

SARDIS: ARCHAEOLOGICAL RESEARCH AND CONSERVATION PROJECTS IN 2002

C.H.GREENEWALT JR.*

Geomorphological survey, excavation, conservation, restoration, touristic enhancement, and study projects at the city site of Sardis (Fig. 1) were conducted for two and a half months in 2002 (early June to mid-August) by the Archaeological Exploration of Sardis, or Sardis Expedition; which is co-sponsored by the Harvard University Art Museums and Cornell University. For support, assistance, and trust, as well as for fundamental permissions, the Sardis Expedition is deeply grateful to the General Directorate of Monuments and Museums, particularly to Director General Dr. Alpay Pasinli, Deputy Director General Aykut Özet, Excavations Division Director Melik Ayaz, and to Excavations Division Officer Nurhan Ülgen; and to the Manisa Museum, Director Müyesser Tosunbaş and Assistants Nilufer Önder and Emin Torunlar. The Ministry of Culture Representative was Ömer Faruk Türkan (Akşehir Museum), who provided valuable assistance, and offered perceptive, stimulating, and helpful advice throughout the season.

Geomorphological survey in 2002 aimed to determine whether the Hermus River/Gediz çayı passed close to Sardis in antiquity. In 2001, drilling and coring (with a truck-mounted drill and corer (rented from *Ege Temel Sondajçılık*, Bornova) 200-300 m. north of the city site located subsurface mud accumulation which geomorphologist D. G. Sullivan tentatively identified with an abandoned channel, perhaps part of an "ox-bow," of the Hermus; and Carbon 14 analysis of organic material in the mud suggested that the mud had been deposited between the first half of the 4th century B.C. and the late 1st century A.D. In 2002, the same mud accumulation again was sampled (with truck mounted drill and corer-sampler), in eight cores. The absence of river gravels beneath the mud in all eight cores (an absence unclear in 2001) indicates that the mud does not belong to a river channel; it does attest, however, a large body of standing water, 40 m. wide in one place, which existed 260 m. north of Sardis in antiquity. The body of water may have been connected to the Hermus River, because mud cores taken in 2001 contained a few samples of basalt; and basalt is introduced to the river plain at Sardis only by the Hermus River, which brings it from the basalt rich volcanic region of Kula (ancient Katakekaumene). The nature of the body of water remains obscure; it might have been a reservoir, canal, or small lake.

Excavation was conducted at four Locations in the City Site (Fig. 1, A-D) and exposed archaeological material ranging in date from the Lydian era of the 7th and 6th centuries BC to Late Roman in the 4th-7th centuries A.D.

* Prof. Dr. C. H. GREENEWALT JR., Department of Classics Dwinelle Hall 5305, University of California, Berkeley CA 94720/USA

In the Artemis Temple (sector AT), excavation addressed questions of chronology in the inner east porch, with its unusual arrangement of columns (Fig. 2). Results of excavation between the southeast *anta* and the column directly east of it (column no. 17; Fig. 3) suggest that porch columns postdate temple walls, because earthy fill that contains pottery datable to the 3rd century B.C. appears to abut *anta* foundations and to be cut by column foundations; because column foundations, unlike *anta* foundations, include the use of mortar; and possibly because the column had a secondary foundation trench.

150 m. north of the Artemis Temple, near the Expedition Compound (sector EH), in what may have been a frontier zone between the Artemis sanctuary and a cemetery to the north, excavation aimed to clarify the nature and history of ancient occupation, and exposed a Late Roman complex of house-like rooms separated by a narrow street or alley, with reasonably substantial walls, perhaps of the 5th century A.D. and possibly associated with a late phase of the Sanctuary; and, at lower levels, a series of water-laid sand and gravel deposits, of which the lowest contained Hellenistic and Classical pottery of the 4th or 5th centuries B.C.

In the central part of the City site, an artificial terrace (about 100 m. on a side; sector F 55) seemed to hold promise for major urban features of pre-Roman eras, because of the central and prominent location of the terrace and because Roman architecture is inconspicuous at modern ground level. The existence of a sub-surface wall around the sides of the terrace was indicated before excavation-by logic-and by results of geophysical survey, which Professor Mahmut Drahor and his team from Ninth of September University conducted in 2001, and by vegetation 'parch' marks, (in which late Spring grass above the wall dries before grass that flanks the wall). The terrace was probed in two relatively small excavation trenches, at the northwest corner and in the center.

At the northwest corner a segment of large wall, 1.80 m. thick, was exposed to a height of 4 m. Presumably part of the wall indicated by geophysics and 'parch' marks, it is not obviously a retaining wall (as one might have supposed) since its inner side is a true face. This wall may be early Roman, perhaps mid 1st century B.C. (as excavator Philip Sapirstein supposed from pottery in fills against its lowest exposed parts). Occupation strata on both sides of the wall continue as late as the 6th century A.D. or later; the lowest and earliest strata contained fragments of wall painting of high quality (but without pattern or imagery)).

Excavation in the center of the terrace exposed earthy fills, with little architectural features, to a depth of 3.60 m. below modern ground surface; the fills had been naturally and artificially deposited between the 4th and 7th centuries A.D. Deep, narrow fissures (10 cm. in maximum width, 2.5 m. deep) in both trenches may have been caused by earthquake, or by disturbance to artificial construction (terracing?) below excavated levels, evidently in the 7th century A.D. or later.

The Lydian, i.e., early Archaic city wall near a gate on the west side of the city (Fig. 4) has been excavated every year since 1977; and continues to yield surprises. Excavation in 2002 focused on the recess in the west, outer side of the defenses, and aimed to clarify its building history (Fig. 5). The recess had been created as part of the defenses in the first half of the 6th century B.C., and was located next to and partly above an earthwork glacis (Figs. 4, 5 A and B, 6). When the defenses were substantially destroyed in the mid 6th century B.C., the recess was filled with destruction debris (Fig. 5 C), and was covered by another earthwork glacis, belonging to the late Archaic city defenses (Fig. 5 D). The mid 6th-century B.C. (pre-destruction) cobbled occupation surface of the recess was fully excavated; subsequent excavation below that surface in two corners of the recess (1995, 1997-98; not shown in Figs. 4-6) revealed earlier occupation features, the interrelationship of which was unclear. Excavation in 2002, aimed to clarify the interrelationship of those features by excavating the baulk between the corner trenches.

Resting in accumulated earth just under the cobble surface of the recess (Fig. 6) was a gold coin, with the obverse device of confronted lion and bull protomes, and reverse incuse square (weight 0.88 g.; a twelfth of a stater; Fig. 7). The obverse device since 1833 has been associated by some with coins of King Croesus in the middle decades of the 6th century B.C., and by others with Persian rule in the second half of the 6th century B.C.

The context of the gold coin is accumulated earth fill underneath an occupation surface that supported destruction debris. The destruction debris may dated to the mid 6th century B.C. (primarily on the evidence of half a dozen Attic black-figure pottery fragments found in and immediately under destruction debris, in different locations; and on the supporting evidence of other pottery and a Carbon 14 date) and it may be identified with the Persian attack and capture of Sardis in the 540s B.C. (on the basis of chronological evidence, violent destruction, armament, and human casualties including two that appear to have been soldiers). If the destruction debris is correctly dated and identified, coins with the lion-bull device must have been first issued before Persian rule in Anatolia; in the Time of Croesus, or possibly (as suggested by W. Giesecke in 1938) in the reign of his father and predecessor, Alyattes.

Resting in the same stratum, evidently, were two silver coins, one an issue of Miletus (with obverse device of Lion protome, crouching to left with head turned backwards; reverse device of "ornamented star"; weight 1.07 g., a twelfth of a stater); the other with device or devices obscured by corrosion (Fig. 7). These two silver coins, like the gold coin, also would predate Persian capture of Sardis in the mid 6th century B.C. (The three coins are to be the subject of an article by excavator N. D. Cahill and numismatist J. H. Kroll.)

Excavation in 2001 had showed that the recess in the Archaic city defenses rested well above the foot of the glacis (not at ancient ground level, as had previously been supposed; Fig. 4). Below the recess, the glacis surface was covered with destruction debris of the mid 6th century B.C.; and that debris contained human skeletal remains, which were recovered in 2001 and at that time thought to belong to two individuals. Study of the bones, by Anthropologist E. Barnes in 2002, however, showed that they belonged to one individual: a man, 23-to- 25 years old at death. He was 1.70 m. tall, muscular, and robust. Several features are consistent with the individual having been a soldier, who was killed when the city defenses were destroyed; presumably a casualty of the Persian attack. He had done much walking, and had vigorously exercised shoulders, arms, and hands. He had survived injuries (a rib fracture three-to-four weeks before death; a left wrist fracture more than a year before death); and he died immediately following injuries (rib and left forearm fractures; cuts in his right forearm, right hand, and head), and a broken neck, perhaps incurred in a fall as a result of head cuts). The skull contains two narrow cut marks, made by a sharp-edged blade, presumably a sword, and one "gash mark 37x6 mm. with curved, beveled edges, delivered by a semi-sharp weapon" (E. Barnes, manuscript report); perhaps a battle axe, which was a common weapon in ancient Near Eastern warfare. This skeletal assemblage is the third that has been found in association with the mid 6th century B.C. destruction, and the second that may be identified with a soldier in his early to mid 20s (the first 'soldier' was excavated in the recess, in 1988; cf. Fig. 6).

Further investigation of Lydian defenses on the east side of the city site and of the "corridor" in the Lydian fortification wall there did not continue in 2002, because the Expedition and the landowner could not agree on appropriate recompense for land use.

Conservation in 2002, in addition to routine treatment of objects and monuments, continued with the backing of mosaics (from a Late Roman portico, sector MMS/N; nearly 19 square meters of mosaic, in 19 panels were backed in 2002; Fig. 8) and included maintenance projects: notably, sealing cracks that had developed in the reconstructed top of the "Marble Court" of the Bath-Gymnasium Complex, to prevent water damage; creating protective shelters (of polycarbonate and steel) over inscribed

statue and fountain bases in the Bath Gymnasium Complex (Fig. 9); consolidating walls (sector PN) and stabilizing other features (sector MMS III, Bath Gymnasium Complex, Byzantine near the latter); and retaining unstable trench scarps with an experimental embankment of earth-filled geotextile bags (sector MMS III) .

A modest 'site Enhancement" program aims to protect and to display rooms of Late Roman and Lydian houses, which are juxtaposed in one part of the site (near the Lydian city wall; sector MMS I). In a Late Roman peristyle court (Room I), where *opus sectile* paving has disappeared, incised concrete replacement, installed a few years ago for the missing paving proved visually unsatisfactory; and, in 2002 was in turn replaced by roughly-cut slabs of slate, which approximate the *opus sectile* shapes and designs, but can't be mistaken for the original marble paving (Fig. 10). For a Late Roman apsidal room (VI), replacement *terracotta* floor tiles were prepared by a local potter; and adjacent Lydian house walls were partly reconstructed. Modern retaining walls that support Late Roman floor surfaces were painted pale brown, to harmonize with the earthy setting.

Peter August Emil Herrmann (1927-2002; Fig. 11), professor of ancient history at Hamburg University and specialist in the Greek and Latin inscriptions of Lydia, was the Sardis Expedition epigraphist for nearly 20 years, from 1984 until his death last November. Professor Herrmann participated in several field seasons, including that of 2002, and his presence made those seasons extra stimulating and rewarding for others. He freely shared his great learning, engagingly communicated the interest and importance of epigraphy, and encouraged others in fields of interest very different from his own. Professional in the finest sense, he was a model of collegiality, generosity, and human decency. The Sardis Expedition deeply regrets the loss of this great and good man.

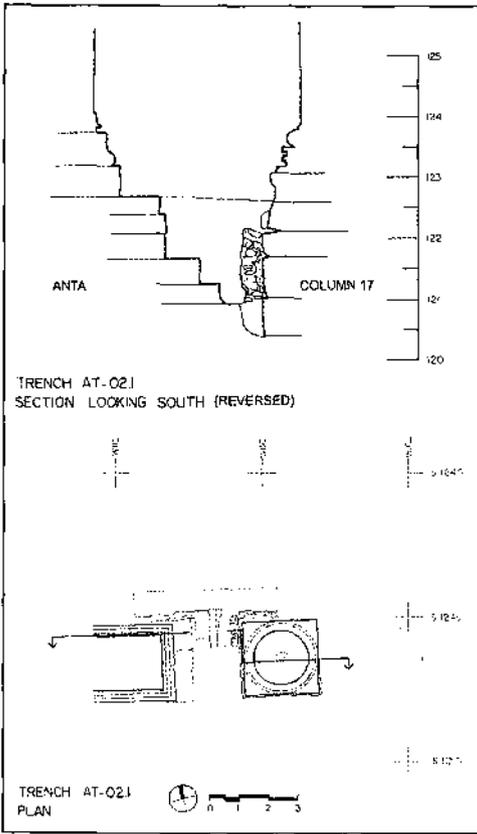


Fig. 3: Temple of Artemis (sector AT), east end: southeast anta and column 17, plan and section showing (one) excavation trench of 2002

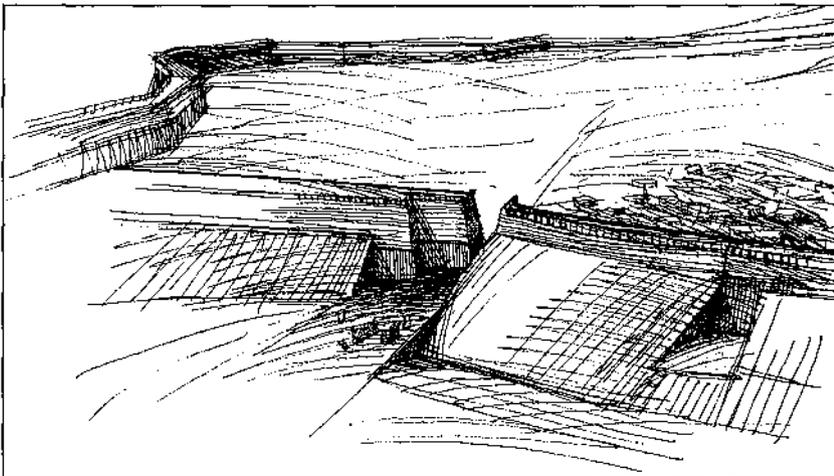


Fig. 4: Lydian city wall and gate, west side of site (sector MMS/N, MMS), reconstruction sketch looking east, by P. T. Stinson. The recess appears at far left

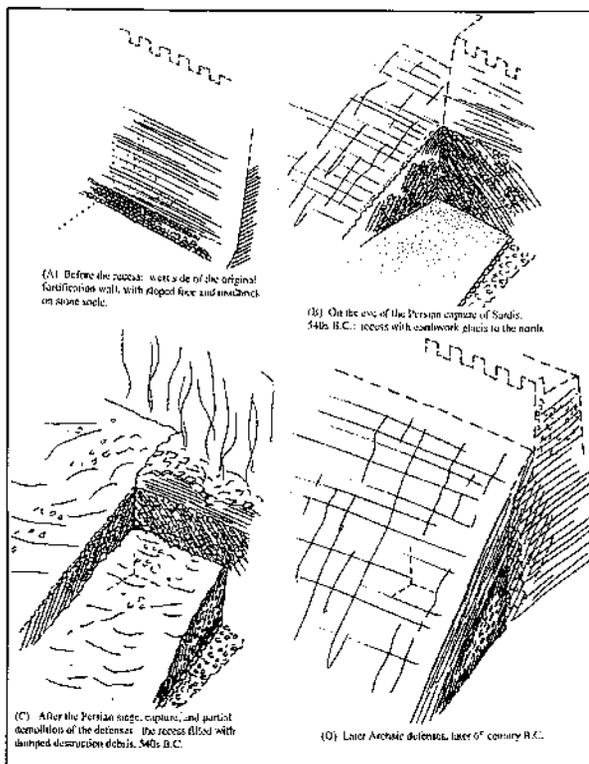
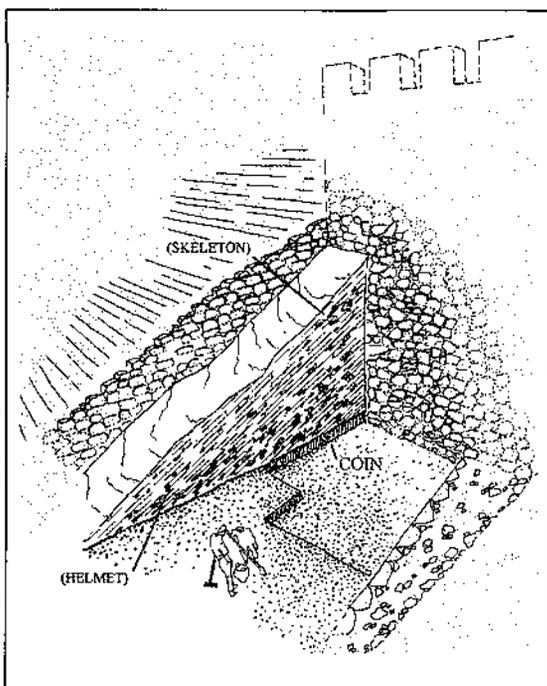


Fig. 5: Recess in Lydian city wall on west side of site (sector MMS III), conjectural phase reconstructions

Fig. 6: Recess in Lydian city wall (sector MMS III), conjectural cut-away reconstruction to show location of gold "croesid" coin below mid 6th-century B.C. occupation surface (and above an earlier occupation surface) and destruction debris of the mid 6th century B.C. that covered the (upper) surface. (The debris contained remains of a helmet and a human skeleton, excavated respectively in 1987 and 1988). Drawing by D. Güleş



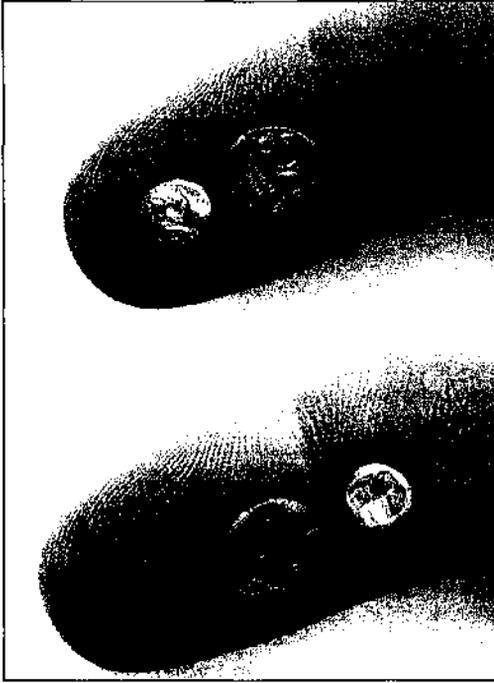


Fig. 7: Gold "croesid" coin, silver coin of Miletus, and corroded silver coin (all twelfths of a stater), recovered from the recess in the Lydian city wall

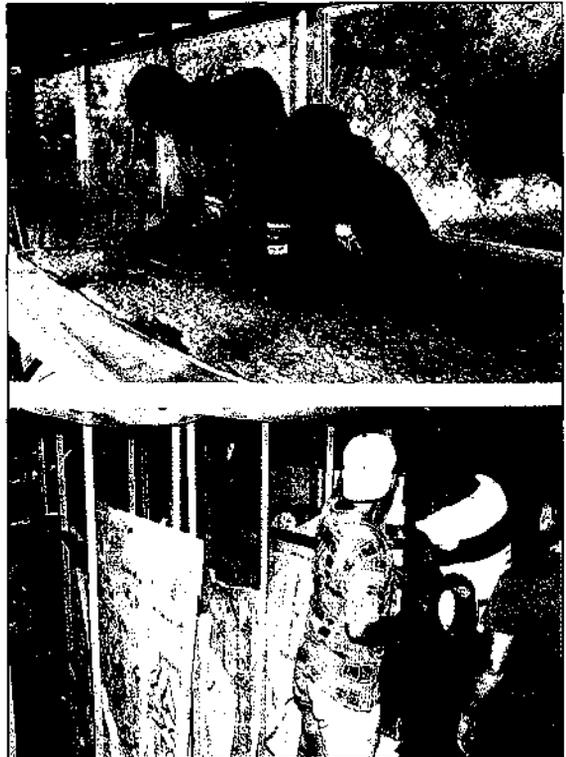


Fig. 8: Above: cleaning the underside of Late Roman mosaic paving, prior to application of backing materials (Glass Fiber Reinforced Cement or GFRC, over an intervention layer of white cement, lime putty, and fine sand; by D. Fullick and assistant Ufuk Göçmen). Below: installing backed mosaic sections in storage racks (at upper right, Ministry of Culture Representative O. F. Türkan)

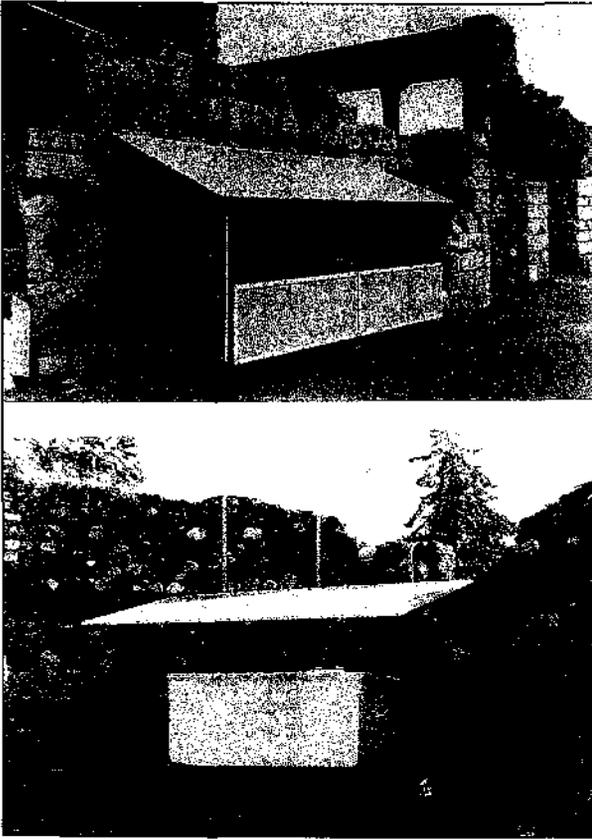


Fig. 9: Shelters covering inscribed statue bases in the Roman Bath-Gymnasium Complex: above, base for a statue of Emperor Lucius Verus, IN 58.4; below, base for statues of the children of Kore, dedicated by Caracalla and Geta, IN 72.1. (A third shelter was created for a fountain base in room BE-C. IN 72.26.)

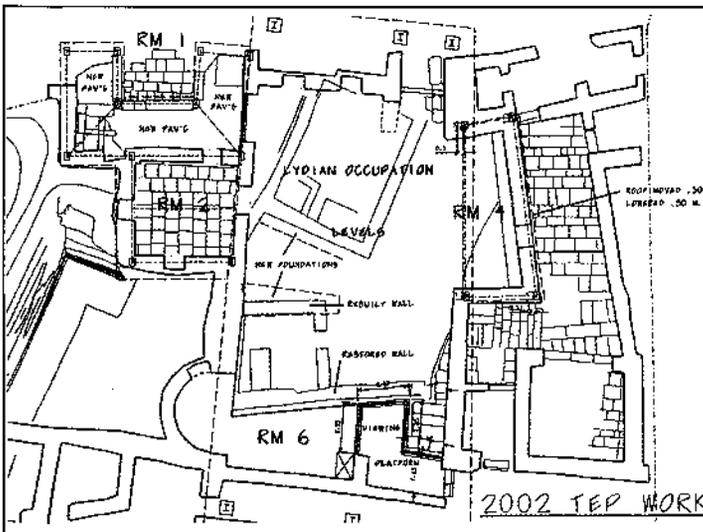


Fig. 10: Site enhancement project for Late Roman and Lydian house rooms, sector MMS I, plan



Fig. 11: Site enhancement project for Late Roman and Lydian house rooms, sector MMS I, Late Roman peristyle court (room I): replacing missing *opus sectile* paving with roughly-cut slabs of slate. Above, general view looking south. Below, detail, with original *opus sectile* at right, replacement at left



Fig. 12: Peter Herrmann (1927-2002) reading inscription of Diocletian's Price Edict at Aizanoi (1986; with N. D. Cahill)