.02, D. 0.015 m) and a vertical slot at the end closest to the pillar center (W. 0.02, Th. 0.015, D. 0.035 m). One clamp slot contains metal remnants. A partially preserved iron pin (diam. 0.007 m) set in lead was inserted vertically into the pillar top 0.05 m from its center.

8.2 Figs. 323–25. Pillar fragment. Coarse white marble with very light gray vertical and diagonal veins. H. 0.60; cross section at face 0.20 (front) × 0.165. Found in 1962 approximately 20 m northwest of the churches in poorly constructed masonry at ca. *90.16.¹¹⁸

Top damaged, bottom not preserved. The molding profile is similar to that of 8.1, but not the same; it consists of a fascia (0.08 m), a V-shaped groove (0.01 m), a fillet (0.015 m), and an elliptical cavetto (0.04 m). The molding continues around all sides of the pillar and is interrupted on two adjacent sides by vertical cuttings (W. ca. 0.07 m)

that stabilized attached closure slabs.¹¹⁹ Therefore, since the broad side of the pillar probably faced forward, as it did in pillars 8.1 and 8.3, pillar 8.2 was located at the northwest corner of a chancel barrier.¹²⁰

The workmanship is comparable with that of 8.1. The top, the front, and the sides are smoothly finished. Clamp cuttings for attaching closure slabs are incised into the top at right angles to each other, above the vertical cuttings in the sides. All clamp slot forms and dimensions are the same as in 8.1, except that the slot at the back is 0.075 m in length, the slot at the side, 0.06. Since the preserved features and dimensions are very similar to those of 8.1, the piece may be attributed to the same barrier.

8.3 Figs. 326, 327. Pillar fragment. Coarse white marble with pronounced, continuous, thin, dark gray, almost vertical veins. H. 0.70; cross section at face 0.23 (front) × 0.18. Found in 1962, at the west end of grave Gr62.37, located in the nave near the north stylobate.¹²¹

Top damaged, bottom not preserved. The molding wraps around the decorated front and adjacent right side, indicating that the pillar was located at the southwest corner of a chancel barrier.¹²² The molding also continues around the rear of the pillar for 0.05 m and stops,¹²³ it probably originally continued around the badly damaged left side, stopping after about 0.05 m. The profile of the molding at the top (H. 0.15 m) is similar to that of 8.2, but somewhat more carefully executed: the convex portion of the cyma is almost flat, producing an edge next to the concave portion, which is a cavetto.

A cross with splayed ends, carved in flat relief, is almost fully preserved on the front face; since the face of the cross lies in the same plane as portions of the molding, it must have been an original feature of the pillar. Parallel chisel marks are evident, horizontal on the front, vertical on the side. The top is roughly finished and poorly preserved. Remains of a clamp cutting (0.02 × 0.02 m) are preserved near the center of the top. A second cutting (0.02 × 0.02 m) is located 0.24 from the top, near the center of the back; it probably was used to hold a pin that fastened a closure slab to the pillar. The reconstruction of the missing molding at the bottom of the pillar with the same dimensions as the upper molding provides a total height close to that of 8.1.

119 Portions of the corners are restored and the dimensions of the cuttings are approximate.

120 This reconstruction assumes that the pillar comes from the chancel barrier of a church with its apse toward the east.

121 SFB 1962 PN II, 123, with photograph; Appendix for the grave.

122 This reconstruction assumes that the pillar comes from the chancel barrier of a church with its apse oriented east.

123 Small portions of marble on the rear of the pillar may imply that the molding continued here in a manner similar to that of 8.2.

116 Chapter 2, section 11.4, for possible other parapets, not at the main altar of Church EA, and for a parapet in one of its ancillary facilities; section 10.2, below, for further discussion.

117 Chapter 3, section 2.6.4, for comparable evidence; sections 10.3 and 10.4, below, for the barrier reconstructions.

118 SFB 1962 PN I, 69, with photograph; the excavation context contained Turkish and late Byzantine coins and sherds, and the masonry could have been either Turkish or late Byzantine.

8.4 Figs. 328, 329. Pillar fragment. Coarse white marble. H. 0.19; cross section at top 0.21 × 0.15, at face 0.19 × 0.13. Found in 1962 probably near or in the Turkish additions west of Church E.

Molding at preserved end similar to 8.3 but shorter (0.09 m). Smoothly finished surface. Similarities in the forms and dimensions indicate that this fragment comes from a pillar created for the same barrier as 8.1–8.3. As in 8.2 and 8.3, the molding is uninterrupted on two contiguous sides and continues around a third side for 0.05 m, leaving a vertical cutting (W. 0.05 m) for fastening a closure slab. On the rear the molding stops flush with the undecorated, roughly finished face. Since a closure slab was attached to only one side, this pillar was probably located at an opening in the chancel barrier. In the center of the top there is a round hole (diam. 0.05 m, D. 0.07), which could have been used to fasten an object such as a knob.¹²⁴ A much smaller hole (diam. 0.02 m, D. 0.03) is located in the top 0.025 m from the center of the vertical cutting that held the closure slab.

8.5 Figs. 330, 331. Pillar fragment. Very coarse white marble with dark gray spots and veins. H. 0.34; W. 0.12; Th. 0.15. Found in PN sector in 1963, exact location unknown.

Only one end preserved. The front is formed of two raking surfaces that meet in the center, giving the pillar five faces. The raking faces are articulated with profiled moldings, consisting of (beginning with the finished end) a vertical fascia (0.035 m), a V-shaped groove, a fascia in the same plane as the first (0.025 m), a shallow cavetto (0.03 m), and an arris. The moldings continue on the sides, but are interrupted by cuttings for attaching closure slabs (W. 0.06 m) located 0.04 from the back of the piece. Traces of cement cling to the surfaces of the cuttings. In the center of the finished end there is a round hole (diam. 0.05 m), which could have been used to fasten an object such as a knob, suggesting that this was the top of the pillar.¹²⁵ The molding is similar to that used on pillars 8.3 and 8.4, and on closure slabs 7.6, 7.8, and 7.9. The dimensions of 8.5, however, are smaller than those of pillars 8.3 and 8.4, and the distinctive form with raking faces also differs. Fragment 8.5 may be from the same pillar as fragment 8.6.

8.6 Fig. 332. Pillar fragment. Very coarse white marble with gray spots and veins. H. 0.23; W. 0.12; Th. 0.15. Found in PN sector in 1963, exact location unknown.

The finished faces and moldings of 8.6 match those of 8.5. Traces of cement cling to the surface of one closure slab cutting. Fragment 8.6 could be the other end (probably the bottom) of pillar 8.5.

8.7 Figs. 333, 334. Capital attached to column shaft. Coarse white marble. H. 0.31, abacus H. 0.035, impost H. 0.175, plinth H. 0.025; top 0.15 × 0.15; column shaft front and side faces W. 0.07; column shaft diagonal faces W. 0.06. Found in 1963 in Church E in the Pseudocrypt fill.¹²⁶

The shaft is broken off below the capital. The capital is shaped to provide a precise geometric transition between the square plan of the abacus and the octagonal plan of the column shaft. It is composed of trapezoids on the front, back, and sides, and of triangles with their points toward the top at the four corners. The front is decorated with a cross with equal arms inscribed in a circle above a palmette. One side is decorated with a whorl, the other with a rosette, both above palmettes like that on the front. Neither the back nor the four triangular faces are decorated. The workmanship of the carving is very precise.

Extensive remains of mortar, probably used to attach a lintel, adhere to the top. Small portions of the mortar extend over broken surfaces on the sides, demonstrating that the capital was damaged already when the mortar was applied, and that the capital must have been reused, probably in Church E.¹²⁷

The top of 8.7 (and 8.8) fits indentations in the undersides of lintel fragments 9.1–9.4 and both lack dowel holes. The whorl on one side of 8.7 also occurs on impost block 4.8 and on closure slab 7.17. The cross on the front of 8.7 has the same shape as two crosses used in lintel block 9.1; all have arms of equal length with curved sides and ends. Even though the general form of the cross in 8.7, composed of intersecting segments, is found frequently in Byzantine carving, its close resemblance to the crosses of the West Unit floor mosaic (Figs. 70, 71)¹²⁸ suggests that it could have been carved in imitation of the mosaic motif.

124 The hole probably did not hold a plug for fastening a colonnette, because that solution would not have been stable and because none of the other comparable pillars with preserved tops have similar holes. Usually in well-preserved examples such colonnettes are continuous with the pillars.

125 Here the use of the slot to hold a plug for attaching a colonnette is even less likely than in 8.4 (n. 124, above) because of the small size and unusual form of the pillar.

126 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt; the findspot was noted on the piece.

127 Section 10.1, below, for conclusions that may be drawn from findspots and remnants of mortar on carved pieces; sections 10.3 and 10.4, below, for reconstructions of the chancel barrier of the Church EA major medieval reconstruction and of Church E; chapter 3, section 2.6.4, for comparable evidence.

128 Chapter 2, section 6.4, for the floor mosaic.

8.8 Figs. 335, 336. Capital fragment. Material as 8.7. P.H. 0.24; all other dimensions within 0.005 of those of 8.7. Found in 1962 in or near Church E, exact location unknown.¹²⁹

Since the material, shape, and preserved decoration of 8.8 almost exactly match those of 8.7, both capitals must have been produced for the same chancel barrier. Traces of mortar adhere to the roughly finished top.

8.9 Figs. 337, 338. Capital fragment. Material as 8.7. P.H. 0.28; P.W 0.09; all other known dimensions within 0.005 of those of 8.7. Found in 1963 in Church E in the Pseudocrypt fill.¹³⁰

The shape and size are almost exactly the same as those of 8.7, and there can be no doubt that 8.9 was created for the same chancel barrier. The only well-preserved trapezoidal face is decorated by a small central circle within a motif composed of segmental bands intertwined with a square, all inscribed in a circle. The lower palmette of 8.7 is replaced here by a series of four incised triangles. Another partially preserved trapezoidal face is decorated by a christogram inscribed in a circle, suggesting that it was the front of the capital; only the ends of three arms of the christogram are preserved. Shallow centering lines for laying out the decoration are evident. The rear of the capital was not decorated.

8.10 Fig. 339. Octagonal colonnette fragment. Coarse white marble. P.H. 0.28; shaft W. 0.145, front, back, and side W. 0.065, diagonal sides W. 0.06. Found in Church E in the Pseudocrypt fill.¹³¹

Dimensions and workmanship compatible with 8.7–8.9. Small remnants of the lower collar of a capital are attached at the top of the shaft. Remnants of mortar adhere to the top, bottom, and to a lesser extent the sides, indicating that the fragment was reused, probably in Church E. This colonnette may belong to the same chancel barrier as 8.7–8.9 and could have been part of one of them.

9 Chancel Barrier Lintel Blocks

The best-preserved remains of the medieval chancel barriers of Church EA and Church E are their carved, decorated lintels, which also provide the key to reconstructions of the barriers. Eleven lintel fragments that may be attributed to the chancel barriers were found in the excavations. All are decorated on their raking front faces with an arcade supported by double columns on stepped pedestals, and with a palmette underneath each arch. A boss with a small round hole in its center decorates

each spandrel. The arcade is interrupted in one example by a cross in a circular twisted band. The 11 fragments were originally produced for four lintel blocks (9.1–9.4) carved for two different chancel barriers. Two additional small fragments carved in Style A (9.5, 9.6) do not figure in the reconstructions below.

Even though all of the pieces are decorated with the same motif, they are carved in two distinctive styles. In Style A (9.1–9.3), the arcades are narrower and have horseshoe arches; the paired columns have no capitals and stand close together; each palmette varies somewhat; and the relief is usually deep, without transitions between the decorated foreground plane and the undecorated background. In Style B (9.4), the arcades are broader, with semicircular arches; the paired columns have capitals and stand somewhat apart from each other; all the palmettes are the same; and the carved edges are oblique, providing a soft transition between the decorated front plane and the undecorated background. In Style B there is also a more pronounced use of the drill in the palmettes, capitals, and spandrels.

9.1 Figs. 340–44. Three joining fragments carved in Style A. Coarse white marble with pronounced dark gray veins almost horizontal at raking face. Total L. 1.91; H. 0.15; W. at top 0.45, W. at bottom 0.26; H. of vertical upper fascia 0.045 m, H. along raking face 0.155; arcade arches stand 0.12–0.125 on center. The central fragment was found in 1962 west of the Turkish addition west of Church E at ca. *90.60, the approximate grade level when Turkish occupation commenced.¹³² The other fragments were found in PN sector, exact location unknown.

A cross with a circle at its center and with splayed arms of equal length, in a circular twisted band, is located at the left side of the central fragment. A single column with spiral fluting is located at the right side of the right fragment. A partially destroyed motif was carved to the right of this column; while it cannot be identified, it does not appear to have been an arcade.

The arcades have only a single column where they end at the cross and at the column with spiral fluting, but there is a double column and the beginning of an arch at the left end of the piece, indicating that the arcade originally continued to the left. Nevertheless, both ends of 9.1 have been retooled. Thus 9.1 is part of a longer block that was trimmed at both ends for reuse.

The underside of 9.1 provides further evidence that the lintel was retooled for reuse. The underside (Figs. 340–42)

129 SFB 1962 Bldg E, 129.

130 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt.

131 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt.

132 Center fragment: SFB 1962 Bldg E, 99–100, with photograph; chapter 4, section 3.6, for the grade levels of the Turkish and pre-Turkish periods; chapter 4, section 5.1, for the Turkish addition west of Church E.

was originally decorated with interlace of three strands and with motifs including a cross like that on the front face (but without a circle at its center), hexagrams, and rosettes, all inscribed in circles, and palmettes. At the right end traces of an interlace circle that originally continued to the right remain, demonstrating that the right end of the lintel block was originally longer. The motifs were ordered, probably symmetrically, on both sides of the cross, which was located almost under the cross of the front face. This decoration was erased near the front of the lintel, but toward the back of the underside, which was probably hidden by curtains in its secondary location, the decoration remained. The carving is executed with considerable precision and the carved surfaces are well preserved except where they were erased.

Two cuttings (0.16 m square) in the underside, 0.92 m apart, held the lintel supports. On the right side, the decoration of the underside was designed around the cutting, but on the left the cutting destroys the preexisting ornamentation (Figs. 340, 341), demonstrating that the right cutting was made at the time the lintel decoration was created, while the left cutting was made for the secondary use of the piece.

The top of the block was very roughly worked with deep, irregular chisel marks. Two clamp cuttings (0.11 × 0.025 and 0.13 × 0.025 m in plan) partially filled with lead, their long sides parallel with the length of the lintel, are located at the left end of the top, 0.175 m apart (Fig. 343). Since this end of the lintel block was reworked and originally continued, the clamp cuttings must have been made when the piece was retooled for reuse. The equivalent location at the right end of the block has no clamp cuttings. A single slot (0.01 × 0.09 × D. 0.03 m) is located almost above the cross on the raking face, 0.03 m from the front edge, its long side perpendicular to the lintel length (Fig. 344).

9.2 Figs. 345–49. Two fragments from one lintel block, carved in Style A. Marble similar to 9.1, but with less pronounced veins at the raking face. H. 0.15, H. of vertical upper fascia 0.04, H. along raking face 0.16; W. at top 0.48, W. at bottom 0.26; total P.L. 1.56; arcade arches stand 0.125 to 0.13 on center. One fragment (Figs. 345, 346) was found in 1963 in Church E in the Pseudocrypt fill, ca. 0.25 m below the subfloor of the church, next to the Pseudocrypt south wall;¹³³ the second fragment (Figs. 347, 348) was found in 1962, reused in masonry at the north end of the Turkish addition west of Church E at ca. *91.30, the approximate floor level of the Church and probably of the addition.¹³⁴

Although the two pieces do not join, the carving is very similar and the cross sections are the same. The carving is not quite as precise as that in 9.1; the palmettes are similar, but not identical. Both pieces have a finished face at one end (one to the left, one to the right), but the arcades clearly continued to the left and right on the original lintel and were neatly cut off when 9.2 was trimmed for reuse. The undersides are not decorated but may also have been trimmed as in lintel block 9.1. Both pieces have cuttings similar to 9.1 (0.16 m square), 0.35 and 0.42 m respectively from the finished lintel ends. Remnants of mortar adhere to the broken right and particularly to the finished left end of the left piece and continue on parts of the raking face and bottom; mortar on broken edges at the rear demonstrates that the piece was already broken when it was reused.

The top of the block is roughly worked with deep, usually parallel, chisel marks. One clamp cutting (0.13 × 0.03 m in plan), its long side parallel with the length of the block, is located in the center of the lintel right end; it is partially filled with lead (Fig. 349). Since this end was reworked and originally continued, the clamp cutting must have been made when the piece was retooled for reuse. The equivalent location at the left has no clamp cutting.

9.3 Figs. 350, 351. Fragment carved in Style A. Marble similar to 9.1, but without discernible veining. H. 0.16, H. of vertical upper fascia 0.04, H. along raking front face 0.165; W. at top 0.48, W. at bottom 0.265; P.L. 0.73; arcade arches 0.13–0.15 on center. Found in 1963 in Church E in the Pseudocrypt fill 0.60 m below the subfloor.¹³⁵

Neither end is preserved. The carving is lax and shallow, compared with 9.1 and 9.2, and the arches of the arcades are more varied in size. The underside has no decoration and, as in 9.2, may have been trimmed. Portions of a cutting for securing the support, 0.16 m on the one preserved side, exist at its right end. The top of the block was roughly worked with deep chisel marks that are usually parallel.

9.4 Figs. 352–55. Five joining fragments carved in Style B. Marble similar to 9.1 and 9.2, but with slight veins, usually diagonal to the length of the piece. H. 0.15, H. of vertical upper fascia 0.04, H. along raking front face 0.17; W. at top 0.48, W. at bottom 0.26; total P.L. 2.165; arcade arches 0.176–0.18 on center. The fragment at the left end was found in 1962 in the Turkish addition west of Church E

133 SFB 1963 Bldg E, 23–25, with sketches and photographs.

134 SFB 1962 Bldg E, 107–8, 130, with sketches and photograph; chapter 4, section 5.1, for the Turkish addition west of Church E; chapter 4, section 1.2.5, for the Church E floor.

135 SFB 1963 Bldg E, 26, with sketch and photograph; this lintel had darkened areas, apparently from a fire, but probably not from a general conflagration, since it is the only such piece; the block broke apart upon removal.

at ca. *91.30, the approximate floor level of the church and probably of the addition;¹³⁶ the fragment at the right end was found in the Pseudocrypt.¹³⁷

The undecorated underside has two cuttings (0.16 m square) 0.95 m apart. The left end has a finished face; here the carved arcade is supported by only a single, wide pier (Figs. 352–54). This single pier marks the end of the arcade and shows that this end was not retooled for secondary use. The right end is broken off, but the cutting on the underside is 0.36 m from the broken end; the comparable dimension on the left is 0.53 m, suggesting that less than 0.20 of the block is missing. If we reconstruct the missing right end with the same form and dimensions as the extant left end, then the total length of the lintel block was about 2.27 m, assuming a single missing arcade 0.183 m wide, measured from the middle of the last preserved pair of columns.

The top of the block was roughly worked with deep, usually parallel, chisel marks. One clamp cutting (0.13 × 0.02 × D. 0.01 m), its long side parallel with the length of the lintel, is located near the center of the left end; the vertical leg of the slot (0.03 × 0.02 × D. 0.03 m) is located at the slot's right end (Fig. 355).

Lintel block 9.4 was probably carved for Church E in the thirteenth century in imitation of 9.1–9.3; its carving style differs from that of the other lintel blocks, and it is the only lintel found with a preserved end that was not retooled for secondary use.¹³⁸

9.5 Fragment, carved in Style A. Coarse white marble. 0.15 × 0.11 × 0.13. Probably found in PN sector, exact location unknown.

The only finished surface is decorated by the lower portions of two arcade bays, one with a horseshoe profile; the two columns lack capitals. This fragment could have been a portion of lintel blocks 9.1–9.3.

9.6 Fragment, carved in Style A. Very coarse white marble. P.L. 0.26; P.H. 0.16; P.W. 0.16. Found in PN sector, exact location unknown.

One finished surface is decorated by two columns, without capitals, standing on stepped bases, as well as remnants of two palmettes underneath partially preserved horseshoe arches. The top of the decorated face was cut

away with a finished face at an angle, apparently for reuse. This fragment could have been a portion of lintel blocks 9.1–9.3.

10 Reconstructions of the Chancel Barriers of Churches EA and E

Chancel barriers were standard features of Byzantine churches during all periods, and Church E, as well as each of the construction phases of Church EA, must have been furnished with one. The purpose of a chancel barrier was to separate the congregation of a church from the chancel and the celebrants. Although some aspects of chancel barriers changed over the centuries, their most essential features remained the same: closure slabs, supported by pillars or columns, separated the nave and aisles from the chancel. At least one, but often three openings in the barrier provided access to the chancel from the nave or side aisles; the main opening was on the major axis of the church. Over a period of time, these barriers became somewhat more complex, taller, and less open: the pillars or columns between the closure slabs supported lintel blocks, curtains blocked the view from the nave to the chancel, and icons were attached above the lintels, above the closure slabs, or above both the closure slabs and lintels, transforming the barrier into a screen and making it impossible to view the ceremonies in the chancel from the nave.¹³⁹

10.1 Summary of Findspots and Find Conditions

Only a single piece was found in situ, albeit in a secondary use: closure slab fragment 7.19, which is decorated with animals, was found reused with its decorated side facing down, built into the lowest step of the Church E Pseudocrypt. This location demonstrates that 7.19 was carved before the construction of Church E in the thirteenth century.

Traces of mortar found on several fragments provide clues to the chronology of their use. The mortar on pillars 8.1 and 8.5 was located only where the pillars were attached to closure slabs; this mortar was probably applied during the primary use of the pillars. Similarly, the mortar on the top of the capital of 8.8 could have served to help secure it to a lintel block. However, mortar attached to other pieces

136 SFB 1962 Bldg E, 84, 87, with sketch and photograph; chapter 4, section 5.1, for the Turkish addition west of Church E; chapter 4, section 1.2.5, for the Church E floor.

137 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt; the findspot was noted on the piece.

138 Section 10.4, below, for the reconstruction of the chancel barrier for which this lintel was probably created; chapter 4, section 6.3, for the stylistic context.

139 I use the term *chancel barrier* generically to designate all barriers that separate the chancel from the congregation, whether or not they include columns and lintels, and regardless of their floor plans. Other terms commonly used are *templon*, *altar screen*, and *iconostasis*. When the use of chancel barriers with columns, lintels, curtains, or icons was initiated, and when these features became common, or mandatory, in the different regions of the Empire has not been determined. For further discussion of these issues and of the meanings conferred on chancel barriers during some periods, Buchwald, "Lintels," particularly 237–41; Epstein, "Barrier"; Chatzidakis, "Templon"; idem, "Ikonoostas"; Walter, "Iconostasis"; Mango, "Templon"; Lazareff, "Templon"; Peschlow, "Templon"; Kreidl-Papadopoulos, "Templon"; Babić, "Decoration"; Mathews, "Chancel."

indicates that they were probably reused in Church E: except in Church E, mortar was used neither in currently known medieval masonry in the church complex, nor in the known walls of the Turkish period.¹⁴⁰ Mortar could have been used in the Church E chancel barrier to attach lintels to adjacent walls, to strengthen the bond between adjacent blocks, or to compensate for missing features of damaged spoils; carved pieces may also have been reused in the walls, flooring, or other mortared features of Church E. Such pieces include 7.3, a closure slab fragment decorated with a scale pattern; 7.13, a closure slab fragment decorated with interlace; 8.7, a decorated capital; 8.10, an octagonal colonnette fragment; and one part of lintel block 9.2.

A number of carved pieces that were probably produced for chancel barriers or other furnishings were found in contexts associated with Turkish occupation: for instance, in fill in the Pseudocrypt of Church E, in the masonry of Turkish additions west of Church E, within or underneath these additions, or at the grade level of Turkish occupation.¹⁴¹ These include 7.3, a closure slab fragment decorated with a scale pattern; 7.13–7.16, 7.18, and 7.23, closure slab fragments decorated with interlace patterns; 7.20 and 7.21, closure slab fragments decorated with animals; 8.7 and 8.9, decorated capitals; 8.10, an octagonal colonnette fragment; and 9.2–9.4, portions of lintels. One fragment of 9.2 was found in Turkish masonry west of Church E, and a second fragment of the same lintel block was found in the fill inside the Pseudocrypt as was a piece of lintel block 9.4.

Thus, the chancel barrier of Church E was apparently still standing when the church was transformed and rooms were added to its western end, probably in the fourteenth century.¹⁴² Both the chancel barrier and the Pseudocrypt would have hindered the further use of the building. The barrier was therefore apparently dismantled, broken into manageable pieces, and used as fill in the Pseudocrypt and in the construction of the new addition. This hypothetical sequence of events would explain the reuse of chancel barrier fragments both inside the Pseudocrypt and in the Turkish addition west of Church E. None of the barrier pillars, 8.1–8.4, were found in the Pseudocrypt or the Turkish additions, probably because they were not reused in Church E, although pillar fragment 8.2 was reused in a poorly constructed (probably late Byzantine or Turkish) wall at *90.16, implying that it was available during a relatively late period.

140 Chapter 3, sections 2.1, 3.1, 3.2, for the masonry of the major medieval reconstruction and of the repairs of Church EA; chapter 4, section 1.2.1, for the masonry of Church E; chapter 4, section 5.1, for the Turkish changes to Church E.

141 Chapter 4, section 5.1, for the Turkish changes to Church E.

142 Chapter 4, section 5, for the Turkish occupation of Church E.

Similarly, none of the closure slab fragments decorated with crosses was found in the Church E Pseudocrypt or in the Turkish additions. Fragment 7.9 was found reused in a repair of the flooring of a villa north of the church complex. Two fragments decorated with crosses, 7.7 and 7.8, were found in graves west of Church E in the nave of Church EA, one somewhat below the level of the church EA floor, the other at the approximate original floor level.¹⁴³ It seems unlikely that these graves were created when Church EA was in use; some of the numerous graves in the same context abut the west wall of the Church E foundation. These graves were probably created after the construction of Church E in the thirteenth century, a conclusion that is all the more plausible because the floor level of Church EA in this area probably rose only insignificantly until after the construction of Church E.¹⁴⁴ The slabs that were reused in the graves were accessible on the site when the construction of Church E had been completed and could have been taken from Church EA.

Other closure slab fragments that were decorated with crosses were found in quite different contexts. In contrast to 7.7 and 7.8, 7.6 and 7.10–7.12 were apparently accessible on the site during the Turkish period. These slab fragments were found near the surface; the fragment with the archdeacon inscription, 7.6, was found north of Church EA, retooled in a manner typical of pieces reused in a visible location in a Turkish context.

10.2 The Chancel Barrier and Other Parapets of Church EA

Pillars 8.1–8.4 and closure slabs 7.1–7.5 share similarities in their border moldings and clamp cuttings. This group includes one complete pillar, 8.1, and three pillar fragments, 8.2–8.4, as well as fragments from at least five closure slabs decorated with lozenge and scale patterns in relief or openwork. The relatively large number of similar pieces makes it unlikely that they were brought to the site from another building. One of the pillars, 8.3, was decorated with a cross, excluding the possibility that the pillars were scavenged from a pre-Christian building, although similar pillars are commonly used in Roman architecture. The use of the pillars in gallery parapets may also be excluded as two corner pieces, and one piece with a closure slab on only one side, were found (8.2–8.4); such pillars would not be needed in a gallery parapet but do occur in chancel barriers. Moreover, comparable evidence indicates that these pieces may reasonably be attributed to the original chancel barrier of Church EA.¹⁴⁵

143 Appendix for the graves.

144 Chapter 4, section 3.6, for the floor level west of Church E after the construction of the church.

145 Chapter 1, section 5.7.4, for comparable evidence.

No direct evidence for the location and the floor plan of the chancel barrier of Church EA was found in the excavations. However, remains of chancel barriers in basilican churches constructed during the fourth to sixth centuries were found, for instance, in the Temple Church at Aphrodisias¹⁴⁶ and in the Lower City Church at Amorium.¹⁴⁷ The locations of these sites in western Asia Minor make similarities to Church EA more likely than a comparison with examples from other regions.¹⁴⁸ The chancel barriers at Aphrodisias and Amorium were erected in a well-known form: they were located in the eastern part of the nave with a front, about as wide as the apse, facing west, and sides closing the chancel area on the north and south. The chancel barrier of Church EA must have had the same plan because two of the Sardis pillars were made for corner positions.

At Amorium the depth of the chancel barrier (from east to west) is about 6.0 m, and at Aphrodisias, about 8.0 m. Church EA is somewhat larger than the church at Amorium, but smaller than the church at Aphrodisias. Accordingly, the depth in Church EA was probably somewhere between these two; for the purpose of reconstruction 7.0 m may be assumed. At Amorium one opening was located in the chancel barrier at the center of each side, and the same arrangement appears to have been employed at Aphrodisias. Thus, the original chancel barrier of Church EA probably had a front measuring about 8.0 m, two sides each about 7.0 m, and a perimeter of approximately 22.0 m. With three openings, such a barrier would have required closure slabs and pillars with a total length of about 19.0 m. (A solea, if present, would have required additional pillars and closure slabs.¹⁴⁹)

146 Smith and Ratté, "Aphrodisias 1997, 1998," 227–30, fig. 7; Cormack, "Temple," 82, fig. 5b; idem, "City," 108–12.

147 Lightfoot and Ivison, "Amorium 1994," 109–11, figs. 1, 3, pl. 13b; idem, "Amorium 1995," 291–93, fig. B, and personal observations of the author in 1998; see also Sotiriou, "Ἐν Εφέσω," 151–53, figs. 26, 32, for a similar solution in western Asia Minor in the Church of St. John.

148 Sodini, "Dispositifs," 445–48, for a review of chancel barrier forms and locations in Greece and the Balkans; Sodini distinguishes between two types, one in a "π" ("U") form, and a "simple" type with only a western side; his fig. 5, with a geographic overview that includes the west coast of Asia Minor, could erroneously be construed to imply that the simple type was used primarily in Asia Minor (a conclusion not proposed by Sodini), because the simple type appears here to prevail on the west coast of Asia Minor, and because the examples farther inland are not shown; *ibid.*, 448, Sodini suggests that the π type originated at Constantinople and was dispersed to many regions from there; Peschlow, "Templon," for a review of chancel barriers in Constantinople, with examples, all of which are of the π type.

149 Chapter 1, section 3.2, for a possible solea. There is no direct evidence at Sardis for a solea, and the comparable evidence is ambiguous; molding 11.9, below, for a carved piece possibly from a solea stylobate; Sodini, "Dispositifs," 448–51, for solea in Greece and the Balkans; *ibid.*, 451, points out that the solea is rare on the coast of Asia Minor but was used in the church of St. John at Ephesus; the solea found in situ in the Lower City Church at Amorium is medieval but may have replaced one

The original sizes of the closure slabs attributed to the Church EA chancel barrier, those decorated with lozenge and scale patterns, cannot be reconstructed from their fragmentary remains, but if we assume, for the moment, that they were 1.0 m wide, then the excavated remains (five slabs and four pillars) represent a total length of about 5.90 m, or somewhat less than one-third of the original barrier. The height of the barrier may be reconstructed from pillar 8.1 as about 0.89 m. The evidence of the preserved pillars demonstrates that the chancel barrier was not provided with colonnettes above the pillars, and that there were no lintels.

Portions of seven closure slabs decorated with crosses with splayed ends, 7.6–7.12, were also found in or near the church complex, one, 7.6, with a fragmentary inscription mentioning an archdeacon. Some of the slabs decorated with crosses could have been produced for the original chancel barrier of Church EA: the combination of slabs decorated with crosses (as 7.6–7.12) and lozenges or scales (as 7.1–7.5) in the same chancel barrier is certainly possible. The crosses on closure slabs 7.6–7.12 have splayed ends like the cross on the face of pillar 8.3, although in the pillar the splayed ends are straight, meeting the cross arm at an angle, while the splayed ends on the closure slabs meet the cross arms in a gentle curve. In a similar manner, the profiled moldings of slabs 7.6, 7.8, and 7.9 are similar to those on pillars 8.3 and 8.4, but pillars 8.1 and 8.2 have different moldings.¹⁵⁰

Closure slab 7.6 could have been created for the chancel barrier of Church EA. The location of the archdeacon inscription near its upper rim is the same as that of better-preserved inscriptions with donor's prayers from the Temple Church at Aphrodisias. The Aphrodisias slabs, dated to the fifth or sixth century, have been reconstructed in positions at the front of the Temple Church chancel barrier.¹⁵¹ Given the probable date of the archdeacon inscription in the sixth century, slab 7.6 would probably have been created for a repair, rather than for the original chancel barrier of the church.¹⁵²

The fully preserved height of slab 7.9 is 1.10 m, 0.21 higher than the chancel barrier of Church EA, and this closure slab was therefore produced for another parapet. Closure slab 7.7 was produced neither for the same parapet as 7.9 nor for the chancel barrier of Church EA: its height, 0.77 m, is 0.33 less than that of 7.9; furthermore, its design includes a right-hand corner (when facing the parapet)

of similar form in the earlier church (n. 147, above); no remains of a solea were recorded in the well-documented Temple Church at Didyma (Knackfuss, "Heiligtum," 33–35, Zeichnungen pl. 3).

150 Chapter 2, section 11.4, for comparable evidence for the crosses; I know of no study of comparable evidence for the moldings.

151 Roueché, *Aphrodisias*, 153–57, nos. 92–96.

152 Chapter 1, section 4, particularly 4.1, for chronological evidence concerning the construction of Church EA.

that was supported not by a pillar but by another slab standing perpendicularly behind it. Pillar 8.3, which may be attributed to the chancel barrier of Church EA, fulfills the same right-hand corner function as 7.7. Since there is only a single right-hand corner in typical chancel barriers of the period,¹⁵³ slab 7.7 must have been produced for another parapet.¹⁵⁴ The lack of a corner pillar in closure slab 7.7 implies that the parapet for which it was carved was not a major, monumental feature.

Thus closure slabs 7.7, 7.9, and possibly 7.6, all decorated with crosses, were apparently produced for secondary parapets either in the church or in one of its annexes.¹⁵⁵ Only closure slabs 7.8 and 7.10–7.12 could have been created for the original chancel barrier of Church EA, and all of these are quite fragmentary, providing only an incomplete picture of their original appearance. Indeed, the cross of 7.8 is outlined in a manner similar to that of 7.7, and the concave end of the cross arm in 7.12 is quite similar to that of 7.9. Thus, it is possible that all of the closure slabs decorated with crosses were produced for secondary parapets.

Pillars 8.5 and 8.6 could also have been created for a secondary parapet; both are smaller and different in shape from 8.1–8.4. Their moldings, moreover, are similar to those of three closure slabs decorated with crosses, 7.6, 7.8, and 7.9.

10.3 The Chancel Barrier of the Church EA Major Medieval Reconstruction

There is no direct evidence for the form and location of the chancel barrier of the medieval reconstruction of Church EA.¹⁵⁶ Surviving examples of the same general period suggest that the barrier was constructed as a straight, continuous unit across the nave.¹⁵⁷ The aisles may not have contained separate chancel barriers (as was the case in some churches) because they were apparently not

provided with apsidioles in the medieval reconstruction of Church EA.¹⁵⁸ If we assume that in the unexcavated chancel area the side aisles of the medieval reconstruction were separated from the nave by walls similar to those in the excavated western part of the nave, then the width of the chancel barrier was approximately 8.15 m.¹⁵⁹

Three lintel blocks carved with arcades and palmettes in Style A, 9.1–9.3, were found in the excavations. In spite of differences in quality, the similarities in the carving of all three lead to the conclusion that they were carved for the same chancel barrier. Although these blocks could have been brought to the site from elsewhere, their quantity on the site, as well as their archaeological contexts, suggest that they were created for the church complex. Moreover, chancel barrier lintels decorated with similar motifs were produced at least as early as the late ninth century and continued to be used until the thirteenth century.¹⁶⁰ Therefore, the Sardis lintels were most probably created for one of the medieval construction programs of the church complex.

Lintel blocks 9.1 and 9.2 were trimmed, reducing their lengths, apparently for reuse in another chancel barrier. Carved decoration was partially erased from the bottom of 9.1 and a cutting for holding a support was added; the bottoms of 9.2 and 9.3 appear to have been trimmed away. One portion of 9.2 had mortar on broken surfaces, demonstrating that it was reused, probably in Church E, after it was damaged.¹⁶¹ Most probably the three lintel blocks carved in Style A were retooled for reuse in the chancel barrier of Church E. We may reasonably assume that they were salvaged in the thirteenth century from the medieval chancel barrier of Church EA: the original barrier is unlikely to have survived the almost complete destruction of Church EA, so the major medieval reconstruction of the church would have required a new chancel barrier.¹⁶² All of the later medieval repairs to

153 Some chancel barriers have been reconstructed with corners at the major entrance, for a solea, but these are inner rather than outer corners and would probably have had the same pillar supports as the other parts of the barrier; Sotiriou, “Βασιλικαί,” 220–26, for examples.

154 It seems unlikely that the chancel barrier of Church EA would have been repaired without a new corner pillar if the original corner pillar had been damaged; also, the height of slab 7.9 is 0.12 m less than that of the original Church EA chancel barrier.

155 Sodini, “Dispositifs,” 456–59, for the use of parapets not at the chancel but in other locations in churches and church annexes in Greece and the Balkans.

156 Chapter 3, section 2, for the medieval reconstruction of Church EA.

157 Among the many examples from the ninth to twelfth centuries are: Firatli, “Sebaste,” 161–65, figs. 14–22; Peschlow, “H. Nikolaus,” 220–40, figs. 3, 4; Sodini, “Xanthos,” 119–48; Megaw, “Istanbul,” 344–46, fig. E (Zeyrek Camii/Pantocrator Monastery); idem, “Skripou”; Orlandos, “Ἐκ τῶν Ἀπιδέων,” figs. 1–6; Frantz, *Church*, 14–17, fig. 7, pl. 26; Bouras, *Διάκοσμος*, 130–32, figs. 133–56; Miljković-Peppek, *Veljusa*, 134–39, fig. 24; Bošković, “Nerezi,” figs. 1–7.

158 Chapter 3, section 2.2.2, for the east end of the north aisle during the medieval reconstruction; the south aisle was not excavated and could have had an exedral east end; Megaw, “Skripou,” for separate barriers in the side aisles of the ninth-century Church of the Virgin at Skripou.

159 This reconstruction is supported by the observation that the south wall of the Pseudocrypt of Church E is apparently a remnant of the flanking nave wall of the major medieval Church EA reconstruction; chapter 3, section 2.2.3, and chapter 4, section 4, for the evidence.

160 Chapter 3, section 2.6.4, for comparable evidence; Buchwald, “Lintels,” particularly 236–37; although such lintels could have been created somewhat before the ninth century, perhaps during the iconoclast period, it is unlikely that they were produced before the seventh century.

161 Section 10. 1, above, for carved pieces with remains of mortar on their surfaces.

162 Chapter 3, section 2, for the destruction of Church EA; n. 139, above, for transformations in Byzantine chancel barriers that may have made the original chancel barrier pillars of Church EA unacceptable during the medieval period.

Church EA appear to have been stopgap measures that were haphazardly executed; the creation of new carved lintel blocks with the quality of 9.1–9.3 during these repairs is unlikely.¹⁶³

The cumulative preserved length of lintel blocks 9.1–9.3 is 4.20 m, slightly greater than half the probable width of the reconstructed Church EA nave. One of the two cuttings in the underside of 9.1 was produced for the lintel's primary use. This cutting provides a clue to the original intercolumniation: the distance between the cutting and the center of the cross to the left on the raking face is 0.83 m. Assuming that the cross was located at the center point between two columns, the intercolumniation must have been twice that distance, or 1.66 m. Since that dimension is too large for a doorway, this part of the barrier probably contained a parapet.¹⁶⁴

The distance between this cutting and the carved spiral column to the right on the raking lintel face provides further information concerning the intercolumniation of the chancel barrier supports. If we assume that the spiral column framed a cross with the same approximate dimensions as the preserved cross (or another motif with the same dimensions), then the intercolumniation here would be ca. 0.88 m, a normal dimension for a doorway in a chancel barrier.¹⁶⁵

Therefore, we may reconstruct this part of the chancel barrier with a doorway ca. 0.88 m wide, flanked by bays with closure slabs each ca. 1.66 m wide. If the doorway was in the center of the nave, and if there were no other doorways in the chancel barrier, then two outer bays each about 1.67 m wide would have been needed to complete the barrier.¹⁶⁶ The nearly equal dimensions of all four large bays make this reconstruction attractive. The large bays may have been furnished with single closure slabs about 1.66–1.67 m wide, or they may have been divided into two parts by low pillars. In this reconstruction four columns and only two lintel blocks, which meet near the center of the nave, are used;¹⁶⁷ therefore, since three lintel

blocks carved in the same style are preserved, probably one (9.3) was used in another barrier.¹⁶⁸ If, on the other hand, we assume that there were three doorways with equal dimensions in the chancel barrier, each flanked by two supports, six columns and four lintel blocks would be needed, and the two outer bays of the barrier would be ca. 0.64 m wide.¹⁶⁹

Except for clamp cuttings used to fasten the blocks to each other in their secondary use, the only fitting in the relatively well-preserved lintel tops is a short slot (Fig. 344) located almost directly above the cross on the raking face of lintel 9.1. Since that cross was probably in a prominent location in the lintel's primary but not secondary use, the slot must have been cut when the lintel was originally created for Church EA. The slot may have been used to attach an object, perhaps a cross or a lamp. It also indicates that the upper surfaces of the lintels probably received their relatively well-preserved finishes when they were originally carved. No trace of metal attachments for icons may be discerned on the upper surfaces of the excavated lintel blocks, and thus icons do not seem to have been attached to the top of the medieval chancel barrier of Church EA. Even though it is possible that icons were placed on the lintels without permanent fastenings, perhaps to facilitate their removal during processions, the roughly finished, uneven upper surfaces of the preserved lintels are poorly suited to hold removable icons.

Three capitals with octagonal columns, 8.7–8.9, are decorated with carved motifs similar to those of the lintels, although the capitals are more elegantly detailed and more crisply cut. The cross on the front of capital 8.7, for instance, has the same form as two crosses used in lintel block 9.1. A fragmentary octagonal colonnette shaft, 8.10, which matches those attached to the capitals, was also found. The tops of capitals 8.7–8.9 fit the square cuttings in the bottoms of the lintel blocks.¹⁷⁰ Capitals 8.7 and 8.9 were found in the same Turkish contexts as other pieces that may be attributed to the chancel barriers of Churches EA and E. Remains of mortar on capital 8.7 and on the colonnette shaft fragment partially cover broken surfaces, demonstrating that the pieces were reused as damaged spoils, probably in Church E.¹⁷¹ Thus, it is most likely that

163 Chapter 3, section 3, for the medieval repairs.

164 Megaw, "Skripou," for a comparable ninth-century example of lintels decorated with crosses at the center points between the columns.

165 The dimension is obtained by adding the distance between the cutting and the spiral column, 0.32 m, the width of the spiral column, 0.04 m, and the radius of the braided circular band that encloses the cross, 0.08 m, and multiplying the sum by two. Typical inaccuracies in medieval carving may, of course, cause the actual door width to be somewhat smaller or larger.

166 The reconstruction uses columns 0.15 m wide (see preserved capitals 8.7–8.9) and assumes that the end lintels and closure slabs are fastened directly to the flanking nave walls. Lintel block 9.1 occupies a position over the bay north of the central door. The dimensions are unlikely to have been as precise as those given here.

167 If additional lintel blocks were used, they would have remained unsupported at the ends not attached to the flanking walls.

168 It is possible that the unexcavated south aisle had an apsidal east end with a chancel barrier or that a secondary parapet existed somewhere in the church.

169 This reconstruction also uses columns 0.15 m wide and assumes end lintels and closure slabs fastened to the flanking nave walls. In this reconstruction lintel block 9.1 is located either on the right or on the left side of the center doorway.

170 The sizes of all of the cuttings are almost the same, 0.16 × 0.16 m, very slightly larger than the tops of the capitals, 0.15 × 0.15 m.

171 Section 10.1, above, for conclusions that may be drawn from findspots and remnants of mortar on carved pieces.

these three capitals, and the colonnette fragment, belonged to the medieval chancel barrier of Church EA.¹⁷²

The proposed reconstruction of the medieval chancel barrier of Church EA requires between four and eight closure slabs. Six fragments of medieval closure slabs found in the excavations, 7.13–7.18, were carved with interlace decoration comparable with details of lintel blocks 9.1–9.3. In particular, the detailing of the eight-pointed star of closure slab 7.16 is comparable with that of the hexagram used to decorate the underside of lintel 9.1; both are apparently constructed of interlocking frames, and both are inscribed in circles composed of interlace. The slab fragments are too small and too poorly preserved to ascertain that all were produced for the same ensemble, and the style of their carved decoration was current for many centuries. Although they may therefore have been brought to the site from elsewhere, it is more likely that the slabs were made for Churches EA or E. The attribution of at least some of the slabs to the medieval reconstruction of Church EA, rather than to Church E, is supported by the observation that mortar clings to surfaces of slab 7.13, and it was therefore probably reused as a spoil in Church E.¹⁷³ Nevertheless, some slabs with interlace could have been produced for other parapets, or perhaps for the chancel barrier of Church E.¹⁷⁴

Interlace ornamentation was not preserved on slab fragments 7.19–7.21, which were decorated with animal figures. However, these slabs may also have been carved during the same period as the other medieval slabs excavated in the church complex; 7.20 and 7.21 were found in the Church E Pseudocrypt fill, along with other fragments attributed to the chancel barriers of Churches EA and E.¹⁷⁵ Fragment 7.19 was built into the steps of the Pseudocrypt, demonstrating that it was produced before the thirteenth century, perhaps for the chancel barrier or for another location in the medieval reconstruction of Church EA.

Remnants of red pigment are preserved in the incisions of the animal depicted on slab 7.21. Indeed, painted chancel barriers and other carved stone ornamentation in medieval Byzantine churches may have been relatively

common,¹⁷⁶ and evidence of polychrome decoration has been found on chancel barrier lintels, for instance, in the Lower City Church at Amorium.¹⁷⁷ On the one hand, no other remains of paint were found on any medieval carved pieces attributed to the chancel barriers of Churches EA and E. But on the other hand, on slab 7.20 no paint was preserved, even though both slabs 7.20 and 7.21 depict the same animal, and both must have been part of the same slab or the same ensemble. Therefore, it is possible that painted decoration, now lost, was also used in other chancel barrier components of Churches EA and E.

10.4 The Chancel Barrier of Church E

The floor of Church E was almost entirely removed during the Turkish period,¹⁷⁸ leaving no direct evidence for the location and reconstruction of the Church E chancel barrier. However, the type of chancel barrier common during the general period when Church E was built is well known:¹⁷⁹ the barrier was probably constructed across the nave and side aisles, giving it a total length of about 8.85 m. A reconstruction of the chancel barrier between the columns that supported the church is implausible because of the dimensions and details of the preserved lintels.¹⁸⁰ Therefore, the barrier could have been located either just to the west of the two eastern columns of the church, or just to the west of the eastern columns beneath the dome.¹⁸¹ In both locations the extant column bases are located so close to the edges of the foundation that there is no room on the foundation for the chancel barrier. Therefore the barrier must have been supported by the flooring of the church.

The chancel barrier of Church E may be reconstructed with the aid of preserved lintel blocks 9.1–9.4, but some questions, as outlined below, remain open. It is likely that these four lintel blocks were used in the Church E barrier, because all were decorated with the same motifs, and because portions of 9.2–9.4 were found in contexts probably related to the Turkish dismantling of the Byzantine chancel barrier.¹⁸² The four blocks have a cumulative length of ca. 6.37 m, or almost three-fourths of the Church E chancel

172 Chapter 3, section 2.6.4, for comparable evidence; similar capitals are used in many medieval Byzantine chancel barriers.

173 Section 10.1, above, for conclusions that may be drawn from remnants of mortar on carved pieces.

174 The interlace patterns and motifs of slabs 7.13–7.18 (and impost block 4.8) are found in numerous examples in Asia Minor and other regions during an extended period, from about the ninth to the thirteenth century; chapter 3, section 2.6.4, for comparable examples. A similar closure slab with interlace was found on the Acropolis in 1960 at the bottom of a cistern, SFB 1960 AcT III, 15; SFR Hansen, 1960, 5.

175 Section 10.1, above, for a summary of the findspots.

176 Ivison, “Polychromy,” 122–24.

177 Ivison, “Polychromy”; Hendrix, “Polychromy”; the church is attributed to the late ninth or early tenth century.

178 Chapter 4, sections 1.2.5 and 5.1.

179 N. 139, above.

180 See below.

181 In the eastern location the barrier would have protruded into the doorway in the exterior south wall, which was blocked by masonry when it was excavated; it may already have been blocked when the barrier was constructed (chapter 4, section 1.2.3).

182 Section 10.1, above, for the probable use of pieces from the chancel barrier of Church E in the Turkish transformation of the church; also chapter 4, section 5.1.

barrier width. The lintels of the Church E chancel barrier appear not to have supported icons.¹⁸³

We have already observed that the three lintel blocks decorated in Style A (9.1–9.3) were probably carved for the medieval chancel barrier of Church EA, and that 9.1 and 9.2 were retooled for reuse. Lintel block 9.4 was probably carved for the Church E barrier in the thirteenth century, in imitation of the earlier pieces: it was the only block with a finished end that was not retooled, and it was the only lintel decorated in Style B. Because in lintel block 9.1 an important feature, perhaps a cross, was neatly trimmed away at its right end and because the cross near its left end was no longer in a prominent location after the piece was trimmed, the earlier lintels were probably retooled not only to make them fit their new locations, but also because they were damaged. Moreover, if a sufficient number of lintels of the medieval Church EA chancel barrier had survived in usable condition, it would not have been necessary to carve a new lintel for Church E in the thirteenth century. Thus the medieval chancel barrier of Church EA must have been in poor condition when, after as much as four centuries, the thirteenth-century builders of Church E reused some of its components in the new church.

The evidence of the clamp cuttings in the upper surfaces of the lintels, which must have been used to fasten the adjacent blocks to each other, is useful in identifying the locations of the individual blocks in the Church E barrier. The clamp cuttings were created for the thirteenth-century barrier, rather than for the medieval barrier of Church EA: all are located next to finished surfaces that were either retooled or created for the chancel barrier of Church E.

The three capitals attached to octagonal columns (8.7–8.9) and the fragment of a matching octagonal colonnette (8.10), all probably carved for the medieval chancel barrier of Church EA,¹⁸⁴ were probably reused in the chancel barrier of Church E. Remains of mortar cling to the surfaces of three of the pieces (8.7, 8.8, and 8.10).¹⁸⁵

Six closure slab fragments (7.13–7.18) are similar in decoration to the lintel blocks and capitals we have attributed to the Church E barrier, and three of these (7.13, 7.14, and 7.18) were found in the same Turkish contexts as other pieces attributed to the barrier. These closure slabs were probably produced for the medieval chancel barrier of Church EA, as were some of the lintels and the capitals, and then reused in Church E. That conclusion is confirmed by mortar clinging to damaged surfaces in closure slab

7.13, demonstrating that it was reused, already damaged, in the construction of Church E.¹⁸⁶ However, as pointed out above, some of these closure slabs could also have been made for other parapets, or for the chancel barrier of Church E.

Reconstruction A. Of the four proposed reconstructions of the Church E chancel barrier, Reconstruction A (Fig. 356) best fits the available evidence. The distances between the lintel supports of 9.1 and 9.4 are 0.92 and 0.95 m. If the cutting near the left end of 9.1 was made in the thirteenth century and 9.4 was produced for the thirteenth-century barrier, these intercolumniations would be those of the thirteenth-century barrier.

In light of these dimensions, the Church E chancel barrier may be reconstructed with four lintels on eight supports about 0.92–0.95 m apart. Each lintel block is carried by two supports and cantilevers out beyond the supports at each end about 0.35–0.53 m, reflecting the features of the better-preserved examples. The central bay was the main doorway to the bema, and doorways to the flanking apses were located in the aisles.

Lintel block 9.2 was probably located against the north wall, because a clamp cutting is located at its south end but not at its north end, and because large amounts of mortar, which was probably used to attach the lintel to the wall, cling to its north end. Lintel 9.1 was probably located at the south end of the barrier, because two clamp cuttings are positioned at its north end but none exist at its well-preserved south end. Lintel 9.4 was probably located north of the center of the barrier, next to 9.2, because the clamp cutting at its north end is almost a match in location and dimensions to the clamp cutting at the south end of 9.2. Lintel 9.3, of which neither end is preserved, must then have occupied the location south of the barrier center, between 9.1 and 9.4.

All of the excavated lintels are accounted for in this reconstruction and all of the clamp cuttings are located in logical positions. However, two lintel blocks meet near the center of the barrier, a solution that aesthetically is not entirely satisfying. Another surprising feature is that the most poorly carved lintel, 9.3, is located in a prominent location near the center of the barrier.

Reconstruction B. Reconstructing the chancel barrier of Church E with the well-carved thirteenth-century lintel, 9.4 (Fig. 357) in the center is visually a more satisfactory solution but for reasons outlined below fits the available evidence less well. As in Reconstruction A, there are eight columns about 0.92–0.95 m apart. Lintel 9.4 is placed

183 Section 10.1, above, for the reasons, which apply equally to the thirteenth-century barrier.

184 Section 10.3, above.

185 Section 10.1, above, for mortar on the surfaces of carved pieces.

186 Section 10.1, above, for mortar on the surfaces of carved pieces.

over the major doorway in the central bay, flanked by lintel 9.2 on the north and by 9.1 on the south.¹⁸⁷ Lintel 9.3 is reconstructed at the north end of the barrier,¹⁸⁸ and another lintel, which was not preserved, at the south end, each supported by a single column and attached at one end to the adjacent exterior wall or pier.

In this reconstruction the clamp cuttings of 9.2 and 9.4 match as in Reconstruction A, and the two clamp cuttings at the north end of 9.1 would have their counterparts in the lost south end of 9.4. However, there is no apparent explanation for the lack of clamp cuttings at the south end of 9.1 and at the north end of 9.2; moreover, the lack of clamp cuttings in these locations would be equally illogical if these lintel blocks occupied other positions in this reconstruction. Thus while Reconstruction B has more appealing locations for some of the preserved lintels, it does not satisfy the reconstruction criteria (for instance, the locations of the clamp cuttings) as well as Reconstruction A.

Although other arrangements are possible, they do not seem likely. The available evidence makes a reconstruction of the Church E chancel barrier with only six supports (three pairs, each framing one of the three doorways) implausible: in this solution the preserved dimensions and cuttings of lintel blocks 9.1, 9.2, and 9.4 do not reflect the necessary spans between the doorway bays. For instance, if 9.1 is located at the south end of the barrier and 9.2 at the north end, their clamp slots are positioned logically as in Reconstruction A. But if 9.4 is then reconstructed over the central opening, there is a gap between its finished north end and 9.2 to the north. The same problem exists if 9.1 or 9.2 were located over the central opening, because each has a finished north end that is only 0.28 and 0.35 m, respectively, from the nearest support. Thus, with six supports, only lintel 9.3, with carving of the poorest quality among the four preserved lintel blocks, could be restored over the central opening, with both ends cantilevered out precariously and implausibly about 1.50. Just as implausibly, lintel 9.4, the only lintel probably created for the barrier in the thirteenth century, is not included in the reconstruction.

Similarly a reconstruction of the Church E barrier

between, rather than in front of, the church columns is implausible. This reconstruction provides a barrier in three parts, separated by the columns of Church E. In the central bay,¹⁸⁹ if there were only two supports about 0.92–0.95 m apart, lintel projections that cantilever out in both directions roughly 1.20 m would be required, with both ends attached to the adjacent church columns; an alternative solution would be to provide two additional lintel supports that stand close to the church columns. However, neither of these conditions is reflected in the preserved ends of lintel blocks 9.1, 9.2, and 9.4. The only lintel that may have suited these conditions is 9.3, which is too poorly preserved to recognize its original supporting features. Moreover, in this reconstruction, because of the dimensions of the church,¹⁹⁰ the blocks in the flanking portions of the chancel barrier would have had a length between about 1.40 and 1.45 m. However, each of the better-preserved lintels (9.1, 9.2, and 9.4) was longer and therefore the reconstruction may be ruled out.¹⁹¹

11 Miscellaneous Carved Architectural Members

Most of the following architectural pieces need not be related to Churches EA or E and are presented because they were found in contexts associated with the churches. In general, no attempt is made to describe the pieces in detail or to determine stylistic features, comparable examples, or chronology. Several pieces were carved well before Church EA was constructed.

11.1 Fig. 358. Acanthus capital. Coarse white marble with thin light and medium gray horizontal veins. L. 0.53; H. 0.35; W. 0.48. Found in 1962 in the Turkish addition immediately west of Church E at ca. *91.00, in Turkish fill not far below the Turkish occupation level.¹⁹²

Large portions are missing and the original dimensions cannot be reliably reconstructed. Acanthus capital in two zones with remnants of spiny acanthus extant in small portions of both zones. Triangular spiny edges are worked with drill holes 0.007 m in diameter, expanded using a drill or small chisel. The preserved acanthus surface is rounded

187 Even though other locations for lintel blocks 9.1, 9.2, and 9.4 may be surmised within the central portion of this reconstruction, they cannot be restored in the end locations, because each of these lintels has indentations for two supports.

188 The preserved distance between the broken north end of 9.3 and the cutting for a support on its underside is 0.60 m and was originally probably greater by at least one carved arcade, 0.14 m; the original projection would therefore be at least ca. 0.74 m; the north end of the block would project ca. 0.24 m into the north wall, since the distance between the north column and the north wall may be calculated as roughly 0.50 m, using preserved dimensions of 9.2, 9.4, the column capitals, and typical dimensions of 0.94 m between the columns of the two complete northern bays.

189 Chapter 4, section 1.1, for the width: the columns at the east side, under the dome, stand 4.45 m apart measured center to center and have diameters of 0.80 m, giving a distance between the columns of about 3.65 m.

190 Chapter 4, sections 1.1 and 1.2: the aisle width is ca. 1.80 m and the wall pilasters that stand opposite the columns project from the walls between ca. 0.35 and 0.40 m.

191 The preserved length of lintel block 9.1 is 1.91 m, that of lintel block 9.4 is 2.165, and that of 9.2, 1.56; since at least one arcade bay must be restored in the decoration of each lintel, the original length of 9.2 was at least 1.68 m.

192 SFB 1962 Bldg E, 90; chapter 4, section 3.6, for the grade levels; chapter 4, section 5.1, for the Turkish addition west of Church E.

and has low incisions that are usually vertical. None of the acanthus tips remain. The lower zone may also be traced in vertically ordered drill holes (diam. ca. 0.004 m) that mark the acanthus leaves. Vertical ridges between the acanthus leaves of the lower zone are remnants of the stalks of the upper zone acanthus leaves. This piece, unique in the PN and other Sardis excavations, cannot be attributed to Church EA with confidence and could have been brought to the site from elsewhere at Sardis; the capital was probably imported from the Proconnesos quarries.¹⁹³

11.2 Figs. 122, 359. Pedestal. Coarse white marble. P.H. 0.74; W. 0.50; Th. 0.42. Found in 1962 built into the pilaster between the central and west bays of the Church E north wall, approximately at floor level, where it was left in place.

Poorly preserved, with many parts missing. Remnants of a well-carved Attic column base, cut from the same block, are preserved at the top of the pedestal, diameter not measurable. A flat cross with splayed ends decorates the side facing the church interior. The profile below the cross is composed, from bottom to top, of a fascia (0.08 m), a shallow cyma (0.065 m), and a shallow astragal (0.02 m). The profile at the top is composed, from top to bottom, of a fascia (0.03 m), a fascia (0.04 m, projecting 0.01), a cavetto (0.04 m), a fascia (0.02 m), a groove (0.01 m), and a fascia (0.01 m). The cross is comparable with those carved on one of the chancel barrier pillars¹⁹⁴ and on closure slabs attributed to Church EA,¹⁹⁵ but the same cross type is found frequently from the fourth century to the sixth.¹⁹⁶ The pedestal may, but need not, be attributed to the original construction of Church EA. Because it is the only example of this pedestal type found in the church complex, it does not constitute strong evidence for the reconstruction of the church or its annexes.

11.3 Fig. 114. Pedestal. Red and white brecciated marble. P.H. 0.46; W. 0.58; Th. 0.58. Found in 1962, built into the pilaster between the central and east bays of the Church E south wall, approximately at floor level, where it was left in place.

Very poorly preserved, with many parts missing. The profile, from top to bottom, consists of a fascia (H. 0.06 m), a cyma reversa (H. 0.06 m), a convex face (0.19 m), a cyma recta (0.13 m), and a fascia (0.05 m). The same profile articulates all four sides.

11.4 Fig. 360. Pedestal. Marble. P.H. 0.44; P.W. 0.72; P.L. 0.80. Found in 1962 at the base of a late, probably Turkish wall approximately 10 m north of the North Courtyard, at ca. *91.18.¹⁹⁷

Poorly preserved. The simplicity of the cyma profiles may be compared with that of pieces attributed to the original construction of Church EA.¹⁹⁸ Two cuttings in top surface.

11.5 Fig. 361. Octagonal pedestal. Coarse white marble. H. 0.21; W. at top 0.46, W. of each facet 0.19 at top. Found in PN sector, exact location unknown.

Damaged, with top worn smooth. Profile, from bottom to top, consists of a vertical fascia (0.05 m), a V-shaped groove (0.01 m), a raking cavetto (0.05 m), a raking fillet (0.01 m), a vertical fillet (0.015 m), a raking fillet (0.012 m), a vertical face (0.07 m). Vertical chisel marks. Clamp or dowel hole in bottom, no cuttings or slots in preserved top.

11.6 Fig. 362. Base molding, perhaps from wall revetment. Coarse white marble with irregular, large gray veins. P.H. 0.55; W. 0.165; L. 1.19. Found in PN sector, exact location unknown.

All preserved surfaces are finished. One end of the front projects 0.04 m. Base molding profile consists of a vertical fascia (0.065 m), a cyma (0.07 m), and a slightly inset fillet (0.015 m). The surface of the profiled front is roughly worked, apparently with a claw chisel. The simple profile, reflecting classical models, may be compared with profiles of pieces attributed to the original construction of Church EA.¹⁹⁹

11.7 Figs. 363, 364. Three fragments of engaged fluted columns, two of which probably were cut vertically from a single piece into two symmetrical, almost identical pieces (the third piece is not illustrated). Coarse white marble. Dimensions of largest fragment: P.H. 0.91; W. 0.67; Th. 0.20; column diam. 0.20; flute W. 0.035. One piece found in 1962 in or near Church E, exact location unknown;²⁰⁰ other pieces found in PN sector, exact location unknown.

One end, damaged and roughly finished, has no dowel or clamp holes; the other end is broken away. The other faces are finished, the flat surfaces with horizontal chisel marks. The surface next to the engaged column was

193 Chapter 2, section 11.1, for comparable evidence, chronology, and provenance from the Proconnesos.

194 Pillar 8.3, above.

195 Closure slabs 7.6–7.12, above.

196 Chapter 1, section 4.6, for comparable evidence.

197 SFB 1962 PN I, 111–12, with photographs.

198 Moldings 5.3.4–5.3.6 and doorjambs 6.1–6.5, above; chapter 1, sections 3.1 and 3.2.

199 Moldings 5.3.4–5.3.6 and doorjambs 6.1–6.5, above; chapter 1, sections 3.1 and 3.2.

200 SFB 1962 Bldg E, 132, with photograph.

roughly reworked for reuse, creating a vertical cutting (W. 0.08 m, D. 0.04 m) suitable for holding a closure slab.

11.8 Fig. 365. Molding fragment, perhaps a pier cornice. Coarse white marble. H. 0.175; P.W. 0.48; L. 0.60. Found in PN sector, exact location unknown. Molding continues on three sides and on one portion of the broken fourth side; on the fourth side the molding is interrupted by a projection without a molding.

The profile consists of a raking face (0.025 m), a vertical fillet (0.023 m), a cavetto (0.033 m), a horizontal fillet (0.01 m), a shallow ovolo (0.024 m), a recessed fillet (0.01 m), a vertical fillet (0.013 m), a vertical fascia (0.03 m, recessed 0.005), a vertical fillet (0.017 m, projecting 0.005 m). Shallow dowel hole (0.05 × 0.05 m) in bottom, without channel.

11.9 Figs. 104, 366. Base molding. Coarse white marble with very occasional thin horizontal gray veins. H. 0.28; W. 0.24; L. 1.48. Found in 1973, placed on the mosaic floor of the Church EA north aisle, parallel with the north wall, the end wedged with river stones, near fragment 11.10.²⁰¹

Two joining pieces with an edge molding consisting of a vertical fillet (H. 0.05 m) and a cyma (H. 0.23 m). All faces except the smooth rear are finished with rough, usually vertical claw chisel marks. The molding stops 0.33–0.42 m before one end of the piece with an edge that reflects the profile of the molding, suggesting that the molding continued on another piece, in a perpendicular direction. Thus 11.9 could have been the base molding under the chancel barrier of Church EA, the molding continuing at a right angle in a solea, or it could have been the base molding of a solea, with the molding continuing at a right angle under the chancel barrier. An association with the chancel of Church EA would explain why it was salvaged by the builders of Church E and carefully placed on the floor of the north aisle. The simple late classical molding and competent execution make an attribution to Church EA credible.²⁰² However, no dowel holes or clamp cuttings for fastening pillars or closure slabs are cut into its upper surface. Rather, a cutting (0.08 × 0.08 × D. 0.06 m) with a slot (0.025 × 0.01 × D. 0.013 m) in its center is located in the rear face, 0.06 m from the top and 0.50 m from the unprofiled end. A hole (diam. 0.025, D. 0.016 m) is located in the same surface 0.17 m from the top and 0.35 m from the unprofiled end. The bottom of the rear face is roughly notched (0.05 × 0.05 m).

201 SFB 1973 PN/E II, 186–87, with sketch; SFB 1973 PN/E III, 92–93, with photograph.

202 A solea that reused components of the original Church EA solea could have been constructed in the nave of the major medieval reconstruction of Church EA; for a parallel example, Lightfoot and Ivison, "Amorium 1995," 294–95, figs. B, 2, 5.

11.10 Figs. 104, 367. Acroterion fragment. Coarse white marble. P.H. 0.40; P.W. 0.33; P.L. 0.80. Found in 1973 near the east end of the Church EA north aisle, the top at *89.90, lying on a marble slab that was placed directly on the mosaic floor of the basilica;²⁰³ these pieces seem to have been placed there deliberately, probably by the builders of Church E.

The carved decoration of ornamental floriated scrolls is fully modeled and detailed, the workmanship of excellent quality. Similar pieces were found reused in the Turkish blocking of the west door of Church E (Fig. 123) and in the excavation of the Sardis Synagogue.²⁰⁴ The fact that the acroterion was trimmed on one side without regard for its ornamentation indicates that it was probably reused, perhaps in Church EA, with its face turned to the wall or floor. It may have been found by the builders of Church E in rubble or in walls of the church complex that had been demolished.

11.11 Fig. 368. Acroterion fragment. Coarse white marble with gray veins. P.H. 0.58; P.W. 0.34; P.L. 0.42. Found in 1962 in or near Church E, exact location unknown.²⁰⁵

Acanthus and ornamental floriated scrolls on two faces are organized symmetrically about the corner.

11.12 Fig. 369. Pillar fragment. Coarse white marble. P.H. 0.42; W. 0.15; D. 0.15. Found in 1963 in Church E in the Pseudocrypt fill, decorated face down, 0.35 m below the church subfloor.²⁰⁶

Four sides have finished surfaces. One side is decorated by a pattern of overlapping circles forming six-petal rosettes inscribed in hexagrams. All decorative features are carved with beveled sides. There are no cuttings for closure slabs or clamp slots. The findspot suggests that the piece was used or reused in Church E. The decoration and dimensions suggest that the fragment could have been part of a chancel barrier pillar.

11.13 Figs. 370, 371. Colonnette fragment. Coarse white marble with numerous light gray veins. P.L. 0.17; W. 0.11; D. 0.11. Probably found in PN sector, exact location unknown. One part is square in plan; the other part is octagonal.

The square end contains a square dowel hole (0.02 m, D. 0.025) with a channel on one side (W. 0.01 m); the other

203 Hanfmann, "Sardis Campaign 1973," 41, fig. 12; Hanfmann, "Sardis 1973," 21, fig. 36; SFB 1973 PN/E II, 186–89, with sketches; SFB PN/E III, 92–99, with photographs; the piece is in the Manisa Archaeological Museum. Also Hanfmann, *SPRT*, 271 n. 73, fig. 175.

204 Hanfmann, "Sardis 1973," 21, fig. 36.

205 SFB 1962 Bldg E, 131, with photograph.

206 SFB 1963 Bldg E, 25, with sketches; a similar piece, NoEx59.066a, was found in 1959.

end is broken off. The dimensions are not consistent with those of the colonnette fragments and capitals attributed to the chancel barriers of Churches EA and E.²⁰⁷

11.14 Fig. 372. Chancel barrier lintel block. Coarse white marble. H. 0.15; W. of top 0.405, W. of bottom 0.28; P.L. 0.34. Found in 1962 in the Street of Pipes about 10.00 m north of Church EA, at *91.00.²⁰⁸

The left end is cut off and trimmed for reuse, the right end is broken away. The raking face is decorated with a frieze composed of palmettes and the part of an outlined cross with splayed arms at the left. A ropelike motif borders the raking face at the top and bottom. The underside of the lintel is decorated with a quatrefoil, composed of four simple lotus or lily motifs, only about half preserved; its center lies on the axis of the cross that decorates the raking face. The carved features are broad and have beveled sides. The decoration is not closely related to that of pieces attributed to Churches EA and E. Thus, this medieval chancel barrier fragment may have been taken from another, unexcavated, Sardis church or chapel, possibly in the Church EA building complex, that was constructed or repaired during the medieval period.

The top contains two slots (0.02 × 0.02 m each), 0.095 m apart and 0.065 from the right end of the piece, close to the raking face; one cutting (0.05 × 0.08 m) parallel with the raking face, 0.045 m from the back of the lintel, at its left end; and a round socket (diam. 0.055 m), 0.045 m from the right end of the piece and 0.115 from the back. While the two small square slots are related to the cross on the

raking face and were probably carved during the lintel's primary use, the round socket and the rectangular cutting near it may have been used to secure a door in a secondary use as a threshold (with the decorated faces turned down).

11.15 Fig. 373. Lintel block. Coarse white marble. L. 0.24; H. 0.16; Th. 0.095; P.H. of decorated face 0.12. Found in PN sector, exact location unknown.

The raking face is decorated with palmettes. The underside is finished but undecorated. The lintel is probably from a chancel barrier.

11.16 Fig. 374. Decorated fragment. Coarse white marble. 0.29 × 0.13 × 0.20; decorated face P.L. 0.29; P.H. 0.07. Found in 1962 near 11.14.²⁰⁹

One decorated face is roughly finished; one short, raking finished face destroys the decoration and is later; the other surfaces are broken. The ornamentation consists of a repetitive pattern of diagonally set petals, carved with beveled sides, forming lozenges that enclose crosses.

11.17 Fig. 375. Decorated slab. Coarse white marble. 0.21 × 0.14 × 0.07. Found in 1963 in Church E Pseudocrypt fill together with pieces attributed to Church EA and Church E.²¹⁰

One finished face is preserved, decorated with a flat cross constructed of intersecting and tangent circles on an incised, roughly finished background, probably for champlévé filling.

207 Compare capitals 8.7–8.10, above; sections 10.3 and 10.4, above, for the chancel barrier reconstructions.

208 SFB 1962 PN I, 87, with photograph.

209 SFB 1962 PN I, 53, with sketch.

210 SFB 1963 Bldg E, 24–28, for the excavation of the Pseudocrypt; section 10.1, above, for a summary of other finds in the same archaeological context.

TABLES

The following abbreviations are used in the tables:

EA = Church EA; E = Church E

e = east; n = north; s = south; w = west

Ch. = chapter

L = length; W = width; H = height

c = century

Table 1. Levels in Churches EA and E

Level	Description	Text reference
ca. 93.00–91.80 (n to s)	approximate grade before excavation	
ca. 91.50–90.80	approximate Turkish occupation	Ch. 4, 3.6
91.41–91.30	top E stylobate	Ch. 4, 3.2.5, 3.6
91.29–91.03	top E marble slab floor	Ch. 4, 1.2.5
ca. 90.90–91.30	top EA leveled walls	Ch. 4, introduction
90.75	top Lydian sarcophagus tomb n of E	Ch. 4, 3.5
90.50	top tamped earth floor e of E apse	Ch. 4, 1.2.4
90.50	top well w of E	Ch. 4, 1.5
90.31	top Northeast Unit floor	Ch. 2, 7, 7.1
ca. 90.20	top Entrance Bay steps	Ch. 2, 2.2
90.07	top Pseudocrypt marble floor	Ch. 4, 4.1
89.97	top EA n aisle steps	Ch. 2, 9.1
90.02–89.93	top West Chapel floor bedding	Ch. 3, 1.2
89.85	top West Unit mosaic floor	Ch. 2, 6.4
89.82	top EA nave repair, medieval earth floor	Ch. 3, 3.2
89.80	top Entrance Bay mosaic floor	Ch. 2, 2.3
89.80–89.20	bottom E exterior walls foundation	Ch. 4, 3.1
89.78–89.76	top North Chapel tile floor	Ch. 2, 4.3
89.75–89.71	top atrium mosaic floor	Ch. 2, 1.3
89.78–89.70	top EA nave stylobate	Ch. 1, 2.3
89.71	top EA Pseudocrypt tamped earth/tile floor	Ch. 3, 2.3
89.70	top EA apse floor bedding	Ch. 1, 3.3
89.70–89.58	top North Courtyard tamped earth floor	Ch. 2, 3.5
89.65	top ledge under Pseudocrypt floor	Ch. 3, 2.2.3, 2.3
89.69–89.66	top EA nave opus sectile floor	Ch. 2, 9.2
89.63–89.57	top EA n aisle mosaic floor	Ch. 1, 3.3.1
89.60–89.59	top EA nave mosaic floor	Ch. 1, 3.3
89.61	top EA major door threshold	Ch. 1, 2.4
ca. 89.50	top EA narthex mosaic floor	Ch. 1, 3.3.2
89.39	top possible altar foundation	Ch. 1, 1.1
89.30–89.20	top graves under Pseudocrypt	Ch. 4, 4.3
ca. 89.12	bottom Entrance Bay w wall foundation	Ch. 2, 2.1
89.10–89.00	bottom graves under Pseudocrypt	Ch. 3, 2.2.3
88.97	bottom Pseudocrypt s wall	Ch. 3, 2.2.3
ca. 88.92	bottom Entrance Bay e wall foundation	Ch. 2, 2.1
ca. 88.80	bottom atrium n wall foundation	Ch. 2, 2.1
88.35–88.24	bottom EA s stylobate foundation	Ch. 1, 2.3, 4.4
88.20–88.13	bottom EA apse foundation	Ch. 1, 2.2
78.80	bottom well w of E	Ch. 4, 1.5

Table 2. Church EA measurements in meters and in Roman and Byzantine feet

- Only whole numbers are used as proposed feet.
- The foot of 0.30 m is proposed herein for Church EA.
- The foot of 0.296 m represents the Roman or Attic foot as defined by Robertson, *Architecture*, 149. All dimensions except in the first column are in the respective foot length.
- Minor discrepancies were ignored, because the construction techniques caused inconsistent wall dimensions, as well as walls that are not truly parallel.
- *Deviation* represents the discrepancy in the number of proposed feet.

	Meters	Proposed feet	Foot = 0.30	Deviation	Foot = 0.296	Deviation
exterior wall thickness	0.90	3	3	0	3.04	1.33%
nave L axial	29.95	100	99.83	0.17%	101.18	1.18%
nave L clear	29.05	100	96.83	3.17%	98.14	1.86%
nave W axial	10.17	34	33.90	0.29%	34.36	1.06%
nave W clear	9.55	33	31.83	3.55%	32.26	2.24%
church W axial	20.19	67	67.30	0.45%	68.21	1.81%
church W clear	19.29	64	64.30	0.47%	65.17	1.83%
aisle W axial	5.01	17	16.70	1.76%	16.93	0.41%
aisle W clear	4.25	14	14.17	1.21%	14.36	2.57%
narthex W axial	5.75	19	19.17	0.89%	19.43	2.26%
narthex W clear	4.85	16	16.17	1.06%	16.39	2.44%
church L axial	40.01	133	133.37	0.28%	135.17	1.63%

Table 3. Masonry types, locations, and dates in Churches EA and E

Masonry type	Location	Proposed chronology	Text reference: description	Text reference: chronology
A-1	EA, all walls except apse	mid- to late 4th c	Ch. 1, 2.1	Ch. 1, 4
A-2	EA apse	mid- to late 4th c	Ch. 1, 2.2	Ch. 1, 4
A-3	East Building w wall	4th c	Ch. 2, 8.1	Ch. 2, 8.2
B-1	atrium n wall	late 4th to early 5th c	Ch. 2, 1.1 Ch. 2, 5.1	Ch. 2, 1.4
B-2	Entrance Bay	late 4th to early 5th c	Ch. 2, 2.1	Ch. 2, 2.5
B-3	Entrance Bay niche	2nd half, 5th to early 7th c	Ch. 2, 2.2	Ch. 2, 2.5
B-4	North Courtyard n wall	late 4th to early 5th c	Ch. 2, 3.1	Ch. 2, 3.5
B-4	North Chapel n wall	late 4th to early 5th c	Ch. 2, 4.1	Ch. 2, 4 Ch. 2, 3.5
B-4	Northwest Unit n wall	late 4th to early 5th c	Ch. 2, 5.3	Ch. 2, 3.5
B-5	North Chapel apse	2nd quarter to late 5th c	Ch. 2, 4.2	Ch. 2, 4.5
B-6	West Unit w wall foundation	1st half, 5th c	Ch. 2, 6.2	Ch. 2, 6.6
B-?	North aisle n door blocking	?		
C	Northwest Unit s wall pier	2nd half, 5th to early 7th c	Ch. 2, 5.2	Ch. 2, 6.6 Ch. 2, 7.7.1
C	West Unit e wall	5th c	Ch. 2, 6.1	Ch. 2, 6.6
C	West Unit inner w wall	2nd half, 5th to early 7th c	Ch. 2, 6.2	Ch. 2, 6.6 Ch. 2, 7.7.1
C	West Unit outer w wall	6th to early 7th c	Ch. 2, 6.2	Ch. 2, 6.6
C	Northeast Unit n wall	2nd half, 5th to early 7th c	Ch. 2, 7.1	Ch. 2, 7.7.1
C	Northeast Unit s wall	2nd half, 5th to early 7th c	Ch. 2, 7.2	Ch. 2, 7.7.1
D	West Chapel	latter part of 7th c	Ch. 3, 1.1	Ch. 3, 1.3
E-1	EA nave, narthex, n aisle	2nd half, 9th c	Ch. 3, 2.1	Ch. 3, 2.6.1
E-2	EA nave, narthex, n aisle	2nd half, 9th c	Ch. 3, 2.1	Ch. 3, 2.6.1
E-3	EA nave, narthex, n aisle	2nd half, 9th c	Ch. 3, 2.1	Ch. 3, 2.6.1 Ch. 3, 2.6.2
E-4	E Pseudocrypt s wall, n face (EA nave)	2nd half, 9th c	Ch. 3, 2.2.3 Ch. 4, 4.1	Ch. 3, 2.6.1 Ch. 4, 4.4
F	EA narthex changes	10th to mid-11th c	Ch. 3, 3.1	Ch. 3, 3.3
G	EA nave door repair	10th to mid-11th c or early 12th to early 13th c	Ch. 3, 3.2	Ch. 3, 3.3
H-1	E	2nd quarter 13th c	Ch. 4, 1.2.1	Ch. 4, 6
H-1	Lydian sarcophagus tomb	2nd quarter 13th c	Ch. 4, 3.5	Ch. 4, 3.5
H-2	E naos s facade door	2nd–3rd quarter 13th c	Ch. 4, 1.2.3	Ch. 4, 1.2.3
H-3	E foundation	2nd quarter 13th c	Ch. 4, 3.2.1	Ch. 4, 6
I	Turkish additions to E	14th–16th c	Ch. 4, 5.1	Ch. 4, 5.3

Table 4. Mortar types in Churches EA and E

- Only masonry types with distinctive mortar characteristics are listed and described.
- Some mortar characteristics are described with greater detail in Table 4 than in the text.

Masonry type	Location	Color	Texture	Aggregate	Joint surface	Hardness	Text reference
A-1	EA, except apse	gray	fine	occasional crushed brick in rubble core	—	hard	Ch. 1, 2.1
A-2	EA apse facing	gray	fine	occasional crushed brick in rubble core	slightly raked	hard	Ch. 1, 2.2
B-1	atrium n wall	fine earth in most areas					Ch. 2, 1.1
B-1	atrium n wall foundation	fine earth					Ch. 2, 1.1
B-1	atrium n wall brick courses and at doors	gray	fine	—	—	medium	Ch. 2, 1.1
B-2	Entrance Bay foundation	gray	coarse	crushed stone	full	very hard	Ch. 2, 2.1
B-4	North Chapel n wall	gray	coarse	stone chunks, crushed brick	flush	hard	Ch. 2, 4.1
B-5	North Chapel apse	gray	coarse	stone chunks	slightly raked	hard	Ch. 2, 4.2
C	Northwest Unit pier	dark brownish gray	very coarse	crushed stone, crushed brick, plaster chips	full	hard	Ch. 2, 5.2
C	West Unit e wall	light gray	medium	—	—	hard	Ch. 2, 6.1
C	West Unit w walls	gray	coarse	—	—	hard	Ch. 2, 6.2
C	Northeast Unit n wall	dark brownish gray	very coarse	crushed stone, brick chips, plaster chips	—	hard	Ch. 2, 7.1
C	Northeast Unit s wall	as n wall, but fine earth in some areas					Ch. 2, 7.2
D	West Chapel	almost white	very fine	almost none	—	brittle, crumbling	Ch. 3, 1.1
E-1–E-4	EA reconstruction	fine dark earth in thin layers					Ch. 3, 2.1 Ch. 3, 2.2.3
F	EA narthex changes	earth					Ch. 3, 3.1
G	EA nave door repair	crushed brick and small stone chunks packed in mud					Ch. 3, 3.2
H-1	E	light or medium gray	fine	crushed marble, crushed stone, river sand, very fine pebbles	raked	hard	Ch. 4, 1.2.1
H-1	E facade decoration, surface	light gray	very fine	none	center flush, edges raked	hard	Ch. 4, 2.2.1
H-1	E facade decoration, behind surface	medium gray	coarse	brick chips, brick fragments	—	hard	Ch. 4, 2.2.1
H-2	E naos s facade door	earth					Ch. 4, 1.2.3

Table 5. Brick and tile in Churches EA and E

- Dimensions are in meters and are of typical samples and are approximate, since brick dimensions usually vary, even when they are nominally the same.
- W is frequently not ascertained, but is often the same as L.
- H = height measured at the wall or vault face; L = length measured at the wall or vault face; W = width measured perpendicular to the wall or vault face.
- Some information in Table 5 is not included in the text.

Masonry type	Location	L	W	H	Color	H of joint	Text reference	
A-2	EA apse	0.36–0.37	0.36–0.37	0.07	buffish pink	0.03–0.04	Ch. 1, 2.2	
A-2	EA apse	0.36–0.37	0.18–0.19	0.07	buffish pink	0.03–0.04	Ch. 1, 2.2	
A-3	East Building	0.34	0.17	0.04–0.05	pink	0.015–0.02	Ch. 2, 8.1	
A-3	East Building	0.34	0.34	0.04–0.05	pink	0.015–0.02	Ch. 2, 8.1	
B-1	atrium n wall	0.16	—	0.04	varies	varies	Ch. 2, 1.1	
B-1	atrium n wall	0.18	—	0.04	varies	varies	Ch. 2, 1.1	
B-1	atrium n wall	0.20	—	0.04	varies	varies	Ch. 2, 1.1	
B-1	atrium n wall	0.47	—	0.04	varies	varies	Ch. 2, 1.1	
B-4	North Chapel n wall	0.16	—	0.04	pinkish red	—	Ch. 2, 4.1	
B-4	North Chapel n wall	0.26	—	0.035	pinkish red	—	Ch. 2, 4.1	
B-4	North Chapel n wall	0.32	—	0.04	pinkish red	—	Ch. 2, 4.1	
B-5	North Chapel apse	0.24–0.26	—	0.035–0.04	pinkish red	0.04	Ch. 2, 4.2	
B-5	North Chapel apse	0.32	—	0.04	pinkish red	0.04	Ch. 2, 4.2	
C	Northwest Unit s wall pier	single bricks or brick fragments with varied dimensions and colors						Ch. 2, 5.2
C	West Unit e wall	occasional single bricks or brick fragments						Ch. 2, 6.1
C	West Unit w walls	occasional single bricks or brick fragments						Ch. 2, 6.2
C	Northeast Unit n wall	occasional single bricks and brick chips						Ch. 2, 7.1
C	Northeast Unit s wall	0.19	0.16	0.07	—	—	Ch. 2, 7.2	
—	Northeast Unit drain	0.29	0.29	0.035	light beige	—	Ch. 2, 7.4	
D	West Chapel	occasional reused bricks and brick fragments						Ch. 3, 1.1
E-1–E-4	EA reconstruction, nave, narthex, n aisle	bricks and brick fragments with varied dimensions and colors, many weathered before reuse						Ch. 3, 2.1 Ch. 3, 2.2.3
E-1–E-3	EA reconstruction, nave, narthex, n aisle	0.36–0.37	0.36–0.37	0.07	buffish pink	—	Ch. 3, 2.1	
—	earth floor below E Pseudocrypt floor	0.32–0.33	0.32–0.33	0.035–0.04	pinkish red	—	Ch. 3, 2.3	
F	EA narthex changes	occasional brick fragments					—	Ch. 3, 3.1
G	EA nave door repair	bricks with varied dimensions and colors						Ch. 3, 3.2
H-1	E walls and facades	brick fragments of various dimensions and colors					0.03–0.055	Ch. 4, 1.2.1
H-1	E facades	0.16–0.17	—	0.035–0.04	varies	0.03–0.055	Ch. 4, 1.2.1	

Table 5. Brick and tile in Churches EA and E (continued)

Masonry type	Location	L	W	H	Color	H of joint	Text reference
H-1	E facades	0.31–0.33	—	0.05	varies	0.03–0.055	Ch. 4, 1.2.1
H-1	E facades	0.37–0.40	—	0.07–0.08	varies	0.03–0.055	Ch. 4, 1.2.1
H-1	E apse facade arcade (Fragment 1)	0.17–0.19	—	0.05–0.06	varies	—	Ch. 4, 2.1
H-1	E n facade arches (Fragment 5)	0.18–0.20	—	0.05–0.06	varies	0.02–0.04	Ch. 4, 2.1
H-1	E s facade arch (Fragment 8)	0.18	—	0.05–0.06	—	—	Ch. 4, 2.1
H-1	E s facade (Fragment 10)	0.22–0.23	—	0.05–0.06	varies	—	Ch. 4, 2.1
H-1	E arch (Fragment 11)	0.30	0.18	0.035–0.055	varies	—	Ch. 4, 2.1
H-1	E minor dome vaults and drums (Fragments 12–15)	0.16–0.18	—	0.04	varies	0.03–0.05	Ch. 4, 2.2
H-1	E minor dome vaults and drums (Fragments 12–15)	0.16–0.18	—	0.06	varies	0.03–0.05	Ch. 4, 2.2
H-1	E minor dome vaults and drums (Fragments 12–15)	0.22–0.25	—	0.04	varies	0.03–0.05	Ch. 4, 2.2
H-1	E minor dome vaults and drums (Fragments 12–15)	0.22–0.25	—	0.06	varies	0.03–0.05	Ch. 4, 2.2
H-1	E drum facade meander (Fragments 12–15)	0.14–0.16	—	0.05–0.06	varies	0.03–0.05	Ch. 4, 2.2.1
H-1	E drum facade meander (Fragment 15)	0.16	—	0.05–0.06	varies	0.03–0.05	Ch. 4, 2.2.1
H-1	E drum facade meander (Fragments 12–15)	0.18–0.19	—	0.05–0.06	varies	0.03–0.05	Ch. 4, 2.2.1
H-1	E drum facade meander (Fragments 12–15)	0.28–0.30	—	0.05–0.06	varies	0.03–0.05	Ch. 4, 2.2.1
H-1	E drum facade meander (Fragments 12–15)	0.32	—	0.05–0.06	varies	0.03–0.05	Ch. 4, 2.2.1
H-1	E major dome vault (Fragment 17)	0.30	0.18–0.19	0.05–0.06	varies	0.03–0.06	Ch. 4, 2.3

Table 6. Idealized proportional relationships in selected basilican churches in Asia Minor

- This table is based on published plans and reports and some field observations. Minor discrepancies were ignored, because the construction techniques of the time caused inconsistent wall dimensions as well as walls that are not truly parallel; in addition, some churches are only partially known, so the published plans include schematic reconstructions. For Church EA and for most of the other churches, the proportions are axial dimensions, but clear or exterior dimensions are also used, at times in the same church.
- The examples are organized to present churches first with proportions most similar to those of Church EA, and then those that are less similar. A second consideration is geographic, giving priority to churches close to Sardis.

Church	W:W aisle:nave	W:L nave	W:L nave and 2 aisles	W:L church	W:L aisle	W:L narthex
Sardis, Church EA	1:2	1:3	2:3	1:2	1:6	1:4
Pergamon, Lower Agora	1:2	1:3	2:3	1:2	1:6	1:4
Assos, church south of Gymnasium	1:2	1:3	2:3	1:2	1:6	1:4
Xanthos, East Basilica	1:2	1:3	2:3	1:2	1:6	1:4
Ayatekla, Church No. 1	1:2	1:3	2:3	1:2	1:6	1:4
Alahan, West Church	1:2	1:3	2:3	1:2*	1:6	1:4
Hierapolis, Columnar Church No. 1	1:2	1:3	2:3†	1:2	1:6	1:5
Gülbahçe, church	1:2	1:3	2:3	1:2*	1:6	1:3**
Andriake, Church C	1:2	1:3	2:3	1:2	—	1:3
Knidos, Church C	1:3	1:3	2:3	1:2	—	1:4
Binbirkilise, Church No. 36	1:2	1:3	2:3	1:2	1:6	—
Anavarza, Church of the Apostles	1:2	1:3	2:3	1:2*	1:6	—
Cambazlı, church	1:2	1:3	2:3	1:2	1:5	—
Perge, Church A	1:2	1:3*	2:3	1:2§	1:7	—
Alakilise, Church, Phase 2	1:3	1:3*	2:3*	—	—	1:2
Kyaneai, Church A	1:2	1:3	2:3	1:2‡	—	1:3‡
Andriake, Church A	1:2	1:3	2:3	—	—	—
Miletos, Church of St. Michael	1:3	1:3	2:3	—	—	1:3
Binbirkilise, Church No. 3	1:2	1:3	4:5	1:3*	—	—
Binbirkilise, Church No. 5	1:2	1:4	2:3	1:2	—	—
Binbirkilise, Church No. 29	1:2	—	2:3	1:2	—	—
Priene, Basilican Church, Phase 2	1:2	1:4	1:2	2:5	—	—
Pisidian Antioch, large basilica	1:2	1:4	1:2	2:5†	—	—
Aphrodisias, Temple Church	1:3	1:3	—	1:2*	1:10	1:5**
Binbirkilise, Church No. 1, Phase 1	1:2	1:4	—	1:2*	1:8	—
Arneai, Church B	—	1:3	2:3	—	—	—
Didyma, Temple Church	1:2	—	3:5	1:2†	1:8	—
Xanthos, Acropolis Church	—	—	3:5	1:2*	1:8	—
Binbirkilise, Church No. 16	—	1:3	1:1	—	1:4	—
Sura Valley, Harbor Church	1:2	—	3:4	2:3*	—	—
Kydna, Church, Phase 1	1:2	—	—	2:3	—	—
Miletos, Large Church	—	2:5	4:5	2:3*	—	—
Amorium, Lower City Church	—	—	—	2:3*	1:6	1:4
Corycus, Church No. 1	1:2	—	—	—	—	1:4
Binbirkilise, Church No. 34	—	—	1:1	—	—	—

* Without the narthex, or without the transept inner bay.

† With the narthex, without the apse.

‡ Without the exonarthex.

§ Without the apse.

** Without the flanking narthex niches.

Table 7. Double-engaged columns at Sardis

- This table provides dimensions of double-engaged columns attributed to Church EA. Dimensions that have not been preserved are reconstructed. Missing top dimensions are reconstructed by comparison with the preserved dimensions of column of 3.1; missing bottom lengths are reconstructed by comparison with the preserved dimensions of column 3.3 (see Chapter 5, section 3, above).
- Dimensions are in meters.

Catalogue number	Top length	Top width	Bottom length	Bottom width	Shaft length	Shaft width
Column 3.1	0.495	0.36	0.49*	0.35*	0.42–0.45	0.30–0.31
Column 3.2	0.525*	0.355*	0.53*	0.35*	0.485–0.49	0.305–0.31
Column 3.3	0.555*	0.275*	0.525	0.25	0.505	0.225
Column 3.4	0.51*	0.25*	0.50*	0.20	0.46	0.20
Column 3.5	0.54*	0.35*	0.54*	0.34*	0.50*	0.30*
Column 3.6	—	0.22*	—	—	—	0.17
Column 3.7	0.49*	0.255*	0.46	0.225	0.44	0.205
Column 3.8	0.51*	0.30*	0.51*	0.29*	0.47*	0.25*
Column 3.9	0.45*	0.28*	0.44*	0.27*	0.40*	0.23

*Dimension is reconstructed.

Table 8. Undecorated impost blocks attributed to Church EA

- Dimensions are in meters.

Catalogue number	Height	Bottom width	Bottom length	Top width	Top length
Impost block 4.1	0.27	0.24*	0.38	0.33*	0.76
Impost block 4.2	0.24	0.26	0.56	0.37	0.76
Impost block 4.3	0.16	0.20	0.46	0.30	0.64
Impost block 4.4	0.23	0.22	0.44	0.32	0.63
Impost block 4.5	0.19	0.19	0.55	0.36	0.67
Impost block 4.6	0.19	0.19	0.24*	0.27	0.35*
Impost block 4.7	0.24	0.23	0.45	0.38	0.76

*Incomplete dimension because piece is incompletely preserved.

Table 9. Coins found in and near Churches EA and E

- Coins not included in Buttrey et al., *Coins* (Sardis M7), are dated by Jane DeRose Evans and will be published in a forthcoming Sardis coin volume.
- Coins found near the pre-excavation surface, in post-Byzantine occupation levels, or in obviously disturbed locations are not included.

Dates	Coin number	Find location	Find level	Text reference
331-335	C73.114	EA n aisle e wall at exterior face	*89.66	Ch. 1, 4.1
347-348	C73.70	EA apse, in cemented earth under floor	*89.28	Ch. 1, 4.1
348-351	C73.71	EA apse, in bedding under floor	*89.52	Ch. 1, 4.1
364-367	C73.131	E under Pseudocrypt floor	*89.60	Ch. 4, 4.3
364-375	C62.1365	North Courtyard beneath tamped earth floor	*89.55	Ch. 1, 4.1 Ch. 2, 3.5
378-383	C73.104	outside EA apse	*89.85	Ch. 1, 4.1
383-392	C73.85	outside EA apse, near n buttress	*89.85	Ch. 1, 4.1
393-395	C73.99	against EA apse	*90.00	Ch. 1, 4.1
395-401	C73.102	outside EA apse	*90.20	Ch. 1, 4.1
395-408	C62.505	North Chapel	*90.50	Ch. 1, 4.1
401-403	C73.136	atrium inside n wall	*89.85	Ch. 1, 4.1 Ch. 2, 1.4, n. 19
435	C73.101	against EA apse exterior	*90.05	Ch. 1, 4.1
1059-1067	C73.133	EA atrium	*90.30	Ch. 3, 3.3, n. 82
1068-1071	C73.142	EA over wall between atrium and narthex	*89.83	Ch. 3, 3.3, n. 82
1068-1071	C73.147	EA narthex	*89.47	Ch. 3, 3.3, n. 82
1374-1388	C62.186	Church E	in sarcophagus	Ch. 4, 3.5, n. 104
1374-1388	C62.187	Church E	in sarcophagus	Ch. 4, 3.5, n. 104
1362-1389	C62.188	Church E	in sarcophagus	Ch. 4, 3.5, n. 104

APPENDIX

Appendix
GRAVES ASSOCIATED WITH CHURCHES EA AND E*

Anne McClanan

INTRODUCTION

The catalogue of graves that follows reviews the human burials excavated in and around Churches EA and E during the 1960s and early 1970s and their associated finds. Although some are mentioned in preliminary reports and in *Sardis from Prehistoric to Roman Times*,¹ this is their first detailed publication. The information here comes from these published sources as well as from field books, photographs, and drawings, all of which reflect the limits of recording practices of their day. While there are limitations to the conclusions we can draw, it is nevertheless important to share what information is known, even while acknowledging its occasional uncertainties.

Byzantine Graves Found Elsewhere at Sardis, Not Associated with the PN Churches

Only graves associated with Churches EA and E in sector PN are included in the following catalogue (Figs. 1, no. 11, and 3). However, many graves were excavated elsewhere in and around Sardis, some of which are undoubtedly broadly contemporary with the burials around the PN churches. The distribution of graves and cemeteries at

Sardis during the late Roman and Byzantine periods is only partially known, and new discoveries change the picture frequently. A number of late Roman and Byzantine graves were found in and around the Sanctuary of Artemis, presumably associated with Church M, the small church dated to the late fourth or early fifth century nestled at the southeast corner of the Temple of Artemis (Fig. 1, no. 18).² Much like the graves found in association with Churches E and EA, these graves were lined with tile or stone and had tile or reused slab covers. Four vaulted tombs also rose to the south of Church M, and another painted, vaulted hypogeum, probably of the fifth century, was found on the north side of the precinct.³

Tombs of Roman and late Roman eras continue down both sides of the Pactolus River as far as and probably beyond the former Izmir-Ankara highway (Fig. 1, nos. 12, 13, 34).⁴ Other late Roman painted hypogea of fourth- and fifth-century dates are located in the fields between the western city wall and sector PN (Fig. 1, nos. 71, 73, 83), and scatters of marble blocks in these fields may well have

* I would like to thank Eric Ivison for his careful reading of an earlier draft of this appendix, though of course I take responsibility for the shortcomings of the final work. This appendix was written in 1997, and we made the difficult decision to refrain from giving it the thorough overhaul that would be necessary to take into account recent scholarship in order to move forward with the publication now in a timely manner.

1 Hanfmann, *SPRT*, 205–7. For specific graves, see the bibliography cited in the catalogue entries.

2 Butler, *Sardis* 1, 94, 134, 145–46; Hanfmann, “Sardis 1958,” 11.

3 Butler, *Sardis* 1, 128–29; Hanfmann and Waldbaum, *Survey* (Sardis R1), 58–60 (there dated to the first century AD); Rousseau, “Wall Painting,” cat. T10.

4 For instance, the painted hypogeum excavated by Butler at Kagirlik Tepe (Shear, “Sardis,” 405–7; Rousseau, “Wall Painting,” cat. T8), the Hellenistic and Roman tombs at sector PC (Hanfmann, “Sardis 1959”), the “Peacock Tomb” between PN and PC (Hanfmann, *SPRT*, 205–8), and a number of cist and brick-vaulted graves visible in the hillsides flanking the stream.

belonged to monumental built tombs; this entire area may have been used as a cemetery.⁵

Graves of many different periods are found along the former Izmir-Ankara highway, which was in antiquity a main thoroughfare leading from the Aegean through Sardis and was likely lined with tombs for much of its history. Early and late Roman graves have been excavated at sector HoB (Fig. 1, no. 4) and about 200 m west of HoB (Fig. 1, nos. 32.1, 32.2, 82, 86, 87).⁶ A seemingly smaller concentration of graves and tombs is located on the eastern limits of Sardis near the village of Çaltılı, outside and just within the city wall (Fig. 1).⁷ A cemetery of the early or middle Byzantine period has been excavated in recent years in central Sardis, on a hill densely occupied from the Lydian through the late Roman periods. More than 40 graves are mostly tile- or slab-lined cists, often with lids, and contain relatively few grave goods (Fig. 1, no. 68).⁸ More graves of the early and middle Byzantine periods were found on the Acropolis (Fig. 1, no. 20).⁹

Around Pactolus North itself, a number of graves seem to predate Church EA, attested by inscribed lids of cinerary chests found in later contexts rather than by actual burials.¹⁰ A barrel-vaulted mausoleum found immediately to the northwest of the Church EA/E complex, in the PN sector, contained remains of nine or more burials from the fourth or fifth century.¹¹

5 Including the Tomb of Chrysanthios, tombs 79.2 and 79.3, and tombs 07.2 and 07.3 (Hanfmann, *SPRT*, 207–8; Rousseau, “Wall Painting,” cats. T1, T7, T5, T6; Greenewalt, “Sardis 2007,” 191–204).

6 These include the tomb of Claudia Antonia Sabina (Morey, *Sarcophagus*), a nearby painted hypogeum excavated by Butler (Butler, *Sardis* 1, 139, 174, 181–83), tomb 93.1 (Greenewalt et al., “Sardis 1992 and 1993,” 1–3), an early Roman hypogeum with loculi (Tomb 86.1; Greenewalt et al., “Sardis 1986,” 161–64). Tombs in HoB: Hanfmann, *SPRT*, 205. Chamber tomb with Asiatic sarcophagus between HoB and the Pactolus bridge (Tomb 07.1): Greenewalt, “Sardis 2007,” 193–94. This was perhaps reused in late Roman times, to judge from the numbers of late Roman coins and other artifacts found in its looted remains. Rescue excavations by the Manisa Museum in 2011–2012 uncovered parts of a cemetery at the junction of the old Izmir-Ankara highway with the recent (2001) bypass, about a kilometer northeast of sector PN, with graves dating to the Lydian, Hellenistic, and late Roman periods including tile-lined cist graves, built brick chambers, and limestone sarcophagi (possibly reused). It is likely that graves extended continuously along the road from the Pactolus for at least a kilometer to the west.

7 A large sarcophagus lid (NoEx99.1) and at least seven funerary inscriptions dating from the early Roman through the Byzantine periods have been found in fields outside the city walls (NoEx58.18; NoEx99.2; IN68.11; Manisa Museum inventory 174, 509, 6504; and Staab and Petzl, “Epigamme,” 9–14, no. 4). A number of badly preserved graves, with very few grave finds, were excavated just within the late Roman city wall in 2001 (trenches CW6 01.3 and CW6 01.4, unpublished). The dates of these graves are uncertain but likely to be relatively late.

8 At Field 49: Cahill, “Sardis 2010,” 213; idem, “Sardis 2011,” 148.

9 Hanfmann, *SPRT*, 210; idem, “Sardis 1961,” 37–40, fig. 30.

10 E.g., IN60.8; IN61.53 (reused in Grave 61.33) + IN62.42 (reused in Grave 62.37); IN62.8; IN62.41.

11 Hanfmann, “Sardis 1967,” 10–11; idem, *SPRT*, 205.

The Graves Associated with Churches EA and E

The archaeological record of the more than 100 graves found near Churches EA and E offers an important glimpse of the use of the churches stretching from the early Christian through Lascarid periods. The excavation director George M. A. Hanfmann tentatively grouped the burials into chronologically sequenced categories.¹² An impetus for reconsidering these graves is Hans Buchwald’s publication herein of the churches’ architectural history. Two possibly early graves may be martyr burials (73.19 and 72.2), which would have in turn inspired the later construction of the first church (Church EA) at this location. If we follow this reasoning, the later graves reflect the traditional pattern of being clustered near the martyr burials, to both the religious and social advantage of the deceased.¹³ Most of the burials appear to be associated with the final phase of Church EA, with Church E, or with the possible interim between the two buildings. This clustering is hardly surprising: a period of almost 1,000 years passed between the construction of Church EA and the conversion of Church E to secular use.

Earlier scholarship on Byzantine mortuary practices relied heavily on literary sources to the neglect of the material remains. Eric A. Ivison’s 1993 dissertation on Byzantine grave practices, however, marked a shift to an interpretive model more grounded in archaeological evidence. Ivison overturned the earlier model of unwavering continuity by demonstrating that Byzantine society’s burial choices changed in the period between 950 and 1453. For example, at sites such as Pergamon a shift occurs during this period from the use of cist graves to tile and pit graves.¹⁴ Local availability of materials likely drove many of these decisions at places such as Sardis, where there were many earlier structures that served as ready sources for materials to be reused.¹⁵

The graves catalogued in this appendix include only those in proximity to Churches EA and E, that is, those in the “Street of Pipes” and to the south (Fig. 3). Whereas Church E has been completely excavated, a great deal of Church EA—portions of the narthex, atrium, and dependencies—remains to be explored, and thus the record of the its graves is incomplete. Likewise, the relationship of this cemetery to contemporary settlement is uncertain, for the land immediately to the south of Churches EA and E is also unexcavated.

Most of the graves are modest: simple pits or pits lined by stone and tile, often with cover slabs, rarely with floor

12 Hanfmann, *SPRT*, 205–6.

13 Ivison, “Mortuary Practices,” 272; Ivison’s spatial studies may be taken as a model to refine these chronological groupings.

14 Ivison, “Mortuary Practices,” 278.

15 *Ibid.*, 278.

slabs. Some included coffins, as evidenced by groups of iron nails (e.g., Graves 62.18, 73.21, and 73.22), but they are exceptional. The nails are from a relatively late date, probably the thirteenth century at the earliest, based on context and comparable examples from elsewhere.¹⁶ Because of the concentration and proximity to a church, the burials around Churches EA and E probably constituted a cemetery. Unlike in monastic cemeteries, remains of both sexes and a range of ages are represented in the skeletal finds. These Sardis burials are categorized by Ivison as a “common cemetery” within his “Capital model”: the clustering of the graves of ordinary people in the manner found particularly in Constantinople but also elsewhere in the Byzantine Empire.¹⁷

Another general shift that has been noted between early and middle Byzantine burial practices is an increasing prevalence of secondary burial, in which bones are buried in a disarticulated, more compact state.¹⁸ At Sardis there is negligible evidence for secondary burial, the notable exception being the martyr graves of the Lascarid Church E and Grave 62.10. The special status of the two potential martyr graves is reinforced by the clustering of the other graves nearby, reflecting a tradition originating in late antiquity. Early Byzantine monastic saints’ lives typically recount their burial in a church or similarly significant location.¹⁹ The Sardis graves seem to fit the criteria suggested by Carolyn Snively for the evaluation of whether it is appropriate to categorize remains as a martyr grave: if the martyr grave is found in its original setting, then the tomb type and grave goods must be no later than early fourth century; whereas, if the remains have been moved, and translation of relics is assumed, the martyr grave must be differentiated somehow from ordinary tombs as a “special repository.”²⁰ In a similar vein, Ivison’s comparative analysis of burial from the middle and late Byzantine periods suggests that grave type alone does not offer a reliable indicator of status.²¹ In combination with other factors—location, contents, style, to name the most important—grave type can suggest social stature. In excavations across early medieval North Africa, Italy, and Gaul, the siting proved to be a stronger indicator of privilege than any type of grave good.²²

In the Lascarid period, Grave 62.1 reused a Lydian marble sarcophagus. The prestige of this burial is further reflected in its prominent location along the north side of Church E, the presence of bronze beads, and the use of an inner wooden coffin, attested by nails found within the grave. This reuse of ancient sarcophagi is widespread—for example, the plain, limestone sarcophagus found in an underpass cutting at Saraçhane in Istanbul.²³ Buchwald suggests that this grave, Grave 62.1, may also have had an arcosolium.²⁴ The lavishness of burial may well indicate prestige of a family rather than a specific individual, for the burial of a young girl, Grave 73.21, not only is near the coveted area adjacent to the Pseudocrypt of Church E but contained such precious items as a gold earring and a rock-crystal bead.²⁵

Numerous graves were discovered inside the boundaries of Church EA’s walls. Many, perhaps most, of these probably come from the middle Byzantine period, when the earlier Church EA was in its final phase of use or after the Lascarid Church E had been constructed, or in the interim after Church EA was abandoned but before Church E was built. During this interval of several hundred years, graves were dug into the so-called Street of Pipes, the ancillary facilities of Church EA, and through the mosaic and opus sectile floors of the church and its narthex. According to Buchwald, the ground level west and north of Church E, in the former nave and north aisle of EA, had risen very little when E was built but then likely rose after construction.²⁶ This would suggest that most of the graves “in” EA but above or at the floor level (about *89.60) are associated with E. The pattern at PN is comparable to that of other excavated sites. In nearby Ephesos, some areas of the Church of the Virgin also became a prime burial area following its abandonment as a church, although a few burials date to the period of its last rebuilding in the tenth and eleventh centuries.²⁷ Likewise, in eastern Illyricum, we have evidence of a substantial number of graves in churches without other funerary connections, usually in the narthex. These burials, sometimes extending below the floor level of the earlier church, can obfuscate the chronological connections of the graves and the architecture.²⁸

As Susan Stevens reports of the cemetery at Bir el Knissia, at Carthage in Tunisia, “burials continued to be inserted into the floor during the Justinianic period, although the

16 Ibid., 85.

17 Ibid., 53, 58.

18 Abrahamse, “Rituals,” 132.

19 Ibid., 131.

20 Snively uses this standard to question several sites reported to have martyr graves: the Ilissos Basilica in Athens, the Kraneion Basilica in Corinth, and the Cemetery Basilica in Stobi (Snively, “Cemetery Churches,” 121–23).

21 Ivison, “Mortuary Practices,” 276.

22 Sapin, “Funerary Space,” 39.

23 Harrison and Firatli, “Saraçhane,” 233. Other examples were found at Myra and Ephesos.

24 Chapter 4, section 3.5.

25 Ivison, “Mortuary Practices,” 59.

26 Chapter 4, section 3.6.

27 Knoll, *Marienkirche*, 76, 78.

28 Snively, “Cemetery Churches,” 118–19.

poor state of preservation of the burials in the [east] aisle . . . makes it unlikely that we will be able to distinguish Justinianic burials from earlier ones.”²⁹ The southeastern room was used for many burials during the church’s period of peak prominence in the seventh century, but the burials did not begin until after that room fell out of use as part of the church.³⁰ In a further comparison to Sardis, the grouping of burials at Bir el Knissia seems focused on the western half of Room 2, which was probably due to the room’s proximity to relics.³¹ Just as in the case of a few graves at Sardis that predate even Church EA, at the Kodratos Basilica in Corinth there are tombs predating construction in and around this church built in the early sixth century.³²

At Sardis the arrangement of the skeleton emulates the supine posture of sleep; thus, proper arrangement of the body included hands over the chest or abdomen, legs stretched out, and, presumably, eyes closed, a custom that precedes Christianity. A number of graves are disturbed or incomplete, though, so their original situation is uncertain.

Finds³³

Metal. This assembly of graves possessed a scattering of metal objects, usually in the form of nails or modest jewelry. Graves 62.1, 62.18, and 62.40 contained bronze beads; Graves 61.28 and 63.4, small bronze buttons. A variety of rings in a range of types appeared in the PN graves: Graves 62.40 with two bronze rings, each set with six very small pearls; Grave 62.47 with a bronze ring; Grave 73.24 also with a bronze ring; and Grave 73.2 with an iron ring. Grave 62.18 contained a ring made of two strands of silver and copper twisted together (fourteenth–fifteenth century). Likewise, these graves yielded sets of earrings. Grave 73.21’s earring stands out from the group as the only gold item found in these graves, but two silver earrings were also found in Grave 73.42, and bronze earrings appeared in Graves 62.32 (a matched pair) and 73.6 (two pairs). Nails, individually or in groups, were discovered in Graves 62.1 (13 nails), 62.2 (1 nail), 62.18 (no count but associated by excavator with a coffin), 73.9 (1 nail), 73.14 (1 nail), 73.21 (13), and 73.22 (8). In addition, Grave 61.33 yielded a bronze cross, and Grave 72.1 contained an iron blade.

Coins. The coins recovered from the Church E and EA graves divide into clusters of late Roman and medieval coins. The following graves contained late Roman coins:

Graves 62.5 (a fifth-century coin) and 62W (a coin of 395–401). Moreover, medieval Byzantine and Islamic coins were discovered in two graves: Grave 73.42 had two eleventh-century coins of Constantine V and Romanos IV, and Grave 62.1 held three Islamic coins. These coins only provide a *terminus post quem* for the latest activity in the grave, which could be looting; context is a more reliable indicator of the date of interment.

Other finds. Graves 72.2 and 61.28 included glass bottles, and Grave 73.13 included part of a glass goblet; a few other graves contained fragments of glass, probably residual. The richest grave, Grave 73.21, contained a multifaceted rock-crystal bead in addition to the gold earring mentioned above. Grave 61.31 included an ivory hairpin as well as a fragment of a second pin.

CATALOGUE

- Cardinal directions are given according to the alignment of the churches, with apses to the east.
- All skeletons are supine and oriented with head to west and feet to east, unless otherwise noted.
- Locations of the graves are at the end of the entry, followed by elevations (indicated by an asterisk), which are top elevations unless indicated otherwise.
- All graves appear on Fig. 3, except those excavated in 1961 and 62.51, 72.3, 72.5, 73.33, 73.39, and 73.40.

60 (A)

Skeleton of a female, probably 10 to 17 years old, arms folded across chest. Grave constructed of tile, covered with four tile fragments. Measured 1.30 × 0.35 × 0.25 m deep.

In Street of Pipes, *90.80.

60 (B) “Burial Pit”

Skeletal remains not recorded. Grave constructed of four courses of tile covered by two schist slabs, characterized by excavators as having crude construction with “broken brick-tile.” Inscribed cinerarium lid (IN60.18), probably second half of first century BC or early Imperial period, stood upright at west end. Measured 1.00 × 0.46 × 0.20 m.

In Street of Pipes, *90.60.

60 (C) “Bone Dump”

Bones of two disarticulated legs. Probably a secondary deposition. Grave covered by one schist slab.

In Street of Pipes, *90.50.

61.26

Disturbed and fragmentary skeleton; cranial suture closure suggests age was approximately 30 years old. Grave constructed of a schist slab, a marble fragment, and tile.

29 Stevens, *Bir el Knissia*, 304–5.

30 *Ibid.*, 306.

31 *Ibid.*, 307.

32 Ivison, “Burial,” esp. 107–8.

33 Publication references are included in the relevant entry in the graves catalogue.

Half destroyed. Measured $0.67 \times 0.38 \times 0.40$ m deep.
In Entrance Bay.

61.27

Skeleton in poor condition. Possibly a female 25 to 35 years old. Coffin-shaped grave built of coursed tile and stone with schist cover slab. Measured $1.80 \times 0.36\text{--}0.48 \times 0.40$ m deep.
In Entrance Bay.

61.28

Three skeletons. Adult male skeleton laid out on top, with the bones of the other two skeletons, a female and a child, heaped below. Adult male 35 years old.³⁴ Adult male's estimated height 1.69 m, female's 1.59 m, and child's 1.29–1.34 m. All three skeletons pushed to east end of grave. Fragment of coin (unidentified and unpublished), glass bottle with pointed base (unpublished), and small bronze button with round, dome-shaped form (M61.61:3714) found in grave. Grave constructed of courses of stone and tile, covered with schist slabs. Measured 2.04×0.43 m.
In North Chapel.
Bostancı, "Examination"; idem, "Skulls"; idem, *Skulls*.

61.29 and 61.30

Crude double grave. Skeleton 61.29 is a male, 30 to 60 years old, approximately 1.70 m tall; 61.30 probably male, 18 or 19 years old, approximately 1.51 m tall. Grave constructed of stone and tile fragments, divided by a line of stones down the middle; covered with slabs. Bones from a disturbed grave found above cover slabs. Measured 1.07×1.65 m.
In Entrance Bay.

61.31

Bones scattered and crumbling in fragmentary state, probably of an individual over the age of 18. Tapering bone hairpin with egg-shaped head (BI61.20:3623) and fragment of second pin found loose in soil east of grave. Badly damaged grave built of large tiles. Measured 0.90×0.48 m.
In Entrance Bay.

61.32

Female in her early 30s, 1.56–1.57 m tall. Disturbed (especially east end) by construction of Grave 61.33.
In Entrance Bay, cut into mosaic floor.
Bostancı, "Examination."

61.33

Well-preserved skeleton of female, approximately 1.58–1.62 m tall. Disturbed by Grave 61.32. Bronze cross with one arm broken off (M61.58:3711; Waldbaum, *Metalwork*

[Sardis M8], no. 609) found in grave. Grave constructed of stone and tile and included three reused inscribed pieces: a headstone with two lines of a funerary inscription (IN61.53, first or second century AD, which originally joined inscription IN62.42 in Grave 62.37) and two inscribed slabs (IN61.51, IN61.52), one of which was used as a cover slab. Measured $1.84 \times 0.38 \times 0.35$ m.
In Entrance Bay, on mosaic floor.
Bostancı, "Examination."

61.51

Skeleton of woman in her 20s, approximately 1.53 m tall. No remains of grave.
In Entrance Bay.
Bostancı, "Examination."

62.1 (Figs. 198, 199)

Grave contained remains of three skeletons: (1) nearly complete male skeleton approximately 50 years old,³⁵ 1.56–1.58 m tall, and lying on its right side; (2) scattered skull fragments, long bones, and additional fragments of female about 40 years old, approximately 1.53 m tall; (3) scattered skull fragments and long bones of individual about 17 years old. Inside grave were found: three Islamic coins posited by Buchwald (chapter 4, section 3.5) as later intrusions (Buttrey et al., *Coins* [Sardis M7], IS 2 and IS 3, Sarukhanid manghirs of İshak b. İlyas dated 1374–1388, and IS 221, Ottoman manghir of Murad I dated 1388); four gilded bronze beads with suspension loops (7 mm diameter, Waldbaum, *Metalwork* [Sardis M8], nos. 797, 798, fourteenth–fifteenth centuries); thirteen 10 cm long nails with round heads, possibly from wooden inner sarcophagus; two Byzantine green and yellow glazed sherds; and broken window glass (Saldern, *Glass* [Sardis M6], no. 780). Grave a reused Lydian marble sarcophagus with two long schist slabs as cover. Sarcophagus measures $2.69 \times 1.03 \times 0.7$ m high.
Along north side of Church E, sarcophagus top *90.78.

Hanfmann, "Sardis 1962," 17, n. 7a; idem, *SPRT*, 207;
Bostancı, "Skulls"; idem, *Skulls*.

62.2

Skeleton of individual in 30s, probably male, approximately 1.63 m tall. Grave contained a fourth–fifth-century coin (C62.1777) and a nail. Boat-shaped grave, crudely lined with broken tile, covered by two large schist slabs and some marble fragments. Row of stones lined lower portion of grave but no lining at head and feet. Measured $2.00 \times 0.45 \times 0.36$ m deep.

Along north side of Church E, *90.65.

Hanfmann, *SPRT*, 207.

34 This skeleton was identified in the field as female.

35 This skeleton was identified in the field as a female in her 30s.

62.3

Small, scattered fragments of bones from an adult, approximately 1.54–1.60 m tall. Also skull and long bone fragments from a child five to six years old. Grave constructed of tiles. Measured 1.80 × 0.50–0.60 m.

In Street of Pipes, underlying a Turkish wall, ca.

*91.00.

Hanfmann, "Sardis 1962," 16.

62.4

Fragmentary remains in poor condition of adult approximately 1.62–1.66 m tall. Grave constructed of tile.

In Street of Pipes, underlying a Turkish wall, *90.89.

62.5

Skeleton of middle-aged adult, 1.56–1.61 m tall. Contained fragment of a fifth-century coin (C62.704). Grave constructed of tile.

In Street of Pipes, ca. *91.00.

62.6

Adult skeleton with arms crossed over abdomen. Grave lined with upright tiles. Partially destroyed.

In Street of Pipes, *90.80.

62.7

Two skeletons: a male in his 30s, arms crossed over his chest, approximately 1.69–1.71 m tall; and an older male, perhaps middle-aged, approximately 1.59–1.63 m tall. Grave covered by four tiles and one schist slab.

In Street of Pipes, *90.80.

62.8

Adult skeleton, approximately 1.63–1.68 m tall, arms crossed at lower chest, hands together; no skull. Also several bone fragments appearing to belong to a child. Narrow, tile-lined grave, covered by a slab, measuring 0.55 × 0.95 m.

Overlying north wall of North Courtyard, *90.80.

62.9

Adult skeleton without skull but otherwise in fair condition, approximately 1.72–1.76 m tall. Grave lined with broken tile and stones and covered with two large schist slabs and two marble slabs; stone placed in grave as a pillow. Measured 2.25 × 0.70 × 0.45 m.

In Street of Pipes, cut into south wall of mosaic

rooms, *90.40.

Hanfmann, "Sardis 1962," 16, n. 6.

62.10

Adult skeleton in 40s in fair condition, approximately 1.63–1.67 m tall. Grave constructed of four upright tiles in a small square, measuring 0.32 × 0.37 m; noted by excavators as a "curious burial," perhaps an "improvised

tomb from some destroyed 'regular' burial nearby."

Overlying north wall of North Courtyard, *90.80.

62.11

Skeleton in good condition of female about 40 years old, approximately 1.54 m tall. Grave lined with broken tile, covered by two large schist slabs.

Overlying north wall of North Courtyard, under a Turkish wall, *90.65.

Bostancı, "Skulls"; idem, *Skulls*.

62.12

Skeleton, partially disturbed but in good condition, of female³⁶ about 60 years old, approximately 1.61 m tall. Grave lined with broken tile and covered with two large schist and marble slabs.

In Street of Pipes, *90.65.

Bostancı, "Skulls"; idem, *Skulls*.

62.13

Disturbed adult skeleton in fair condition of woman about 45 years old, approximately 1.59 m tall. Grave lined with broken tile, covered with three marble slabs. Measured 1.70 × 0.50–0.60 m.

In Street of Pipes, *90.65.

Bostancı, "Skulls"; idem, *Skulls*.

62.14

Skeleton of individual in early 50s, perhaps female, in fair condition, approximately 1.49 m tall. Grave lined with broken tile, covered with one marble and two schist slabs.

In Street of Pipes, *90.40.

62.15

Skeleton in good condition of individual about 50 years old, perhaps male, arms crossed over chest, approximately 1.63 m tall. Grave crudely lined with stones, and disturbed at east end by Grave 63.16, which cuts into it. In North Courtyard, *90.70.

62.16

Somewhat disturbed skeleton of individual in 20s, probably male, approximately 1.70 to 1.77 m tall. Grave lined with broken tile and covered with two schist slabs. Disturbs east end of Grave 62.15.

Overlying north wall of North Courtyard, ca. *90.75.

62.17

Empty grave constructed of broken tiles, covered with one marble slab at east end.

At west end of North Courtyard, *90.50.

36 This skeleton was identified in the field as male.

62.18

Disturbed but complete skeleton of a male, perhaps in his 40s, in fair condition, approximately 1.62 m tall. Grave lacked a lining or a cover but contained a stone pillow and iron nails, suggesting a wooden coffin. Also found in grave: bits of glass, a ring made of two strands of silver and copper twisted together (M62.29:4226; Waldbaum, *Metalwork* [Sardis M8], no. 856; fourteenth–fifteenth centuries), and 22 bronze pellets or beads, each made in two halves divided vertically and with a small loop inserted through a hole in the top for stringing or suspending (M62.28:4225; Waldbaum, *Metalwork* [Sardis M8], nos. 762–83).
Along north side of Church E.
Hanfmann, *SPRT*, 207.

62.19

Empty grave lined and partially covered by a large schist slab (1.30 m × 0.56 m).
At west end of North Courtyard, no level but below top of north wall of Church EA (ca. *90.50).
Hanfmann, *SPRT*, 206.

62.20

Grave with disturbed bits of bone, lined and covered with three slabs of marble (one with relief cross in circle, not in chapter 5) and schist.
At west end of North Courtyard, no level but below top of north wall of Church EA (ca. *90.50).
Hanfmann, *SPRT*, 206.

62.21

Disturbed, empty grave lined on one side with stone.
At west end of North Courtyard, *90.48.

62.22

Empty but for small flakes and splinters of bone. Grave lined with broken tile and covered by two large schist slabs and two large tiles.
In Street of Pipes, *90.38.

62.23

Scattered bones of an adult of indeterminate sex, in poor condition, approximately 1.64 m tall. Grave lined with broken tiles and covered with a large schist slab and two tiles.
In Street of Pipes, ca. *90.40.

62.24

Empty grave lined with broken tiles and a roughly rectangular, reused marble slab with an inscription (IN62.16); no cover.
Overlying north wall of North Courtyard.

62.25

Skeleton in good condition of female in her 50s, approximately 1.51 m tall. Grave lined with tile and covered with four schist slabs.
In north aisle of Church EA, *90.15.

62.27 (Figs. 32, 104)

Empty grave covered with four schist slabs.
At east end of north aisle of Church EA, *90.55.
Hanfmann, *SPRT*, 207.

62.28

Empty grave lined with broken tile, covered with three large schist slabs.
Overlying north wall of North Courtyard.

62.30

Disturbed, fragmentary, fragile bones of a child no more than seven years old, and probably less than three. Grave lined with tile and brick, covered by three small schist and marble slabs. Measured 0.74 × 0.22 m.
Cut into north stylobate of Church EA, *89.67.

62.31

Empty grave. Brick-lined grave with two flat cover slabs and one slab standing erect at west end (perhaps a grave marker). Measured 0.62 × 0.18 m.
In nave of Church EA, *89.62.

62.32 (Fig. 88)

Skeleton of individual approximately 16 years old, in poor condition. The presence of a pair of earrings in the grave could suggest that this individual was female; the earrings were bronze wire hoops, each strung with hollow, biconical beads (M62.93:4932; Waldbaum, *Metalwork* [Sardis M8], nos. 746, 747). Grave constructed of smaller stones and tiles, covered with four slabs. Measured 1.43 × 0.36 m at its widest.
In nave of Church EA, *89.67 (top), *89.26 (bottom).
Hanfmann, *SPRT*, 206.

62.33 (Fig. 88)

Adult skeleton, in poor condition, approximately 1.65–1.68 m tall. Grave lined with marble and other stones, covered by four slabs. Measured 2.10 × 0.40 (at its widest) × 0.25 m.
In nave of Church EA, *89.67 (top), *89.28 (bottom).

62.34

Skeleton of child approximately six years old, in fair condition. Grave lined with stones and covered with several slabs. Measured 1.01 × 0.41 m.
In nave of Church EA, *89.82.

62.35

Skeleton of child approximately four to six years old, in very poor condition. Grave lined with stones and covered with four slabs. Measured 0.83 × 0.34 m. In nave of Church EA, *89.82.

62.36

Skeleton of individual about 17 years old, in very poor condition. Grave lined with stone and covered with four large schist slabs. Measured 1.78 × 0.50 m. In nave of Church EA, *89.67. Hanfmann, *SPRT*, 206.

62.37

Only fragments of a skull preserved. Grave partially lined with stone or tile; south and west walls of grave constructed of architectural pieces (chapter 5, jamb 6.5 and pillar 8.3); covered by a reused marble block with a funerary inscription (IN62.42), which originally joined inscription IN61.53 found in Grave 61.33. Measured 2.15 × 0.42 m. In nave of Church EA, *89.75 (top), *89.30 (bottom).

62.38

This location was excavated in both 1962 and 1973; this particular location, and the grave materials found during excavation, may represent either one or two graves. If only one grave, then it was disturbed and not fully excavated during the 1962 season; in 1973 it was then reidentified and excavation was completed.

If there are in fact two graves in this location, it seems likely that 62.38 (1962) was the first to be interred. At a later time, and presumably accidentally, the same grave was opened up for a new burial, 62.38 (1973); the older bones were piled up and relocated to the east end of the grave, and the remains of the second individual were placed in the remaining void to the west.

The northern wall of the grave(s) in this place was formed by a double-engaged column fragment (chapter 5, column 3.1), and the southern wall by smaller doubled-engaged column fragments of the same style, one with a cross carved in relief on its shaft (chapter 5, columns 3.2 and 3.6).

In nave of Church EA, abutting west facade of Church E.

Hanfmann, *SPRT*, 206–7.

- *Excavated in 1962*
Incomplete, disarticulated skeletal parts found piled up but in good condition. Probably a male in his 30s. *89.67.
- *Excavated in 1973*
No specific bones were recorded as coming from this grave. *89.27.

62.39

Nearly complete skeleton of male in his 50s, arms crossed over abdomen, approximately 1.66 m tall. Grave lined with brick and stone and covered with three slabs. Measured 2.00 × 0.45 m. In nave of Church EA, abutting west facade of Church E, *89.88. Hanfmann, *SPRT*, 206.

62.40

Skeleton of child 12 to 14 years old, in very poor condition. Two bronze rings found in grave, each set with six tiny pearls (Waldbaum, *Metalwork* [Sardis M8], nos. 748, 749); also 13 small, round bronze beads with a small loop at top (M62.92:4931; Waldbaum, *Metalwork* [Sardis M8], nos. 784–796). Both rings and beads dated to middle Byzantine era; the presence of such jewelry suggests that the individual was female. Grave constructed of brick and stone, covered with several slabs. Measured 1.44 × 0.40 m. In south aisle of Church EA and overlying south stylobate, *89.84 (top), *89.55 (bottom). Hanfmann, *SPRT*, 206–7.

62.42

Disturbed bones of child two to four years old, skull missing. Grave lined with brick, covered with two stone slabs, one of which had a cross in relief, placed face down (chapter 5, slab 7.7). Measured 0.77 × 0.60 m. In nave of Church EA, *89.78.

62.43

Fragmentary bones of adult, in poor condition and heaped up. Grave covered with one schist slab. Measured 0.44 × 0.65 m. In nave of Church EA, *89.78.

62.44

Empty grave covered with two slabs, one of limestone. Measured 0.81 × 0.47 m. In nave of Church EA, ca. *89.40.

62.44W (or 62.44A)

Empty grave covered with two roughly trimmed marble blocks. Measured 1.30 × 0.90 m wide. In nave of Church EA, *89.22 (top), *89.06 (bottom).

62.45

This general location was excavated in both 1962 and 1973. When the area was reopened in 1973, a grave immediately to the north of the 1962 Grave 62.45 was erroneously identified and excavated as 62.45. In nave of Church EA, along west side of Church E. Hanfmann, *SPRT*, 207.

- *Excavated in 1962*
Disturbed bones of a child. North wall of grave formed by a brecciated marble column fragment, covered by a schist slab. Measured 0.90 × 0.50 m.
*89.40.
 - *Excavated in 1973*
Disturbed bones of an adult. North wall of grave formed by double-engaged columns, one with incised cross (chapter 5, columns 3.2 and 3.6) shared with Grave 62.38, south wall by a brecciated marble column, shared with Grave 62.45 (1962). Measured 1.90 × 1.20 m.
*89.20.
- 62.46**
Skeleton of child about 15 months old. Brick-lined grave covered by three small marble slabs. Measured 0.70 × 0.29 m.
In nave of Church EA, just west of Church E, *89.40.
Hanfmann, *SPRT*, 207.
- 62.47**
Skeleton of an adult in 40s, approximately 1.50–1.55 m tall. Found in grave was a bronze finger ring with design of two opposed semicircles on bezel (M62.91:4930; Waldbaum, *Metalwork* [Sardis M8], no. 827), dated to early Byzantine period. Grave covered by two large reused marble blocks, one with a Greek inscription (IN62.144). Measured 1.80 × 0.44 m.
In nave of Church EA, along west side of Church E,
*89.40.
Hanfmann, *SPRT*, 206–7.
- 62.48**
Skeleton, probably female, about 50 years old, in good condition, approximately 1.66 m tall. Grave covered with two green serpentine revetment pieces and a large marble slab. Measured 1.80 × 0.44 m.
In nave of Church EA, just west of Church E, *89.40.
- 62.49**
Somewhat disturbed skeleton, at least 35 years old. Grave lined with brick and covered with three schist slabs. Measured 1.75 × 0.50 m.
In nave of Church EA, *89.40.
Hanfmann, *SPRT*, 206.
- 62.50**
Somewhat fragmentary skeleton of an adult, skull was missing. Grave covered with four slabs, three limestone, the fourth a reused marble slab fragment with a cross in relief (chapter 5, slab 7.8). Measured 1.75 × 0.55 m.
In nave of Church EA, *89.11.
- 62.51**
Well-articulated skeleton in good condition of male in his 80s, oriented with skull to south, feet to north, and with arms crossed over lower chest. It does not appear that a grave was constructed for this individual, as no lining or cover was excavated; a large pithos and a marble block rested on the chest, though these objects may have been placed later and therefore on the skeleton unintentionally.
In northwest corner of Church E narthex, *90.80.
- 62W**
Adult skeleton with arms crossed over abdomen, in poor condition. Coin dated 395–401 found in 1973 campaign, when this tomb was excavated (C73.139), but because grave was possibly open in the 11 years since first being discovered in 1962, the coin is not a reliable indicator of the date of the grave. Tapering, oblong grave constructed of marble, blue river stones, and tiles with one tile under head, covered by blue schist slab. Measured 2.20 × 0.70 m.
In nave of Church EA, *89.46.
Hanfmann, *SPRT*, 206.
- 63.4**
Only disintegrated bones and two bronze buttons. Grave constructed of mortared stone and brick, covered by two marble slabs at west end and tiles at east. Measured 2.15 × 0.40–0.55 × 0.35 m deep.
In northeast corner of Street of Pipes, *89.60.
- 72.1**
Skeleton perhaps of man about 45 years old with arms crossed over abdomen. Grave also contained a small chip of opaque red-brown glass and an iron blade (M72.2:8185). Grave constructed of large stones and tile and the same type of brick as used in Church E, set on edge without mortar. North side of grave collapsed. Measured 1.75 × 0.45 m.
Between apses of Churches EA and E, *90.7 (top),
*90.35 (bottom).
- 72.2 (Fig. 211)**
Adult burial consisting of several disturbed bones heaped up together and skull with large hole. Directly below skull was a Roman amber glass bottle with squat ovoid body with concave base and wide conical neck (Fig. 212; G72.1:8181; Saldern, *Glass* [Sardis M6], no. 509). Bones may belong to one of the Christian saints for whom the basilica was built, reburial probably contemporary with the medieval reconstructions of Church EA (see chapter 4, section 4.3, and chapter 3, section 2.2.3). Small grave constructed of tiles, no cover. Measured 0.85 × 0.35 × 0.20 m deep.
In Pseudocrypt, above Grave 73.19, ca. *89.20.

Greenewalt, "Sardis 1972," 18; Hanfmann, "Sardis Campaign 1973," 33–37; idem, *SPRT*, 201, 206; Buchwald, "Church E," 276.

72.3

Very disturbed and fragmentary skeleton of a child, length 0.80 m. No traces of a constructed grave. In nave of Church EA, on mosaic floor, ca. *89.60 (bottom).

72.5

Skeleton of child about eight years old. Grave constructed of brick and tile with fieldstones at east end and a crude cement floor. Measured 0.90 × 0.75 m. Between apses of Churches EA and E, *90.70 (top), *90.35 (bottom).

73.1 (Fig. 14)

Adult skeleton with left arm crossed so that left hand rested on right shoulder, right arm crossed over lower chest. Grave constructed of tile, marble, and blue stone, with tiles, slate, and a reused marble architectural slab as cover slabs.

Cut into apse of Church EA, slightly overlying Grave 73.2, *91.05 (top of cut through apse wall), *90.70 (top of cover), *90.26 (bottom).

Hanfmann, *SPRT*, 206.

73.2 (Fig. 14)

Very fragmentary skeleton with arms crossed over abdomen. Grave contained an iron ring. Tapered grave constructed of rows of brick, covered by schist and large tiles. Measured 1.80 × 1.00 m.

In apse of Church EA, western part overlaid by Grave 73.1, *90.51 (top), *90.00 (bottom).

Hanfmann, *SPRT*, 206.

73.3

Fairly well-preserved adult skeleton with right arm at side and left arm across abdomen. Elliptical grave constructed of marble blocks, covered by a large marble slab with a smaller marble block at each end of grave; one with graffito (IN73.21). Measured 1.85 × 0.50–0.80 m.

Outside apse of Church EA, slightly overlying Grave 73.6, *90.65 (top), *90.47 (bottom).

73.4

Somewhat fragmentary skeleton of child. Grave constructed of a row of bricks and covered with broken tiles. Measured 1.10 × 0.30 m.

In Northeast Unit, slightly overlying south wall of

Grave 73.16, *90.65.

Hanfmann, *SPRT*, 206–7.

73.5

Large skeleton, probably female, somewhat disturbed, with arms resting on abdomen. Grave constructed of stones, covered by schist slabs. Measured 2.40 × 0.25–0.50 × 0.32 m deep.

In Northeast Unit, slightly overlying west end of

Grave 73.17, *90.57.

Hanfmann, *SPRT*, 206–7.

73.6

Skeleton of young girl with arms lying at sides rather than crossed. Oriented with head to northwest, feet to southeast. Found in grave were two pairs of bronze earrings, plain wire hoops dated late Roman to early Byzantine (M73.5a–d:8265; Waldbaum, *Metalwork* [Sardis M8], nos. 737–40), one earring from each pair to either side of skull. Boat-shaped grave constructed of stone and tile covered with a large blue schist slab and a tile at feet. Measured 0.82 × 0.35 × 0.32 m deep.

At juncture of apse and north buttress of Church EA, partially under west end of Grave 73.3, *90.03 (top), *89.95 (bottom).

Hanfmann, *SPRT*, 206.

73.7

Double burial of adult and child. Upper burial, the adult, disturbed with only pelvis, legs, and feet preserved. Child's skeleton disturbed with only scattered bones in central part of grave preserved. Grave constructed of stones or marble fragments.

Cut into north wall of Northeast Unit, *90.66.

Hanfmann, *SPRT*, 206–7.

73.8

Not opened. Grave constructed of large stones, irregularly trimmed on outside, covered by large schist slabs. Measured 2.20 × 0.30–0.90 m.

At juncture of Church EA apse south buttress and south aisle east wall, *90.28.

73.9 (Figs. 32, 104)

Only a few bone fragments preserved. Contained an iron nail. Grave constructed of three to five courses of flat stones, covered by a large marble slab and a schist slab. Measured 2.10 × 0.45–0.60 × 0.35 m deep.

In east end of north aisle of Church EA, *90.36 (top), *90.05 (bottom).

Hanfmann, *SPRT*, 206–7.

73.10

Disturbed skeleton of small child. Grave lined with tile and brick. Measured 0.80 × 0.26–0.32 × 0.18 m deep.

At east end of north aisle of Church EA, *90.60 (top), *90.26 (bottom).

Hanfmann, *SPRT*, 206–7.

73.11 (Fig. 14)

Child's skeleton with no skull, hands over lower abdomen. Grave crudely lined with river stones and broken brick. Measured 1.10 × 0.75–0.90 m.

Cut into apse of Church EA, *90.53 (top), *90.11 (bottom). Hanfmann, *SPRT*, 206.

73.12

No bones recorded as being found. Grave lined with large marble blocks.

In east end of north aisle of Church EA, *90.33. Hanfmann, *SPRT*, 206–7.

73.13

Adult skeleton. Part of a glass goblet (G73.7:8264; Saldern, *Glass* [Sardis M6], no. 314) and the rim of a Byzantine glazed vessel (P73.31:8269) found on top of grave. Boat-shaped grave constructed of brick and stone, covered by stones and tiles. Measured 1.60 × 0.24–0.48 × 0.30 m deep.

At east end of North Courtyard, *90.30. Hanfmann, *SPRT*, 206.

73.14

Disturbed skeleton of an adult with arms crossed over chest. An iron nail and loop found next to pelvis. Tapered grave made of stone and flat tiles, covered by several large brick pieces and a slab of schist. Measured 1.70 × 0.62 × 0.30 m deep.

At east end of North Courtyard, abutting southeast corner of Grave 73.13, *89.89.

73.15

Grave not opened. Grave constructed of courses of vertically set stones and tiles, covered with three large schist slabs. Measured 2.20 × 0.66 m.

At east end of north aisle of Church EA, *90.33 (top), *90.15 (bottom). Hanfmann, *SPRT*, 206–7.

73.16 (Fig. 76)

Adult skeleton with arms crossed over abdomen. Grave constructed of large, upright tiles and slate slabs with a lintel fragment in south wall and a Roman garland sarcophagus with Medusa head (S73.9:8272) in north wall (which was also south wall of Grave 73.17). Covered with two large pieces of schist and one tile. Measured 2.08 × 0.27–0.43 m.

In Northeast Unit, *90.25 (top), *89.79 (bottom).

73.17 (Fig. 76)

Adult skeleton with skull badly damaged, right arm placed across chest. Grave constructed of stone and tile with a pillow of three tile fragments; wall partly shared with Grave 73.16. Measured 1.98 × 0.25–0.54 m.

In Northeast Unit, ca. *90.25 (top), *89.49 (bottom).

73.18 (Fig. 22)

Grave found beneath a small heap of unassociated(?) human bone fragments, not opened. Grave covered by two large schist slabs.

Just north of north stylobate of Church EA, *89.50.

73.19 (Figs. 94, 202, 213)

Fragmentary and disrupted bones in a heap. Under Grave 72.2 and built over by walls of the Pseudocrypt, with bones piled up and moved to east end of grave, out of the way of the new foundation wall. Bones may belong to one of the Christian saints for whom the basilica was built, reburial probably contemporary with the medieval reconstructions of Church EA (see chapter 4, section 4.3, and chapter 3, section 2.2.3). Grave built of large stone and marble slabs, covered by large schist lid. Measured 1.13 × 0.26–0.35 m.

In Pseudocrypt, ca. *89.30 (top), *88.97 (bottom). Hanfmann, "Sardis Campaign 1973," 33–37; idem, *SPRT*, 201, 206; Buchwald, "Church E," 276.

73.20

Fragmentary and disturbed bones of a small child. Also contained six green sgraffito-ware sherds. Partially disturbed grave constructed of brick, covered by tile or stone slab.

In atrium of Church EA, *90.40.

73.21

Fragmentary skeleton of child, perhaps four years old. Contained gold earring (J73.3:8375; Waldbaum, *Metalwork* [Sardis M8], no. 751) made of two wire semicircles, and a faceted rock-crystal bead (J73.5:8277). Grave lined with stone, covered with a large marble lid, heavily mortared all around. Also contained 13 iron nails indicating burial included a wooden coffin or chest. Measured 1.13 × 0.35 × 0.32 m deep.

Along south side of Church E, *90.60 (top), *90.02 (bottom).

Hanfmann, "Sardis Campaign 1973," 41; idem, *SPRT*, 207.

73.22

Disturbed skeleton of child. Grave contained one small piece of window glass and four tesserae (three pieces of floor, one wall), eight corroded iron nails, and pottery fragments. Grave constructed of tiles and a lid covered with white lime cement. Measured 0.63 × 0.40 × 0.35 m deep.

Along south side of Church E, *90.30 (top), 90.03 (bottom).

Hanfmann, *SPRT*, 207.

73.23

Not opened, covered with marble and brick.
In atrium of Church EA, ca. *89.80.
Hanfmann, *SPRT*, 206.

73.24 (Fig. 99)

Somewhat fragmentary adult skeleton with arms folded across abdomen. Small bronze finger ring (M73.7:8296/IN73.23; Waldbaum, *Metalwork* [Sardis M8], no. 822), a plain, closed hoop with a lozenge-shaped bezel with illegible inscription, dated to 1000–1200, found in middle of grave. Tapered grave constructed of one course of stone and two of brick, covered by flat tiles. Measured 2.10 × 0.35–0.48 × 0.30 m deep.

In atrium of Church EA on mosaic and partially over threshold of north door between atrium and narthex, *90.13 (top), *89.78 (bottom).

Hanfmann, *SPRT*, 206.

73.24A (Fig. 77)

Skeletal remains not recorded. Covered with stone lid. Cut into south wall of Northeast Unit, *89.47.

73.25

Fragmentary skeleton of child with arms crossed over chest. Boat-shaped grave constructed of tile, covered with one large schist slab. Measured 0.90 × 0.45 m.

Along south side of Church E, ca. *90.75.

Hanfmann, *SPRT*, 207.

73.26

Grave not opened. At least partially lined with stones or tiles along south and west sides.

Cut into tile floor of North Chapel, ca. *89.70.

73.27 (Figs. 52 rear left, 100)

Grave not opened. Covered by several stone slabs of various sizes.

In North Chapel, overlying doorway between atrium and North Chapel.

73.28

Grave not opened. Covered by several stone slabs.

In atrium of Church EA.

Hanfmann, *SPRT*, 206.

73.29

Grave not opened. Covered with stone slabs; a slab with an incised cross (not in chapter 5), found near Grave 73.23, probably comes from this grave.

In atrium of Church EA.

Hanfmann, *SPRT*, 206.

73.30 (Figs. 52 rear left, 100)

Grave not opened, possibly constructed for a child. Covered by several stone slabs.

In atrium of Church EA, slightly cutting into its north wall, *90.49.

Hanfmann, *SPRT*, 206.

73.31

Solitary skull with no associated skeletal remains; no trace of constructed grave.

In nave of Church EA, ca. *89.40.

73.32 (Figs. 52 rear left, 100)

Grave not opened. Covered with four stone slabs.

In atrium of Church EA and overlying doorway between atrium and North Chapel, *90.30.

Hanfmann, *SPRT*, 206.

73.33 (Figs. 52 rear left, 100)

Grave not opened. Constructed of river stones and brick, covered by slabs. Measured 0.80 × 0.41 m.

In atrium of Church EA.

Hanfmann, *SPRT*, 206.

73.34

Grave not opened. Constructed of tile, covered with several stone slabs. Measured 1.65 × 0.50 m.

In narthex of Church EA, *89.95.

73.35

Grave not opened. Covered by schist slab (0.75 × 0.58 m). Cut into north wall of North Courtyard, ca. *90.35.

73.36

Grave not opened. Three tiles at east end, covered by one schist and two marble slabs. Measured 1.65 × 0.65–0.70 m.

Cut into north wall of North Courtyard, *90.37.

73.37

Grave not opened. Built of carefully fitted and cemented bricks with vertical wall tiles, covered with several stone slabs. Measured 1.85 × 0.40–0.50 × 0.48 m deep.

In North Courtyard, *90.51.

Hanfmann, *SPRT*, 206.

73.38

Grave not opened. Covered by a long schist slab and a tile. Length 1.20 m.

In North Courtyard, *90.10.

73.39

Disturbed pieces of bone, skull. Marble block apparently covered burial.

Cut into north wall of North Courtyard, ca. *90.20.

73.40

Grave not opened. Covered by a schist slab measuring 0.50 × 0.40 m.
Cut into north wall of North Courtyard, *90.08.

73.41

A few bones, but only bones of leg found in situ. One residual coin found, a Sardis local issue of Apollo and club type from second to first centuries BC (C73.148:1259). Unlined grave with no lid. Length 1.75 m.
Along north wall of narthex of Church EA, 10 cm above mosaic floor, ca. *89.60 (bottom).

73.42

Skeleton of child six to eight years old with arms crossed over chest. Contained two hoop earrings of silver wire (J73.6:8297; Waldbaum, *Metalwork* [Sardis M8], nos. 741, 742), suggesting individual was female. Unlined grave, reused inscribed cinerarium lid as cover (IN73.15), dated to probably second half of first century BC or early Imperial period.
In narthex of Church EA, cut into mosaic floor, *89.20 (bottom).

73.43

No skeletal remains. Unlined grave with one upright marble piece at west end, probably serving as a grave marker. Measured 0.75 × 0.35 m.
In narthex of Church EA, cut into mosaic floor, *89.40.

73.44

Grave not opened. Grave covered with marble and schist slabs. Length 1.55 m.
In narthex of Church EA, ca. *89.50.

73.45

Grave not opened. Only west end exposed, east end in unexcavated part of narthex of Church EA.
In narthex of Church EA, cut into mosaic floor.

ILLUSTRATIONS

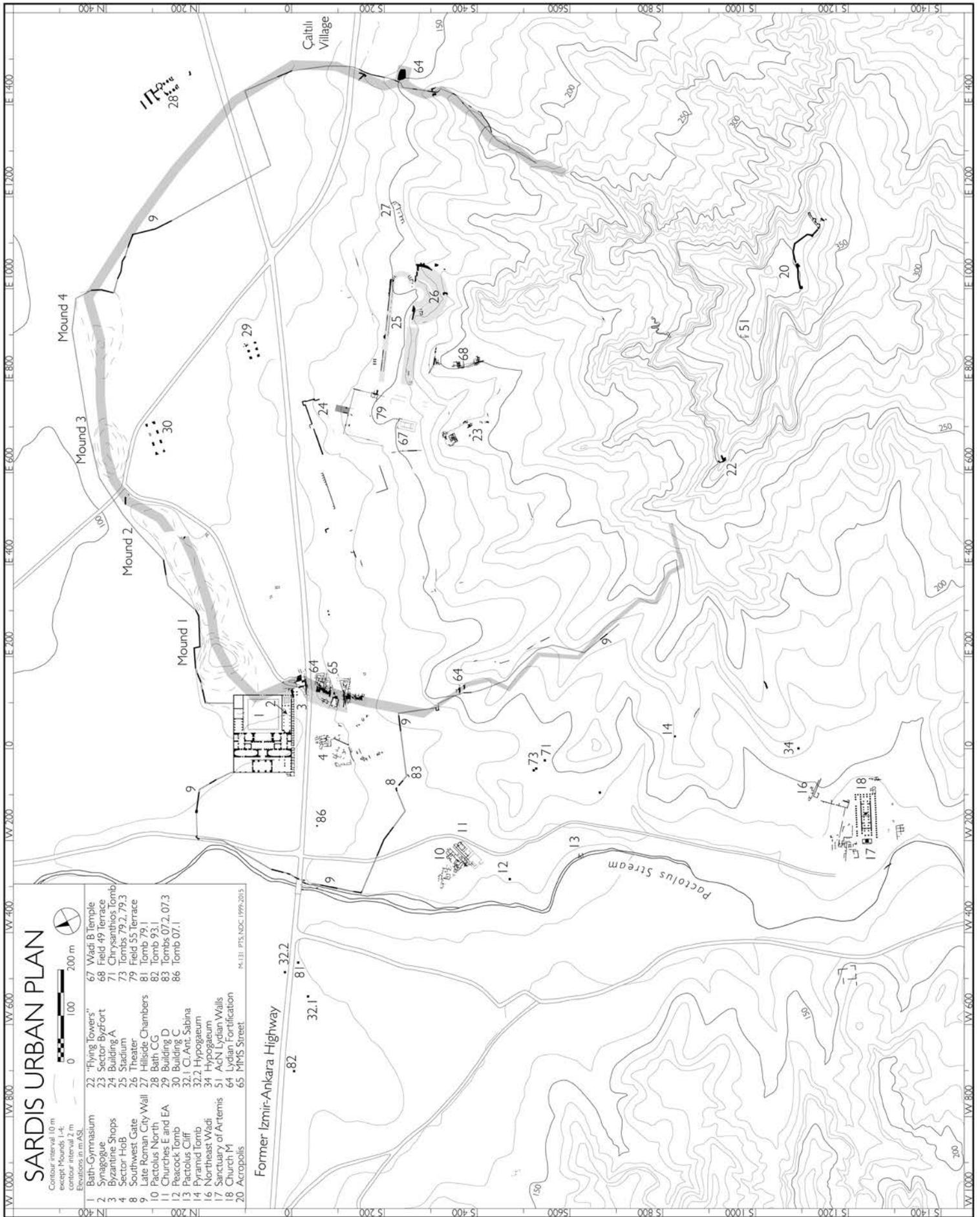


Fig. 1. Plan of Sardis showing major Roman and Byzantine features.

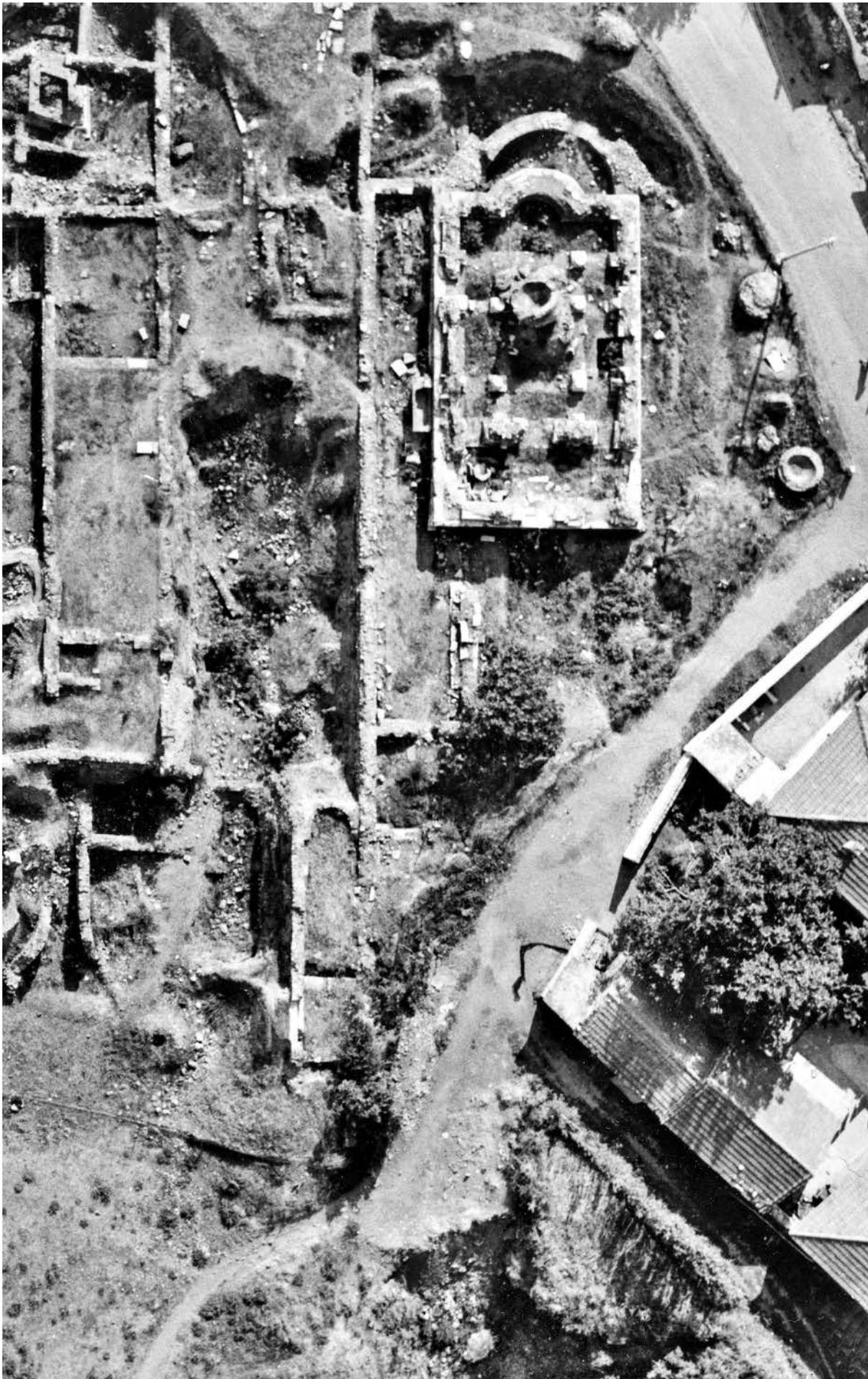


Fig. 2. Church EA and its ancillary facilities, Church E, Street of Pipes, residential unit, balloon unit, balloon photo, 1989.

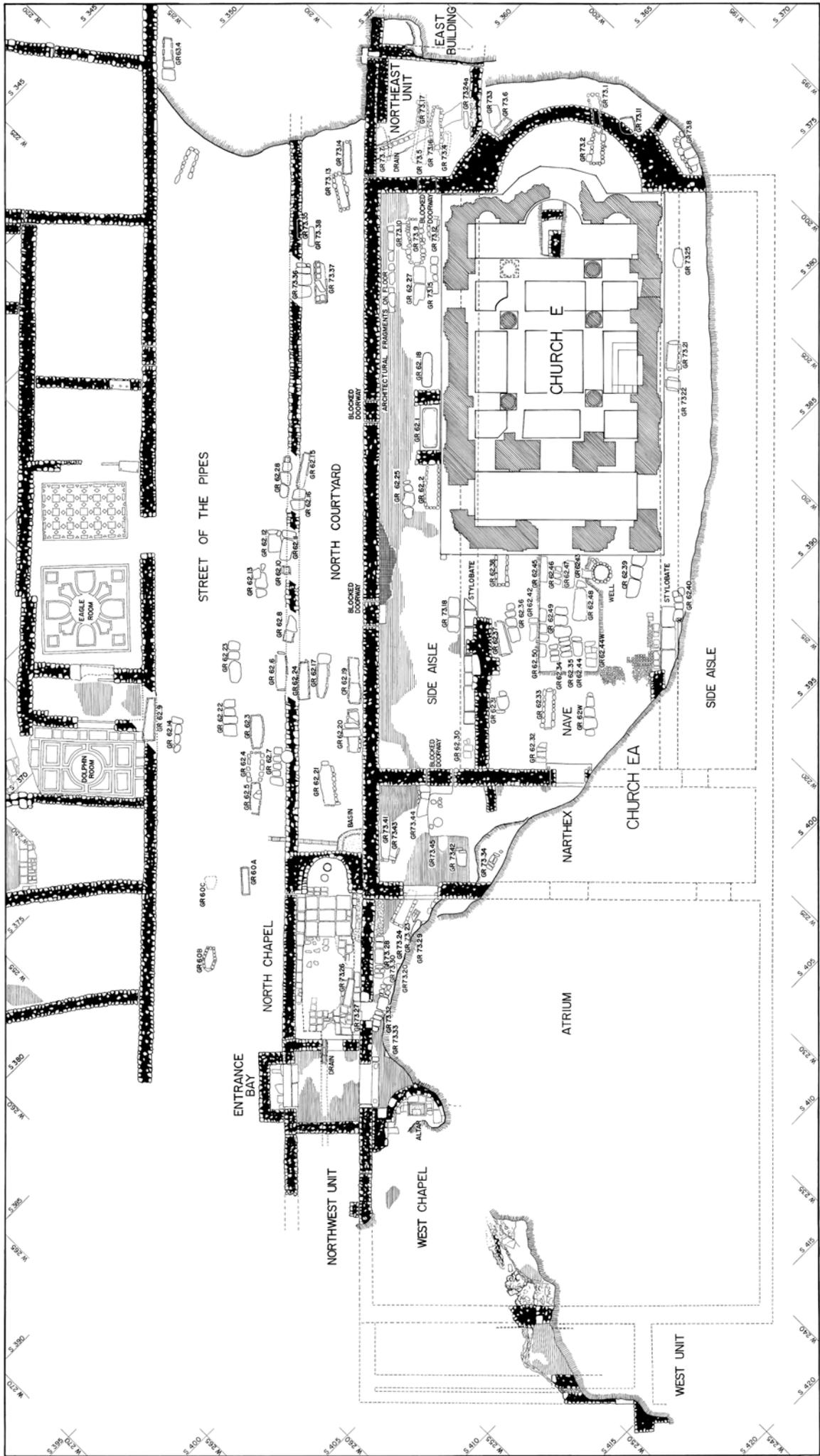


Fig. 3. Plan of Church EA and its ancillary facilities, Church E, Street of Pipes, residential unit, and graves.



Fig. 4. Church EA reconstructed plan, with Masonry Types A-1 and A-2.

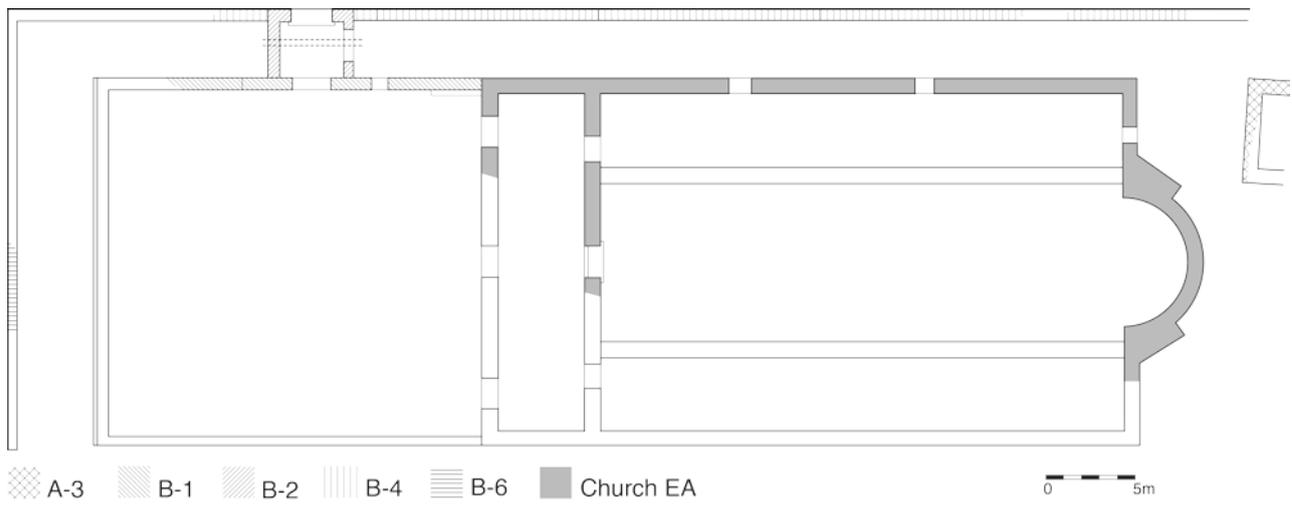


Fig. 5. Church EA building complex reconstructed plan, with Masonry Types A-3, B-1, B-2, B-4, and B-6. The atrium, Entrance Bay, North Courtyard, Northwest Unit, and Northeast Unit have been added.

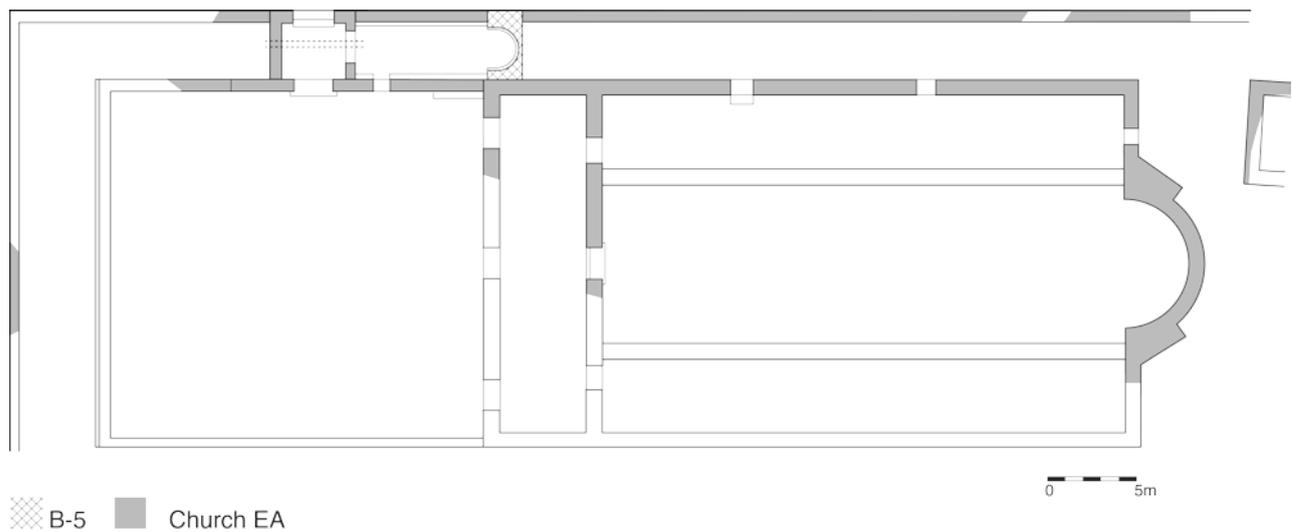


Fig. 6. Church EA building complex reconstructed plan, with Masonry Type B-5. The North Chapel has been added. Steps have been added in the Entrance Bay and north aisle, and a threshold has been added between the Entrance Bay and atrium.

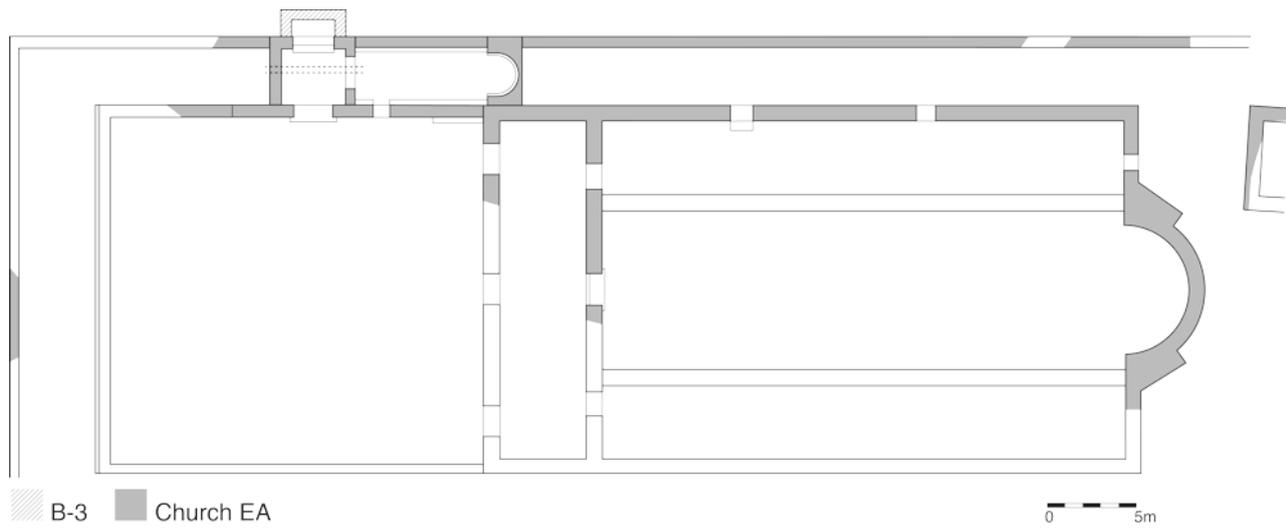


Fig. 7. Church EA building complex reconstructed plan, with Masonry Type B-3. The niche closing the Entrance Bay doorway to the street has been added.

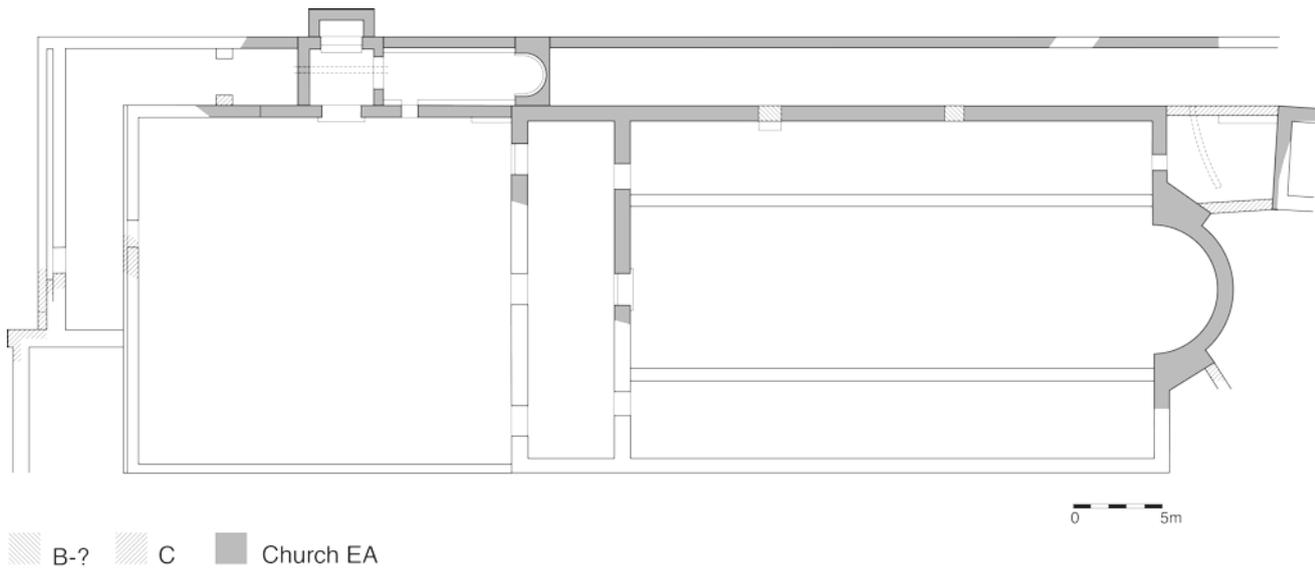


Fig. 8. Church EA building complex reconstructed plan, with Masonry Types B-? and C. A pier in the Northwest Unit, the West Unit, and the Northeast Unit have been added. The north aisle north doors have been blocked.

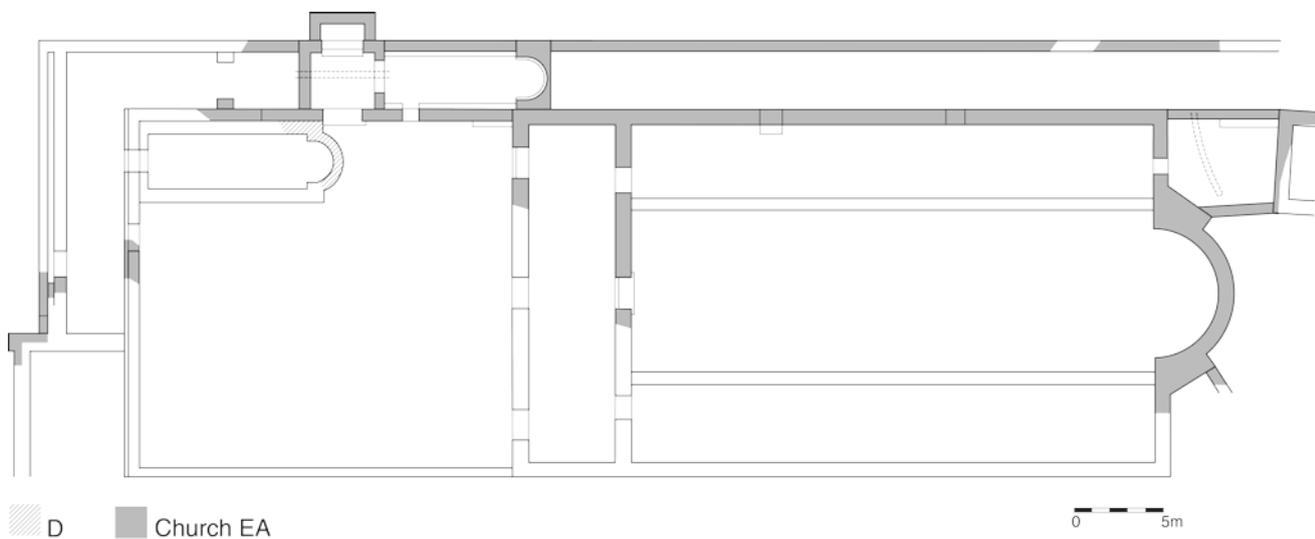


Fig. 9. Church EA building complex reconstructed plan, with Masonry Type D. The West Chapel has been added.

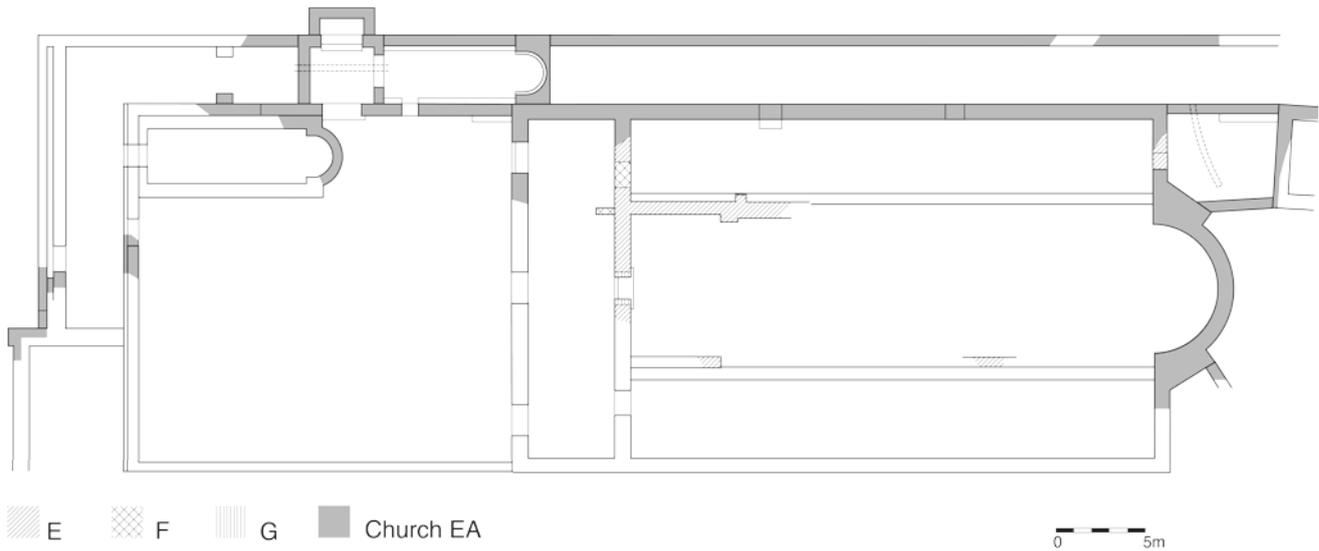


Fig. 10. Church EA building complex reconstructed plan, with Masonry Types E, F, and G. Changes in the nave, narthex, and north aisle of Church EA have been added.

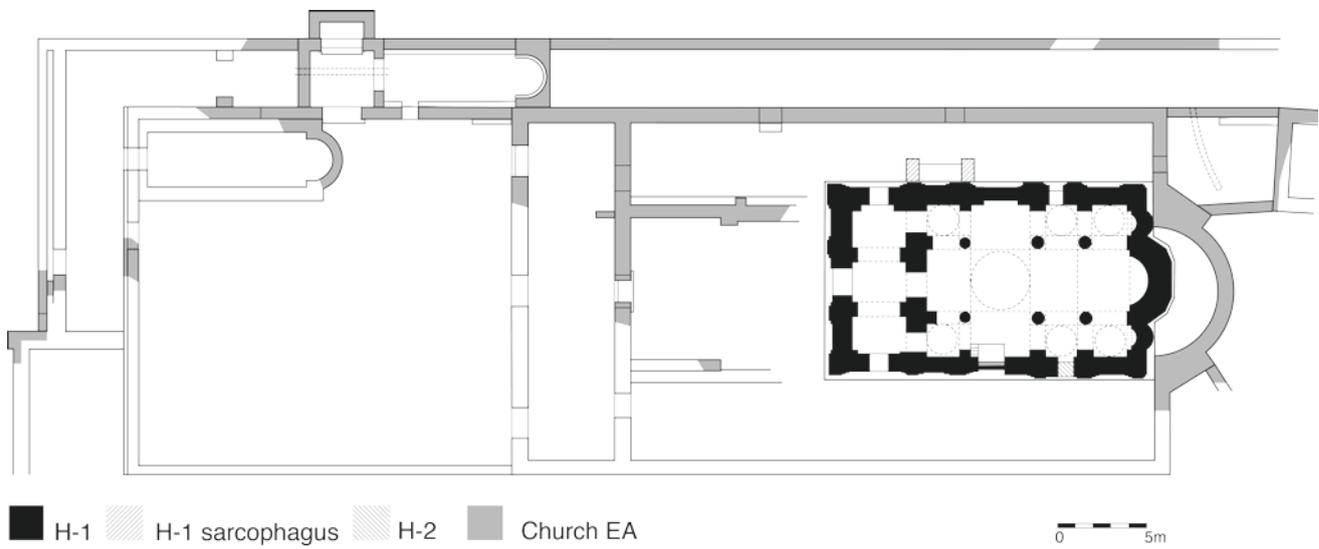


Fig. 11. Church E and Church EA building complex reconstructed plan, with Masonry Types H-1 and H-2. Church E, a tomb, and changes to Church E have been added.

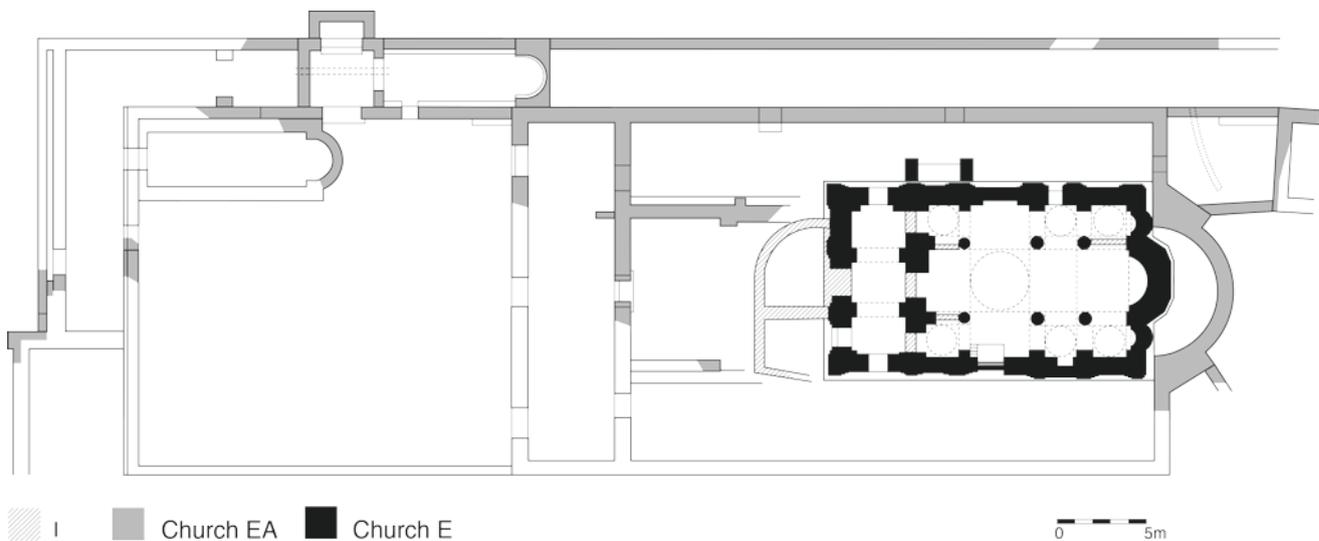


Fig. 12. Church E and Church EA building complex reconstructed plan, with Masonry Type I. Changes made during Turkish occupation have been added.



Fig. 13. Church EA and Church E, from northeast, 1973.



Fig. 14. Church EA apse and Church E, from east, 1973.



Fig. 15. Church EA west part of nave, with Church E at left, from north, 1962.



Fig. 16. Church EA north aisle, with Church E on right, from west, 1962.

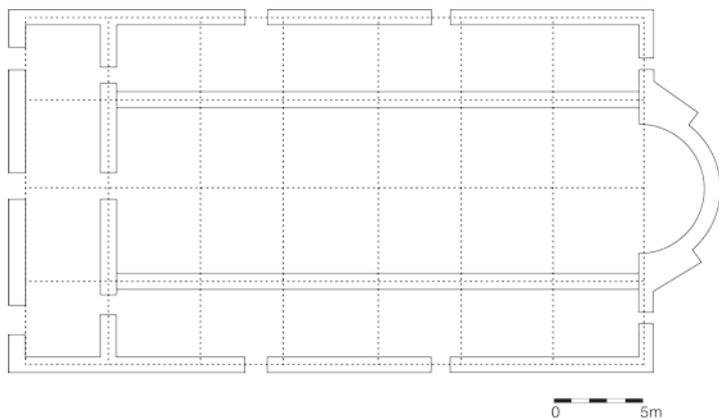


Fig. 17. Church EA reconstructed plan, with proportional modular planning grid.



Fig. 18. Church EA north wall of north aisle, with Church E in background, from north, 1973.



Fig. 19. Church EA north wall of north aisle, from south, 1973.



Fig. 20. Church EA apse, detail, from west, 1973.



Fig. 21. Church EA west part of north aisle and nave, with stylobate of north colonnade in center partly covered by later masonry, from northeast, 1973.



Fig. 22. Church EA stylobate of north colonnade and grave Gr73.18, from east, 1973.



Fig. 23. Church EA nave west wall, central door to narthex, from east, 1973.



Fig. 24. Church EA narthex west wall, north door, from east, 1973.

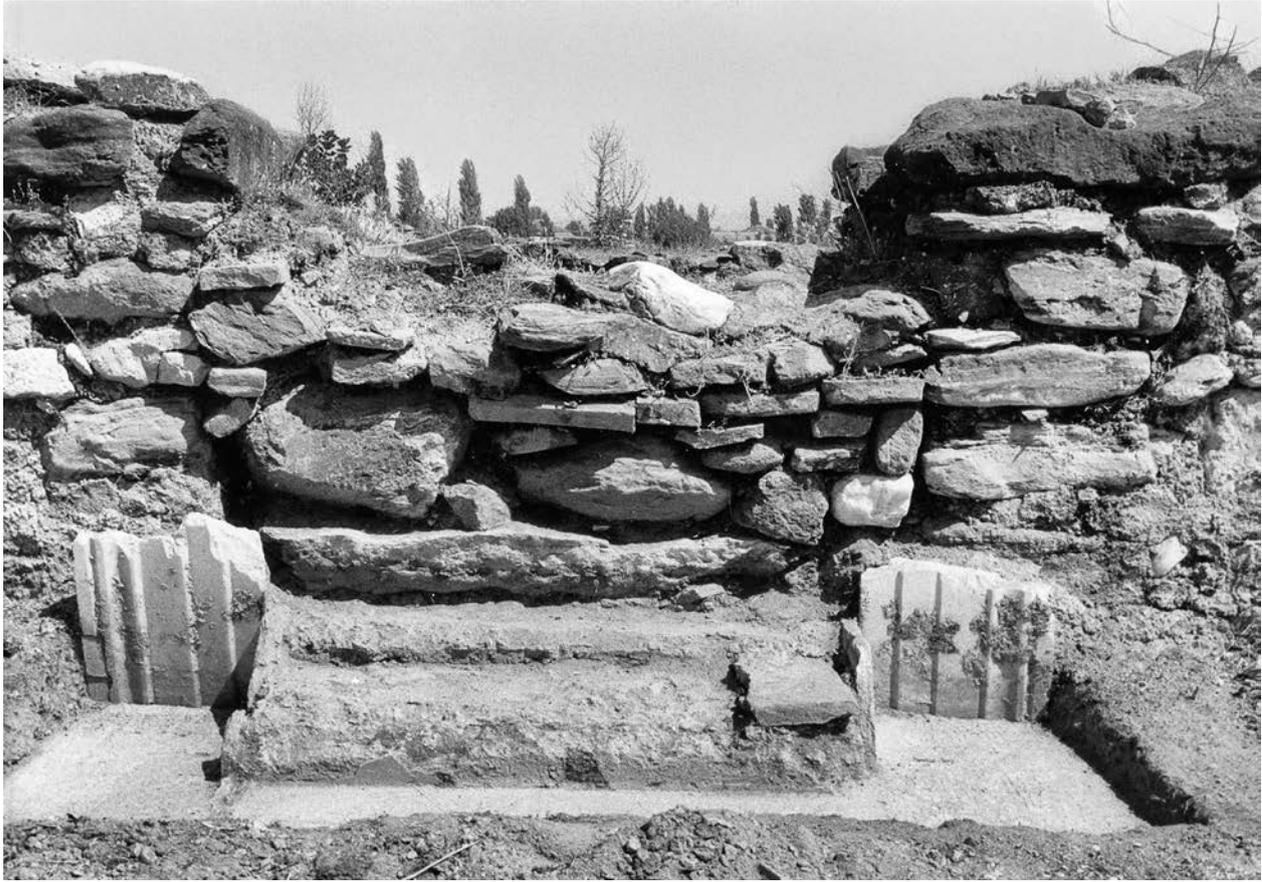


Fig. 25. Church EA north aisle, north wall, west door, from south, blocked by later masonry (door frame moldings 5.1.1 and 5.1.2 in situ), 1980.



Fig. 26. Church EA north aisle, north wall, west door, from south (door frame moldings 5.1.1 and 5.1.2 in situ), 1980.



Fig. 27. Church EA north aisle, north wall, west door, east jamb, from south (door frame molding 5.1.2 in situ), 1980.



Fig. 28. Church EA east end of north aisle, north wall, from southwest, with wall revetment in corner at rear, 1973.

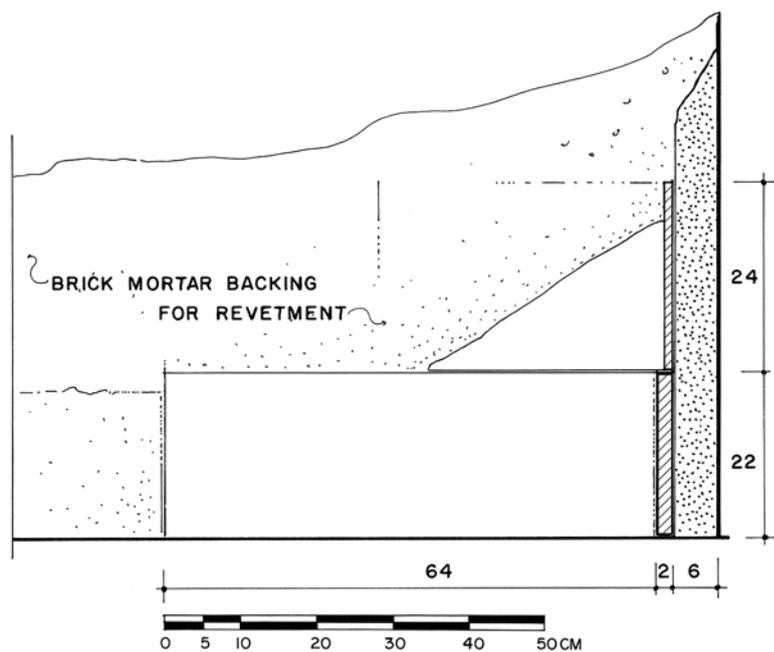


Fig. 29. Church EA revetment in northeast corner of north aisle.



Fig. 30. Plaster ornamentation found in apse of Church EA.



Fig. 31. Plaster ornamentation found in apse of Church EA.



Fig. 32. Church EA north aisle mosaic floor, from east, 1973.



Fig. 33. Church EA northeast corner of north aisle, mosaic floor and revetment, from southwest, 1973.



Fig. 34. Church EA north aisle, second mosaic floor panel, from northeast, 1972.



Fig. 35. Church EA north aisle, third mosaic floor panel, from north, 1962.



Fig. 36. Church EA north aisle, fourth mosaic floor panel, from north, 1962.

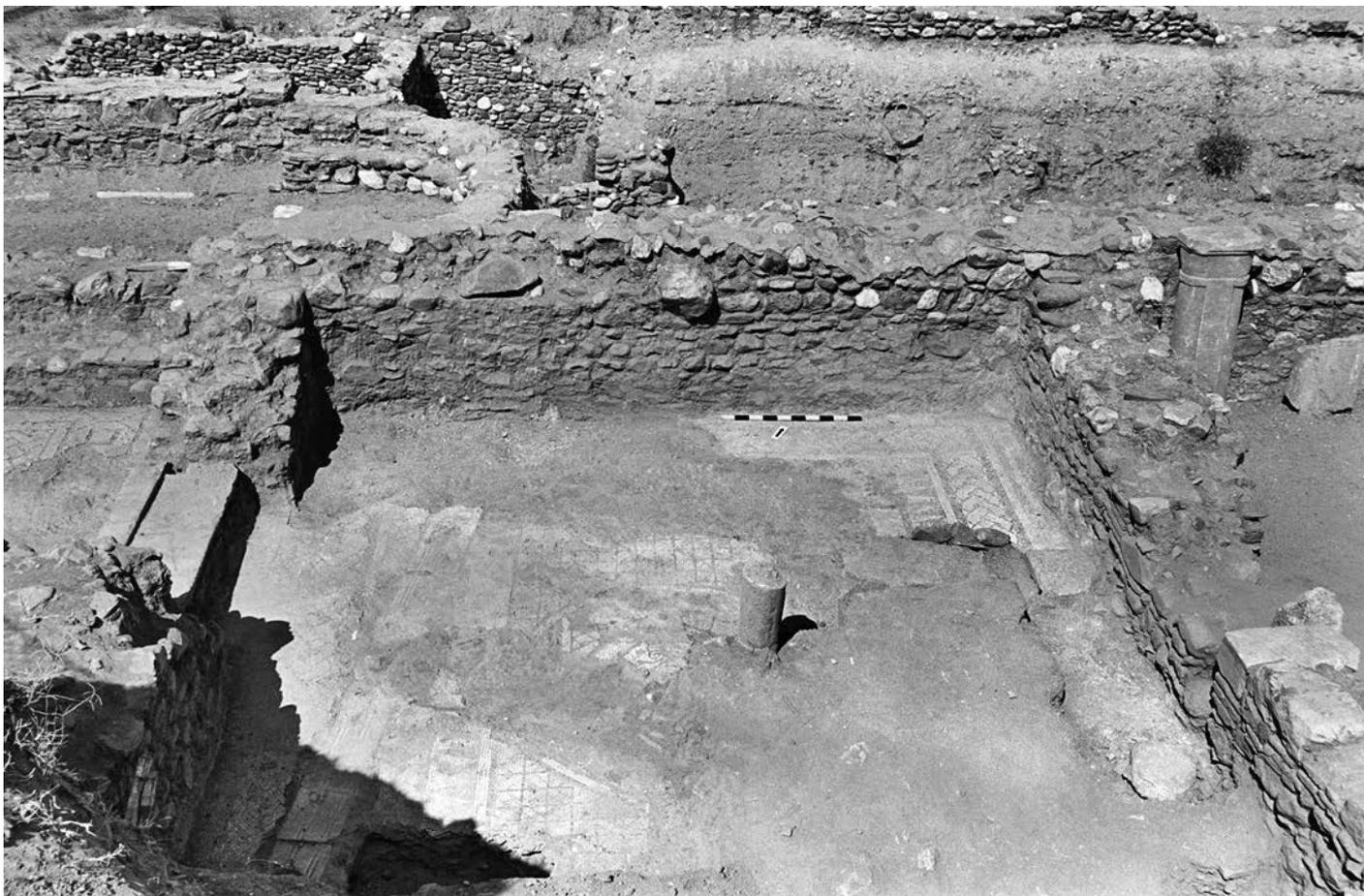


Fig. 37. Church EA narthex, north end, from south, 1973.



Fig. 38. Church EA narthex, north end, mosaic floor, from west, 1973.



Fig. 39. Church EA narthex, northeast corner, mosaic floor, from east, 1973.



Fig. 40. Wall painting fragments found in apse of Church EA.



Fig. 41. Atrium north wall, with Entrance Bay west wall foundation at lower left, from northwest, 1980.



Fig. 42. Atrium north wall (North Chapel south wall), from north, 1980.



Fig. 43. Atrium north wall (Northwest Unit south wall), with pier at right, from north, 1980.



Fig. 44. Atrium north wall (Northwest Unit south wall), from north, 1980.



Fig. 45. Door between Entrance Bay and atrium, with threshold and atrium mosaic floor, from north, 1973. West Chapel apse is at right; masonry in center is modern.

Fig. 46. West doorjamb of door between Entrance Bay and atrium, from northeast, 1961.

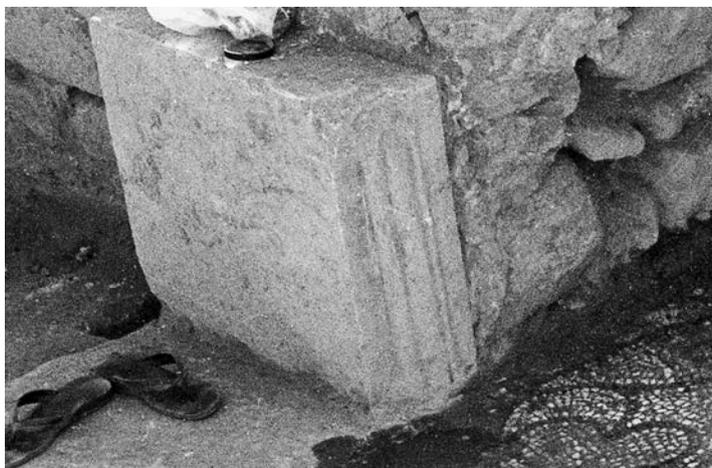


Fig. 47. Door between North Chapel and atrium, with North Chapel tile floor in foreground, atrium mosaic floor at rear, from north, 1980.

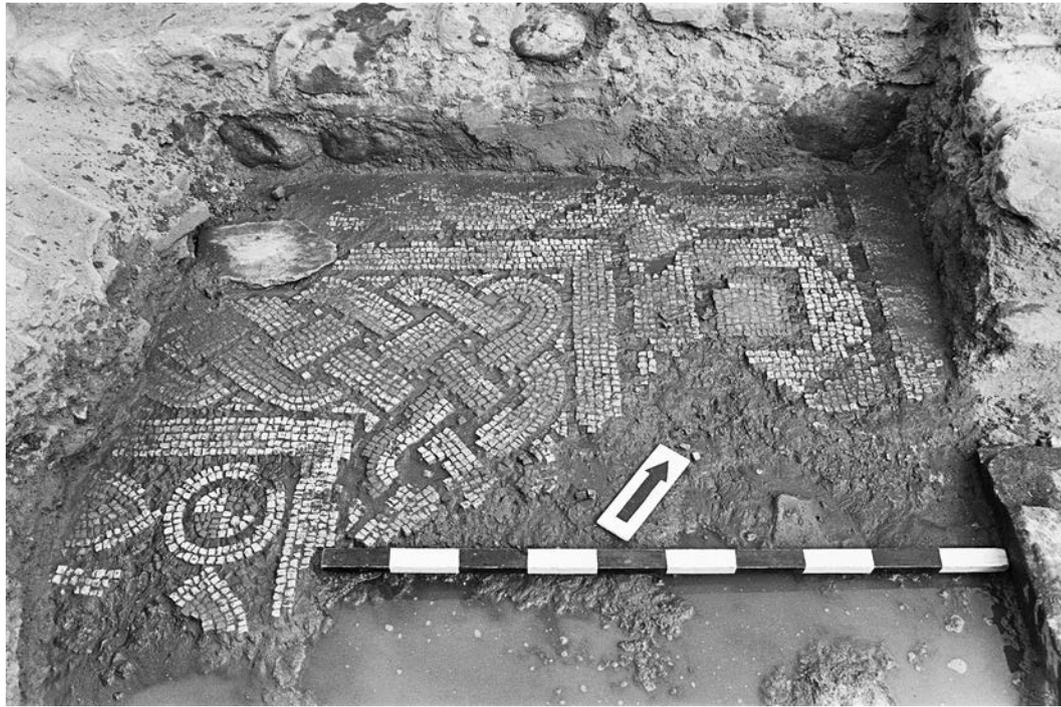


Fig. 48. Atrium northeast corner, mosaic floor with masonry bench at top, from south, 1973.



Fig. 49. Atrium mosaic floor, with threshold of door between atrium and Entrance Bay at lower right, from north, 1973.



Fig. 50. Atrium mosaic floor, with West Chapel apse at right, from north, 1969.

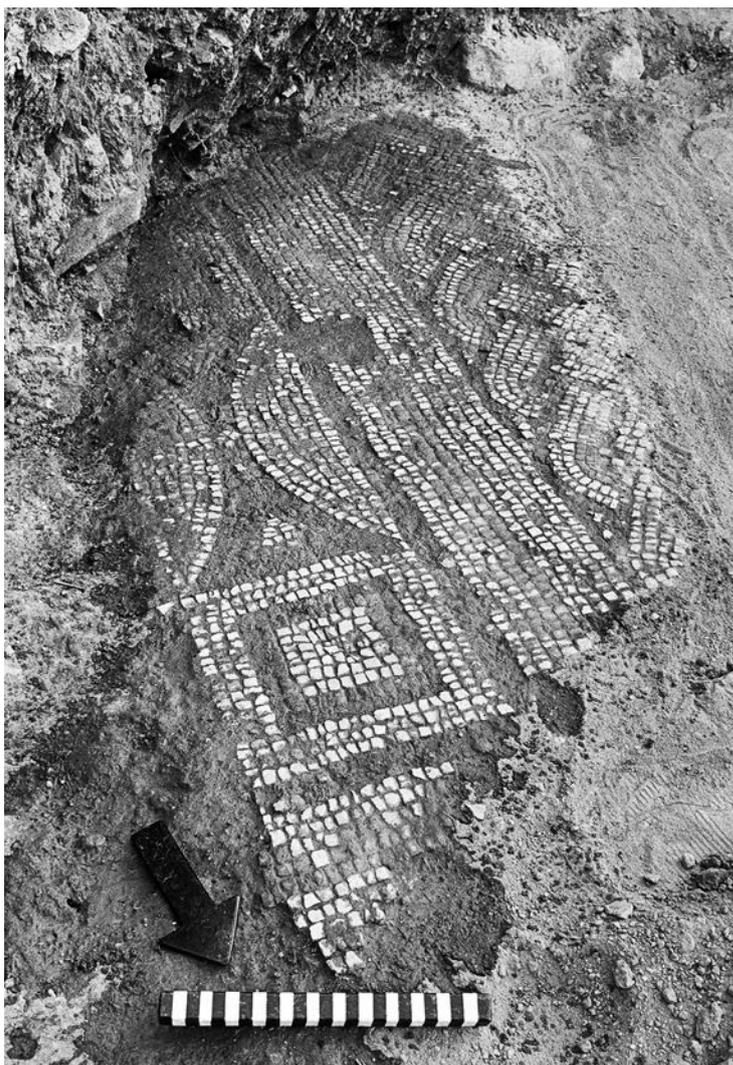


Fig. 51. Atrium mosaic floor near atrium west wall, from north, 1980.



Fig. 52. North Chapel, Entrance Bay, Northwest Unit, from east, 1973.



Fig. 53. Entrance Bay, with atrium north wall at right, from west, 1980.

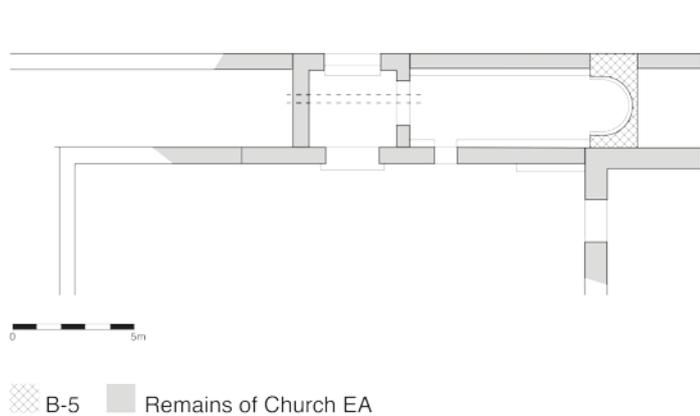


Fig. 54. Entrance Bay and North Chapel reconstructed plan, with Masonry Type B-5. The North Chapel has been added. Steps have been added in Entrance Bay and a threshold has been added between Entrance Bay and atrium.

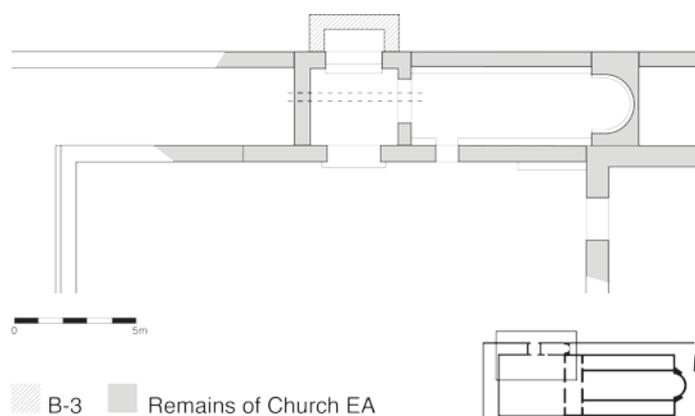


Fig. 55. Entrance Bay and North Chapel reconstructed plan, with Masonry Type B-3. Niche closing Entrance Bay doorway to street has been added.



Fig. 56. Entrance Bay north wall, with Northwest Unit at far left, from southeast, 1972.



Fig. 57. Entrance Bay north wall and steps, from south, 1980.

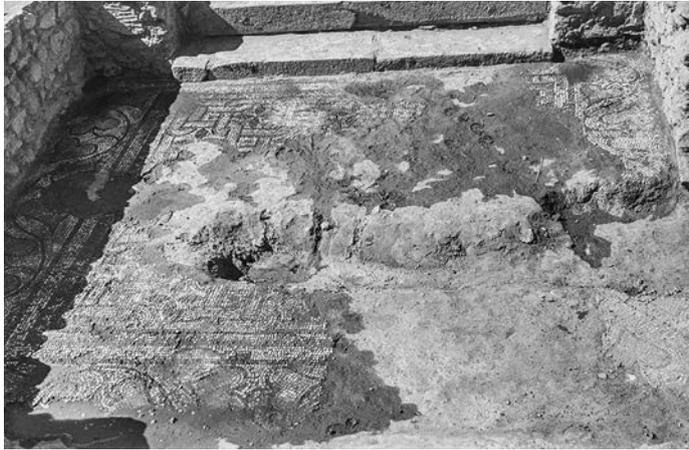


Fig. 58. Entrance Bay mosaic floor, from south, 1961.



Fig. 59. Entrance Bay mosaic floor, from south, 1961.



Fig. 60. North Courtyard, with Church E at far left, from northeast, 1962.

Fig. 61. Narthex north wall, with tile drain and North Chapel east wall at far right, from north, 1980.



Fig. 62. North Chapel, with Entrance Bay in foreground, from southwest, 1973.

Fig. 63. North Chapel apse, north side, from southwest, 1972.





Fig. 64. Entrance Bay northeast corner at left and North Chapel north wall at right, from south, 1980.



Fig. 65. North Chapel north wall, with open joint to apse wall at far left, open joint to Entrance Bay wall at far right, from north, 1980.



Fig. 66. North Chapel north wall, with ledge, from south, 1980.



Fig. 67. North Chapel south wall (atrium north wall) and ledge, from north, 1980.



Fig. 68. North Chapel floor, ledge, and south wall (atrium north wall), from east, 1980.



Fig. 69. Atrium west end at left, West Unit in center, from north, 1980.



Fig. 70. West Unit mosaic floor, from northeast, 1980.

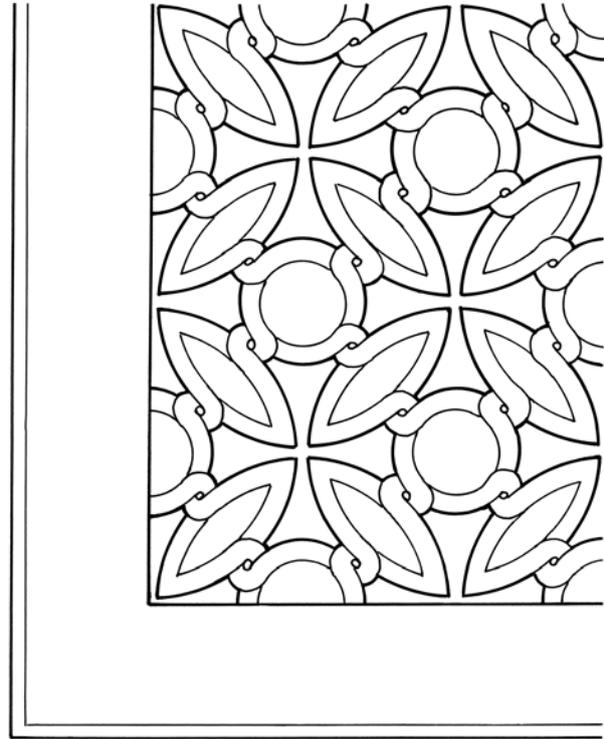


Fig. 71. West Unit southeast corner, mosaic floor reconstruction drawing.



Fig. 72. West Unit, from north, 1980.



Fig. 73. West Unit west wall, from west, 1980.



Fig. 74. West Unit west wall, from northwest, 1980.



Fig. 75. Northeast Unit north wall at left, Church EA north wall at right, from north, 1973.

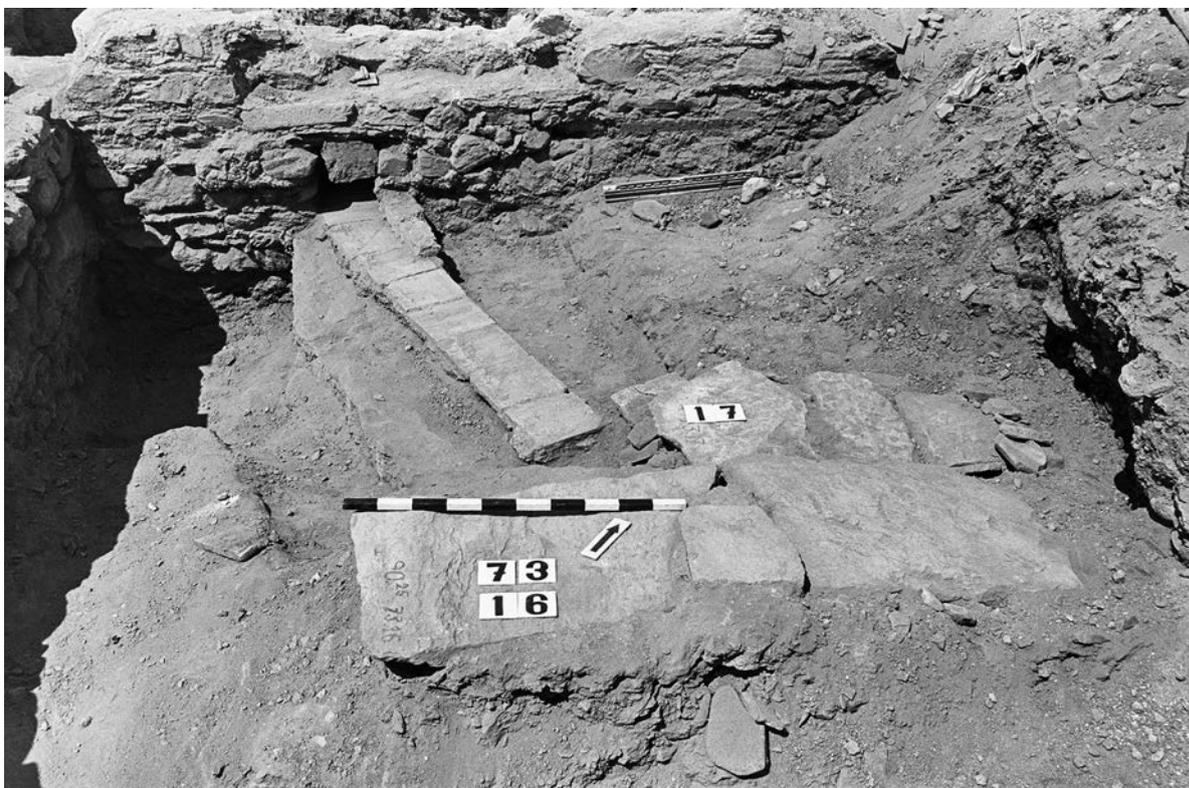


Fig. 76. Northeast Unit north wall and drain at top, with graves Gr73.16 and Gr73.17, from south, 1973.



Fig. 77. Northeast Unit south wall, Church EA north apse buttress at right, grave Gr73.24A in center, from northwest, 1973.



Fig. 78. Northeast Unit north wall and bench at left, East Building west wall (Northeast Unit east wall) at rear, from west, 1980.



Fig. 79. Northeast Unit north wall at right, drain in center, Church EA east wall at left with doorway sealed by Masonry Type E, from southeast, 1973.



Fig. 80. East Building west wall (Northeast Unit east wall), from northwest, 1980.



Fig. 81. Northeast Unit north wall at lower left, East Building west wall (Northeast Unit east wall) at top, from northwest, 1980.



Fig. 82. Church EA nave opus sectile floor, from east, 1962.



Fig. 83. Church EA nave, with medieval wall on opus sectile floor and south colonnade stylobate at left, from northeast, 1973.



Fig. 84. Church EA nave mosaic floor, covered by opus sectile floor, with medieval masonry above, near stylobate of south colonnade, from north, 1973.



Fig. 85. West Chapel apse, from southwest, 1980. Roughly cylindrical pier at rear left is modern.



Fig. 86. West Chapel apse and north wall, with atrium north wall at right and threshold of door between atrium and Entrance Bay at lower right, from east, 1980.



Fig. 87. West Chapel apse floor and altar support, from south, 1980.



Fig. 88. Church EA nave northwest corner, from east, 1973.



Fig. 89. Church EA nave west wall, with central door to narthex and north jamb, from east, 1973. Original masonry (Type A) at right, medieval reconstruction (Type E) in center, later medieval repair (Type G) at left.



Fig. 90. Church EA north aisle southwest corner, with medieval wall on stylobate of north colonnade, from north, 1980.



Fig. 91. Church EA nave, medieval wall on stylobate of north colonnade, from south, 1980.



Fig. 92. Church EA north aisle east wall, door sealed by Masonry Type E, foundation of Church E at right, from west, 1973.



Fig. 93. Church EA narthex east wall, door to north aisle at left, with portion of doorjamb in debris in foreground, from west, 1965.



Fig. 94. Church E Pseudocrypt, with grave Gr73.19 at bottom, from north, 1973.

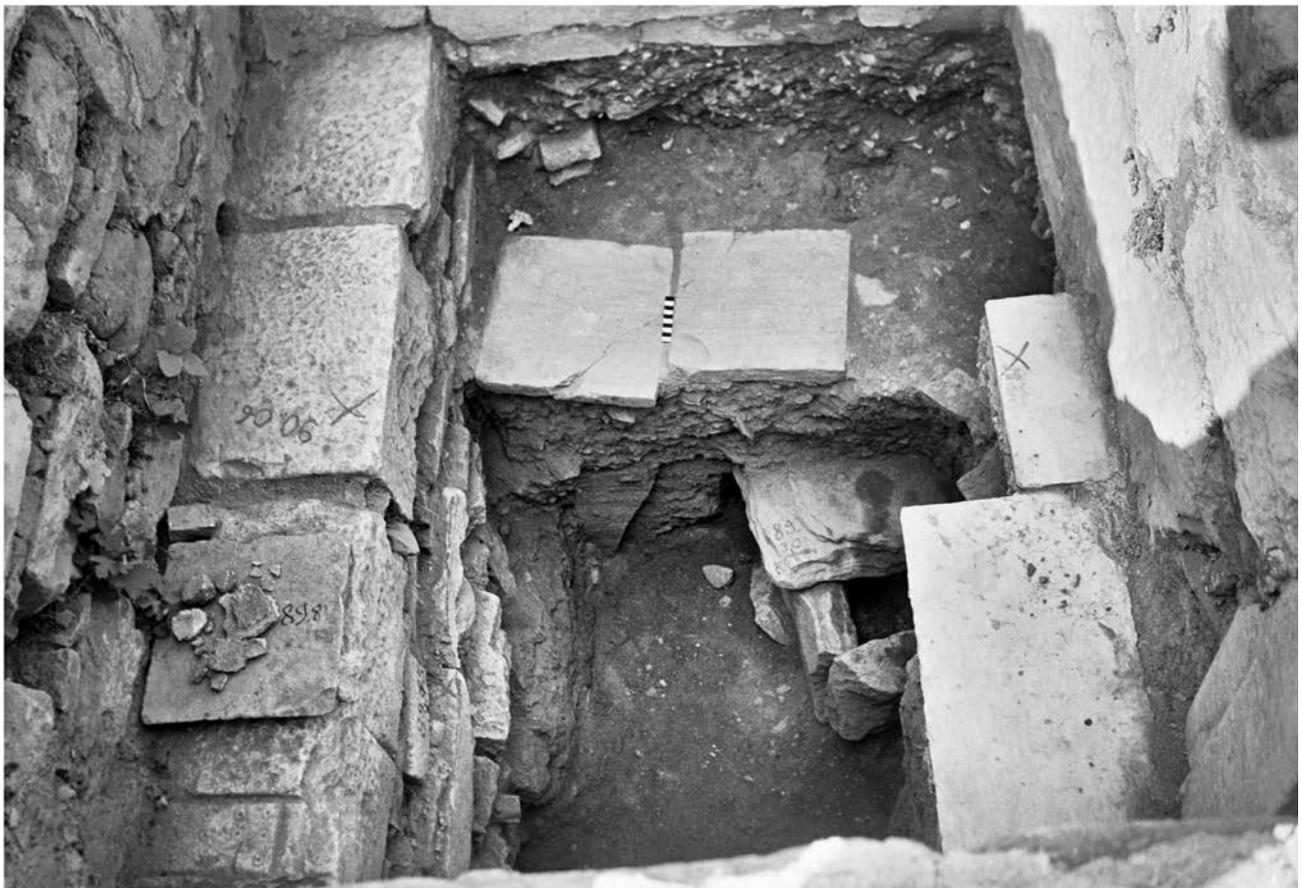


Fig. 95. Church E Pseudocrypt, with remnant of floor at far right, from east, 1973.

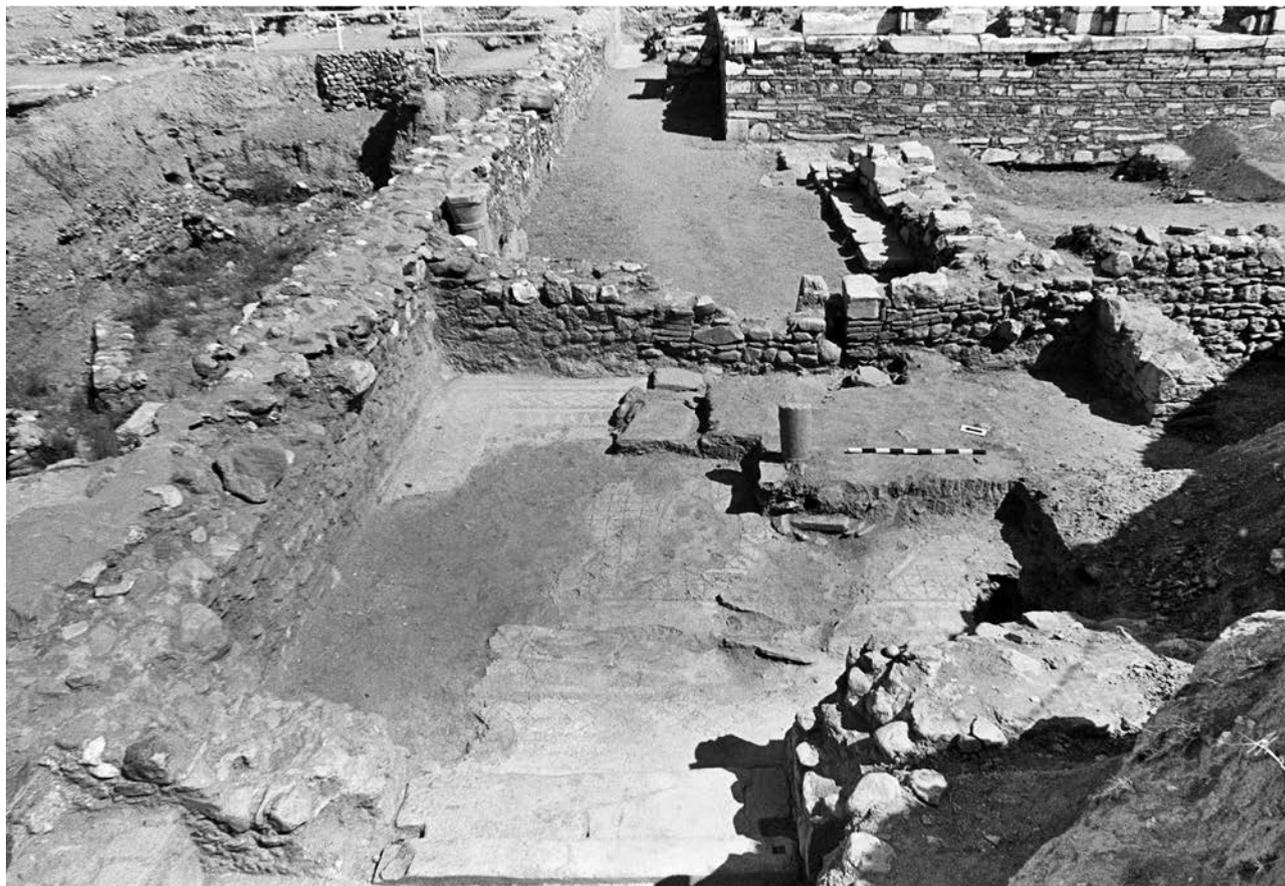


Fig. 96. Church EA narthex north end, north aisle in background, from west, 1973.



Fig. 97. Church EA door between narthex and north aisle, sealed with Masonry Type F, Masonry Type E left and right of door, from west, 1973.



Fig. 98. Church EA door between nave and narthex, south jamb, medieval repair (Masonry Type F) abutting medieval reconstruction at far left (Masonry Type E), from northeast, 1973.



Fig. 99. Church EA door between narthex and atrium, with grave Gr73.24 overlying doorway, from southeast, 1973.



Fig. 100. Door between North Chapel and atrium, with grave Gr73.33 overlying doorway and atrium north wall, from north, 1973.



Fig. 101. Church E from southeast, 1972.



Fig. 102. Church E from west, 1972.

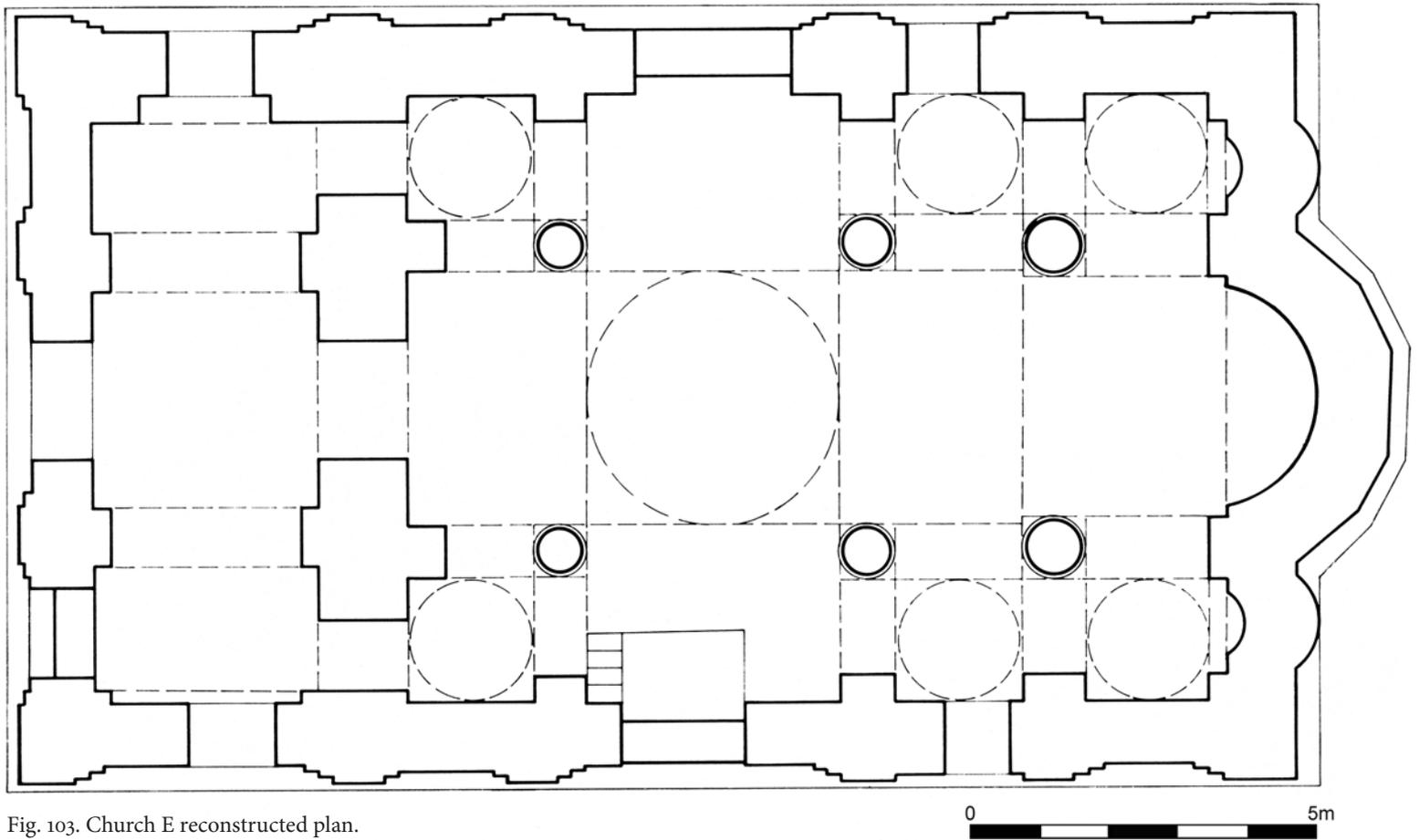


Fig. 103. Church E reconstructed plan.



Fig. 104. Church EA north aisle during excavation, with graves and architectural pieces above original floor level, from west, 1973.

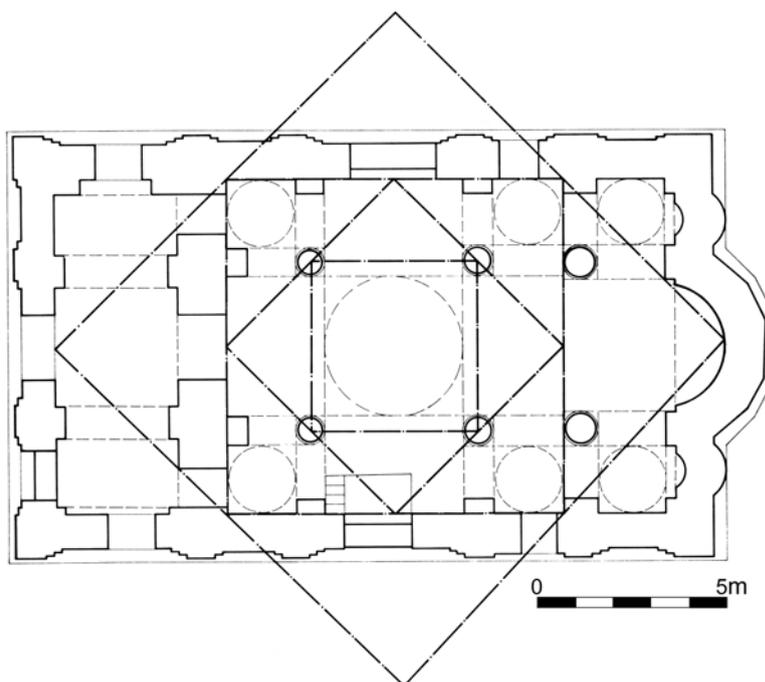


Fig. 105. Church E reconstruction with *quadratura*.



Fig. 106. Church E south facade west end, from south, 1972.



Fig. 107. Church E south facade, from southeast, 1972.



Fig. 108. Church E north facade, with North Courtyard north wall in foreground, north aisle north wall in middle ground, Church E masonry fragments in their excavated locations in background, from north, 1962.



Fig. 109. Church E major apse, from northeast, 1972.



Fig. 110. Church E west facade, from northwest, 1973.



Fig. 111. Church E naos west bay, from south, 1972.



Fig. 112. Church E north aisle east bay north wall, from south, 1972.



Fig. 113. Church E naos and north aisle, from east, 1972.



Fig. 114. Church E naos central pier of south wall (pedestal 11.3), from northeast, 1972.



Fig. 115. Church E narthex west door threshold, from northeast, 1972.



Fig. 116. Church E narthex north door threshold, from south, 1972.



Fig. 117. Church E narthex south door threshold, from north, 1972.



Fig. 118. Church E narthex south door threshold, from south, 1972.



Fig. 119. Church E naos north wall east bay with door, from south, 1972.



Fig. 120. Church E south facade, with blocked door, from south, 1972.



Fig. 121. Church E narthex west wall south bay, from east, 1972.

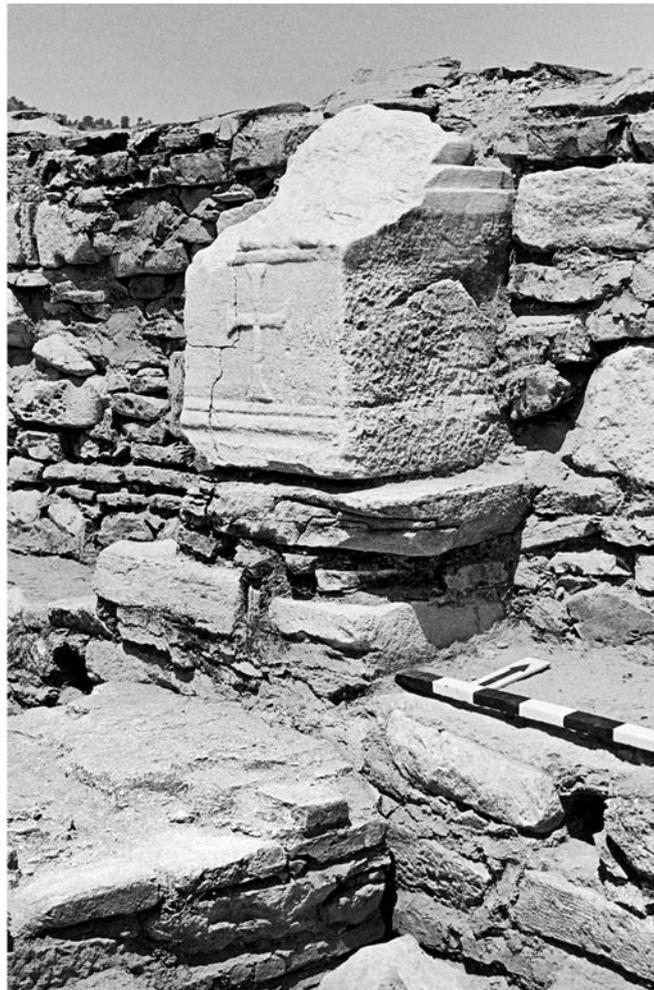


Fig. 122. Church E naos west pier of north wall (pedestal 11.2), from southeast, 1972.



Fig. 123. Church E narthex west door as excavated, blocked by Masonry Type I, from east, 1962.

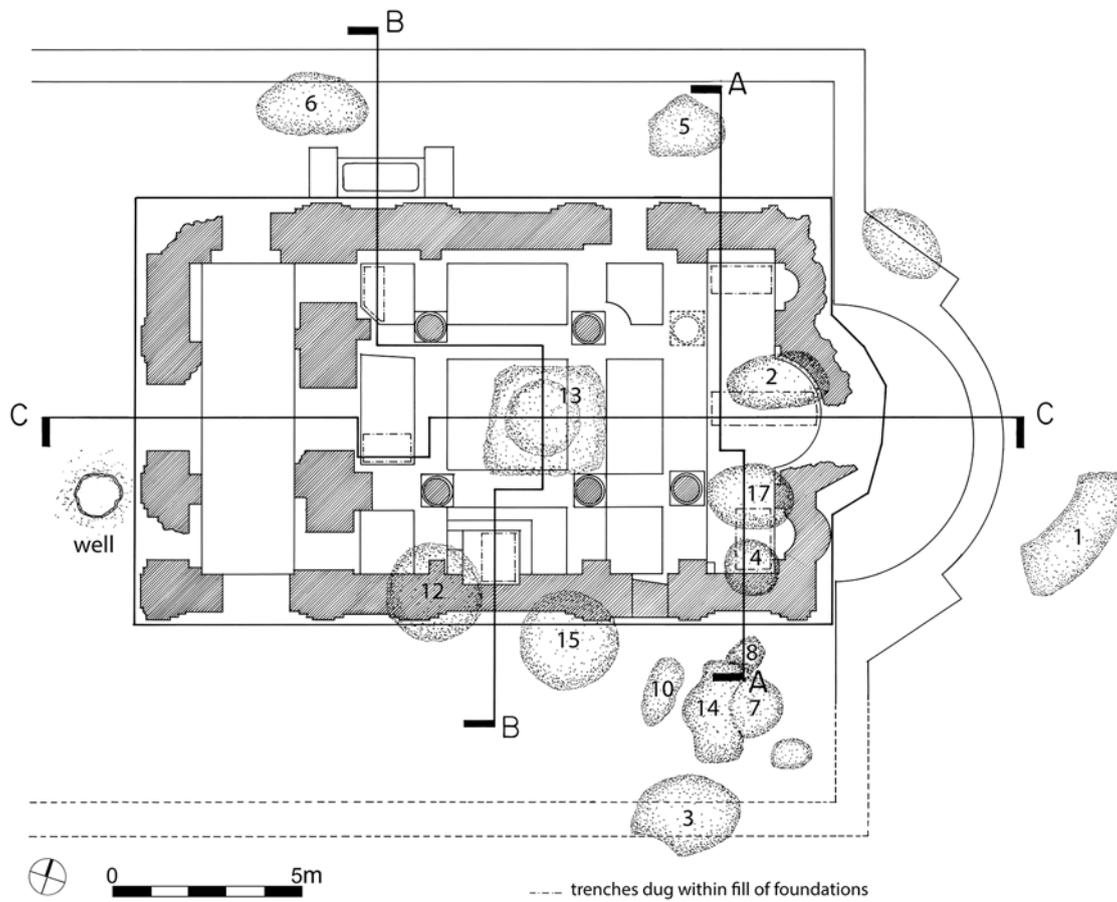


Fig. 124. Church E plan with location of masonry fragments before excavation.



Fig. 125. Church E masonry fragments before excavation, from east, 1962.



Fig. 126. Church E with masonry fragments during excavation, with apse in foreground, from east, 1962.



Fig. 127. Church E with masonry fragments during excavation, from north, 1962.

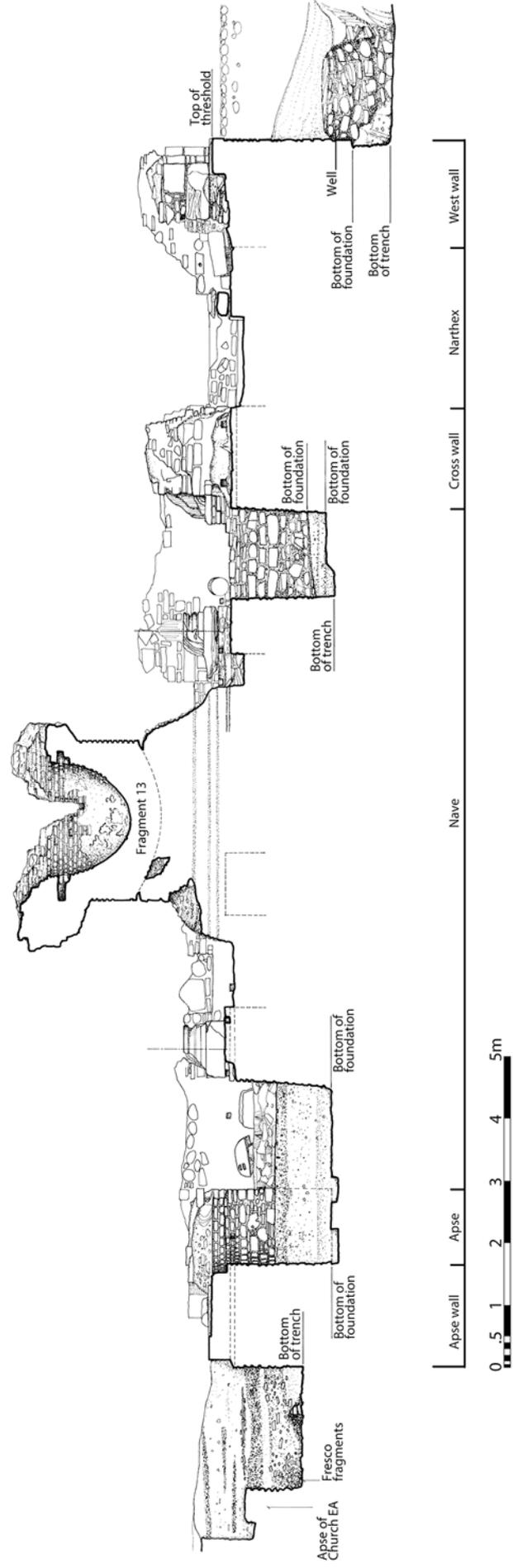


Fig. 128. Church E longitudinal section C-C (see Fig. 124) on major east-west axis looking south, 1972.

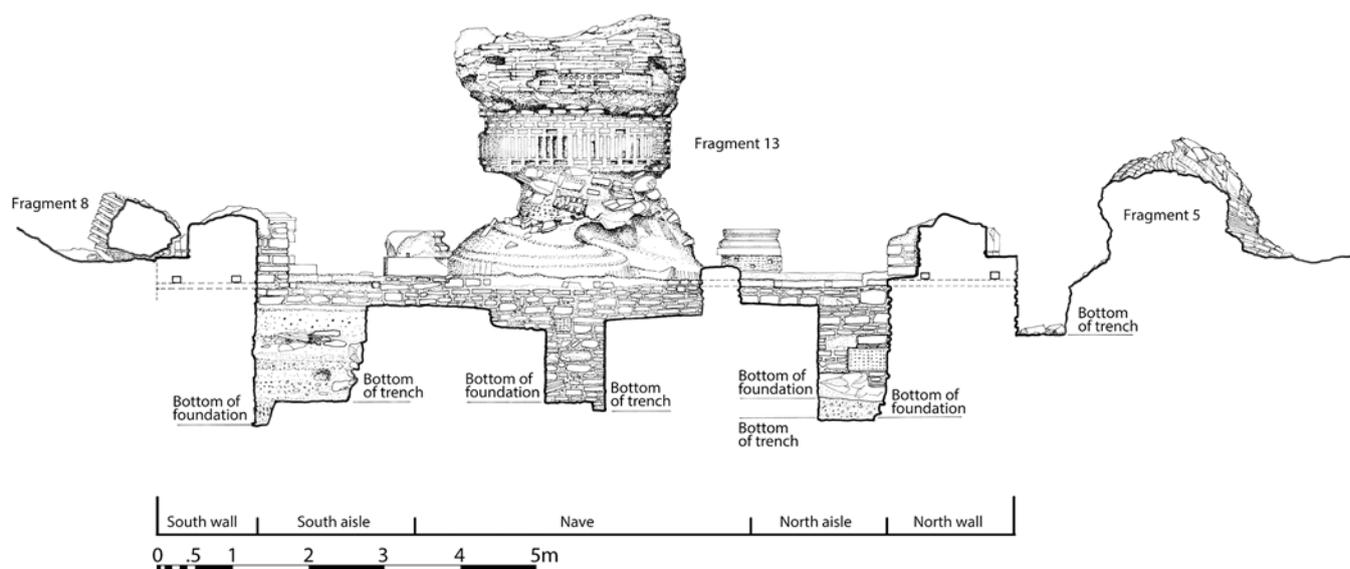


Fig. 129. Church E lateral section A-A (see Fig. 124) looking west, 1972.

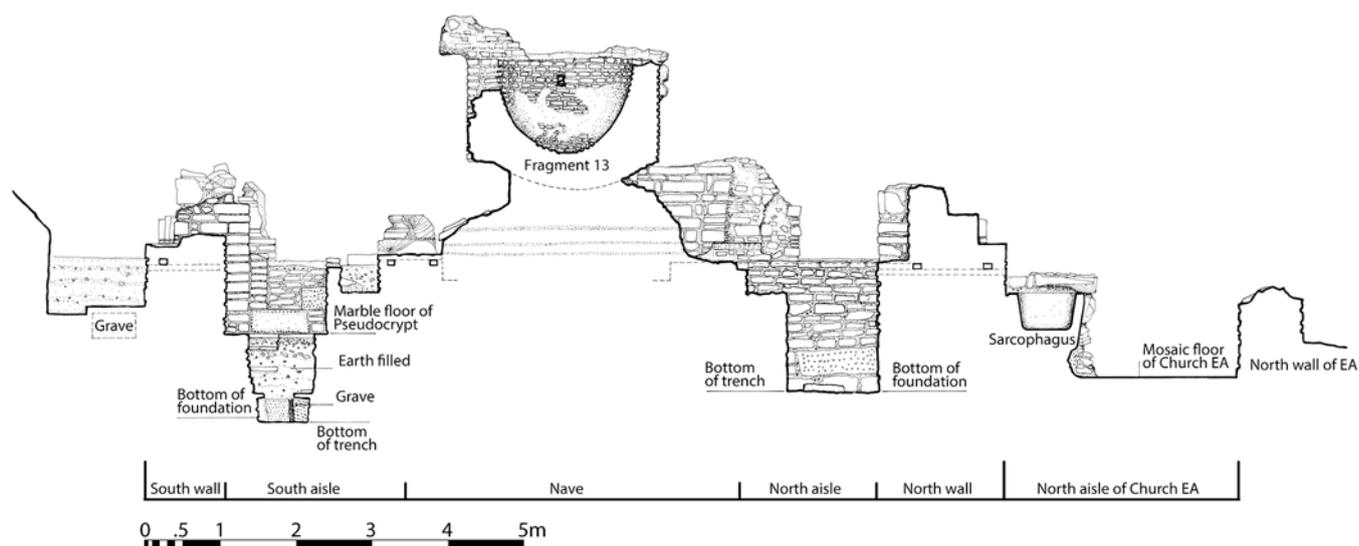


Fig. 130. Church E lateral section B-B (see Fig. 124) looking west, 1972.



Fig. 131. Church E Masonry Fragment 1, in situ, curved interior at top, 1972.



Fig. 132. Church E Masonry Fragment 1, after turning, with brick facade ornamentation of major apse, 1972.

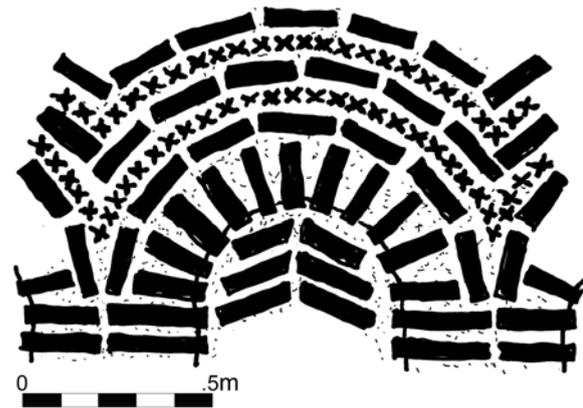


Fig. 133. Reconstruction of decoration of major apse of Church E.



Fig. 134. Church E Masonry Fragment 1, brick facade arcade detail, 1972.

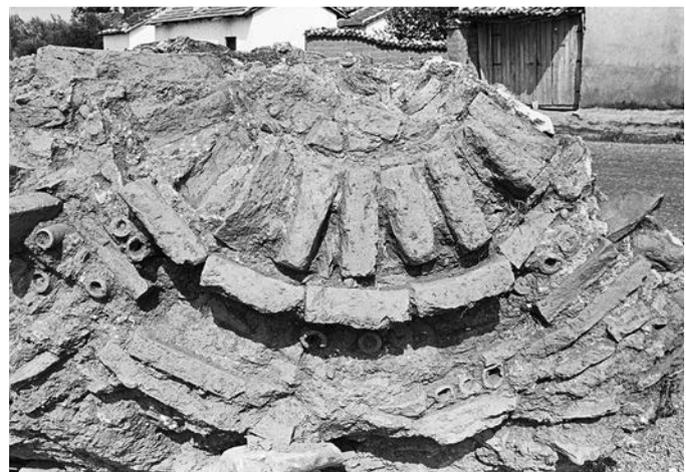


Fig. 135. Church E Masonry Fragment 1, brick facade arcade detail, 1972.



Fig. 136. Church E quatrefoil encased in mortar, found in 1962.



Fig. 137. Church E quatrefoils.

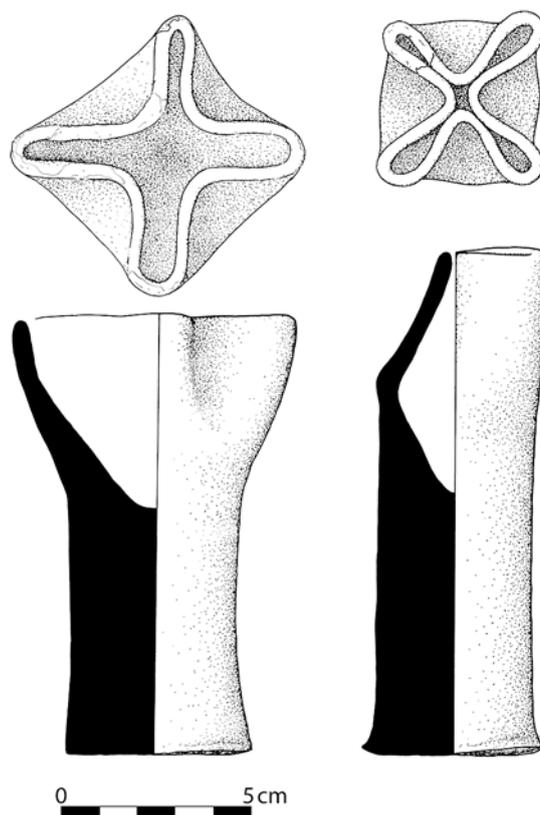


Fig. 138. Church E quatrefoils.



Fig. 139. Church E Masonry Fragment 2, exterior surface, 1972.

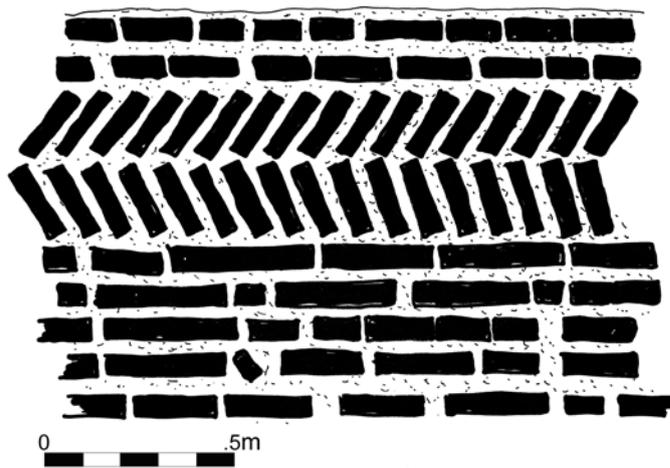


Fig. 140. Reconstruction of chevron pattern on north apse of Church E.

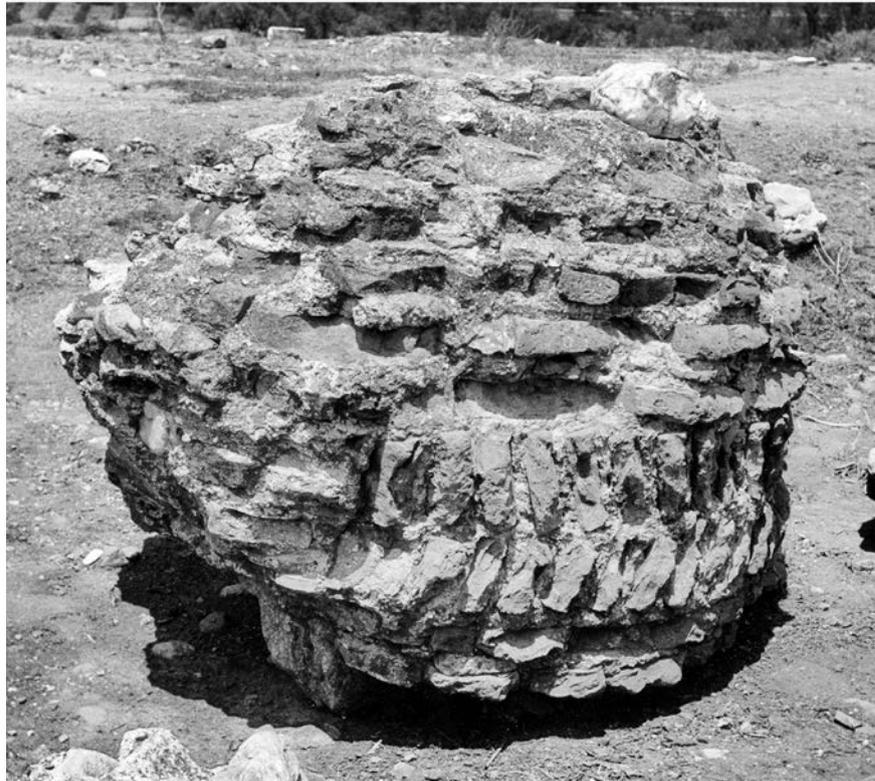


Fig. 141. Church E Masonry Fragment 2, end of chevron pattern, 1972.



Fig. 142. Church E Masonry Fragment 2, upside down, with vault at right, 1972.



Fig. 143. Church E Masonry Fragment 2, brick vault surface, 1972.



Fig. 144. Church E Masonry Fragment 2, brick vault fragment, 1972.



Fig. 145. Church E Masonry Fragment 3, under unmortared, probably Turkish wall, from northwest, 1972.



Fig. 146. Church E Masonry Fragment 3, east face, from east, 1972.



Fig. 147. Church E Masonry Fragment 3, surface of vault, 1972.

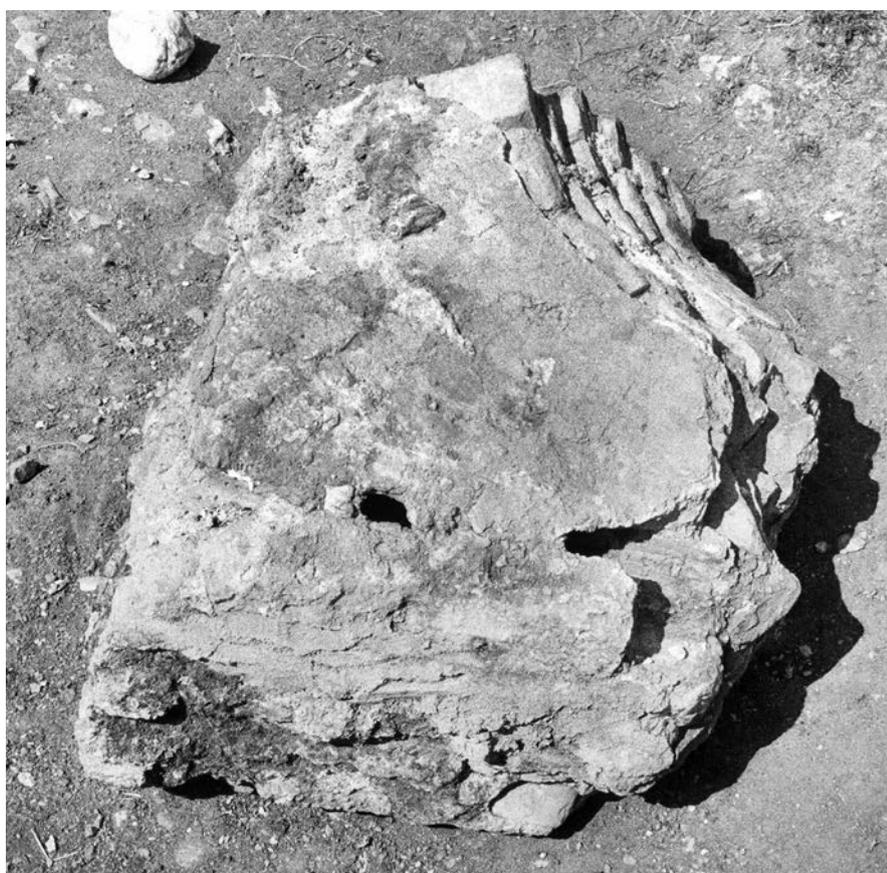


Fig. 148. Church E Masonry Fragment 4, with remains of barrel vault in foreground and dome vault at upper right, 1972.



Fig. 149. Church E Masonry Fragment 4, vault surface, 1972.



Fig. 150. Church E Masonry Fragment 4, with barrel vault at right, dome vault at left, and hole left by timber in center, 1972.



Fig. 151. Church E Masonry Fragment 5, in situ, from northeast with brick vault in foreground, 1972.



Fig. 152. Church E Masonry Fragment 5, facade, 1972.

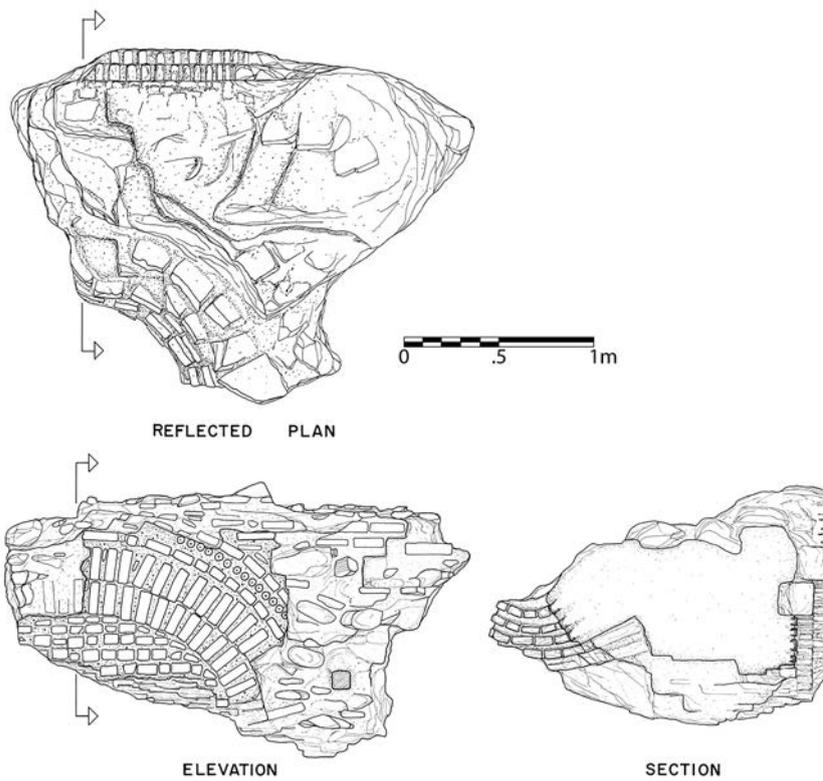


Fig. 153. Church E Masonry Fragment 5.

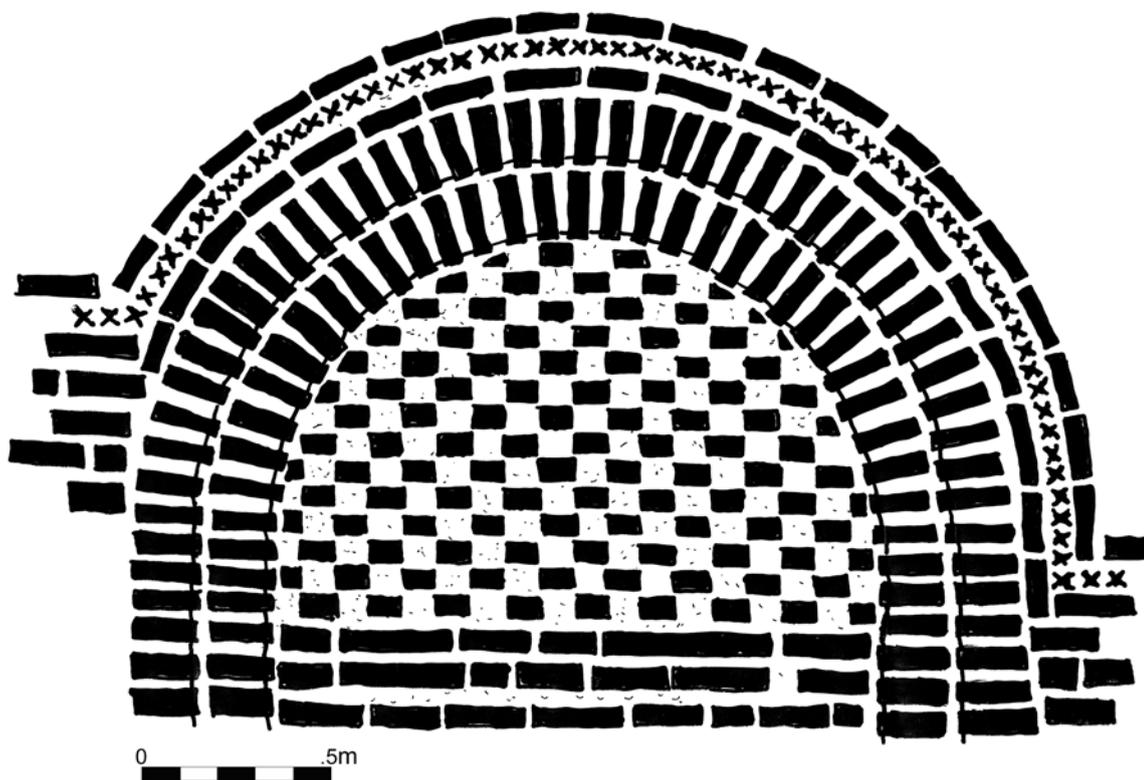


Fig. 154. Reconstruction of typical lunette of Church E, based on Fragment 7.

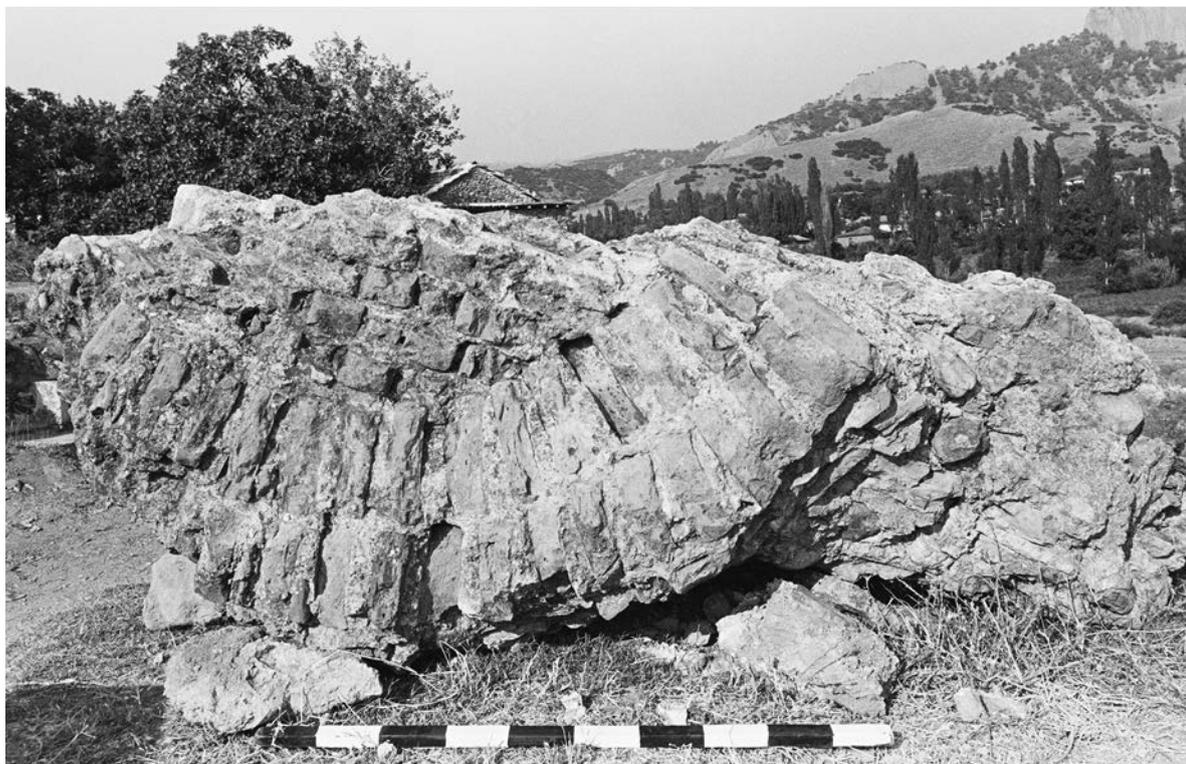


Fig. 155. Church E Masonry Fragment 6, facade, 1972.



Fig. 156. Church E Masonry Fragment 6, interior surface, 1972.



Fig. 157. Church E Masonry Fragment 6, interior surface, 1972.

Fig. 158. Church E Masonry Fragment 7, brick checkerboard facade, 1972.



Fig. 159. Church E Masonry Fragment 7, 1965.



Fig. 160. Church E Masonry Fragment 8, brick facade, 1972.

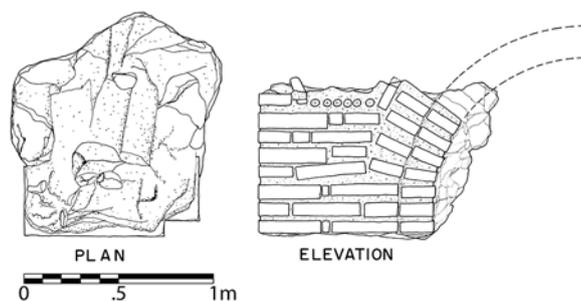


Fig. 161. Church E Masonry Fragment 8, plan and elevation.



Fig. 162. Church E facade fragment, as excavated, with finished surface toward ground next to Fragments 7 and 8, south of south facade, from east, 1972.



Fig. 163. Church E Masonry Fragment 9 (in center), reused in wall of second, or upper, Turkish village, from south, 1972.



Fig. 164. Church E Masonry Fragment 9, reticulated facade decoration, from south, 1972.



Fig. 165. Church E Masonry Fragment 10, facade as excavated south of south facade, from east, 1972.

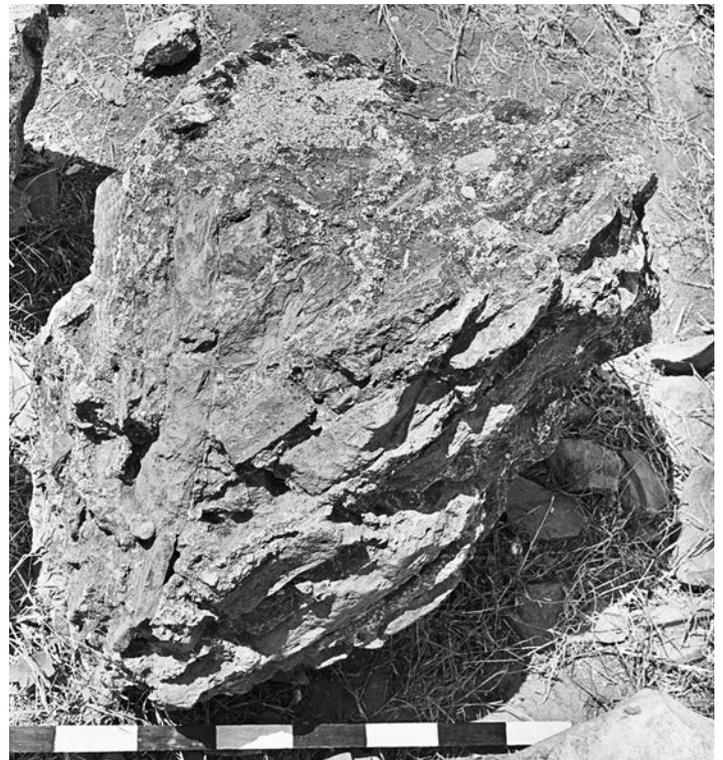


Fig. 166. Church E Masonry Fragment 11, brick surface, 1972.



Fig. 167. Church E Masonry Fragment 13, in situ in center of naos, from south, 1972.



Fig. 168. Church E Masonry Fragment 14, in situ in debris, from southeast, 1962.



Fig. 169. Church E Masonry Fragment 16, from above, 1972.



Fig. 170. Church E Masonry Fragment 16, side view, 1972.



Fig. 171. Church E Masonry Fragment 12, drum exterior, 1972.



Fig. 172. Church E Masonry Fragment 12, decorative brick meander frieze, 1972.

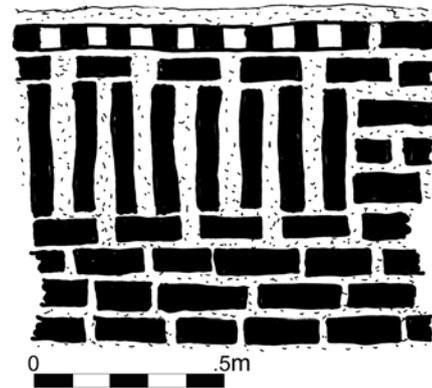


Fig. 173. Reconstruction of brick meander pattern of Church E.



Fig. 174. Church E Masonry Fragment 15, drum exterior, 1972.



Fig. 175. Church E Masonry Fragment 15, decorative brick meander frieze, 1972.

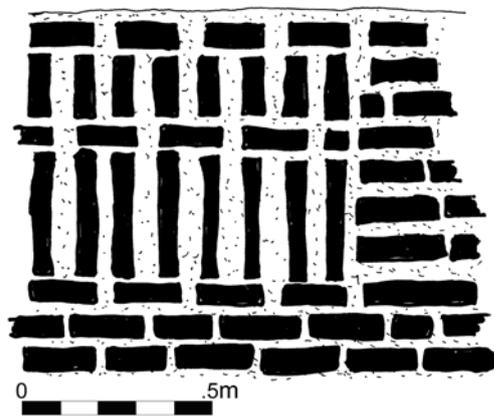


Fig. 176. Reconstruction of brick meander pattern of Masonry Fragment 15.

Fig. 177. Church E Masonry Fragment 14, crown of vault with brick cross, 1972.





Fig. 178. Church E Masonry Fragment 14, in situ, crown exterior, from northwest, 1962.



Fig. 179. Church E Masonry Fragment 14, after turning, 1962.



Fig. 180. Church E Masonry Fragment 13, in situ in center of naos, from north, 1972.



Fig. 181. Church E Masonry Fragment 13, in situ in center of naos, from west, 1972.



Fig. 182. Church E Masonry Fragment 13, in situ in center of naos, from east, 1972.



Fig. 183. Church E Masonry Fragment 13, plaster and paint remnants on surface of vault, 1969.



Fig. 184. Church E southeast corner, during excavation, with Masonry Fragment 17 at right in foreground, from east, 1962.



Fig. 185. Church E Masonry Fragment 17, brick dome surface at bottom left, 1972.

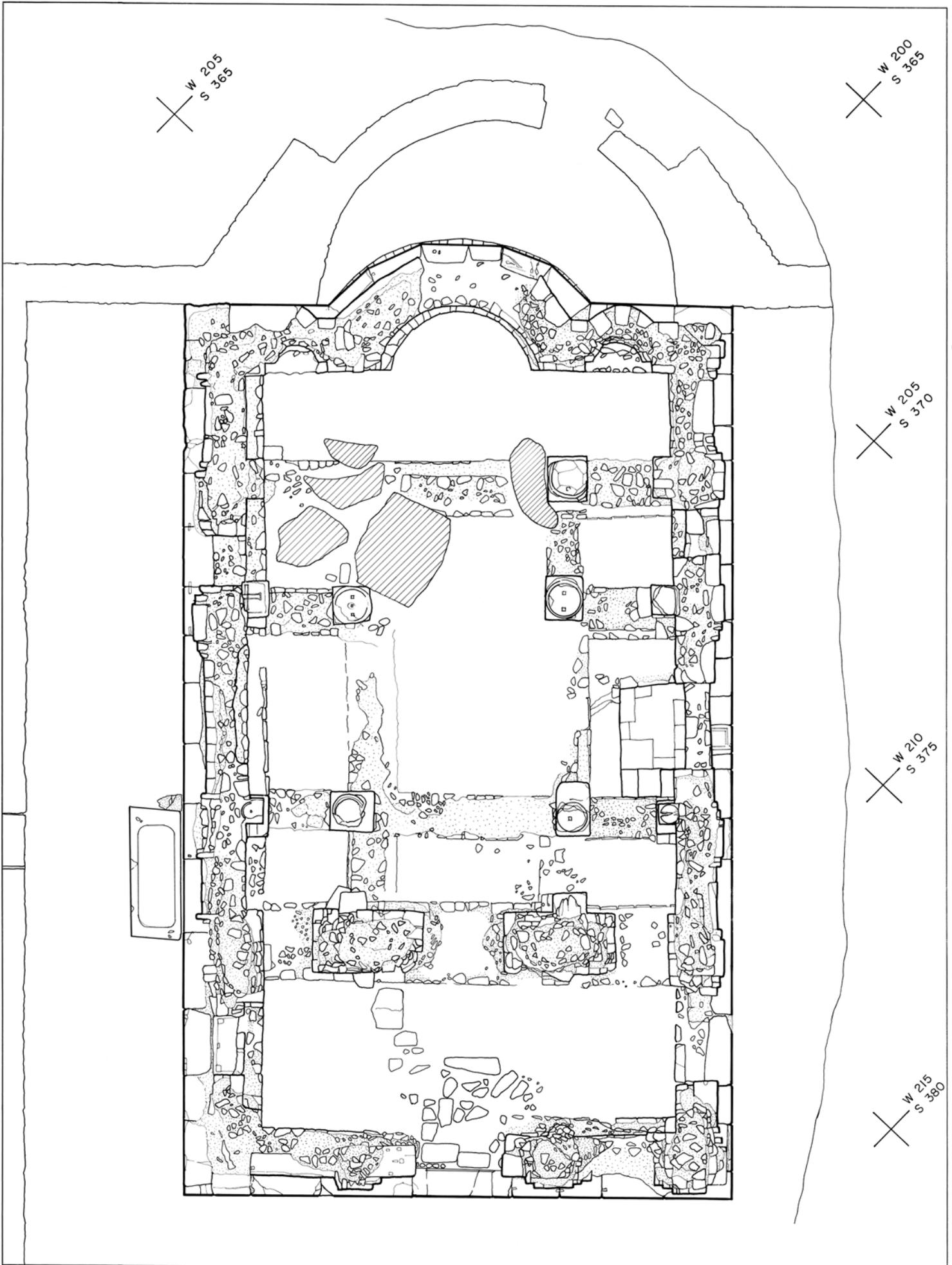


Fig. 186. Church E state plan, 2001.

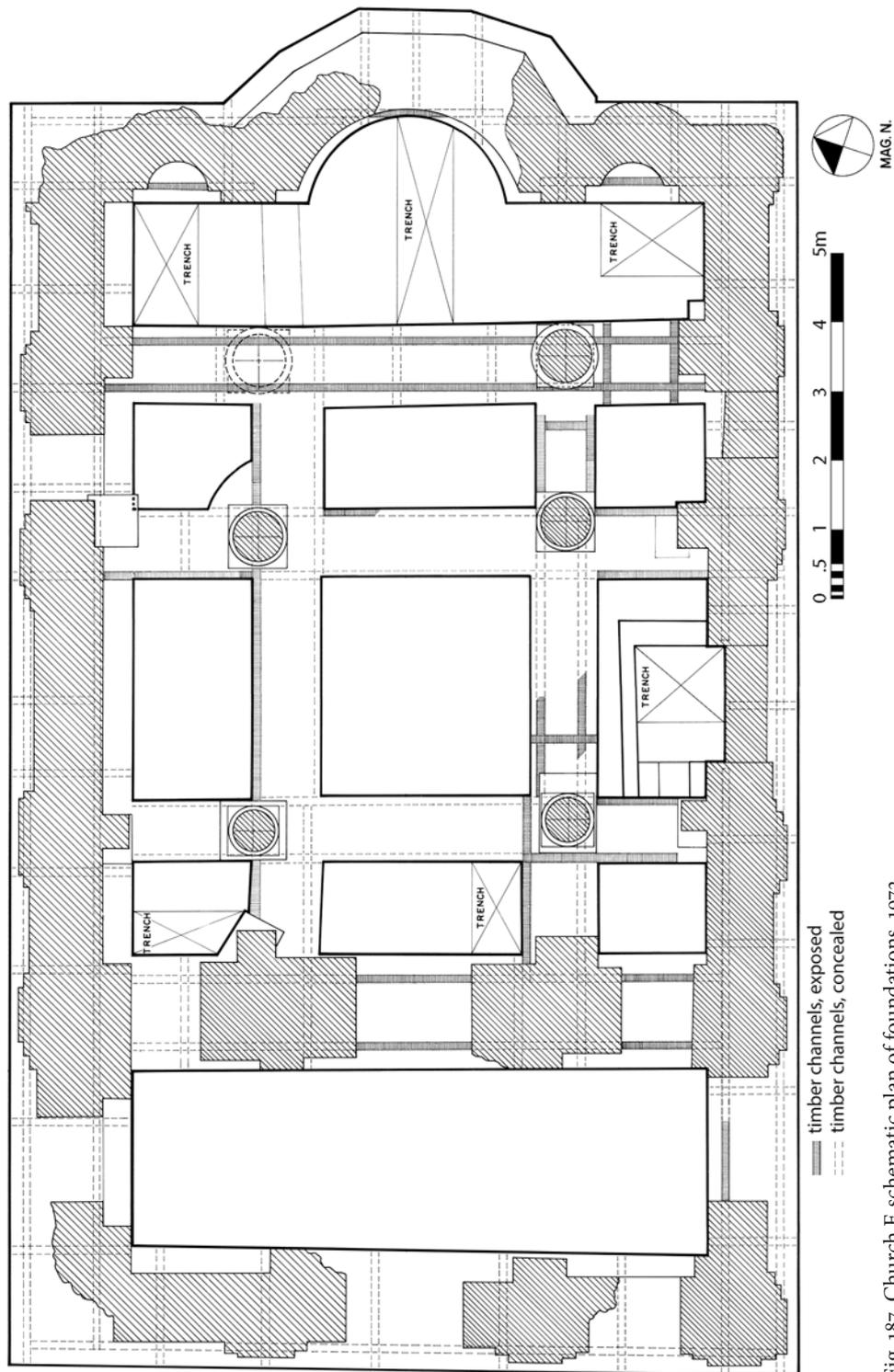


Fig. 187. Church E schematic plan of foundations, 1972.



Fig. 188. Church E foundation, major apse at left, from east, 1973.



Fig. 189. Church E south apse foundation, from east, 1972.



Fig. 190. Church E north foundation west end, from north, 1972.



Fig. 191. Church E northeast corner foundation, from southwest, 1972.



Fig. 192. Church E northwest corner of naos, from south with north foundation at rear, 1972.



Fig. 193. Church E northeast bay foundation, from east with north wall at right, 1972.



Fig. 194. Church E major apse and apse foundation, from west, 1972.



Fig. 195. Church E southeast corner of naos, with channels for wooden timbers in upper surface of foundation, from north 1962. Fragment 17 at rear left.



Fig. 196. Church E foundation below central column of north colonnade, from east, 1972.



Fig. 197. Church E northwest bay of naos, from east, with diagonally placed stone slab under bottom of pier at far left, 1972.



Fig. 198. Church E sarcophagus next to north foundation, from north, 1972.



Fig. 199. Church E sarcophagus next to north foundation, east pier, from northeast, 1972.



Fig. 200. Turkish addition to west of Church E, with Church E west façade foundation at far left, from north, 1962.



Fig. 201. Turkish addition to west of Church E, Church E west facade at far right, from south, 1962.



Fig. 202. Church E Pseudocrypt, after excavation of graves beneath its floor, from south, 1973.



Fig. 203. Church E Pseudocrypt, after partial excavation of floor, from east, 1972.



Fig. 204. Church E Pseudocrypt, before excavation of floor, from south, 1972.



Fig. 205. Church E Pseudocrypt south wall, from north, 1963.

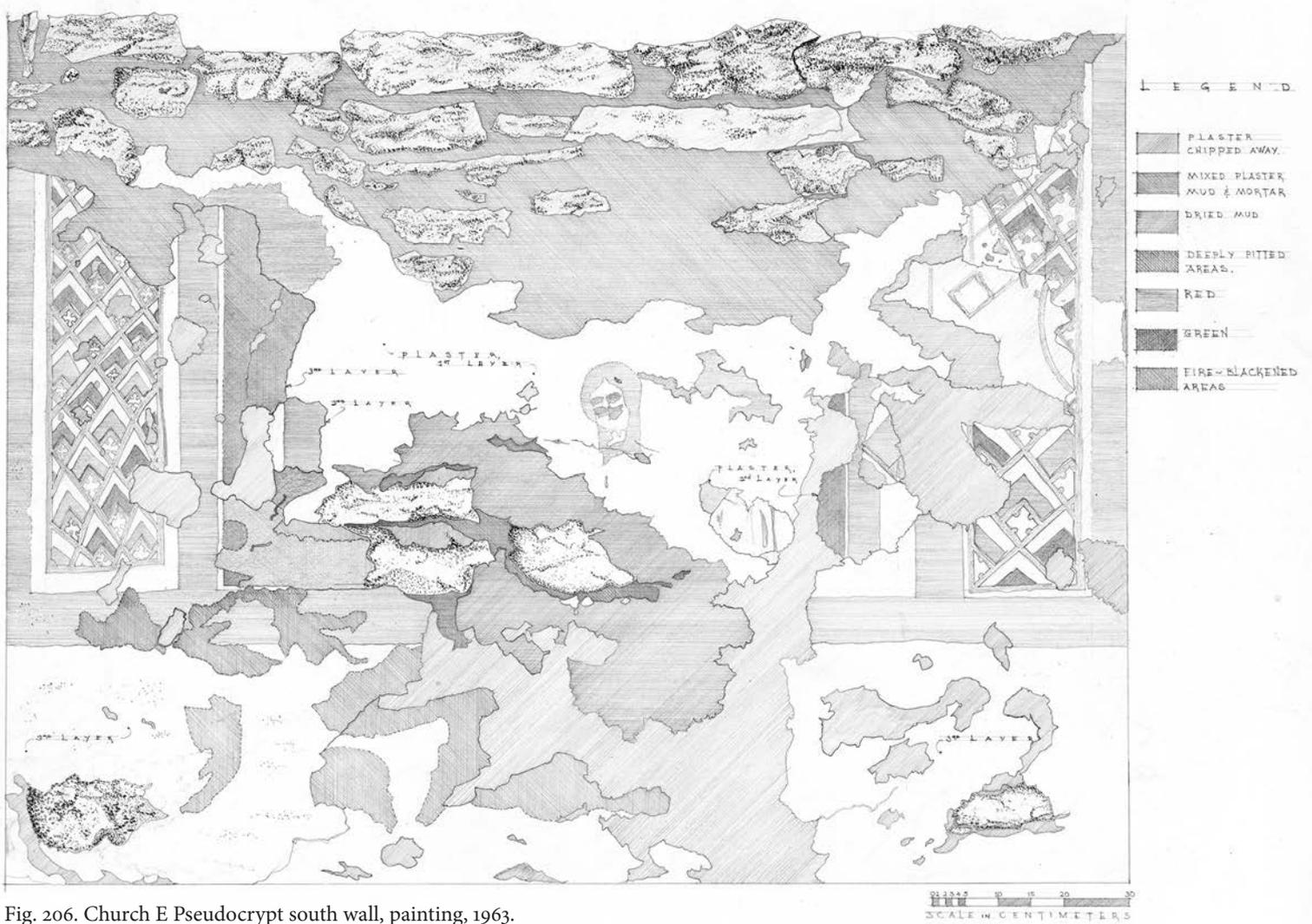


Fig. 206. Church E Pseudocrypt south wall, painting, 1963.



Fig. 207. Church E Pseudocrypt southwest corner, with wall paintings, from northeast, 1972.



Fig. 208. Church E Pseudocrypt southeast corner, with Church EA masonry at far right, Church E south foundation wall in center, and masonry of east wall at left, from northwest, 1972.



Fig. 209. Church E Pseudocrypt, wall paintings at east edge of south wall, from north, 1963.



Fig. 210. Church E Pseudocrypt southwest corner, with south wall of Church EA masonry at left and Church E masonry at far right, 1973.



Fig. 211. Church E Pseudocrypt, during excavation of grave Gr72.2, from above, 1972.



Fig. 212. Wide-neck bottle found in grave Gr72.2, Church E Pseudocrypt.



Fig. 213. Church E Pseudocrypt, grave Gr73.19, from south after opening with remnants of Pseudocrypt floor at upper right, from south, 1973.



Fig. 214. Church E Turkish floors, rubble, and ash in northwest corner of central bay, from west, 1972.

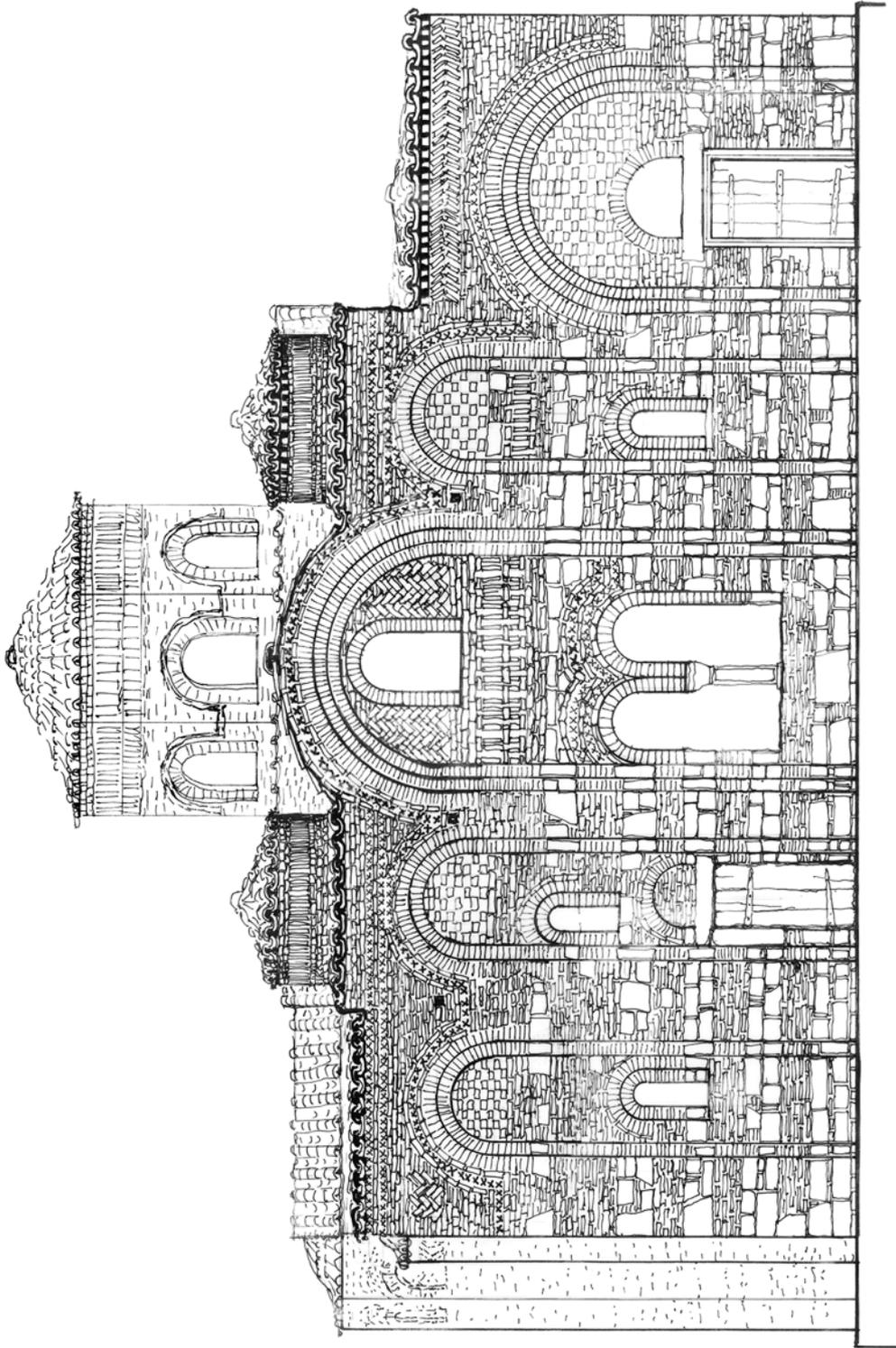


Fig. 215. Church E reconstructed north facade elevation.

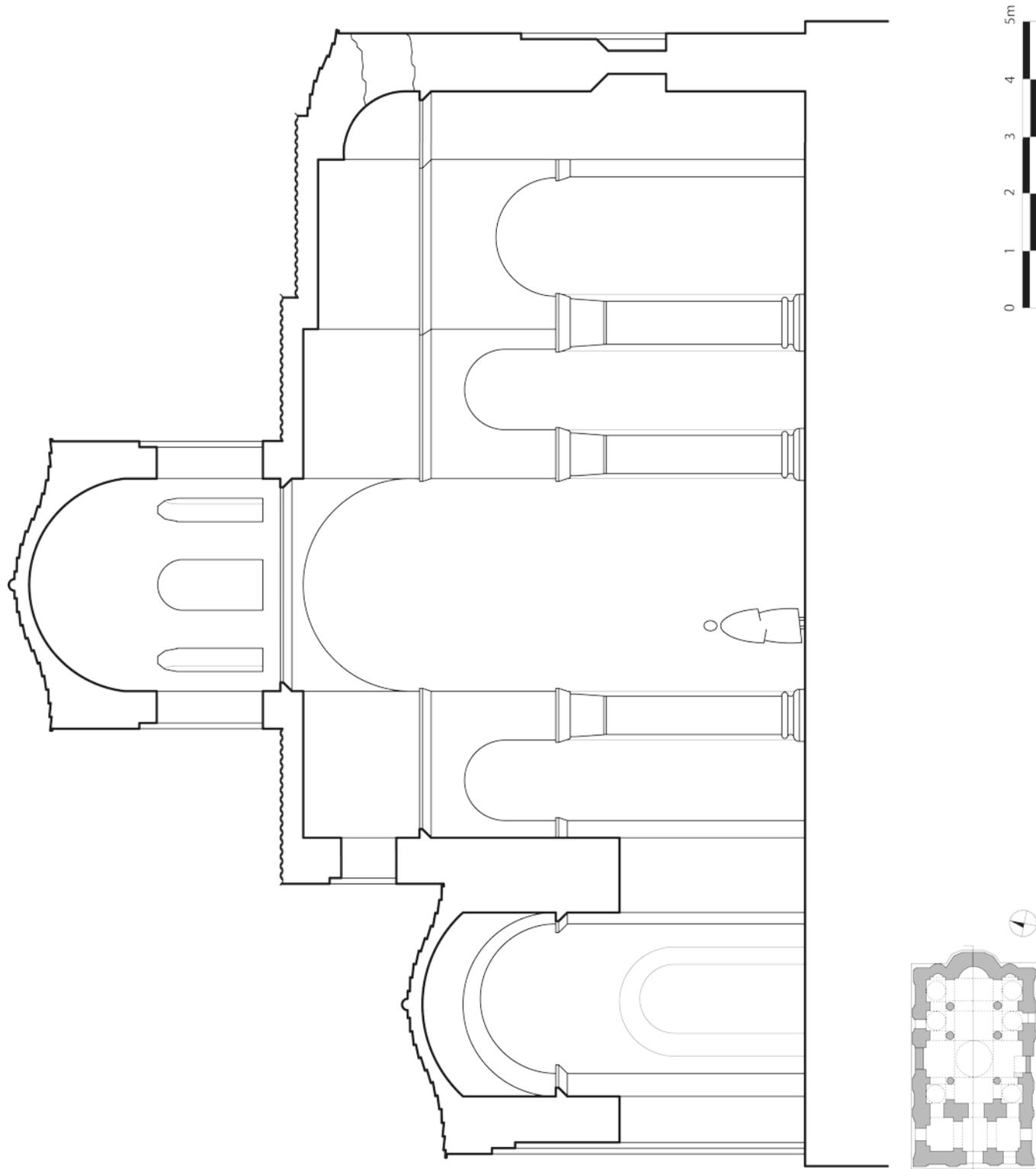


Fig. 216. Church E reconstructed longitudinal section on major axis looking north.

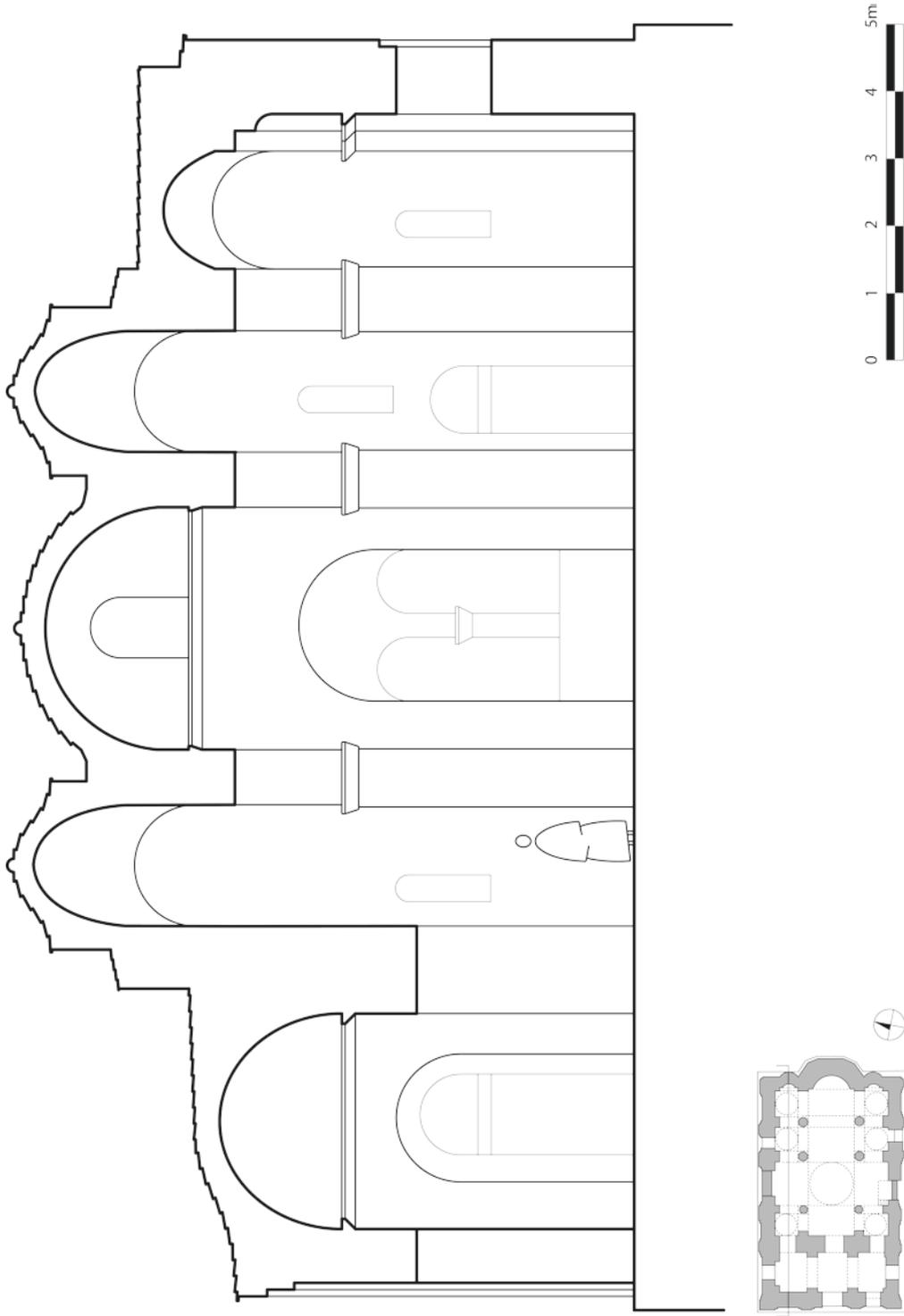


Fig. 217. Church E reconstructed longitudinal section on axis of north aisle looking north.

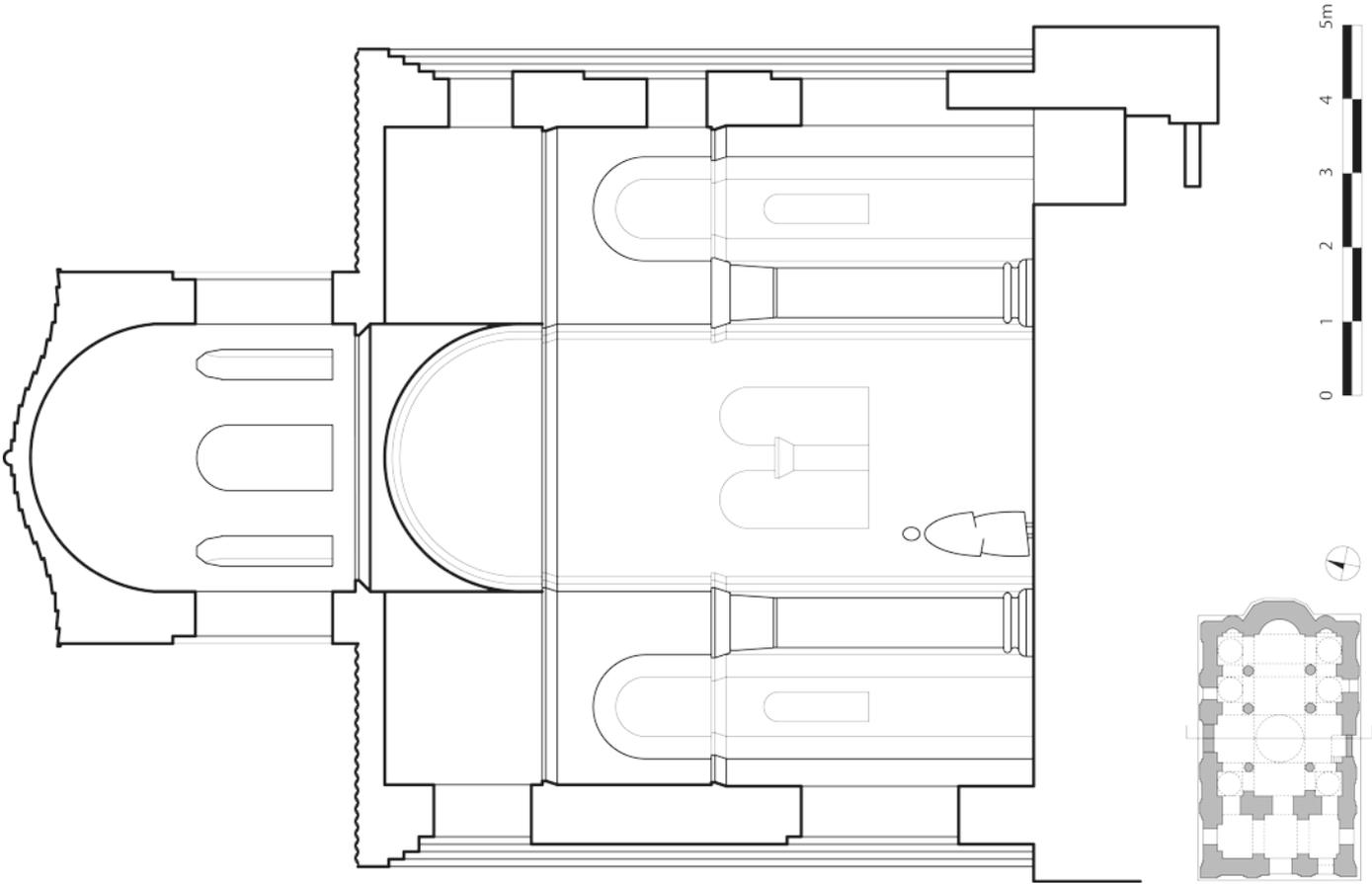


Fig. 218. Church E reconstructed cross section on north-south axis through major dome looking east.

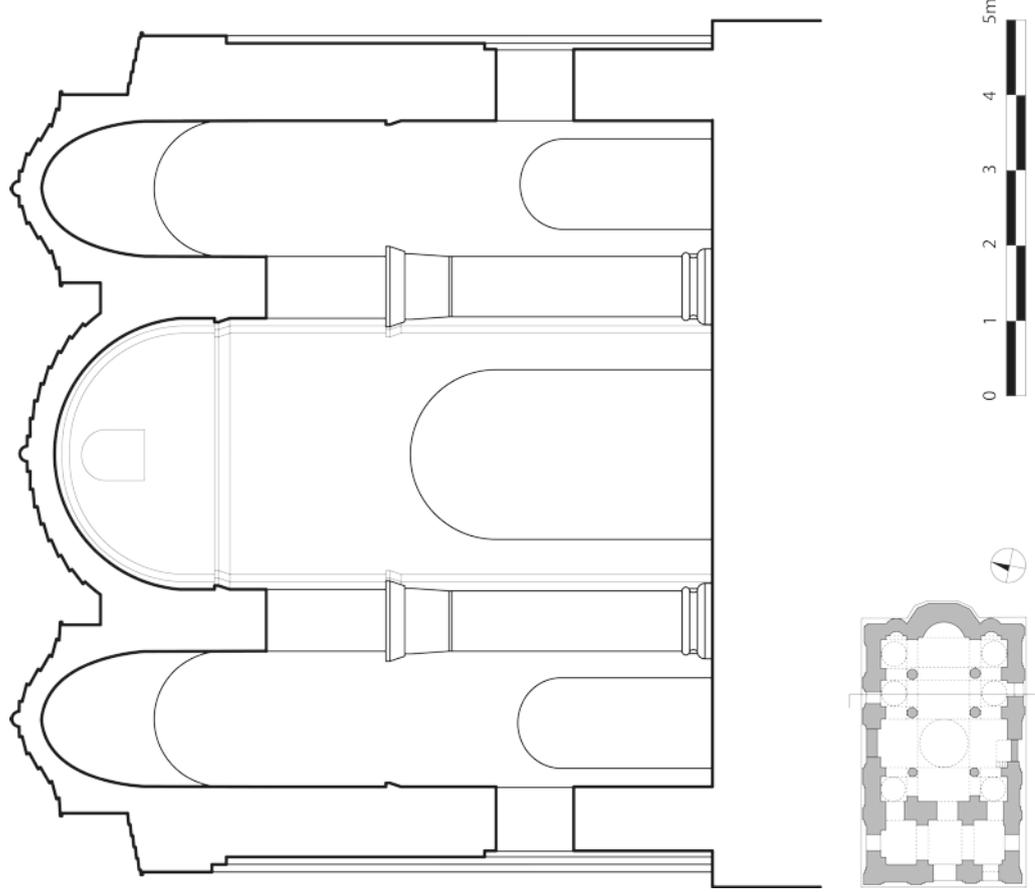


Fig. 219. Church E reconstructed cross section on north-south axis of naos east bay looking west.



Fig. 220. Column base 1.1.1.

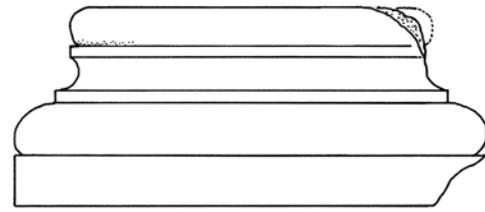
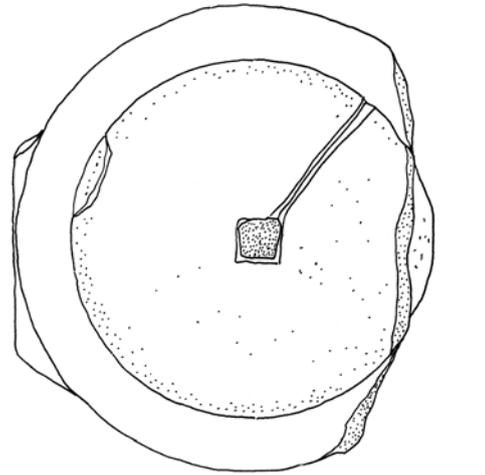


Fig. 221. Column base 1.1.2.

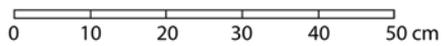
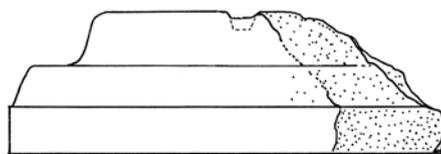
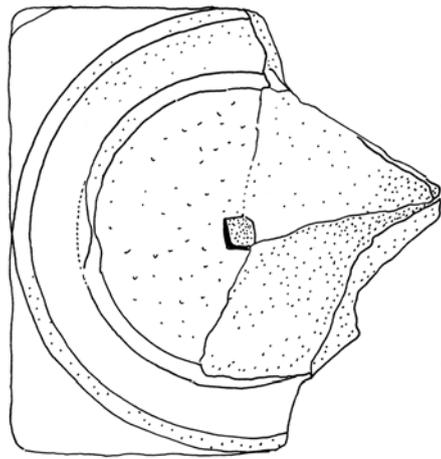


Fig. 222. Column base 1.1.3.

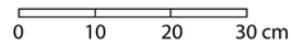
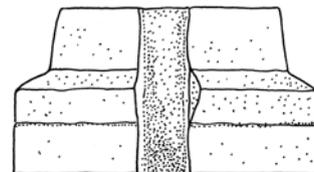
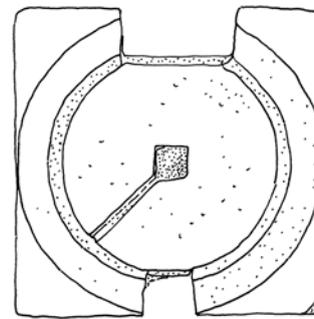


Fig. 223. Column base 1.1.4.

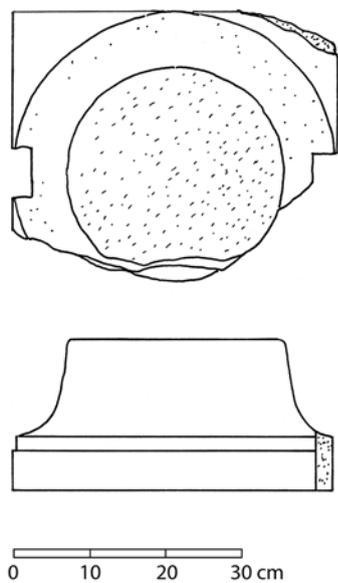


Fig. 224. Column base 1.1.5.

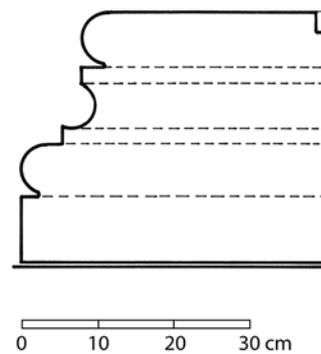


Fig. 225. Profile of typical column base in situ in Church E.

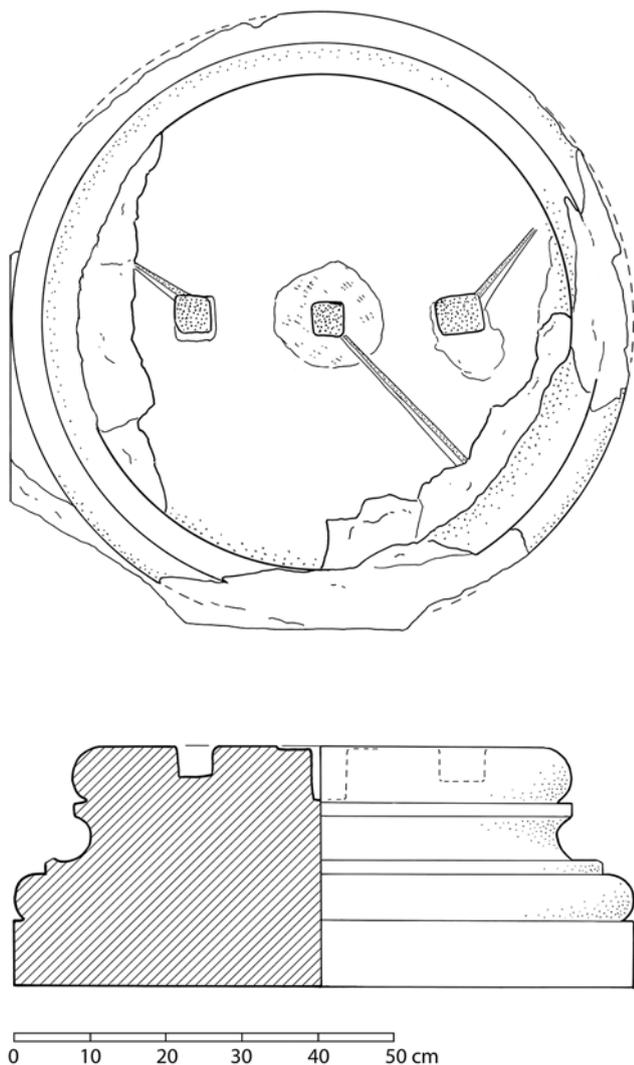


Fig. 226. Column base 1.2.3, in situ in Church E.



Fig. 227. Column base 1.2.4, in situ in Church E.



Fig. 228. Column shaft 2.1.1.

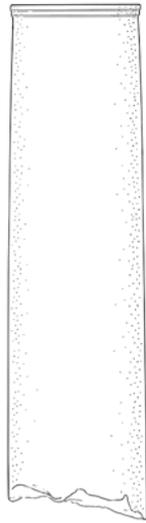


Fig. 230. Column shaft 2.1.3.



Fig. 229. Column shaft 2.1.2.



Fig. 231. Column shaft 2.2.1.



Fig. 232. Column shaft 2.2.1.



Fig. 233. Column shaft 2.2.2.



Fig. 234. Column shaft 2.2.2.

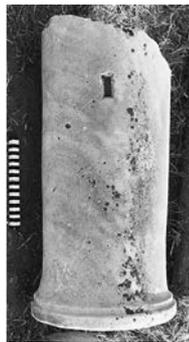


Fig. 235. Column shaft 2.2.3.



Fig. 236. Column shaft 2.2.4.

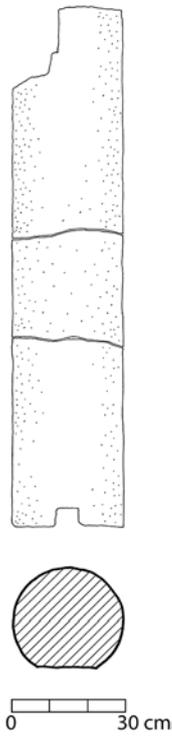


Fig. 237. Column shaft 2.3.1.

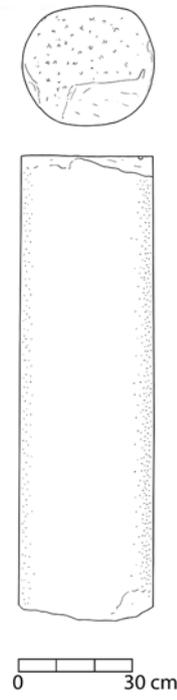


Fig. 238. Column shaft 2.3.2.

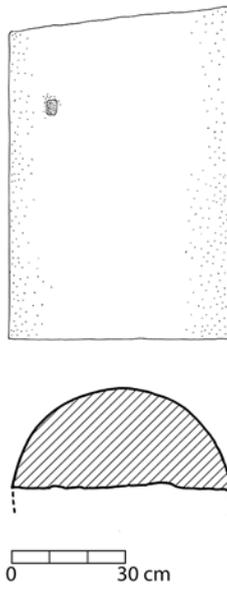
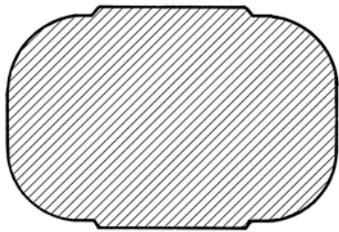
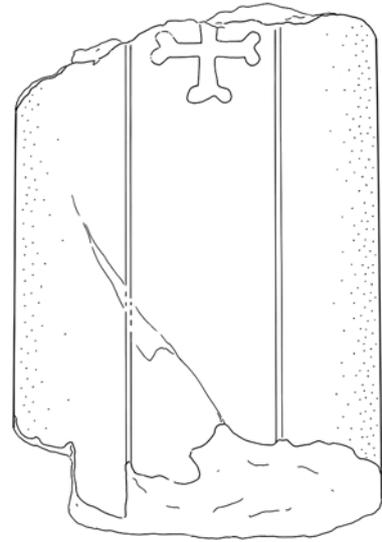
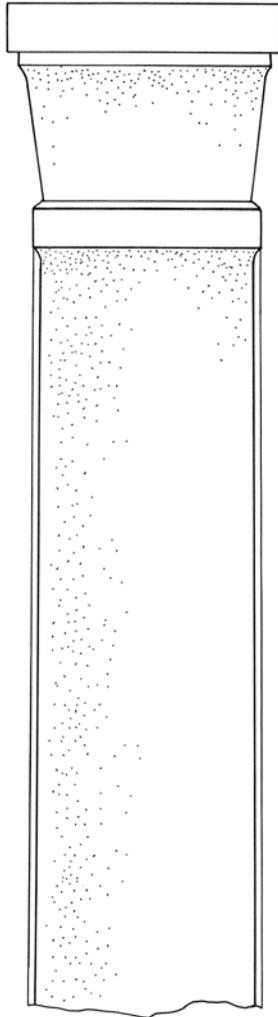
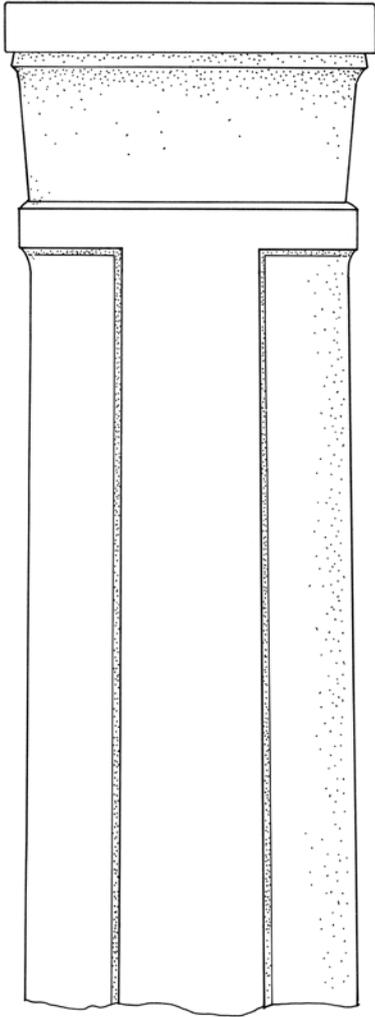


Fig. 239. Column shaft 2.3.3.

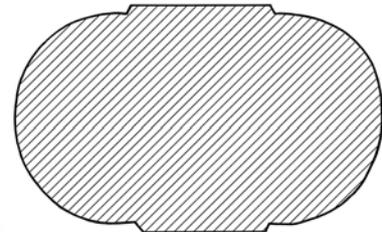


Fig. 240. Column shaft 2.3.4.



0 10 20 30 40 50 cm

Fig. 241. Double-engaged column 3.1.



0 10 20 30 40 50 cm

Fig. 242. Double-engaged column 3.2.

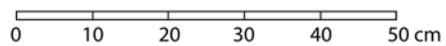
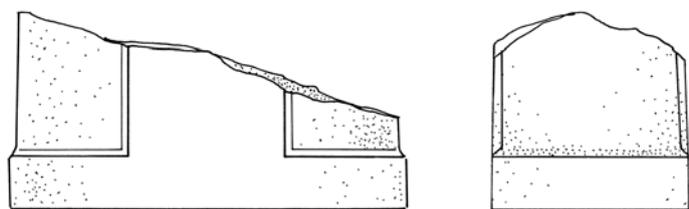


Fig. 243. Double-engaged column 3.3.

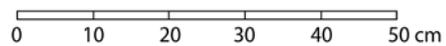
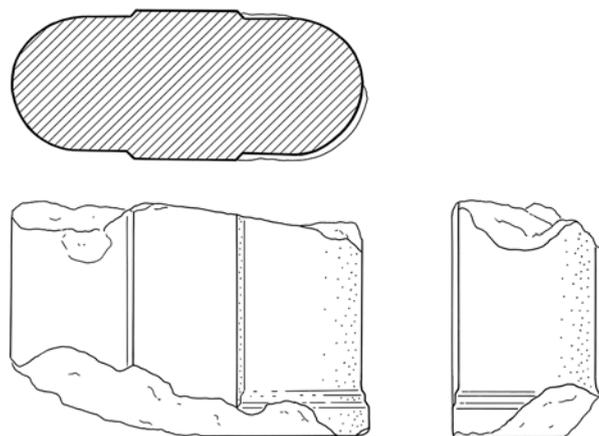


Fig. 244. Double-engaged column 3.4.

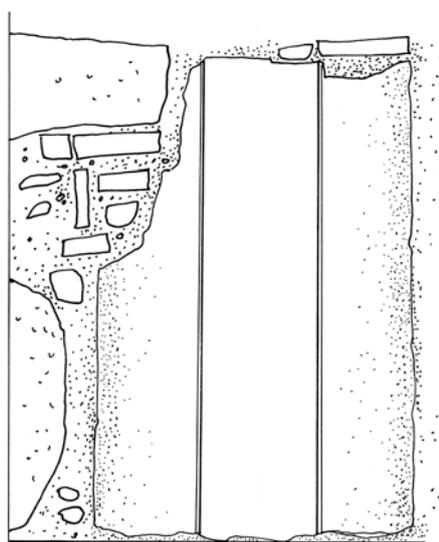
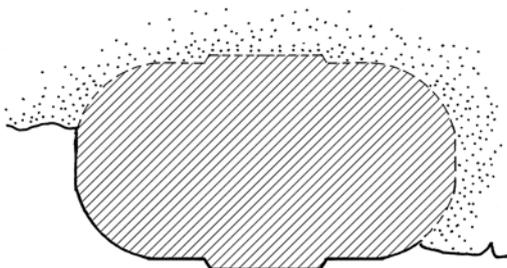


Fig. 245. Double-engaged column 3.5, in situ built into north wall of Church E Pseudocrypt.

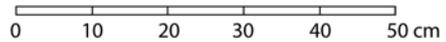
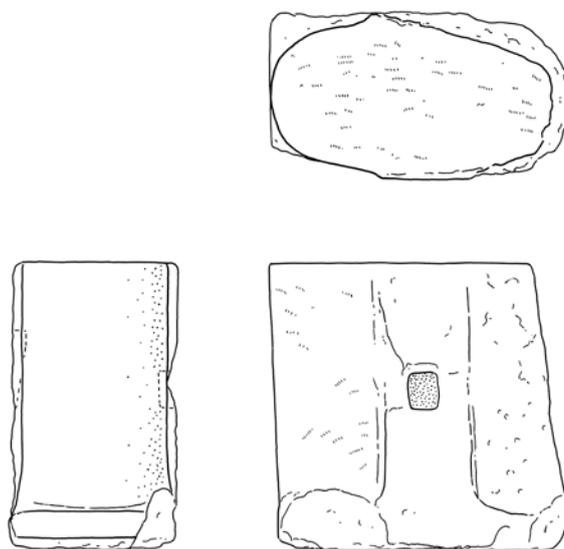


Fig. 246. Double-engaged column 3.9.

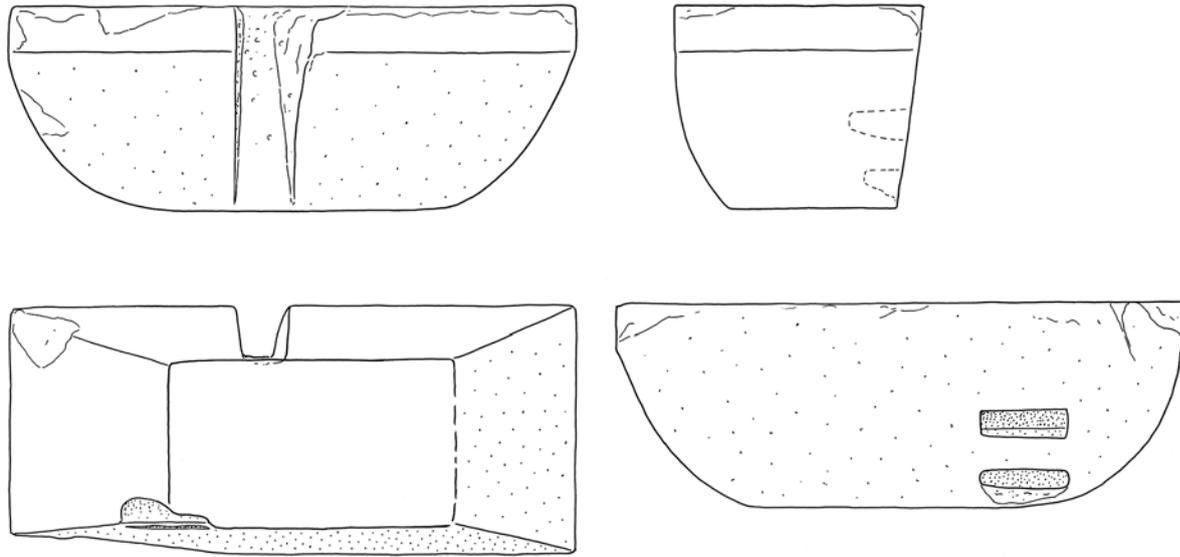


Fig. 247. Impost block 4.1.

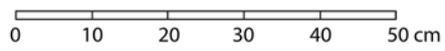
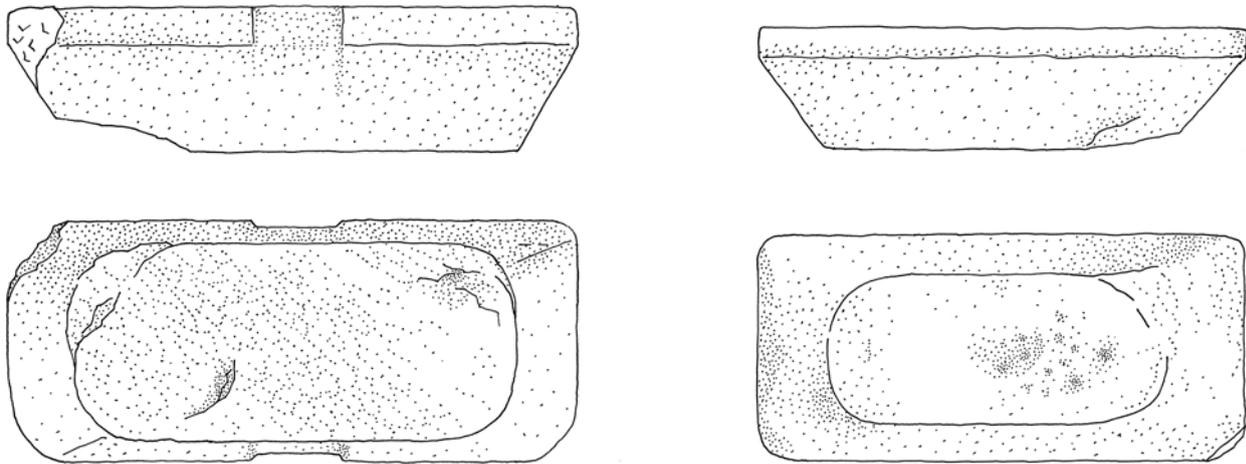


Fig. 248. Impost block 4.2.

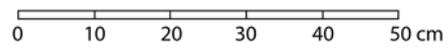


Fig. 249. Impost block 4.3.

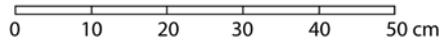
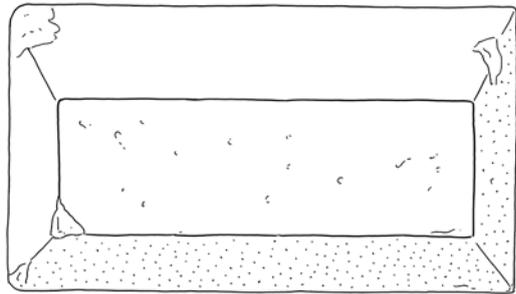
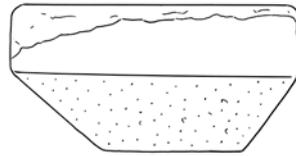
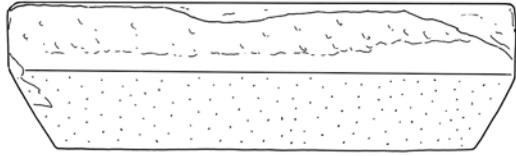


Fig. 251. Impost block 4.5.

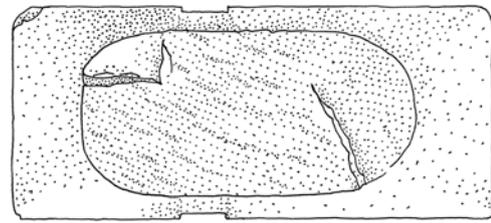
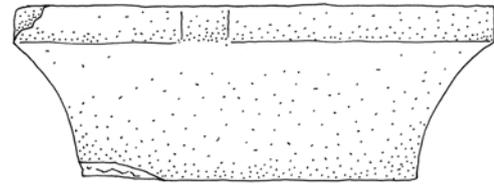


Fig. 250. Impost block 4.4.

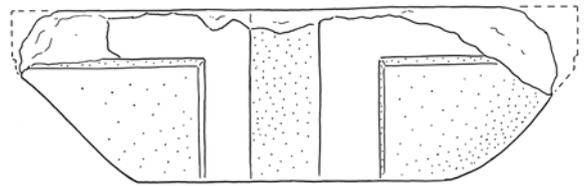
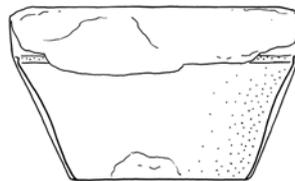


Fig. 252. Impost block 4.7.

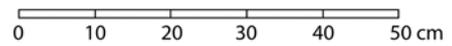
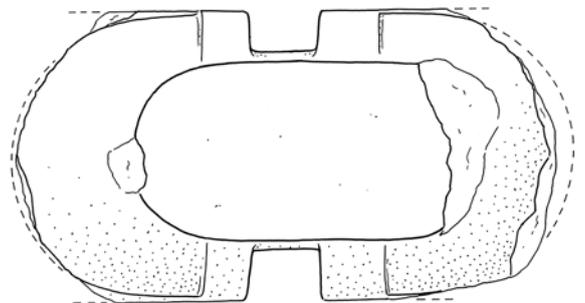


Fig. 253. Impost block 4.7.



Fig. 254. Impost block 4.8.



Fig. 255. Impost block 4.8.



Fig. 256. Impost block 4.8.

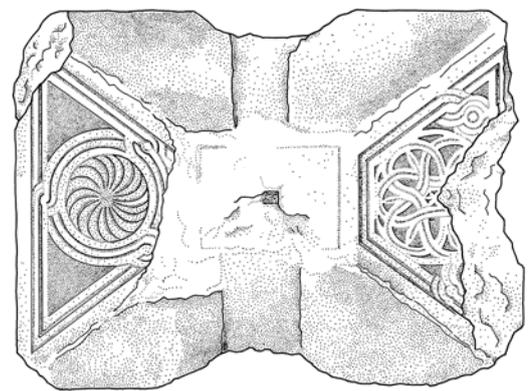
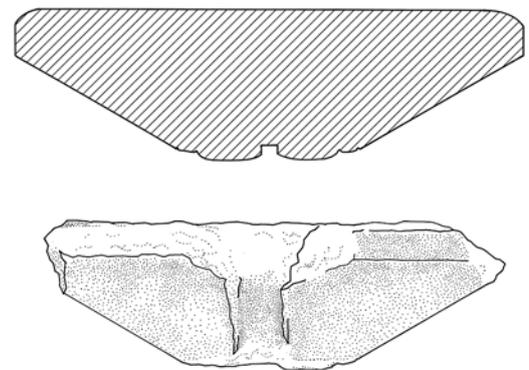
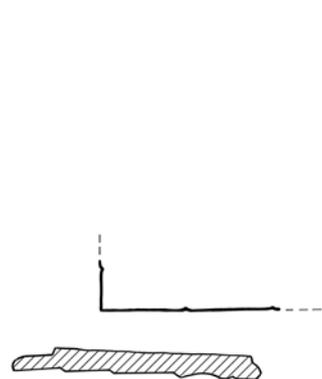
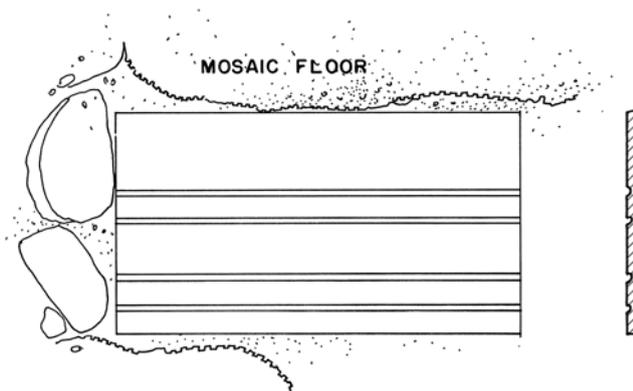


Fig. 257. Impost block 4.8.



0 10 20 30 cm

Fig. 258. Door frame molding 5.1.2, in situ at west door in north wall of Church EA north aisle, east jamb.



0 10 20 30 40 50 cm

Fig. 259. Revetment molding 5.2.1, in situ in narthex mosaic floor.



Fig. 260. Molding 5.2.4, in situ in medieval wall on north stylobate of Church EA.

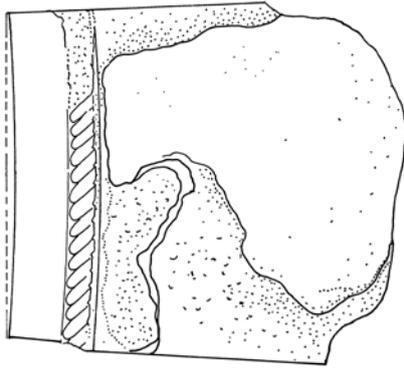
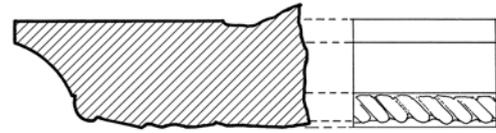


Fig. 261. Cornice 5.2.5.



Fig. 262. Molding 5.2.5, in situ in Church E foundation.

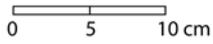


Fig. 263. Molding 5.2.6, in situ in north wall of Northeast Unit as lintel over a drain opening.

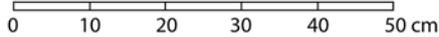
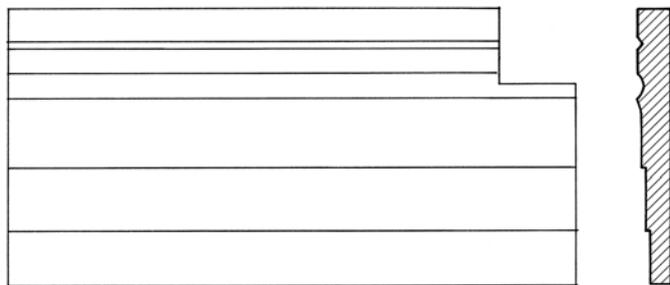


Fig. 264. Revetment molding 5.3.1.



Fig. 265. Revetment molding 5.3.1.

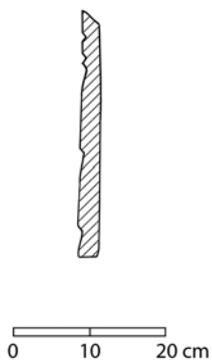


Fig. 266. Revetment molding 5.3.2.



Fig. 267. Cornice 5.3.3.

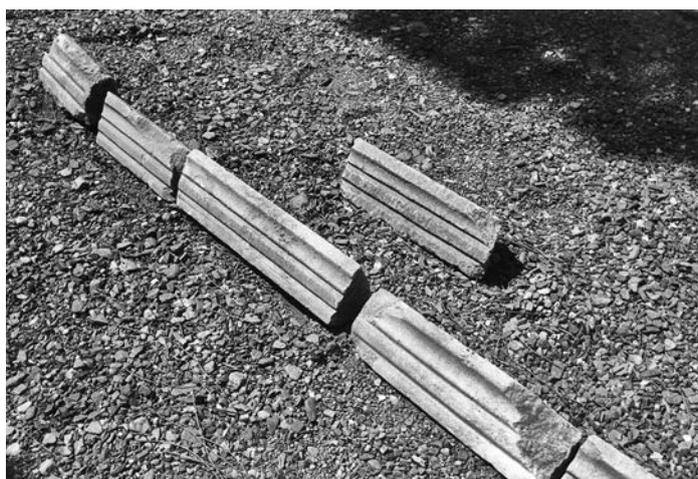


Fig. 268. Molding 5.3.4.

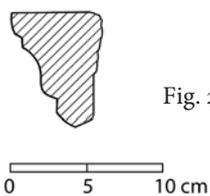


Fig. 269. Molding 5.3.4.



Fig. 270. Moldings 5.3.5 (back) and 5.3.6 (front).

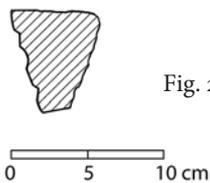


Fig. 271. Molding 5.3.5.

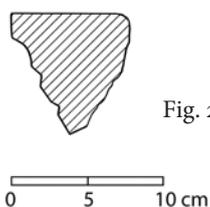


Fig. 272. Molding 5.3.6.

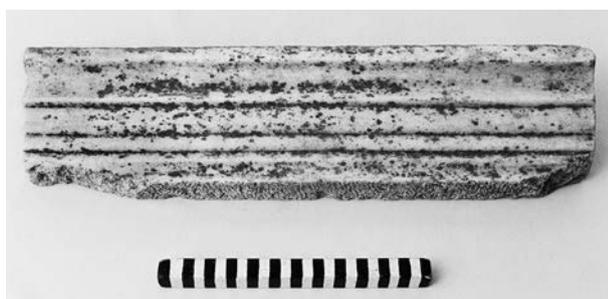


Fig. 273. Cornice 5.3.7.



Fig. 274. Molding 5.3.8.



Fig. 275. Doorjamb 6.1.

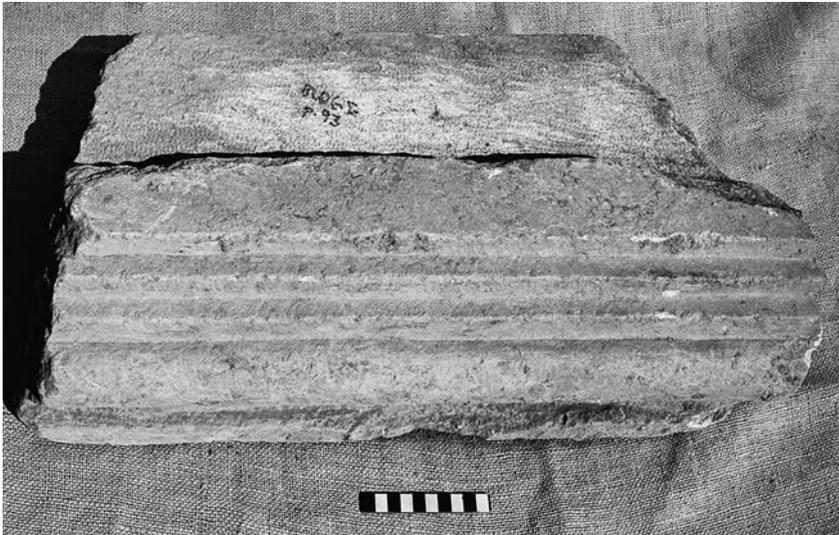


Fig. 276. Doorjamb 6.2.



Fig. 278. Doorjamb 6.4.

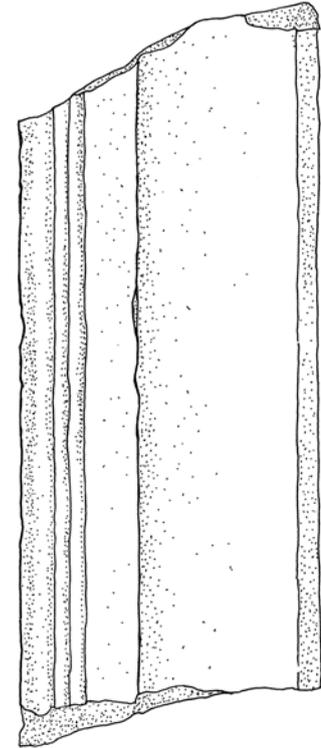
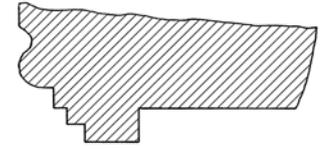


Fig. 277. Doorjamb 6.3.

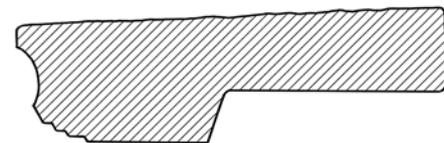


Fig. 279. Doorjamb 6.5.



Fig. 280. Doorjamb 6.6.

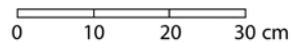
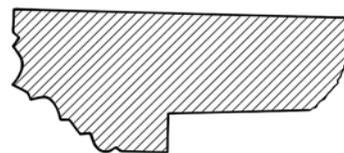


Fig. 281. Doorjamb 6.6.

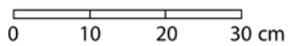
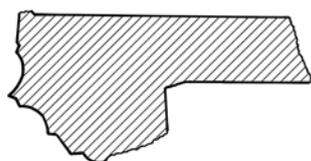


Fig. 282. Doorjamb 6.7.

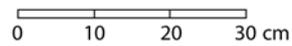
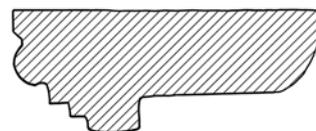


Fig. 283. Doorjamb 6.8.



Fig. 284. Doorjamb 6.9.

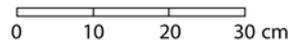
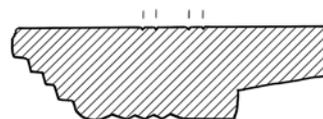


Fig. 285. Doorjamb 6.9.



Fig. 286. Closure slabs 7.1 and 7.2.



Fig. 287. Closure slab 7.1.

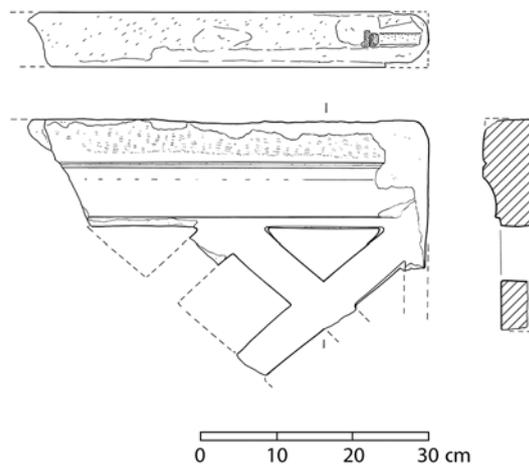


Fig. 288. Closure slab 7.1.



Fig. 289. Closure slab 7.1.

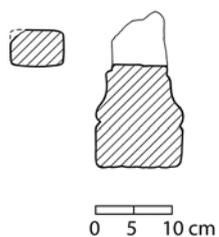


Fig. 290. Closure slab 7.1.

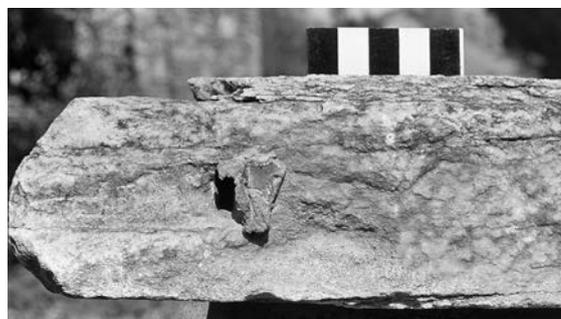


Fig. 291. Closure slab 7.1, detail of top with clamp slot and metal clamp remnants.



Fig. 292. Closure slab 7.2.



Fig. 293. Closure slab 7.2.

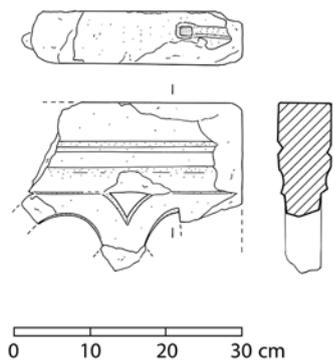


Fig. 294. Closure slab 7.2.



Fig. 295. Closure slab 7.2, detail of top with clamp slot and metal clamp remnants.

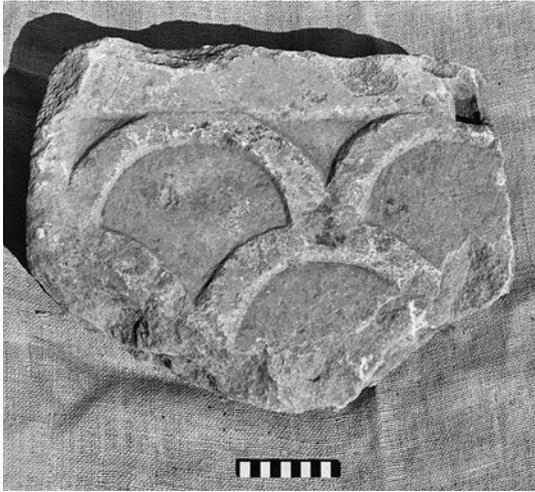


Fig. 296. Closure slab 7.3.



Fig. 297. Closure slab 7.4.



Fig. 298. Closure slab 7.5.



Fig. 299. Closure slab 7.6, with inscription.

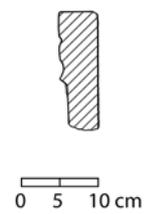


Fig. 300. Closure slab 7.6, section.

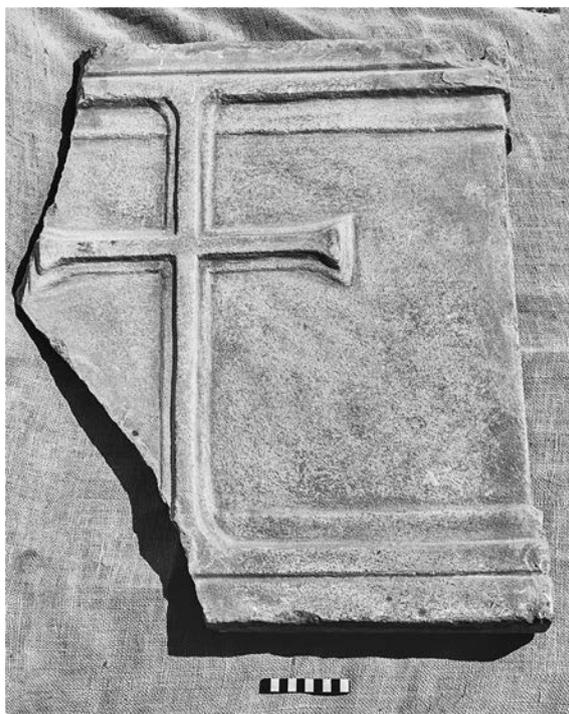


Fig. 301. Closure slab 7.7.

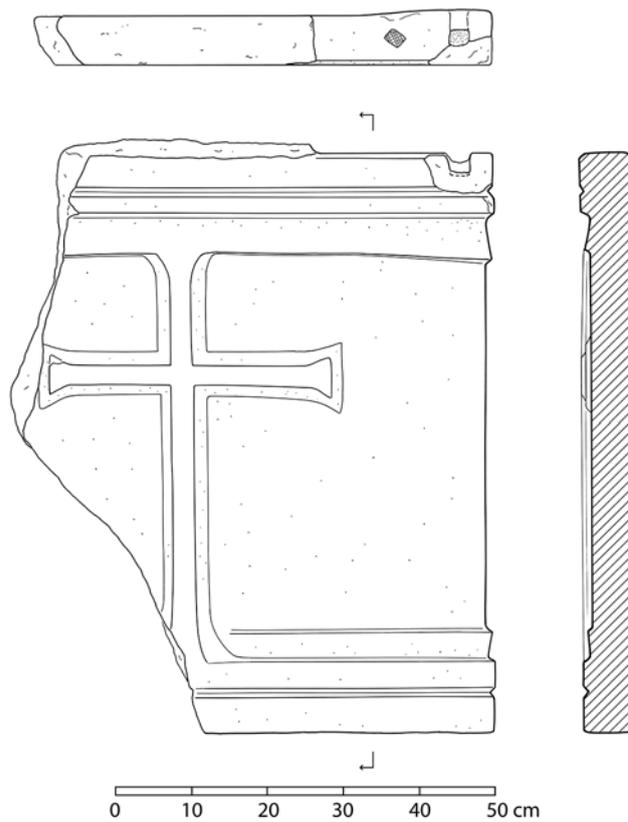


Fig. 302. Closure slab 7.7, elevation, section, plan.

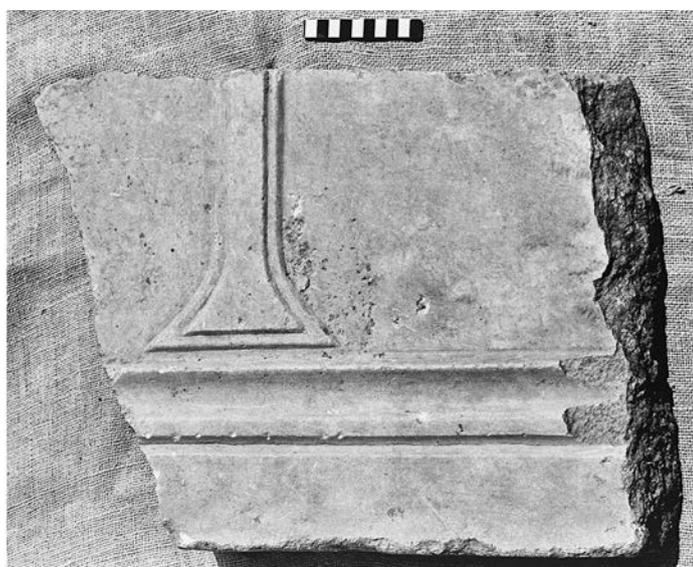


Fig. 303. Closure slab 7.8.

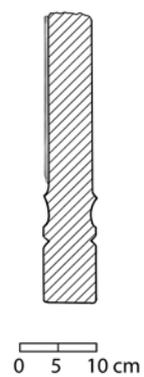


Fig. 304. Closure slab 7.8, section.

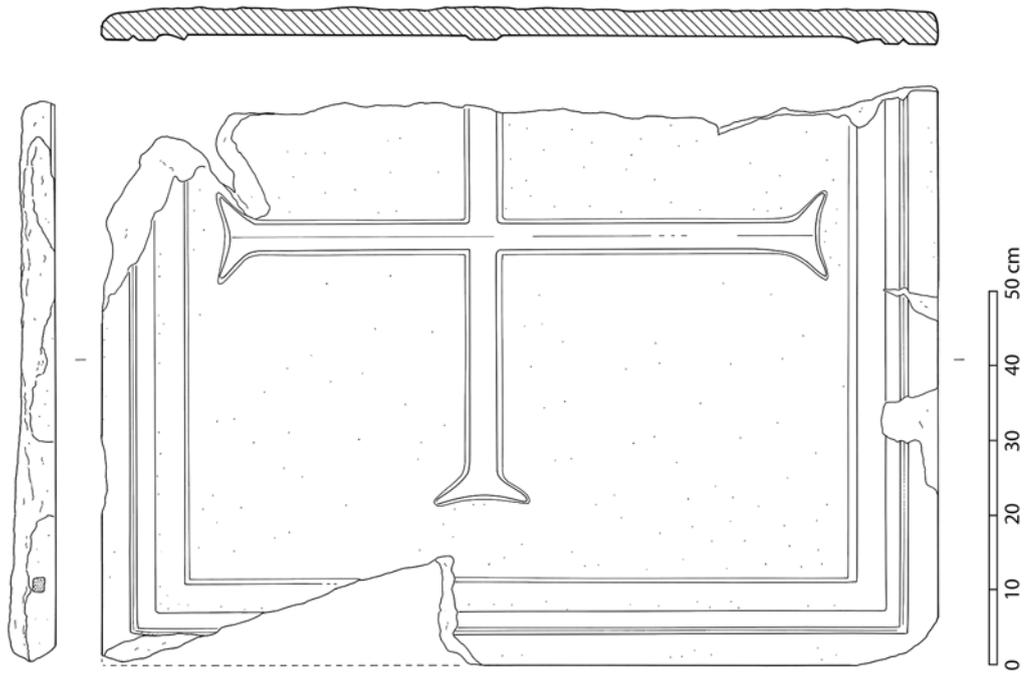


Fig. 306. Closure slab 7.9, section, plan.



Fig. 305. Closure slab 7.9.



Fig. 307. Closure slab 7.13.



Fig. 308. Closure slab 7.14.



Fig. 309. Closure slab 7.15.

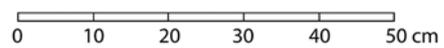
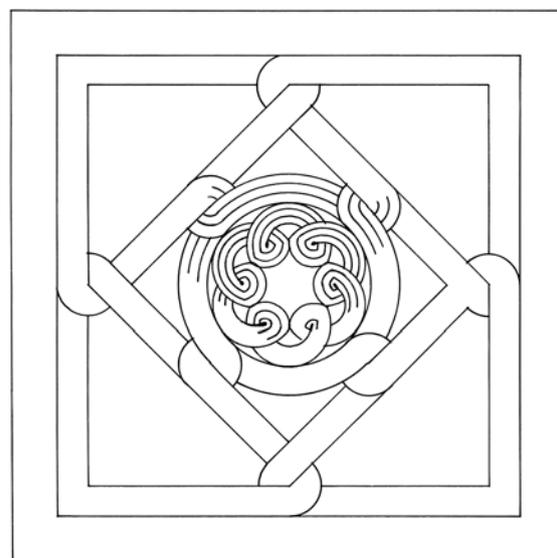


Fig. 310. Closure slab 7.15, schematic reconstruction.



Fig. 311. Closure slab 7.16.

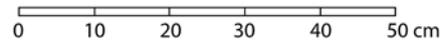
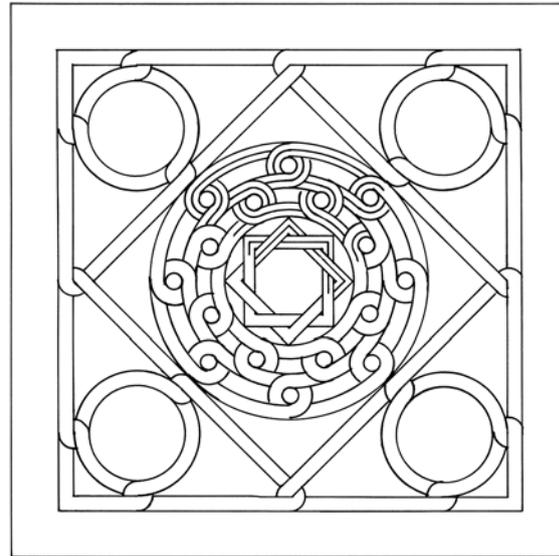


Fig. 312. Closure slab 7.16, schematic reconstruction.



Fig. 313. Closure slab 7.17.



Fig. 314. Closure slab 7.18.



Fig. 315. Closure slab 7.19.



Fig. 316. Closure slab 7.20.



Fig. 317. Closure slab 7.21.



Fig. 318. Closure slab 7.22.



Fig. 319. Closure slab 7.23.

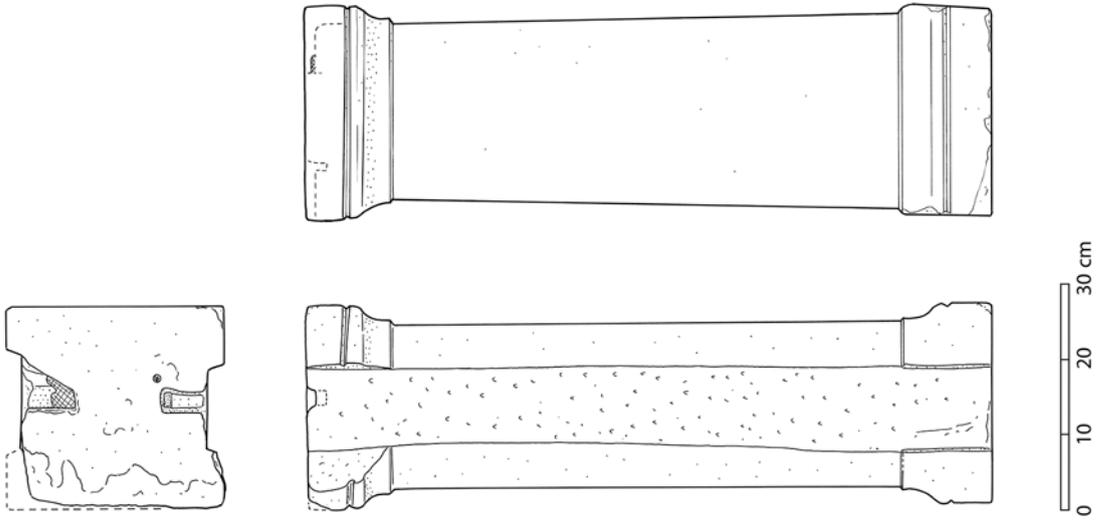


Fig. 322. Pillar 8.1, plan, elevations.



Fig. 321. Pillar 8.1.

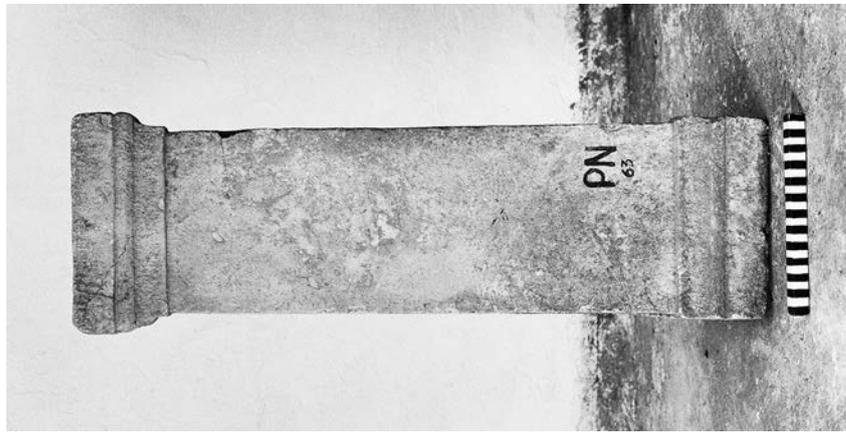


Fig. 320. Pillar 8.1.



Fig. 323. Pillar 8.2.

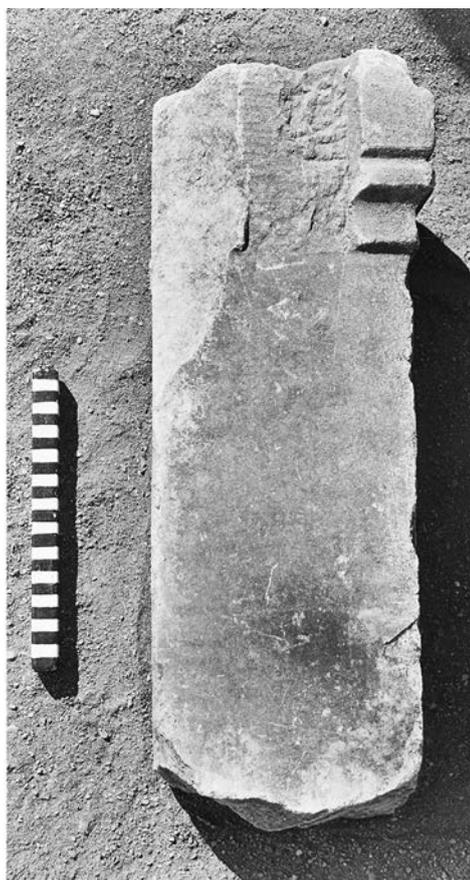


Fig. 324. Pillar 8.2.

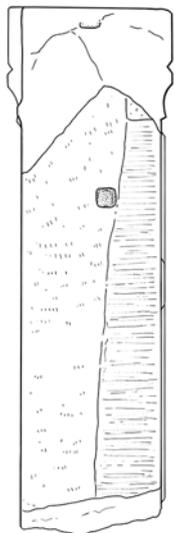
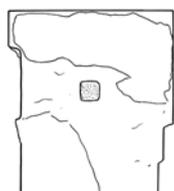


0 10 20 cm

Fig. 325. Pillar 8.2, plan.



Fig. 326. Pillar 8.3.

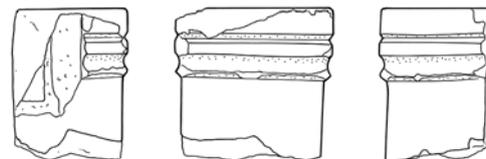


0 10 20 cm

Fig. 327. Pillar 8.3, plan, elevation.



Fig. 328. Pillar 8.4.

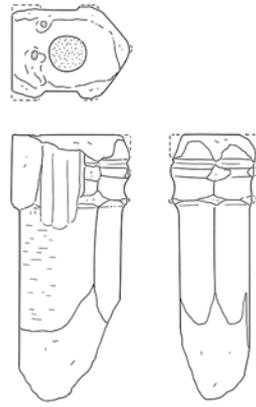


0 10 20 cm

Fig. 329. Pillar 8.4, plan, elevations.

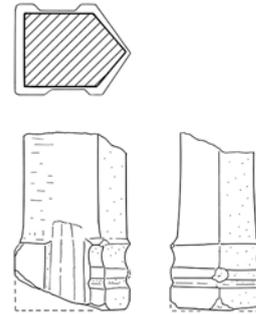


Fig. 330. Pillar 8.5.



0 10 20 cm

Fig. 331. Pillar 8.5, plan, elevations.

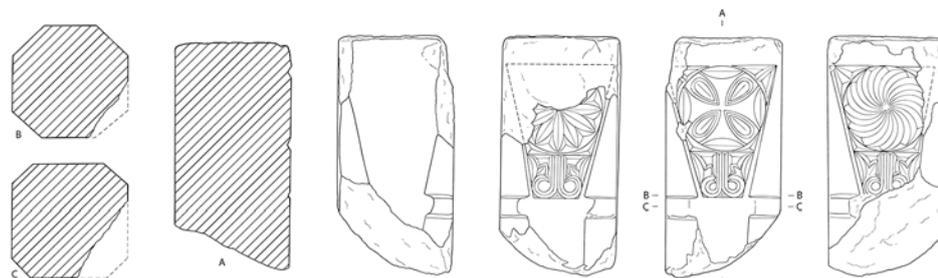


0 10 20 cm

Fig. 332. Pillar 8.6, section, elevations.



Fig. 333. Capital 8.7.



0 10 20 30 cm

Fig. 334. Capital 8.7, sections, elevations.



Fig. 335. Capital 8.8.



Fig. 336. Capital 8.8.



Fig. 337. Capital 8.9.



0 10 20 cm

Fig. 338. Capital 8.9, elevations.



Fig. 339. Octagonal colonnette 8.10.



Fig. 340. Chancel barrier lintel block 9.1.

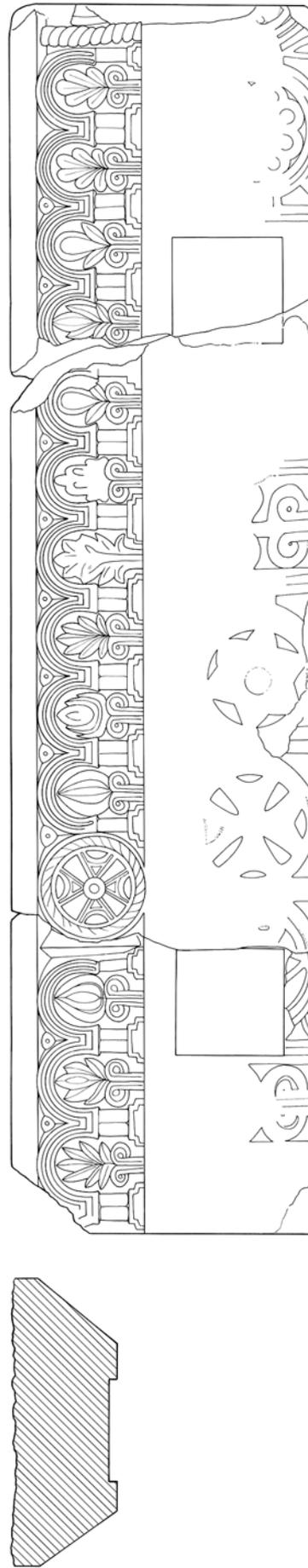


Fig. 341. Chancel barrier lintel block 9.1, section, elevation.



Fig. 342. Chancel barrier lintel block 9.1.



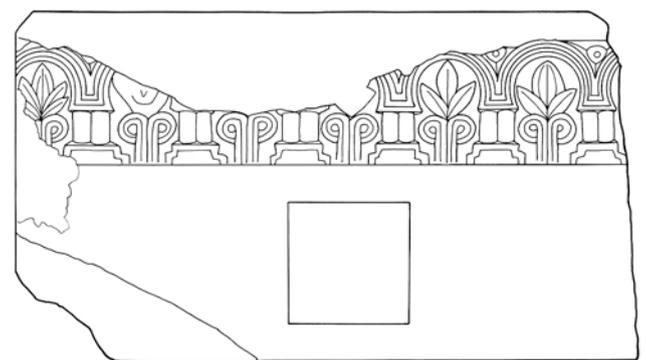
Fig. 343. Chancel barrier lintel block 9.1, top detail with clamp cutting.



Fig. 344. Chancel barrier lintel block 9.1, top detail with slot.



Fig. 345. Chancel barrier lintel block 9.2, left end.



0 10 20 30 40 50 cm

Fig. 346. Chancel barrier lintel block 9.2, left end elevation.



Fig. 347. Chancel barrier lintel block 9.2, right end.

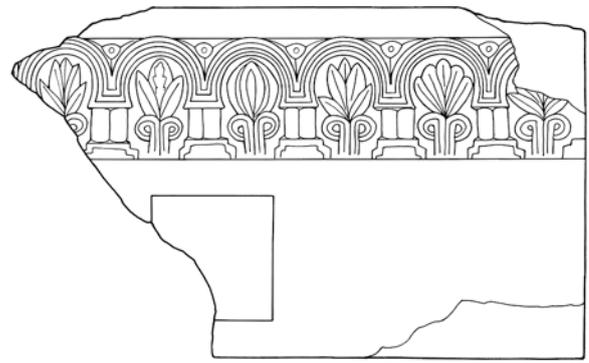


Fig. 348. Chancel barrier lintel block 9.2, right end elevation.

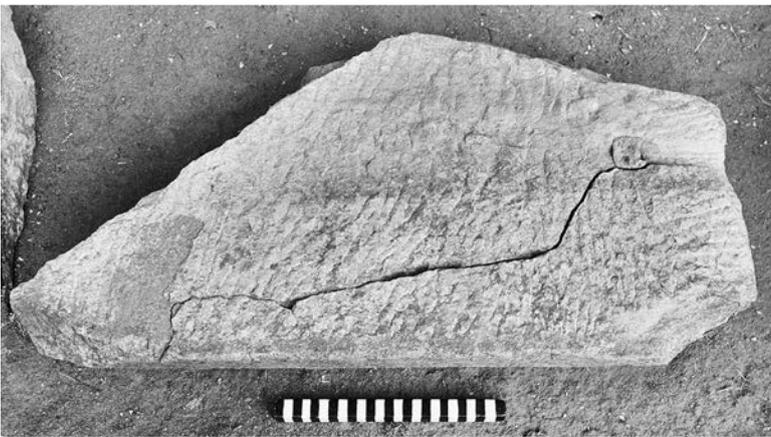


Fig. 349. Chancel barrier lintel block 9.2, right end top detail with clamp cutting.



Fig. 350. Chancel barrier lintel block 9.3.

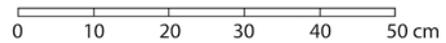
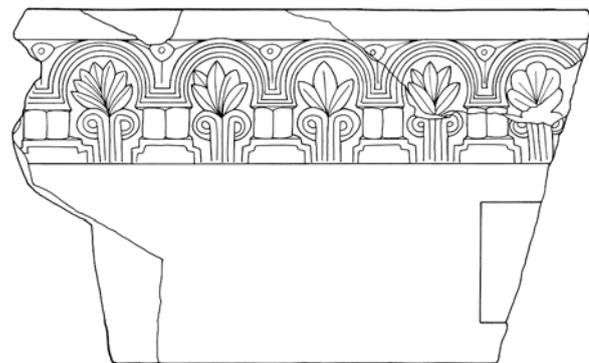


Fig. 351. Chancel barrier lintel block 9.3.



Fig. 352. Chancel barrier lintel block 9.4.

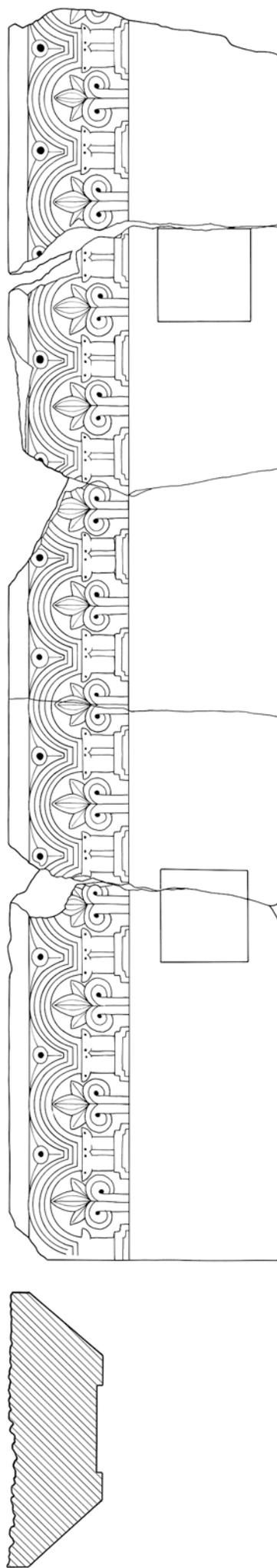


Fig. 353. Chancel barrier lintel block 9.4, section, elevation.



Fig. 354. Chancel barrier lintel block 9.4, left piece.

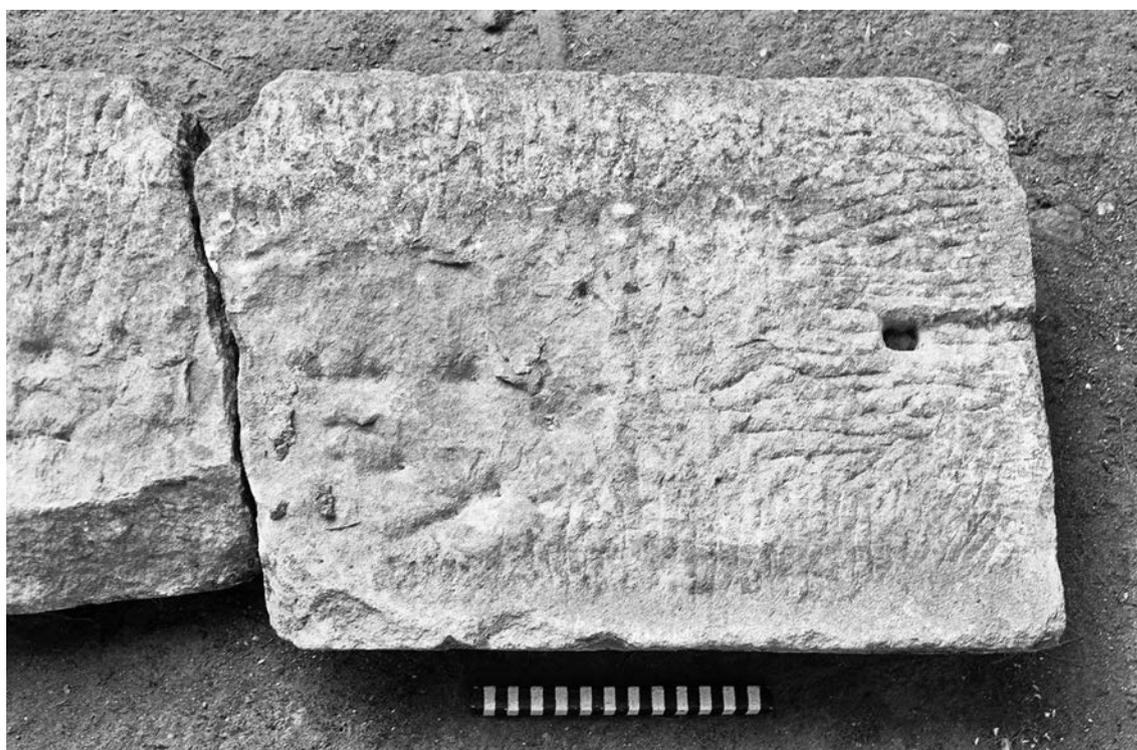


Fig. 355. Chancel barrier lintel block 9.4, top detail with clamp cutting to right.

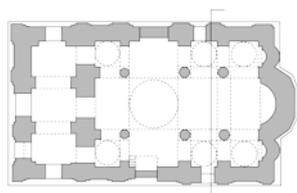
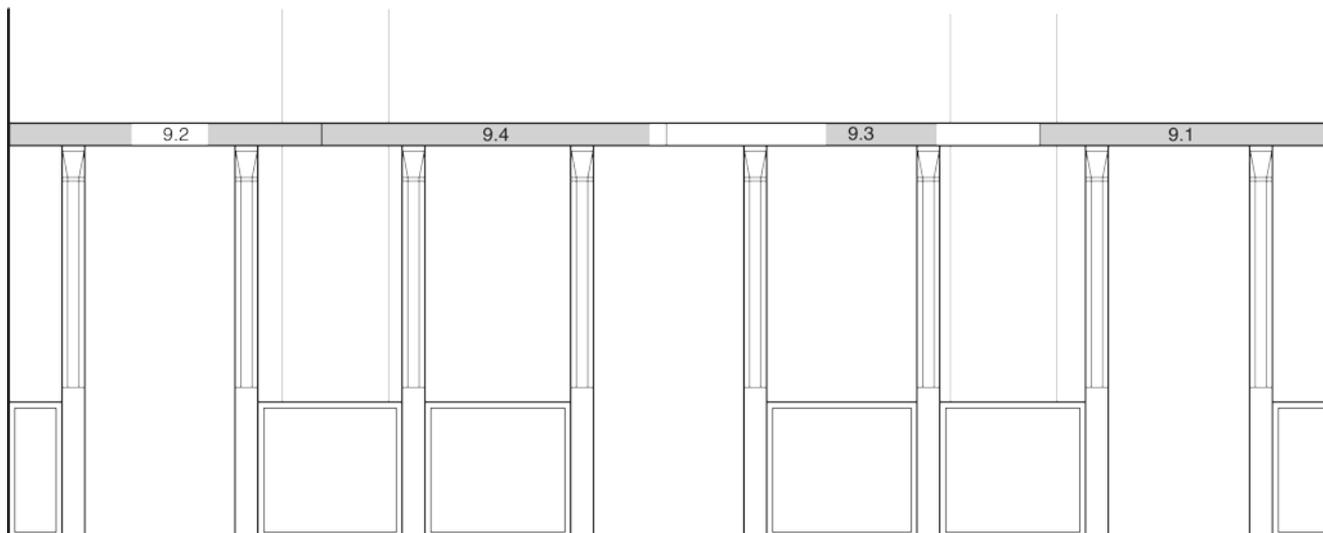


Fig. 356. Schematic reconstruction of Church E chancel barrier, Reconstruction A.

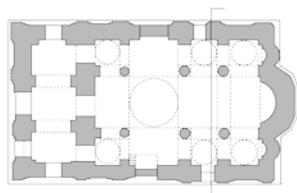
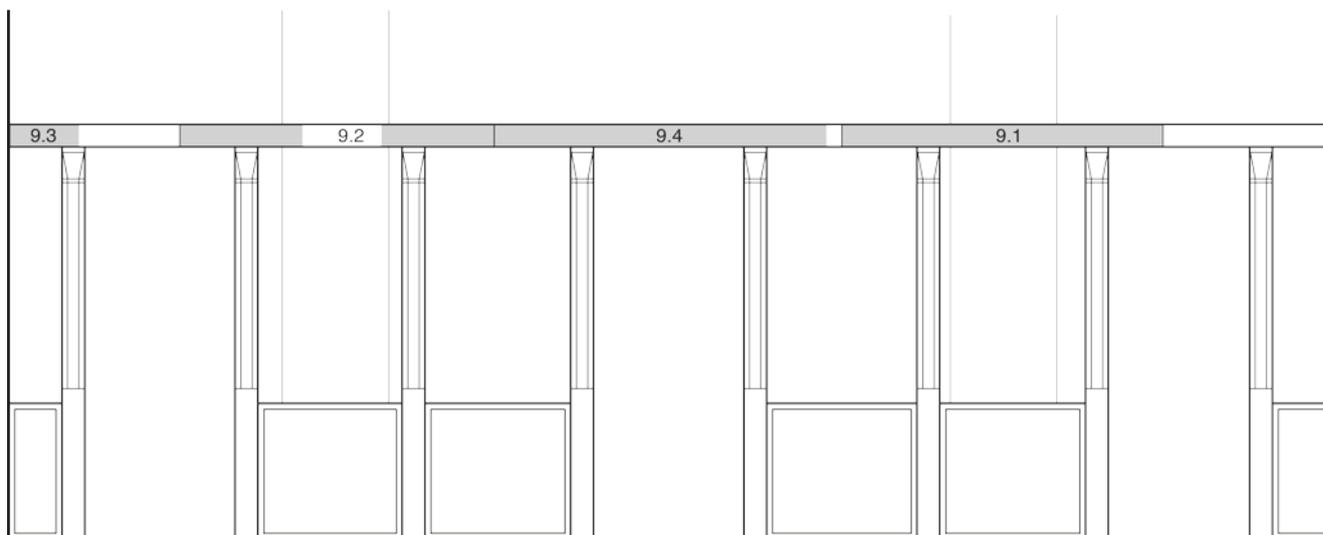
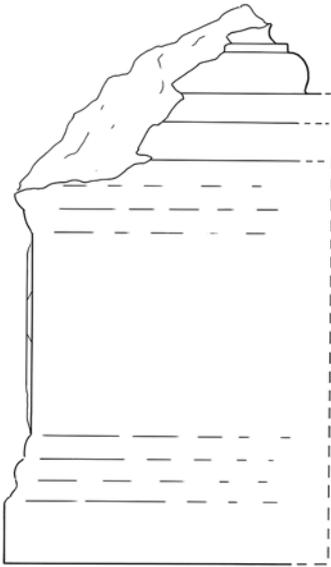


Fig. 357. Schematic reconstruction of Church E chancel barrier, Reconstruction B.

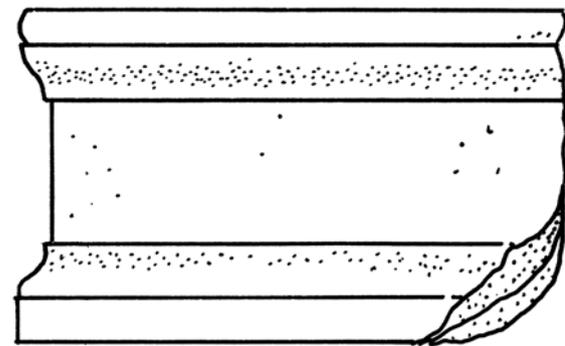
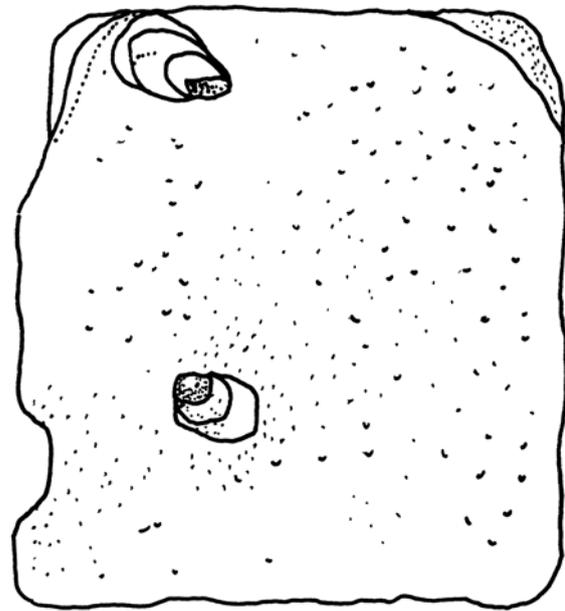


Fig. 358. Acanthus capital 11.1.



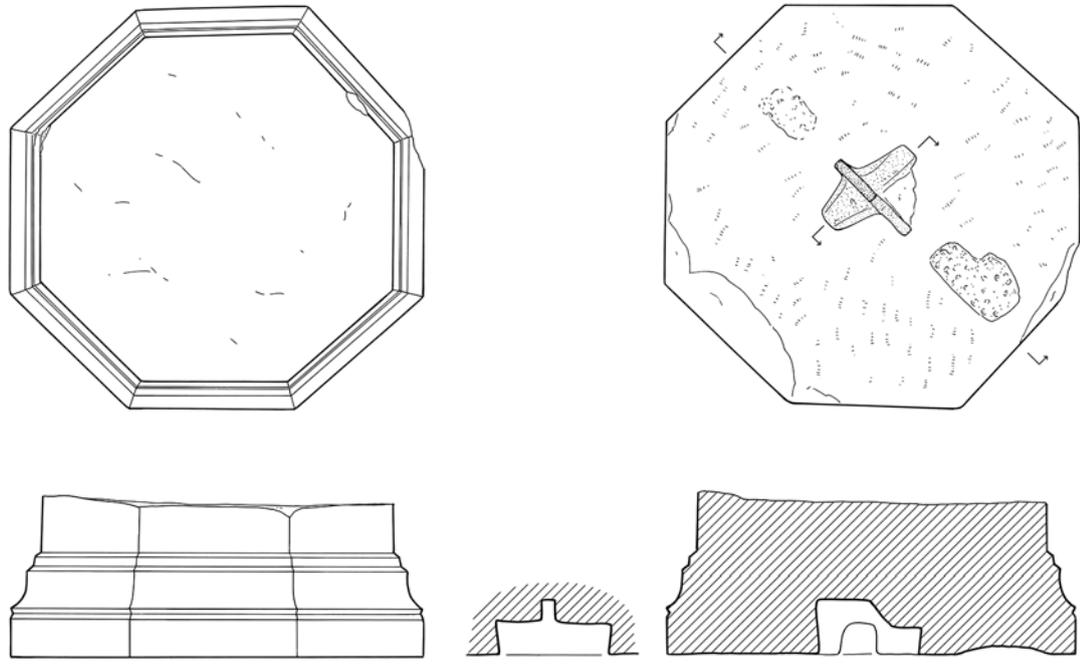
0 10 20 30 cm

Fig. 359. Pedestal 11.2, elevation.



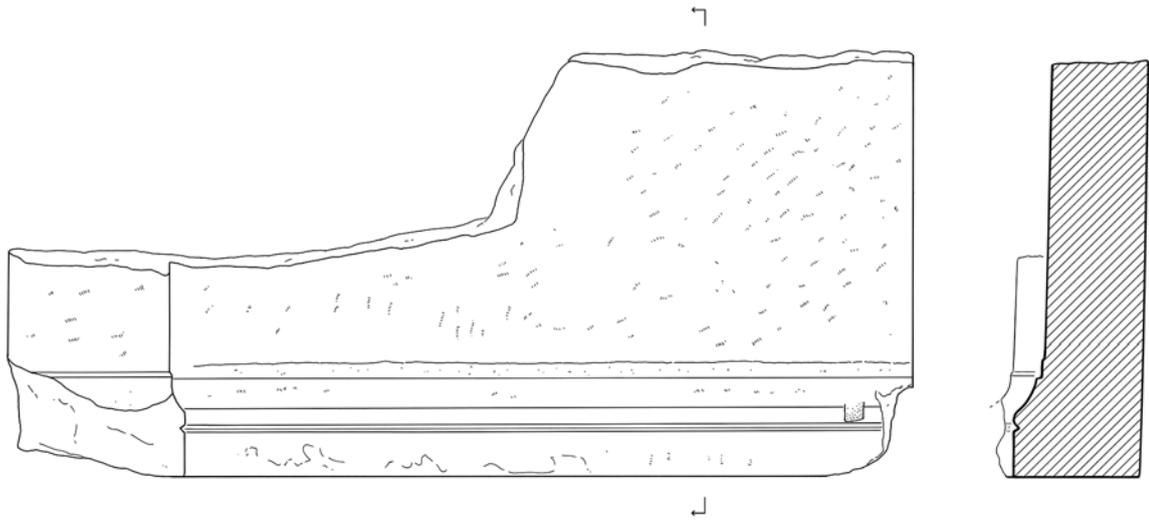
0 10 20 30 40 50 cm

Fig. 360. Pedestal 11.4, plan, elevation.



0 10 20 30 40 50 cm

Fig. 361. Octagonal pedestal 11.5, top plan, elevation, bottom plan, sections.

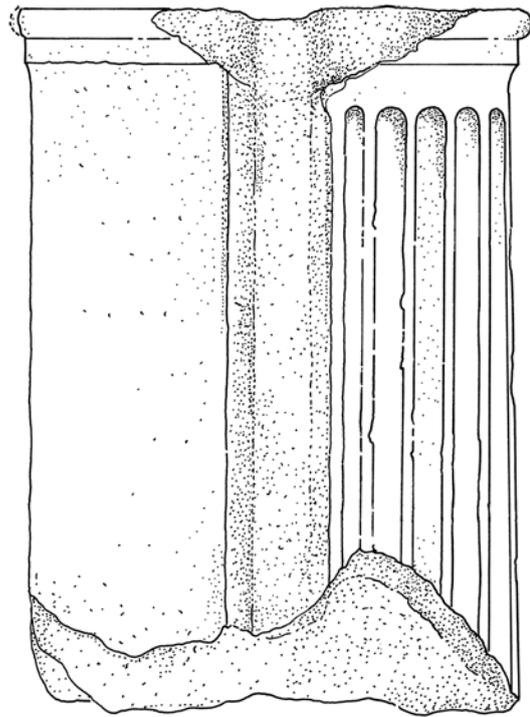
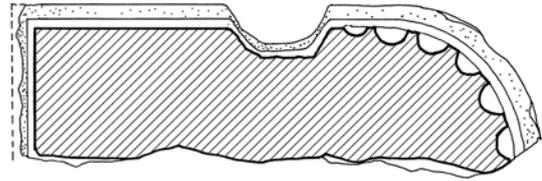


0 10 20 30 40 50 cm

Fig. 362. Base molding 11.6, elevation, section.

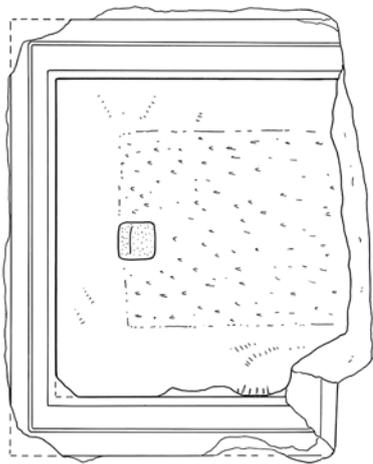
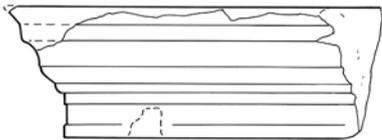


Fig. 363. Engaged fluted column 11.7.



0 10 20 30 40 50 cm

Fig. 364. Engaged fluted column 11.7, section, elevation.



0 10 20 30 40 50 cm

Fig. 365. Molding 11.8, elevation, plan.

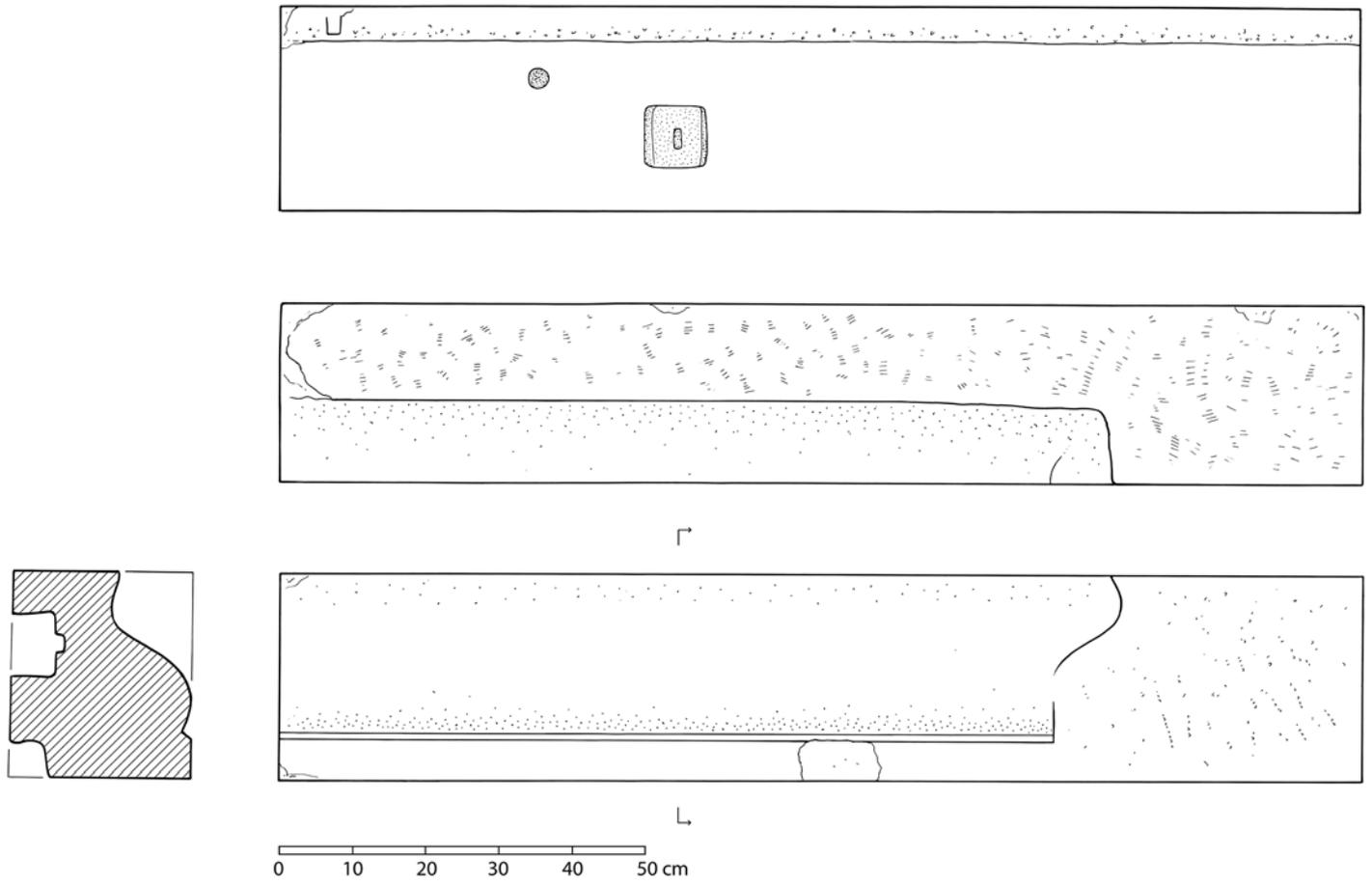


Fig. 366. Base molding 11.9, elevations, section.



Fig. 367. Acroterion, 11.10.



Fig. 368. Acroterion, 11.11.



Fig. 369. Pillar 11.12.



Fig. 370. Colonnnette 11.13.

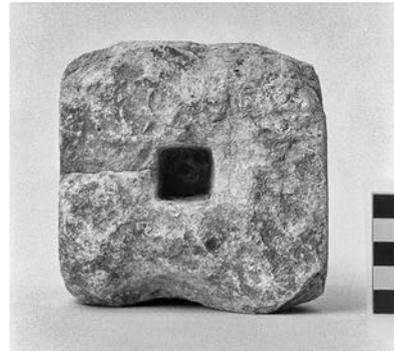


Fig. 371. Colonnnette 11.13 top.



Fig. 372. Chancel barrier lintel block 11.14.



Fig. 373. Lintel block 11.15.



Fig. 374. Decorated fragment 11.16.



Fig. 375. Decorated slab 11.17

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Abbreviations used in this bibliography for journals and book series are those listed on the *American Journal of Archaeology* website.

In addition, the following abbreviations are used for frequently cited journals and reference books not found in the AJA list.

<i>AeMT</i>	<i>To αρχαιολογικό έργο στη Μακεδονία και Θράκη</i>
<i>Archeion</i>	<i>Άρχεϊον τῶν βυζαντινῶν μνημείων τῆς Ἑλλάδος</i>
<i>Architectura</i>	<i>Architectura: Zeitschrift für Geschichte der Baukunst</i>
<i>CorsiRav</i>	<i>Corsi di cultura sull'arte ravennate e bizantina</i>
<i>DA</i>	<i>The Dictionary of Art</i> (New York 1996)
<i>DeltChAE</i>	<i>Δελτίον τῆς Χριστιανικῆς Ἀρχαιολογικῆς Ἑταιρείας</i>
<i>ODB</i>	<i>Oxford Dictionary of Byzantium</i>
<i>RAC</i>	<i>Reallexikon für Antike und Christentum: Sachwörterbuch zur Auseinandersetzung des Christentums mit der antiken Welt</i> (Stuttgart, 1950–)
<i>RbK</i>	<i>Reallexikon zur byzantinischen Kunst</i> (Stuttgart, 1966–)
<i>SAC</i>	<i>Studi di antichità cristiana</i>

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INDEX

- Acadius (Roman emperor), 34
acanthus capitals, 54–55, 60, 111, 135–36, *Fig. 358*
Acropolis of Sardis
 cave chapels on, viii
 coin sequence breaks at, 71
 graves found on, 154
 masonry types used on, 66
 Pactolus North area and Churches EA and E in relationship to, 1, 92
acroterion fragments, 137, *Figs. 367, 368*
Aigosthena, churches at, 98
aisle, north. *See* north aisle
aisles, isolation of, Church EA, 63–64, 66–67, 69–70, 71
Alahan
 Church of the Evangelists at, 66–67
 East Church at, 18
Alakilise (Lycia), church at, 57
Alaşehir (Philadelphia), church of the Prophet Nahum at, 99, 100
Alikı (Thasos), basilicas of, 16n148, 21
altar foundation, Church EA, original basilica, 6
altar of catacomb of S. Alessandro, Rome, 22n243
ambos, 6
Amorium, Lower City Church at, 6n41, 12, 22, 55, 101
Anavarza, Basilica No. 2 in Upper Town of, 12
Anemurium
 House of the Phoenix, 32n25
 Large Baths at, 32n31
 Necropolis Church, 44n133
Antioch
 Daphne-Harbie floor mosaics, 43n127
 mosaics from, 24n269
 St. Babylas, church of, 44
Apamea
 “La Maison aux Pilastres,” 23n253, 24n267, 32
 Martyrion, 24n267, 32n27, 35n55
Aphendelli basilica, Lesbos, 21
Aphrodisias
 Bishop’s Palace, 23
 “Martyrium” church at, 18
 Odeon area floor mosaic, 24n270
 Priest’s House, 23m265
 Roman Basilica, 32n29
 Temple Church at, 6n41, 20, 48–49, 51n211, 57
apotropaic mosaic crosses, 44
apse
 Church E, 79, 84, 102–3, *Figs. 109, 132, 133, 188, 189, 194*
 Church EA
 North Chapel, 37, 38, *Figs. 63, 65*
 original basilica, xiv, 1–2, 4, 6, *Fig. 20*
 West Chapel, 61
architects and construction teams, Byzantine, 90n98, 92
architectural sculpture and furnishings, xvi, 105–38. *See also* capitals; chancel barrier; closure slabs; column bases; column shafts; doorjambs; double-engaged columns; impost blocks; lintel blocks; moldings
 acroterion fragments, 137, *Figs. 367, 368*
 attribution of, xvi
 carved architectural spoils laid out in Church EA, 73, *Fig. 104*
 Church E, 101–2
 Church EA
 original basilica, 5–9, 17–24
 4th–7th-century additions, changes, and repairs, 29, 53–56, 60
 medieval additions, reconstruction, and repairs, 65–69
 colonnette fragments, 137–38, *Figs. 370, 371*
 decorated fragment, 138, *Fig. 374*
 decorated slab, 138, *Fig. 375*
 drain, architectural molding reused in, 47
 engaged fluted column fragments, 136–37, *Figs. 363, 364*

- local marble used for, 105
 octagonal colonnette, 65, 66, 126, *Fig. 339*
 parapet elements, 56
 pedestals, 5, 75, 136, *Figs. 122, 359–61*
 pillar fragment, 137, *Fig. 369*
 Turkish, 102, 129
- Artemis, Temple and Sanctuary of, Sardis, vii, xiii, 1, 19n184, 71, 153
- Asinou (Cyprus), representations of colored glass windows in church of, 101n182
- Assos
 church south of Gymnasium at, xiv, 12, 14, 16n141
 Gymnasium Church at, 12, 16
 mosaics, 23
- Athens
 House of Proclus, 35n53
 Ilissos Basilica, 155n20
 Tetraconch, 24n266–67
- atrium
 Church EA, xiv–xv, 29–32, 57, 58, 59–60, 71, *Figs. 5, 41–51*
 rooms accessible from, 57, 59–60
- Ayatekla (Cilicia)
 Church No. 1, xiv, 14
 Church No. 2, 54n228
- baptisteries
 Butrint, 23n264
 Church EA, not found for, 26
 Pseudocrypt mistaken for, 92n115, 94
 water connections, ancillary church rooms (other than baptisteries) with, 47–48
- base moldings, 136, 137, *Figs. 362, 366*
- Bath-Gymnasium, Sardis, 23n264, 43, 51n210, 71
- Ba'uda, church at, 20
- benches, ledges, and tables
 Cappadocia, rock-cut benches in churches and chapels of, 39n95
 Church EA, 4th–7th-century changes, additions, and repairs
 bench, atrium, 30, 31, 58, *Fig. 48*
 bench or table, Northeast Unit, 46, 60
 ledges, North Chapel, 39, *Figs. 66–68*
- Benghazi
 Building W, 24n269, 32n38
 House P1, 43n130
- Beth Yerah (Khirbet al-Karak), church at, 48, 57
- Beyazit, Basilica A, 49n198
- Binbirkilise churches, 12, 15, 16, 17, 18, 19, 20
- Bir el Knissia (Carthage, Tunisia), cemetery at, 155–56
- Brad (Syria), cathedral of, 48
- Brandenburg, Hugo, 44
- brick and tile used in Churches EA and E, 145–46 (*Table 5*).
See also construction methods and masonry
- bronze bowl and cauldron from Church E, Turkish era, 97
- Buchwald, Hans, vii–viii, xiii–xiv, 97n151, 154, 155
- Building D, Sardis, viii, xiii, 26n292, 27n298, 59
- building teams and architects, Byzantine, 90n98, 92
- Butler, Howard Crosby, vii, xiii, 13n111, 14, 73n1
- Butrint baptistery, 23n264
- Byzantine Shops, Sardis, 10, 20n193, 34–35
- Cambazlı, church at, 17
- capitals
 acanthus, 54–55, 60, 111, 135–36, *Fig. 358*
 chancel barrier, 69, 123, 126, *Figs. 333–38*
 naves of Church EA and E, xvi, 2, 54–55, 60, 65, 111–12
- Cappadocia, rock-cut benches in churches and chapels of, 39n95
- Carapsia (Cyprus), inscribed-cross church at, 98
- Caričin Grad, churches of, 57
- catacomb of S. Alessandro, Rome, altar of, 22n243
- catechumens, entrances and areas for, xv, 37, 40
- cave chapels on Acropolis of Sardis, viii
- chancel barrier, 128–35
 capitals, 69, 123, 126, *Figs. 335–38*
 Church E, 78, 101, 124, 128–29, 133–35, *Figs. 356, 357*
 Church EA
 medieval reconstruction, xv, 66, 69, 124, 125–26, 131–33, *Figs. 333–39*
 original basilica, xvi, 6, 11, 20–22, 123–25, 129–31, *Figs. 320–32*
 closure slabs, xv, 21, 56, 78, 119, 128–35, *Figs. 286–319*
 as demarcation between spirit and matter, 69
 lintel blocks, xvi, 65, 66, 69, 70, 78, 96n137, 101, 126–35, *Figs. 340–55*
 reuse of Church EA elements in Church E, xvi, 78
 supporting members, xvi, 20–21, 66, 123–26, *Figs. 320–39*
 chancel of Church EA, original basilica, unexcavated state of, 1, 2
 checkerboard patterning, facade, Church E, xvi, 81, 82, 83, 84, 98, 102, *Figs. 152–55, 158*
 chevron decoration, facade, Church E, xvi, 80, 84, 98, 100, 102, 103, *Figs. 139–41*
- Chios
 Church of the Holy Apostles, Pyrgi, 100
 Church of the Panaghia Krina, 97n151, 98, 100
- Christern, J., 16n147
- Church E, xv–xvi, 73–103. *See also* graves associated with Churches EA and E; Pseudocrypt
 apse, 79, 84, 102–3, *Figs. 109, 132, 133, 188, 189, 194*
 architectural sculpture and furnishings, 101–2
 architectural versus archaeological exploration of, viii
 chancel barrier, 78, 101, 124, 128–29, 133–35, *Figs. 356, 357*
 checkerboard patterning, facade, xvi, 81, 82, 83, 84, 98, 102, *Figs. 152–55, 158*
 chevron decoration, facade, xvi, 80, 84, 98, 100, 102, 103, *Figs. 139–41*
 closure slabs, 78, 102, 119, 123, *Figs. 318, 319*
 column bases, 75–76, 107, *Figs. 225–27*
 construction methods and masonry, xv–xvi, 143–46 (*Tables 3–5*)
 foundations, 88–90
 Masonry Fragment 1, 79, 84, *Figs. 131, 132, 134, 135*

- Masonry Fragment 2, 80, 83, 84, *Figs. 139, 141–44*
Masonry Fragment 3, 80–81, 83, 84, *Figs. 145–47*
Masonry Fragment 4, 81, 83, 84, *Figs. 148–50*
Masonry Fragment 5, 81–82, 83, 84, *Figs. 151–53*
Masonry Fragment 6, 82, 84, *Figs. 155–47*
Masonry Fragment 7, 82, 84, *Figs. 154, 158, 159, 162*
Masonry Fragment 8, 82–83, 84, *Figs. 160–62*
Masonry Fragment 9, 83, 84, *Figs. 163, 164*
Masonry Fragment 10, 83, *Fig. 165*
Masonry Fragment 11, 83, 84, *Fig. 166*
Masonry Fragment 12, 84, 85, *Figs. 171, 172*
Masonry Fragment 13, 84, 85, *Fig. 167*
Masonry Fragment 14, 84, 85, *Figs. 168, 177–79*
Masonry Fragment 15, 84, 85, *Figs. 174, 175*
Masonry Fragment 16, 84–85, *Figs. 169, 170*
Masonry Fragment 17, 86–87, *Figs. 184, 185*
masonry fragments, 77–87, *Figs. 124–85*
open masonry joints in foundation, 89, *Figs. 187, 197*
timber beams used in foundation, xvi, 88–89, *Fig. 195*
walls and domes, 75, 79–87
- dating and comparable structures, vii, xiii, xvi, 97–102
(See also *specific comparable churches, by location*)
- domes
corner domes, 84–86, *Figs. 167–83*
major dome, 86–87, *Figs. 184, 185*
- doorjambs, 76, 77
- doors and doorways, 76–77, *Figs. 115–20, 123*
- earthquake damage and destruction, xvi, 86, 87, 90, 95, 97
- excavation of, vii, xiii
- facades and lower vault, xvi, 75, 79–84, *Figs. 106–8, 110, 120, 142–50, 215*
- floor, stone slab and opus sectile, 77–78, 96
- foundations, 87–92, *Figs. 187–96*
- herringbone brickwork, facade, xvi, 79, 80, 84, 98, 102, *Fig. 133*
- incorporation of Church EA elements, xvi, 66, 73, 78, 91
- as inscribed-cross type, xv–xvi, 74, 98
- levels, 73, 91–92, 141 (*Table 1*), 155
- lintel blocks, 78, 96n137, 101, 126–35, *Figs. 340–55*
- location of, viii, xiii
- lunettes, facade, 79, 81–84, 87, 97, 98, 99, 100, 102, 103, 113n50, *Fig. 154*
- meander decoration, exterior, xvi, 85, 86, 98, 99, 100, *Figs. 171–76*
- mosaics, xvi, 78, 101
- naos
floor, 77–78
pilasters, 74, 75, 77, 78, 80, 82, 90, 135n90, 136
- narthex, 74, 76, 77–78, 96, 97, *Figs. 115–18, 121, 123*
- north aisle, 73, 80, 90, 96, *Figs. 112, 113*
- physical relationship to Church EA, xv, 73
- pilasters
facade, 75, 81, 82, 83, 84
narthex, 74
- proportions and unit of measure, 74
- quadratura and, xvi, 74, *Fig. 105*
- quatrefoil decoration, facade, xvi, 79, 81, 82, 84, 86, 100, 102, 103, *Figs. 136–38*
- reconstruction, viii, 102–3
chancel barrier, 128–29, 133–35, *Figs. 356, 357*
corner domes, 84–86
facade and lower vault, 83–84
with quadratura, xvi, 74, *Fig. 105*
- roofing of corner domes, 85
- standing remains, 74–79
- stylobate, xvi, 75, 76, 90
- supporting vault, corner domes, 85–86
- thresholds, 76, *Figs. 115–18*
- Turkish occupation of, xvi, 78, 95–97, 102, 117, 129, *Figs. 12, 200, 201, 214*
- wall paintings, xvi
corner dome, 78, 86
foundation, 90–91
- well, 79
- windows and colored window glazing, xvi, 77, 101
- Church EA, xiv–xv, 1–71. See also graves associated with Churches EA and E; Pseudocrypt
- abandonment and destruction of, xv, 61, 71
- architectural versus archaeological exploration of, viii
- baptistery not found for, 26
- as cathedral of Sardis, xiv, 26, 57, 59
- column bases, 2, 29, 53–55, 106–7
- column shafts, 2, 29, 53–55
- dating, vii, xiii, 9–11
- door frame moldings, 5, 6, 19–20, 47, 51, 55, 114–15, *Figs. 25–27, 258*
- earthquake damage to, 61, 62
- excavation of, vii–viii, xiii–xiv, 29
- levels, xv, 9n64, 45n156, 50, 58, 141 (*Table 1*)
- location of, viii, xiii, 1, 26–27
- modular grid using harmonic ratios, design based on, xiv, 2, 15n132, *Fig. 17*
- physical relationship to Church E, xv, 73
- Church EA, original basilica, xiv, 1–27. See also graves associated with Churches EA and E
- altar foundation, 6
- apse, xiv, 1–2, 4, 6, *Fig. 20*
- architectural sculpture and furnishings, 5–9, 17–24
- building complex (episcopal palace?) across Street of Pipes from, 26, 34
- chancel barrier, xvi, 6, 11, 20–22, 123–25, 129–31, *Figs. 320–32*
- chancel, unexcavated state of, 1, 2
- clerestory walls, 17
- closure slabs, 6, 21–22, 119–20, *Figs. 286–98*
- coins from, viii, xiv, 9, 149 (*Table 9*)
- comparable stylistic evidence, 11–26 (See also *specific comparable churches, by location*)
- conclusions regarding, 26–27
- construction methods and masonry, xiv, 1, 4–5, 10, 143–46 (*Tables 3–5*), *Fig. 17*

- cross, use of, 10–11
 dating, 9–11
 doorjambs, 5–6, 20
 double-engaged columns, xvi, 2–3, 16, 17–19, 109–11, 112,
 148 (*Table 7*), *Figs. 241–46*
 galleries, 16–17
 glass fragments, 10
 impost blocks, 3
 intercolumniation, 16
 large size of, 16
 mosaics, vii, xiv, 6–8, 22–24, *Figs. 32–39, 84*
 narthex, xiv, 1, 2, 4, 6, 8
 nave and nave supports, 1, 2, 3–4, *Fig. 15*
 north aisle, xiv, 1, 2, 4, 5, 6–8, 22, *Figs. 16, 18, 19*
 north doorway, 2, 5, *Figs. 23, 24*
 plan of, 1–2, 11–15
 pottery, 10
 proportions and unit of measure, xiv, 2–3, 14–16, 142
 (*Table 2*)
 revetment, 5, *Fig. 28*
 revetment door frames, 19–20, *Figs. 25–27, 92*
 stylobates, 3, 4–5, 22, 62, *Figs. 21, 22*
 Synagogue of Sardis compared to, 27
 thresholds, 5, *Fig. 23*
 wall painting, 8–9, *Fig. 40*
- Church EA, 4th–7th-century changes, additions, and repairs,
 xiv–xv, 29–60. *See also* graves associated with Churches EA
 and E
- apse, North Chapel, 37, 38, *Figs. 63, 65*
 architectural sculpture and furnishings, 29, 53–56, 60
 atrium, xiv–xv, 29–32, 57, 58, 59–60, 71, *Figs. 5, 41–51*
 bench, atrium, 30, 31, 58, *Fig. 48*
 bench or table, Northeast Unit, 46, 60
 catechumens, entrances and areas for, xv, 37, 40
 closure slabs, 56, 60, 119, 120–21, *Figs. 299–306*
 coins from, 32, 37, 43n113, 50n206, 149 (*Table 9*)
 column bases, shafts, and impost blocks, 2, 29, 53–55,
 106–7
 conclusions regarding, 57–60
 construction methods and masonry, xiv, 51–53, 143–46
 (*Tables 3–5*)
- ashlar, 51
 atrium, 30
 brick and tile, 52
 East Building, 49
 Entrance Bay, 33
 mortar, 52
 North Chapel, 38
 North Courtyard, 36
 Northeast Unit, 45–46, 47
 Northwest Unit, 40
 open masonry joints, 30, 38, 40, 42, 52, 53
 plaster and paint, 52
 reused and salvaged materials, 52
 river stones, 51
 schist, 51–52
- sequences in, 52–53
 West Unit, 41–42, 43
 dating of, 57–58
- atrium, 32
 East Building, 49, 58
 Entrance Bay, 34–35
 North Chapel, 39–40
 North Courtyard, 37
 Northeast Unit, 47–49
 West Unit, 44–45
- diaconicon
- North Chapel possibly serving as, xv, 35, 39, 59, 60
 Northeast Unit possibly serving as, 48, 59
- doorjambs, 29, 30, 33, 55–56, *Fig. 46*
 drains, 34, 36, 39, 46, 47–48, 60, *Figs. 61, 79*
 East Building, 29, 49, 58, 71, *Figs. 80, 81*
 Entrance Bay, xv, 29, 32, 33–35, 37, 38, 58, 59, 71, *Figs. 5–7,*
 52–59
 inscription *τοσ αρχιδιακο[νοσ]*, 56, 60, 120, *Fig. 299*
 ledges, North Chapel, 39, *Figs. 66–68*
 mosaics, vii, xiv, xv, 29
- atrium, 30, 31–32, *Figs. 45, 47–51*
 Entrance Bay, 34, *Figs. 58, 59*
 Northeast Unit, 46
 West Unit, 41, 42–43, *Figs. 70, 71*
- narthex, xv
- niche blocking doorway, north wall of Entrance Bay, 29, 33,
 34, 35, 59, *Figs. 7, 55, 56*
 north aisle, xv, 37, 49–50, 58, *Figs. 6, 16, 18, 19, 26*
 North Chapel, xv, 29, 35, 36, 37–40, 50, 58, 59, 60, 71, *Figs.*
 6, 52, 54, 55, 62–68
 North Courtyard, xv, 29, 35–37, 50, 58, 60, *Figs. 5, 60*
 north doorway, xiv–xv, 30–31, 33–34, 49–50, 58, 59, *Fig. 25*
 Northeast Unit, xv, 29, 35, 45–49, 58, 59–60, 63, 71, *Figs. 5,*
 8, 75–79, 81
 Northwest Unit, 29, 40, 59, 71, *Figs. 5, 8, 52, 56*
 opus sectile floor, nave, xv, xvi, 29, 50–51, 60, *Figs. 82–84*
 parapet elements, 56
 pastophories, xiv, 48–49
 revetment moldings, 50, 55
 rooms accessible from atrium, 57, 59–60
 Southeast Unit, 46–47, 60
 Street of Pipes access to, xvi, 29, 31, 33, 34, 35, 36, 39, 58–59
 stylobates, 50, *Figs. 83, 84*
 thresholds, 30, *Figs. 6, 45, 49, 54*
 tile floor, North Chapel, 38–39, 58, *Figs. 47, 68*
 wall paintings, Northeast Unit, 46, 47
 water basin, North Courtyard, 36, 38
 West Unit, 29, 40–45, 58, 59, 71, *Figs. 8, 69–74*
- Church EA, medieval additions, reconstruction, and repairs, xv,
 61–71
- aisles, isolation of, 63–64, 66–67, 69–70, 71
 architectural sculpture and furnishings, 65–69
 chancel barrier, xv, 66, 69, 124, 125–26, 131–33, *Figs.*
 333–39
 closure slabs, 65, 69, 119, 121–23, *Figs. 307–17*

- coins, 66, 70–71, 149 (*Table 9*)
- construction methods and masonry, 143–46 (*Tables 3–5*)
- late medieval repairs and changes, 69–70
 - major medieval reconstruction, 62–64, 66
 - West Chapel, 61
 - dating of, 71
 - late medieval repairs and changes, 70–71
 - major medieval reconstruction, 66–69
 - West Chapel, 62
- doorjambs, 70, 71, *Figs. 93, 98*
- double-engaged columns, reuse of, 70, 111, *Figs. 98, 245*
- floor, 65
- floor repairs, 65
- impost blocks, 29, 53–55, 65, 68, 111–13, 148 (*Table 8*), *Figs. 247–57*
- late medieval repairs and changes, 69–71
- lintel blocks, 65, 66, 69, 70, 126–35, *Figs. 340–55*
- main doorway, reconstruction of, 70, 71
- major medieval reconstruction, 62–69, 71
- marble slab floor, West Chapel, 61–62, *Fig. 87*
- mosaic repairs, 65, *Fig. 38*
- narthex, xiv, xv, 1, 2, 63, 65, 69–70, 71, *Figs. 10, 25, 93, 96*
- nave, 63–64, 65, 70, 71, *Figs. 10, 15, 88, 89, 91*
- north aisle and narthex, blocking of doors, 69–70, *Figs. 8, 25, 92, 97*
- Northeast Unit, abandonment of, 63
- opus sectile flooring, 65
- Pseudocrypt graves relocated during, xiv, xv, xvii, 27, 64, 95, *Fig. 94*
- revetment moldings, 65
- semienclosed space, north end of narthex, xv, 70, 71, *Fig. 10*
- stucco and plaster decoration, 5–6, *Figs. 30, 31*
- stylobates, 63, 64, *Figs. 90, 91*
- thresholds, 65, *Fig. 86*
- wall paintings, xv, 65, 91, 93, 94, 95
- West Chapel, xv, 61–62, 71, *Figs. 9, 85–87*
- Church M, Sardis, viii, xiii, 18, 38n81, 153
- ciboria, 6
- Cimitile, glass fragments from, 10
- Classe, S. Severo, mosaics, 43n126
- Claudia Antonia Sabina, tomb of, Sardis, 154n6
- clerestory walls, Church EA, 17
- closure slabs, xvi, 119–23
- animal decorations, 119, *Figs. 315–17*
 - chancel barrier, xv, 21, 56, 78, 119, 128–35
 - Church E, 78, 102, 119, 123, *Figs. 318, 319*
 - Church EA
 - original basilica, 6, 21–22, 119–20, *Figs. 286–98*
 - 4th–7th-century changes, additions, and repairs, 56, 60, 119, 120–21, *Figs. 299–306*
 - medieval additions, reconstruction, and repairs, 65, 69, 119, 121–23, *Figs. 307–17*
 - clamp details, *Figs. 291, 295*
 - cross decorations, 56, 119, 120–21, *Figs. 299–306*
 - interlace patterns, 119, 121–22, *Figs. 307–14*
 - lozenge or scale patterns, 119–20, *Figs. 286–98*
 - probably Turkish, 119, 123, *Figs. 318, 319*
- coins, 149 (*Table 9*)
- from Acropolis of Sardis, 71
 - from burials, 94, 95, 166
 - from Church EA, viii, xiv, 9, 32, 37, 43n113, 50n206
 - original basilica, viii, xiv, 9, 32, 37, 43n113, 50n206
 - 4th–7th-century additions and repairs, 32, 37, 43n113, 50n206
 - medieval reconstruction and repairs, 66, 70–71
 - from Pseudocrypt grave, 94, 95
 - from reused sarcophagus, 91
 - from Room D, north side of Street of Pipes, 34
 - Turkish, 91, 97
- Cologne, late-4th-century cathedral at, 26n295
- colonnettes
- fragments, 137–38, *Figs. 370, 371*
 - octagonal, 65, 66, 126, *Fig. 339*
- column bases, xvi, 106–7
- Church E, 75–76, 107, *Figs. 225–27*
 - Church EA, 2, 29, 53–55, 106–7
- column shafts, xvi, 107–9
- Church EA, 2, 29, 53–55
 - with little or no taper and apophyge, and with rectilinear neck profile, 108–9, *Figs. 231–36*
 - with taper, apophyge, and astragal, 108, *Figs. 228–30*
 - without preserved neck profiles, 109, *Figs. 237–40*
- columns. *See also* double-engaged columns
- engaged fluted column fragments, 136–37, *Figs. 363, 364*
 - intercolumniation, Church EA, original basilica, 16
 - octagonal colonnette, 65, 66, 126, *Fig. 339*
- Constans (Roman emperor), 9
- Constantinople/Istanbul
- architectural influence of churches of, 13
 - chambers flanking apse in, 49
 - Church of Christ of the Chora, 101
 - Church of Christ Pantocrator (Zeyrek Kilise Camii), 101
 - Church of the Holy Apostles, 13
 - Church of the Virgin Chalkoprateia, 21, 95n130
 - Church of the Virgin Pammakaristos (Fethiye Camii), 101
 - diakonicon and prothesis in, 40n96, 48n188
 - Fourth Crusade and Latin conquest of, xiii, 97n151
 - Great Palace, 55
 - Gül Camii, 100
 - Hagia Sophia, 21n224, 54n224, 56, 89n95
 - herringbone brickwork in, 98
 - Hippodrome column, 21n229
 - Kalenderhane, 21
 - Polyeuktos Church, 20
 - St. Euphemia, 21
 - St. Irene, 55, 56
 - Stoudios Church of St. John, 13, 20, 21n219, 24–25, 54n229, 56, 95n130
 - Topkapi Sarayi Basilica, 21n229, 49n198
- Constantius II (Roman emperor), 9
- construction methods and masonry. *See also* masonry types; reused and salvaged materials

- Acropolis of Sardis, masonry types used on, 66
brick and tile, 145–46 (*Table 5*)
Church E (*See under Church E*)
Church EA
 original basilica, xiv, 1, 4–5, 10, 143–46 (*Tables 3–5*),
 Fig. 17
 4th–7th-century changes, additions, and repairs
 (*See under Church EA, 4th–7th-century*
 changes, additions, and repairs)
 medieval additions, reconstruction, and repairs
 (*See under Church EA, medieval addi-*
 tions, reconstruction, and repairs)
 mortar types, 144 (*Table 4*)
 Pseudocrypt, 92–93
construction teams and architects, Byzantine, 90n98, 92
Corinth
 Bema Church, 67
 chancel barrier supports from, 21, 69
 column bases from, 54n233
 Kodratos Basilica, 156
 Kraneion Basilica, 155n20
 Mosaic House, 24n268
Corinth-Lechaion, church of St. Leonidas at, 14
Croesus (king of Lydia), vii
cross, use of
 apotropaic mosaic crosses, 44
 Church EA
 4th–7th-century additions, changes, and repairs, 44,
 56
 original basilica, 10–11
 closure slabs, 56, 119, 120–21, *Figs. 299–306*
 decorated slab, 138, *Fig. 375*
Cyprus
 Asinou, representations of colored glass windows in church
 of, 101n182
 Carapsia, inscribed-cross church at, 98
 Kourion, Episcopal Basilica of, 37
 Salamis-Constantia, Basilica of Epiphanius at, 37
Dagron, Gilbert, 13n108
Daphne, House 2, Room 6, 43n114
Daphnousia, basilica mosaics, 22n250, 43
dating. *See under Church E; entries for Church EA*
Deichmann, Friedrich W., 13n108–9
Del Chiaro, Mario, vii, xiii
Delos
 Church of St. Cyriacus, 67
 isolated side aisles at, 67
 Room of the Centaurs, House of the Masks, 23–24n266
 Sanctuary of the Syrian Gods, 23n265, 24n267
Demetrius
 Basilica A, 57
 Basilica of Damocratia, 21n236, 22n250, 43n123
Dennert, Martin, 69
Der Sambil, church of, 14n121
Descoedres, Georges, 48n183, 48n188
Detweiler, Henry, vii, xiii
diaconica
 North Chapel, Church EA possibly serving as, xv, 35, 39,
 59, 60
 Northeast Unit, Church EA possibly serving as, 48, 59
Didyma
 smaller church constructed within remains of larger, earlier
 basilica, 98
 Temple Church at, 4n17, 6n41, 12, 16n141, 18, 19, 20,
 21n227, 54n226, 66
door frame moldings, 5, 6, 19–20, 47, 51, 55, 114–15, *Figs.*
 25–27, 258
doorjambs
 Church E, 76, 77
 Church EA
 original basilica, 5–6, 20
 4th–7th-century changes, additions, and repairs, 29,
 30, 33, 55–56, *Fig. 46*
 medieval additions, reconstruction, and repairs, 70,
 71, 111, *Figs. 93, 98*
 fragments, 117–19, *Figs. 275–85*
Döşembe, basilica at, 12
double-engaged columns, 109–11
 Church EA, original basilica, xvi, 2–3, 16, 17–19, 109–11,
 112, 148 (*Table 7*), *Figs. 241–46*
 medieval reuse in other contexts, 70, 111, *Figs. 98, 245*
 from Miletos, 3n16
drains, Church EA, 34, 36, 39, 46, 47–48, 60, *Figs. 61, 79*
earthquake damage and destruction
 Church E, xvi, 86, 87, 90, 95, 97
 Church EA, 61, 62
East Building, Church EA, 29, 49, 58, 71, *Figs. 80, 81*
East Road ambulatory, Sardis, 23
Eleusis, churches at, 98
El-Koursi, mosaics from, 35n58
engaged fluted column fragments, 136–37, *Figs. 363, 364*
Entrance Bay, Church EA, xv, 29, 32, 33–35, 37, 38, 58, 59, 71,
 Figs. 5–7, 52–59
Ephesos
 Church of St. John at, 6n41, 20, 21n225, 23n265–66,
 24n267, 24n269, 32n30, 53, 54, 55, 95n130
 Church of the Virgin at, 12, 16, 20, 21n225, 23n264, 47, 49,
 51n211, 155
 Gymnasium of Vedius, Room 3a, 35n52
 lintel blocks, 69
 Stoa of the Alytachs, 44n131
Epidauros
 church at, 22n250, 23
 Room IV of secular building, 24n267
floors. *See also mosaics; opus sectile flooring*
 Church E, 77–78, 96
 Church EA
 marble slab floor, West Chapel, 61–62, *Fig. 87*
 medieval repairs, 65, *Fig. 95*

- tile floor, North Chapel, 38–39, 58, *Figs. 47, 68*
 drains, Church EA, 34, 36, 39, 46, 47–48, 60, *Figs. 61, 79*
 Pseudocrypt, reused marble slab floor, 92, *Fig. 213*
 Turkish, 96–97, *Fig. 214*
 Fourth Crusade, xiii, 97n151
- galleries, Church EA, 16–17
- Gerasa
 Church of St. Theodore, 57
 Episcopal Basilica of, 20, 37, 57
 Procopius Church, 23, 24n270, 35n56, 43, 44n134
- glass
 Church E, colored window glazing in, xvi, 77, 101
 Church EA, original basilica, lamp fragments, 10
 found in graves, 156
 Roman glass bottle from Pseudocrypt burial, xv, 94, 95, 156, *Fig. 212*
- Glyphada, churches at, 67, 98
- graves associated with Churches EA and E, xvi–xvii, 153–65. *See also* Pseudocrypt
 atrium ruins, graves built into, 71, *Figs. 99, 100*
 catalogue, 156–65
 child's grave with gold earring and rock-crystal bead, xvii, 155, 156
 coins found in, 94, 95, 166
 discovery and excavation of, viii
 finds, 156
 late medieval repairs to Church EA, graves providing *terminus ante quem* for, 70–71
 Mantzikert, graves related to Seljuk invasions after Battle of, 71
 position of skeletons in, 155, 156
 reused Lydian sarcophagus with coffin nails and gilded bronze beads, xvii, 91, 155, *Figs. 198, 199*
 Roman and Byzantine graves elsewhere at Sardis, 153–54
 Roman glass bottle and coin from Pseudocrypt burial, xv, 94, 95, 149 (*Table 9*), 156, *Fig. 212*
 secondary burials, xvii, 94, 155
 significance of Churches and, xiv
 Turkish-period skeleton found in Church E, 97
- Gülbahçe (near Izmir), church at, 57
- Gürses, churches at, 98
- Hama, mosaics from, 43n129
- Hanfmann, George M. A., vii, viii, xi, xiii, 26n292, 27n298, 154
- Hansen, Donald, vii
- harmonic ratios, Church EA design based on modular grid using, xiv, 2, 15n132, *Fig. 17*
- Hendick, Kieran, viii
- Heracelia (Latmos), basilica at, 12
- Herodotus, vii
- herringbone brickwork, facade, Church E, xvi, 79, 80, 84, 98, 102, *Fig. 133*
- Hierapolis (Phrygia)
 chapel, 5th-century, 21n228
 Columnar Church No. 1, xiv, 12, 15
- isolation of side aisles at, 66, 67
 smaller church constructed within remains of larger, earlier basilica, 98
 theater, church near, 47, 66
- Holzmann, Carl K., 15
- Honorius (Roman emperor), 34
- Iasos
 Acropolis Church at, 16n141
 apsidal hall near eastern gate of, 44n132
 basilica near eastern gate of, 12
 İkiz Adası, Bafa Gölü, major church on, 99–100
 Il-Barah, main church of, 14n121
 impost blocks, xvi, 111–13
 Church EA, 3, 29, 53–55, 65, 68, 111–13, 148 (*Table 8*), *Figs. 247–57*
 from Pergamon, 68
 inscribed-cross type, Church E as, xv–xvi, 74, 98
 inscription *τοῦ ἀρχιδιακ[οῦ]* (6th century, Church EA), 56, 60
 intercolumniation, Church EA, original basilica, 16
 Ionian Revolt, siege of Sardis during, vii
 Istanbul. *See* Constantinople/Istanbul
 Ivison, Eric A., 154, 155
- Jerusalem
 Basilica of Elion, 24n267
 Maäle'-Adomim mosaics, 44
 Martyrion chapel mosaics, 44n136
- John of Patmos, vii
- Kahve Asar Adası, Bafa Gölü, largest church on, 99–100
- Kaoussie, 22, 23, 32, 43
- Kemalpaşa (Nif or Nymphaeum), palace at, 100
- Kenchreai, mosaics from, 32
- Khirbet al-Karak (Beth Yerah), church at, 48, 57
- Khirbit Hass, church of, 14n121
- Kitzinger, Ernst, 22, 44
- Klapsi, basilica of, 35n54
- Knidos, Church C, 12, 16n141, 47–48, 57
- Kohler, William, vii
- Kos, Mastichari basilica, 21, 24n268, 39
- Kourion (Cyprus), Episcopal Basilica of, 37
- Kraeling, Carl H., 48n183
- Kubaras, basilica at, 67
- Kumbaba, 20, 54, 69
- lamp fragments, glass, 10
- Lascarid period, dating of Church E to, xiii, xvi, 97, 99–101, 102, 154, 155
- ledges. *See* benches, ledges, and tables
- Leicester, floor mosaics from, 24n268
- Levi, Doro, 23
- lintel blocks, xvi, 126–28
 chancel barrier, xvi, 65, 66, 69, 70, 78, 96n137, 101, 126–35, *Figs. 340–55*
 Church E, 78, 96n137, 101, 126–35, *Figs. 340–55*

- Church EA, medieval period, 65, 66, 69, 70, 126–35, *Figs.* 340–55
- clamps and slots, *Figs.* 343, 344, 349, 355
- miscellaneous finds, 138, *Figs.* 372, 373
- Style A, 126–27, *Figs.* 340–51
- Style B, 126, 127–28, *Figs.* 352–55
- lunettes, facade, Church E, 79, 81–84, 87, 97, 98, 99, 100, 102, 103, 113n50, *Fig.* 154
- Lydia, Sardis as capital of, vii
- Lydian sarcophagi
- reused by Turks as water container, 96
 - reused in Church E as tomb, with coffin nails and gilded bronze beads, xvii, 91, 155, *Figs.* 198, 199
- Mango, Cyril, 37n75
- Mantzikert, Battle of, 71
- marble slab floors
- Pseudocrypt, 92, *Fig.* 213
 - West Chapel, Church EA, 61–62
- martyrs and saints. *See* saints and martyrs, graves of
- masonry types, 143–46 (*Tables* 3–5)
- A, 30, 38, 51, 52, 53, 63
 - A-1, 4, 10, 49, 51, 53, 143–44 (*Tables* 3, 4), *Fig.* 4
 - A-2, 4, 30, 49, 51, 52, 53, 143–45 (*Tables* 3–5), *Fig.* 4
 - A-3, 49, 51, 52, 53, 143 (*Table* 3), 145 (*Table* 5), *Fig.* 5
 - B, 30, 38, 43, 47, 49, 51, 52, 59, *Figs.* 5–7
 - B-?, 143 (*Table* 3), *Fig.* 8
 - B-1, 30, 33, 38, 52, 53, 143–45 (*Tables* 3–5), *Fig.* 5
 - B-2, 33, 38, 40, 143–44 (*Tables* 3, 4), *Fig.* 5
 - B-3, 33, 38, 143 (*Table* 3), *Figs.* 7, 55
 - B-4, 36, 38, 40, 51, 52, 143–45 (*Tables* 3–5), *Fig.* 5
 - B-5, 38, 51, 53, 143–45 (*Tables* 3–5), *Figs.* 6, 54
 - B-6, 41, 51, 53, 143 (*Table* 3), *Fig.* 5
 - C, 36, 40, 41, 43, 44, 45–46, 47, 49, 51, 52–53, 59, 143–45 (*Tables* 3–5), *Fig.* 8
 - D, 61, 143–45 (*Tables* 3–5), *Fig.* 9
 - E, 62, 63, *Figs.* 10, 79, 89, 92, 97, 98
 - E-1, 62, 63, 143–45 (*Tables* 3–5), *Fig.* 10
 - E-2, 62, 63, 143–45 (*Tables* 3–5), *Fig.* 10
 - E-3, 62, 63, 66, 143–45 (*Tables* 3–5), *Fig.* 10
 - E-4, 63, 65, 92, 93, 143–45 (*Tables* 3–5), *Fig.* 10
 - F, 69–70, 143–45 (*Tables* 3–5), *Figs.* 10, 97, 98
 - G, 70, 143–45 (*Tables* 3–5), *Figs.* 10, 89
 - H-1, 75, 92, 93, 143–46 (*Tables* 3–5), *Fig.* 11
 - H-2, 77, 143–44, 146 (*Tables* 3–5), *Fig.* 11
 - H-3, 88, 143 (*Table* 3)
 - I, 96, 143 (*Table* 3), *Figs.* 12, 123
- Mastichari basilica, Kos, 21, 24n268, 39
- Mathews, Thomas, 37n75, 67
- McLaughlin, Barbara, viii, xiv
- meander decoration, exterior, Church E, xvi, 85, 86, 98, 99, 100, *Figs.* 171–76
- Melegob, Throne of, 68n52
- metrology, Roman and Byzantine, xiv, 2–3
- Miletos
- double-engaged columns from, 3n16
 - Large Church at, 12, 16n141, 18, 19, 57
- modular grid using harmonic ratios, Church EA design based on, xiv, 2, 15n132, *Fig.* 17
- moldings. *See also* revetment moldings, Church EA
- base moldings, 136, 137, *Figs.* 362, 366
 - door frame moldings, 5, 6, 19–20, 47, 51, 55, 114–15, *Figs.* 25–27, 258
 - remnants of other types, 116, 136, 137, *Figs.* 267–74, 362, 365, 366
 - reused in Church EA and Church E, 47, 114–15, *Figs.* 260–63
- mortar types, 144 (*Table* 4). *See also* construction methods and masonry
- mosaics
- Church E, xvi, 78, 101
 - Church EA, original basilica, vii, xiv, 6–8, 22–24, *Figs.* 32–39, 84
 - Church EA, 4th–7th-century changes, additions, and repairs, vii, xiv, xv, 29
 - atrium, 30, 31–32, *Figs.* 45, 47–51
 - Entrance Bay, 34, *Figs.* 58, 59
 - Northeast Unit, 46
 - West Unit, 41, 42–43, *Figs.* 70, 71 - Church EA, medieval additions, reconstruction, and repairs, 65, *Fig.* 38
 - Rooms, D, E, and F, north side of Street of Pipes, 34
- Mouterde, René, 13n11
- Myra, church of St. Nicholas at, 20, 56, 68n52, 69
- naos. *See* nave or naos
- narthex
- Church E, 74, 76, 77–78, 96, 97, *Figs.* 115–18, 121, 123
 - Church EA
 - original basilica, xiv, 1, 2, 4, 6, 8
 - 4th–7th-century changes, additions, and repairs, xv
 - medieval additions, reconstruction, and repairs, xiv, xv, 1, 2, 69–70, 63, 65, 71, *Figs.* 10, 25, 93, 96
- nave or naos
- Church E
 - floor, 77–78
 - pilasters, 74, 75, 77, 78, 80, 82, 90, 135n90, 136 - Church EA
 - 4th–7th-century opus sectile floor, xv, xvi, 29, 50–51, 60, *Figs.* 82–84
 - medieval additions, reconstruction, and repairs, 63–64, 65, 70, 71, *Figs.* 10, 15, 88, 89, 91
 - original basilica, 1, 2, 3–4, *Fig.* 15
 - relocation of graves to nave during medieval reconstruction, xiv, xv, xvii, 27, 64
- Nea-Anchialos
- Basilica A, 21n214, 54n234, 57
 - Basilica B, 21n214
- niche blocking doorway, north wall of Entrance Bay, Church EA, 29, 33, 34, 35, 59, *Figs.* 7, 55, 56
- Nikopolis, Church of St. Demetrius at, 23n264

- north aisle
 Church E, 73, 80, 90, 96, *Figs. 112, 113*
 Church EA
 original basilica, xiv, 1, 2, 4, 5, 6–8, 22, *Figs. 16, 18, 19*
 4th–7th-century changes, additions, and repairs, xv,
 37, 49–50, 58, *Figs. 6, 16, 18, 19, 26*
 medieval blocking of doors, 69–70, *Figs. 8, 25, 92, 97*
 North Chapel, Church EA, xv, 29, 35, 36, 37–40, 50, 58, 59, 60,
 71, *Figs. 6, 52, 54, 55, 62–68*
 North Courtyard, Church EA, xv, 29, 35–37, 50, 58, 60, *Figs. 5,*
60
 Northeast Unit, Church EA, xv, 29, 35, 45–49, 58, 59–60, 63, 71,
Figs. 5, 8, 75–79, 81
 Northwest Unit, Church EA, 29, 40, 59, 71, *Figs. 5, 8, 52, 56*
 numismatic evidence. *See* coins
- octagonal colonnette, 65, 66, 126, *Fig. 339*
 octagonal pedestal, 136, *Fig. 361*
 Ölüdeniz, Church 3, 23n265
 Olympia, Roman bath building of Kladeos, 32n35
 open masonry joints, Church EA, 30, 38, 40, 42, 52, 53
 open masonry joints, foundation of Church E, 89
 opus sectile flooring
 Church E, 78
 Church EA
 4th–7th-century changes, additions, and repairs, xv,
 xvi, 29, 50–51, 60, *Figs. 82–84*
 medieval additions, reconstruction, and repairs, 65
 Orlandos, Anastasios, 39–40
 Ostia, large basilica at, 13–14, 26n295
 Ousterhout, Robert G., 92n114
- Pactolus North area, viii, xiii, 1
 Papalexandrou, Amy, 67
 parapet elements, Church EA, 56
 pastophories, Church EA, xiv, 48–49
 Peacock Tomb, Sardis, 47, 153n4
 pedestals, 5, 75, 136, *Figs. 122, 359–61*
 Pergamon
 Building Z, 23n265, 24n267
 church in Lower Agora of, 14, 16n141, 20
 graves at, 154
 impost blocks from, 68
 Kızıl Avlu, 16
 Lascarid-period fortifications, 99n171
 lintel blocks, 69
 Room S of Hellenistic palace, 23n266
- Philippi
 Basilica A, 56, 69n72
 Basilica B, 48, 54, 56
 Basilica of the Museum, 48
 smaller church constructed within remains of larger, earlier
 basilica, 98
 triclinium of private house at, 23n265
 pilasters, Church E
 facade, 75, 81, 82, 83, 84
 narthex, 74
- pillars
 chancel barrier supporting members, xvi, 20–21, 66, 123–
 26, *Figs. 320–39*
 decorated pillar fragment, 137, *Fig. 369*
 Pisidian Antioch, St. Paul's at, 12, 22n250
 Poidebard, A., 13n11
 Poreč, cathedral at, 57
 pottery
 Church EA, original basilica, 10
 Turkish era, 97
- Priene, Basilican Church at, 12, 16n141, 20, 21n226, 23
- proportions
 Church E, 74
 Church EA, original basilica, xiv, 2–3, 14–16, 142 (*Table 2*)
 idealized proportional relationships, select churches in Asia
 Minor, 147 (*Table 6*)
 modular grid using harmonic ratios, Church EA design
 based on, xiv, 2, 15n132, *Fig. 17*
 quadratura, xvi, 74, *Fig. 105*
- prothesis, 39n96, 48n188
- Pseudocrypt, 92–95
 baptistery, mistaken for, 92n115, 94
 construction methods and masonry, 92–93
 creation to preserve graves and wall painting from Church
 EA on building of Church E, xv, 95
 excavation, xiii
 graves in, 94, 155, *Fig. 213*
 likely significance of, xv, xvii
 marble slab floor, 92, *Fig. 213*
 possible martyr/saint burials, xiv, xv, xvii, 27, 44, 95, 155
 preservation of masonry from medieval Church EA in,
 63–64
 relocation of graves to nave of Church EA during medieval
 reconstruction, xiv, xv, xvii, 27, 64, 95, *Fig. 94*
 Roman coin from burial in, 94, 95, 149 (*Table 9*)
 Roman glass bottle from burial in, xv, 94, 95, 156, *Fig. 212*
 during Turkish occupation, 96
 wall paintings, xv, xvi, 65, 93–94, 95, 99, *Figs. 206, 207, 209*
- Pyrghi (Chios), Church of the Holy Apostles, 100
- Qirqbize, church at, 20
 quadratura, xvi, 74, *Fig. 105*
 quatrefoil decoration, facade, Church E, xvi, 79, 81, 82, 84, 86,
 100, 102, 103, *Figs. 133, 136–38*
- Qum Hartaine basilica, 24, 43n129
- Ramage, Andrew, vii, xiii
- Ravenna
 Palace of Theoderic, 24n269, 43n125
 S. Apollinare in Classe, xiv, 14, 15
- reused and salvaged materials
 architectural moldings reused in Churches EA and E, 47,
 114–15, *Figs. 260–63*
 architectural spoils laid out in Church EA, 73, *Fig. 104*
 Church EA elements reused in Church E, xvi, 66, 73, 78, 91

- column bases taken from Imperial or late antique buildings, Church E, 75
- construction materials, Church EA, 4th–7th centuries, 52
- doorjambs, Church E, 77
- double-engaged column from original Church EA used in late medieval repairs, 70, 111, *Figs. 98, 245*
- facade fragment from Church E used in Turkish village house, 97, *Fig. 163*
- foundation blocks with wall paintings, Church E, 90–91
- graves, spoils used to construct, 73
- Lydian sarcophagus reused as tomb, xvii, 91, 155, *Figs. 198, 199*
- Lydian sarcophagus reused by Turks as water container, 96
- marble slab floor, Pseudocrypt, 92, *Fig. 213*
- marble slab floor, West Chapel, Church EA, 61–62, *Fig. 87*
- masonry, 4, 46, 51, 70
- Revelation, Book of, vii
- revetment moldings, Church EA, 116, *Figs. 259, 264–66*
- 4th–7th-century changes, additions, and repairs, 50, 55
- medieval additions, reconstruction, and repairs, 65
- original basilica, 5, 19–20, 33, *Figs. 28, 29*
- Robertson, David S., 3
- Roman coins. *See* coins
- Roman glass bottle from Pseudocrypt burial, xv, 94, 95, 156, *Fig. 212*
- Roman villa, Sardis, vii, 1, 36
- Roman-era Sardis, viii
- Rome
- architectural influence of basilican churches of, 13–14
 - diaconicon, absence of, 40n96
 - Lateran Basilica, 13n113, 26n295
 - S. Agnese, 14n129
 - S. Alessandro, altar of catacomb of, 22n243
 - S. Ippolito, Isola Sacra, 13–14, 22n244
 - S. Marco, 13n114
- Ruweha, South Church of, 14n121
- saints and martyrs, graves of
- characteristics of, 155
 - location in Christian churches, 95n130
 - possible martyr/saint burials in Pseudocrypt, xiv, xv, xvii, 27, 44, 95, 155
- Salamis-Constantia (Cyprus), Basilica of Epiphanius at, 37
- Saldern, Axel von, 10
- salvaged materials. *See* reused and salvaged materials
- sarcophagi, Lydian. *See* Lydian sarcophagi
- Sardis, vii–ix, xiii–xvii. *See also* Acropolis of Sardis; Church E; *entries at* Church EA
- architectural versus archaeological exploration of, viii
 - Artemis, Temple and Sanctuary of, vii, xiii, 1, 19n184, 71, 153
 - Bath-Gymnasium, 23n264, 43, 51n210, 71
 - building complex (episcopal palace?) north side of Street of Pipes, 26, 34
 - Building D, viii, xiii, 26n292, 27n298, 59
 - Byzantine Shops, 10, 20n193, 34–35
 - Church M, viii, xiii, 18, 38n81, 153
 - city gates and walls, xiii
 - as early Christian community, vii, xiii
 - East Road ambulatory, 23
 - excavations at, vii–viii, xiii–xiv
 - graves, Roman and Byzantine, 153–54 (*See also* graves associated with Churches EA and E)
 - as Lydian capital, vii
 - Pactolus North area, viii, xiii
 - Peacock Tomb, 47, 153n4
 - rise of ground level at, xv, 9n64, 45n156, 50, 58, 73, 91–92, 155
 - in Roman period, viii
 - Roman villa, vii, 1, 36
 - Street of Pipes, xiii, 1, 29, 31, 33, 58–59
 - Synagogue, 23, 27
 - Turkish invasions and, xv
- secondary burials, xvii, 94, 155
- Selçikler Köyü (Sebaste), church at, 20
- Serdjilla, church of, 14n121
- Seven Churches of Asia, Sardis as one of, vii, xii
- Side, inscribed-cross church at, 98
- simple aisled basilica, 11–14
- Skripou, Church of the Virgin at, 67
- Snively, Carolyn, 155
- Sodini, Jean-Pierre, 26n295, 40n96
- soleas, 6
- Southeast Unit, Church EA, 46–47, 60
- spolia. *See* reused and salvaged materials
- Stevens, Susan, 155
- Stobi
- Cemetery Basilica, 54n237, 155n20
 - Episcopal Basilica, 23, 24n267, 32n36, 43n124, 54n237
 - Palikura Basilica, 54n237
- stucco and plaster decoration, Church EA
- medieval changes, additions, and repairs, xv
 - original basilica, 5–6, *Figs. 30, 31*
- stylobates
- Church E, xvi, 75, 76, 90
 - Church EA
 - original basilica, 3, 4–5, 22, 62, *Figs. 21, 22*
 - 4th–7th-century changes, additions, and repairs, 50, *Figs. 83, 84*
 - medieval additions, reconstruction, and repairs, 63, 64, *Figs. 90, 91*
- Sura, inscribed-cross church at, 98
- Synagogue, Sardis, 23, 27
- tables. *See* benches, ledges, and tables
- Taft, Robert, 39
- Tchalenko, Georges, 13n11
- Tegea, Room 1 of Christian building at, 23n265
- Terry, Ann, 55
- Testini, Pasquale, 13n114
- Theodosius II (Roman emperor), 43
- Thessaloniki, Church of the Virgin Acheiropoietos, 25–26

- thresholds
 Church E, 76, *Figs. 115–18*
 Church EA
 original basilica, 5, *Fig. 23*
 4th–7th-century changes, additions, and repairs, 30,
 Figs. 6, 45, 49, 54
 medieval additions, reconstruction, and repairs, 65,
 Fig. 86
- Throne of Melegob, 68n52
- tile and brick, 145–46 (*Table 5*). *See also* construction methods
 and masonry
- tile floor, North Chapel, Church EA, 38–39, 58, *Figs. 47, 68*
- timber beams used in foundations of Church E, 88–89, *Fig. 195*
- Tockingham Park, 23n266, 24n268
- Turks
 architectural sculpture and furnishings, 102, 129
 facade fragment from Church E used in Turkish village
 house, 97, *Fig. 163*
 Mantzikert, Battle of, 71
 occupation of Church E, xvi, 78, 95–97, 102, 117, 129,
 Figs. 200, 201, 214
- Valens (Roman emperor), 94
- Valentinian I (Roman emperor), 94
- Vandiver, Pamela, viii
- wall paintings
 Church E, xvi (*See under* Church E)
 Church EA
 original basilica, 8–9, *Fig. 40*
 4th–7th-century additions and repairs, 46, 47
 medieval reconstruction, xv, 65, 91, 93, 94, 95
 Pseudocrypt, xv, xvi, 65, 93–94, 95, 99, *Figs. 206, 207, 209*
- water basin, North Courtyard, Church EA, 36, 38
- water connections, ancillary church rooms (other than
 baptisteries) with, 47–48
- well, Church E, 79
- West Chapel, Church EA, xv, 61–62, 71, *Figs. 9, 85–87*
- West Unit, Church EA, 29, 40–45, 58, 59, 71, *Figs. 8, 69–74*
- windows and colored window glazing, Church E, xvi, 77, 101
- Xanthos
 basilica at the Letoon of, 51n211, 57, 66
 East Basilica, 12, 14, 23, 32
- Zahrani (Lebanon), mosaics at, 43
- Zebed, Large Church at, 13
- Zeytinbağı, Church of St. John of the Pelekete monastery,
 54n224

