

REPORT ON THE EXCAVATIONS AT SARDIS IN 1959

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and
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The second campaign of the excavations at Sardis began on June 26 and ended on September 14¹. The joint undertaking of the Fogg Art Museum of Harvard University and Cornell University was led by George M. A. Hanfmann, Harvard, as Field Director, and A. Henry Detweiler, Cornell, as Associate Director. Professor Thomas H. Oanfield of Cornell supervised the architectural work. In addition to the above named, eleven American members formed the regular staff. Kemal Ziya Polatkan, Director of the Matisa Museum, represented the Department of Antiquities as Commissioner. Güven Bakır was employed as architectural assistant and draftsman. As last year the project was sponsored by the American Schools of Oriental Research and supported by funds provided by Harvard and Oorneh and by a grant from the Bollingen Foundation of New York.

We benefited again by most cordial cooperation of the Department of Antiquities and Museums and were honored by

¹ The most extensive report on the campaign of 1958, *BASOR* 154 (April 1959) 5-35; cf with A. H. Detweiler also *Archaeology* 12: 1 (Spring 1959) 53-61; *ILN* (May 30, 1959) 924-927; G. M. A. Hanfmann, *Journal of Glass Studies* 1 (1959) 51-54; with K. Z. Polatkan and Louis Robert, *AJA* 64 (1960) 49-56, pls. 9-10. For 1959: *Archaeology* 12: 4 (Winter 1959) 283-4.

² Heartfelt acknowledgement is due some 125 Supporters of Sardis who provided very substantial means through the Fogg Art Museum for the construction program and the vital acquisition of a Citroen truck with crane; and to certain generous donors who made donations through the American Schools of Oriental Studies. The special architectural fellowship of the American Schools of Oriental Research was

awarded by the Director General, Kamil Su, and Assistant Director, Ahmet Dönmez. The excavation house built jointly by the expedition and the Department of Antiquities had been completed in January 1959 and we were able to establish adequate quarters for the expedition. During the campaign, with partial assistance of the Department, the wall around the camp area was completed, and a laboratory, four additional rooms for the staff, a work and storage building, guard house, a garage, and housing for a small generator were constructed by the expedition. In these matters and in many others our Commissioner was invariably helpful. We are also indebted for various favors to his Excellency, the Vali of Manisa, and to the Department of Public Water Works, especially Director General Süleyman Demirel and Director of the Sardis District, Mehmet Yaval.

awarded to Alan M. Shapiro. The expedition also gratefully records the grant awarded by the American Philosophical Society to Donald P. Hansen for his study of the Early Christian and Early Byzantine bronzes. The Department of Classics of Harvard University contributed a travel grant for David G. Mitten.

A grant from the Harvard Foundation for Advanced Research has been instrumental in defraying expenses for research and photography. Work on expedition records was carried on at the Cambridge office by (Mrs.) Clare Albright, Friederica Apffel, and (Mrs.) Şükran Umur as volunteers. Sally Loomis as Secretary had considerable share in preparations of the expedition. D. Egnatz was employed as Student Assistant under Faculty Aid Plan.

At Cornell, drawings were prepared for publication by A. Casentino under supervision of T. H. Canfield.

Altogether, excavations were carried on in six locations. To the southwest of the Artemis precinct, in the Lydian Necropolis, Mario Del Chiaro and Alan M. Shapiro, cleared and recorded three Lydian chamber tombs. A new sector was opened by Mario Del Chiaro on the east bank of the Pactolus (Pc, Fig. 1, Paiktolus yarı). Three trenches were dug in another new sector, the "Upper Terrace" (Yüksek Teras, also known as Keklik Kayası), next to a preserved

stretch of the city wall (UT, Fig. 4). To the south of it, Donald P. Hansen and

Arthur R. Steinberg considerably enlarged the excavation in the area of the

"House of Bronzes" (Bronz Ev) and the "Lydian Shop" (Lydia dükkanı; H. o. B., Fig. 4). Across the Salihli highway and to the north of the House of Bronzes, the row of Byzantine Shops (Bizans dükkanları, Byz. Shops, Fig. 4) was partly excavated

partly traced westward to what appears

to be its southwest corner. This western alignment seems to coincide in a general way with the western boundary of the complex which adjoins the gymnasium Building B (Fig. 4, popularly called "Bedesten") to the west. This area has received the designation "West B" (batı B kısmı). A trench has been started along its west side. Excavations of Building B were continued. A large trench was opened in the rectangular complex east of B which will be designated "East B" (doğu B kısmı). Work in the Byzantine shops and B areas was directed by T. H. Canfield and supervised by David G. Mitten. At the eastern boundary of the city area, a determined attempt was made to enlarge the excavation of the complex CG (popularly called Şehir Kapısı, CG, Figs. 39-42) both in surface area to the north and west, and in depth. Archaeological supervision was in the hands of Mario Del Chiaro, alternating with A. R. Steinberg, Crawford H. Greenewalt, Jr., and the writer. Archi-

Shapiro under the supervision of T. H. Ganfield.

Over one thousand objects were catalogued in the recording department supervised by Ilse Hanfmann; a number of objects found in 1959 as well as several bronzes found in 1958 were restored in the laboratory with John Washeba in charge. Catherine S. Detweiler attended to the identification and cataloguing of coins. Crawford H. Greenewalt, Jr. and

James McCredie served as photographers. We derived much instruction and pleasure

from the visit of our epigraphists, Professor Louis Robert and Madame Jeanne

Robert. Preliminary reading was done by A. Steinberg and J. McCredie. Publication of the inscription will be prepared by L. and J. Robert. Skeletal material was sent to our consultant in Anthropology, Professor M. Şenyürek of Ankara University.

The Lydian tombs, excavated between

tectural recording of the above sectors was done by Antony G2sendino and A. M.

July 12 and 16, are located in a small valley above the vineyard of Hasan Dursun, ca 1 km from the temple of Artemis, as the crow flies. This valley takes off in northwesterly direction from a large wadi, the first to enter the Pactolus from the west, ca 400 m above (southwest) of the Artemis temple. The tombs are located on the south side of the hollow in which the valley ends. They are of the same general kind as those described by H. C. Butler³. A dromos descends to a rock-cut facade consisting in case of Tomb 2 of a narrow front of smoothed rock with a roughly

triangular area above. An arched (round-headed) door leads into a short corridor cut into the rock which in turn opens into the funerary chamber or chambers, normally aligned on the axis of the corridor. Of the three graves opened, two (1,2) were entered from the east. They are 1.5 m

³ The large wadi and the smaller one going northwest are shown by dotted lines on Plan I in *Sardis* 1. H. C. Butler, *Sardis* 1, 1921, 158 ff., III. 175-184. H. Th. Bossert, *Altanatolien*, 1942, 26, figs. 149-150. E. Littmann, *Sardis* 6: 1, 1916, 25, 27, dated to the Persian period (by Bossert).



apprt Tomb 2 being ca 7 m above the vineyard. Striking views of the Acropolis present themselves through their entrance doors. The third grave (3), which perhaps was made later, opens to the south.

Traces of recent digging were evident but even in parts not attempted by recent grave robbers the earth was so clean and finds so few that these tombs had probably been excavated by Butler's expedition. From such objects as we retrieved we surmise that the first use goes back to the seventh century B. C. (alabastron vase, Fig. 6). Fragments of Lydian lekythoi of late shape intimate that additional burials were made until at least the Persian era (fifth to fourth century B. C.).

Description of graves:

Tomb 59. 1: Single chamber, width 3.5 m, length 2.8 m, height 2m. Recessed benches at either side of central passage. An irregular area at rear may have been intended for second chamber but was not completed. Two holes, ca 1 m above floor, open from here into tomb 3. Only a few fragments of a terracotta sarcophagus found.

Tomb 59.2: ca 15 m north of Tomb 1. Dromos ca 5 m long. Door with recessed border to receive slab for sealing entrance. Two chambers. First chamber: L., 1.9 m, W., 2.8 m, H., 2.2 m to flat roof. Bench on right (north) side, with bottom of terracotta sarcophagus (0.65 m by 1.85 m.) *in situ*. Rectangular door to second chamber (2.20 m by 2.50 m, H., 2.8 m) with pitched roof and horse-shoe shaped bench on north and south side of terracotta sarcophagi *in situ*. Between benches tub-shaped terracotta sarcophagus (0.67 m by 1.95 m; 0.37 m high) with broad rim, nearly intact when found. (Fig. 5)

Objects: alabastron of alabaster, top missing, 0.16 m high, perhaps original with anthropomorphic top. (Fig 6), cf. G. Korte, *Gordion*. (1904) 123 ff., pl. 6; P. 59. 247 (16H).

Fragment of Lydian lekythos. For the

lekythos cf. Sardis 1, 111. 75 B, top (from Tomb 23 A, sixth century).

Tomb 59.3: Dromos (2 m long) leads into first chamber (2 m by 2.5 m; H., 1.5 m) without benches; an L-shaped corridor bends into second chamber (1.8 m by 3.1 m; H., 1.90 m) with two benches.

Finds: Unglazed lekythos fragments, P. 59.239 (1606), Chamber A; two similar fragments P 59.188 (1540) only neck missing; P 59.189 (1541); Chamber B.

The sarcophagi are made of coarse, red clay with large grit. Being soggy, and not well-fired the slabs broke when lifted. The pigments are a cretaceous white and crimson red. Fragments of a vaulted lid thrown out by grave robbers showed pattern of Uiozenges and others bands of red or black.

In February 1959 a landslide on the east bank of the Pactolus revealed in its fall fragments of marble sculpture which were brought to the excavation house by the excavation guards. Among them was the beautiful head of a girl (Fig. 7), probably part of a lid figure from a so-called Lydian sarcophagus⁵ of the second century

A. D. A first surface search made by members of the expedition had no great results. Subsequently, the splendid horsehead (Fig. 8) probably from the corner of the couch-shaped lid of a marble sarcophagus⁶ was brought in by peasants. The decision was then taken to excavate the area of fall at the foot of the cliff (MA in Fig. 1). Our first reward was the discovery of profited and decorated marble blocks (Fig. 9). As a similar block was still visible amidst the ruined walls at the top of the cliff, a trench c. 1.17 m (north-south) by 16 m was opened there by Del Chiaro.

⁴ This in contrast to Butler's "sarcophagi of terracotta, beautifully made", *Sardis* 1, 81, III. 80.

⁵ Cf. the figures on the lid of the sarcophagus of Claudia Antonia Sabina, C. R. Morey, *Sardis* 5 (1924). M. Lawrence, *MAAR* 20 (1951) II6.

⁶ A short piece issuing from horse's neck indicates that the horsehead was used to decorate the corner of a couch-like lid.

The new sector, excavated between July 19 and August 15, is located approximately 750 m due south and slightly west from the modern highway bridge across the Pactolus, and about 700 m north of the Artemis precinct. Here the Pactolus makes a bend to the west in such a way that in flood, time the east bank must bear the full brunt of onrushing waters, hence the recent collapse. At present, the automobile road fords the Pactolus in this bend (Fig. 1). As walls of Roman appearance are exposed and cut by the torrent virtually along the entire stretch from the highway bridge to the Artemis precinct, it is certain that in antiquity the Pactolus must have flowed somewhat more to the west. Excavation at the foot of the cliff (Fig. 1, MA) produced in addition to the profiled marble blocks, a number of fragments of a marble sarcophagus and pottery ranging from Byzantine to Lydian. We had to re-open periodically an irrigation canal and the flooding by the torrent limited the possibilities of penetration in depth. No stratification could be established.

The profiled marble blocks, totaling twelve (PC 1-16, including small fragments), have simple profiles; two of them display an animal chest and a leg (sphinx or lion) carved at one corner. One of the blocks (L. top, 0.93, W., 0.40, H., 0.35 m) bears the letters MA cut on the external long side (Fig. 9) as well as traces of other letters; another block has the letters MA on the fascia over the profile. Professor L. Robert opines that if the MA letters are Greek, they should be late Hellenistic; but the possibility must be kept in mind that they may be epichoric. The blocks were tied sideways with very large (0.15 m) dove tail clamps of iron set in lead, some of which have survived, and vertically by iron dowels provided with pouring channels for lead. From the fact that one of the blocks was found built into a Roman structure just above the area of collapse (PC 59-1, Fig. 1) we can surmise that this was also true of the others brought

down in the collapse. Their original content remains to be established.⁷

The somewhat intricate excavation on the cliff was undertaken by Del Chiaro from July 19 to August 15. It has uncovered structural evidence of four major periods: Byzantine, Roman, Hellenistic, and Lydian. Only two walls survive from the Byzantine structure. A drain of tiles running diagonally (southeast to northwest) across the area of the Tomb of Lintel may perhaps be interpreted as indication that the structure was not a sepulchre. Extensive and continuous constructions were erected in the Roman period. In the northern part of the trench one can discern a large rectangular unit adjoined by the fragmentary "Room of PC 1-59" on the west (Fig. 1).

In the southern part of the trench there have come to light two funerary chambers of a mausoleum, their barrel vaults at right angle to each other, the Large Vaulted Chamber (LVC) (3.15 by 3.85 m; preserved height above floor, ca 2 m), and the Small Vaulted Chamber (SVC) (1.8 m by 2.5 m), the latter entered by an arched door in the north wall of LVC. The vaults were constructed of bricks and cement, the walls of mortared rubble (Figs. 1, 2, 10). Traces of floral decoration painted on thick greyish-white plaster have survived on the north and west walls of SVC. The scattered flowers bear a close resemblance to those of a vaulted and painted early Christian tomb discovered by Butler near the Salihli Highway⁸. The floors of the two chambers were formed by large stone slabs which covered chest-like pits built of square tiles and

• A very similar block was found lying near structure E, a small Middle Byzantine church. The general resemblance to the theater seats is obvious but we have yet to study the evidence of clamps which will determine the relation of the blocks.

⁸ Cf. *Sardis* 1, 174, color plates 4-5, dated to the fourth century A. D. by C. R. Morey, *ibid.*, 180 ff.

stuccoed (0.75 by 2 m; average depth, 1 m) five in LVC, two in SVC. They were designed to serve as sarcophagi. Artistically, the most important find, was the portrait head of a priest, datable in the second half of the third century A. D. (Fig. 11). It is close in style to portraits of the time of the Tetrarchs. Twelve lion heads, themselves diademed, were attached to his diadem; according to one view these heads symbolize the emperors and identify the personage as a priest of Imperial cult; according to others, these are the Twelve Great Gods.⁹ The head was found in Pit 1 of LVC but may have fallen there from the funerary chamber. Although the "pits" had undoubtedly been opened, a number of fine glass vases (Fig. L2) and much pottery has survived.

A reasonably well preserved Hellenistic chamber tomb was hidden in the Roman foundations in the northern part of the trench. Because the large lintel of the entrance to the tomb was found *in situ* (Fig. 113), the tomb has received the name of the "Tomb of the Lintel". It consists of a dromos (ca 5 m long) with staircase of three steps near its eastern end; a chamber with two benches, which has been excavated (Fig. 14); and a second chamber as yet unexcavated which is built into the foundations of the Room PC 1-59. The tomb is built of rather small riverstones laid in mortar. The walls were left unfinished on the exterior (except for the facade) but were covered with fine stucco on the interior. The facade toward the east was stuccoed; Del Chiaro, on whose report we draw, observes that the dromos, was built after the facade had been stuccoed.

The floor of the excavated chamber lies ca. 2 m below the floor level of the

⁹ L. Robert, H. Jucker, H. Ingholt, and C. C. Vermeule have kindly pointed out parallels and other material. I intend to discuss the problems of dating and interpretation elsewhere. Cf. L. Robert, *BCH* 54 (1930) 262 ff., 351.

Roman rooms¹⁰. A small niche is found in the wall above the bench on the south side (Fig. 14, left). On the west side a double door of stone steps leads into the second chamber; it was blocked up when the Roman building was constructed. "A violent disturbance is suggested by the scattered condition of the finds. This may be the result of an earthquake to judge by the fractures and downward bend of the north bench" (Del Chiaro).

Skeletal remains were found on both benches and on the floor of the tomb. Standing intact in the northwest corner was a painted amphora, which also contained human bones (Fig. 14). The most spectacular find was the large (H., 0.40 m) Hellenistic amphora with lid, found broken in many fragments but successfully restored by J. Wieschke (Fig. 15).¹¹ The vessel with sharply marked shoulder and with two swinging vertical handles, is made of red (probably local) clay covered with thick white slip. A dilute brown-orange paint was used to decorate the lid, neck, and shoulder with floral motifs, and to define details of the plastic head on the shoulder. The head is thrown back emotionally in the manner of Pergamene style; the personage wears a lion skin yet its general aspect seems curiously feminine. Is this perchance the Lydian Queen Omphale wearing the lion skin of Herakles, whom she had turned into her effeminate slave while appropriating signs of his power, the lion skin and the club?

The lower part of the vase is decorated with unconnected motifs in relief such as (from top) amorini, wreaths, and vases;

¹⁰ The (arbitrary) datum line of 100. was established by Canfield to correspond with Butler's zero level on top of the south peristyle of the Artemis Temple.

¹¹ I. Hanfmann points for the shape to the vase of "moulded ware", *Sardis* 1, 121, fig. 128. For relief decoration of lower part, Chr. Clairmont compares a vase from Al Mina, *A. I. A.* 59, 1955, 171.

jumping female? figures and flute-playing centaurs; theatrical masks over garlands. The bottom of the vase, too, is decorated with a rich acanthus motif. Imitation of Hellenistic silver ware was an obvious factor in the design and decoration of these luxurious pieces.

A slender black-glazed amphora with incised "ribs" had a Piping Pan for one of the handles; his head could not be found. Among other finds were long-necked flasks, terracott lamps, and two bronze coins, unfortunately so worn as to permit only a tentative identification as "local Hellenistic". The presence of the "Late Lydian" amphora (Fig. 14) speaks in favor of a date not too late in the Hellenistic period, third or early second century B. C. An Attic squat lekythos decorated with red figure palmette was found in the fill south of the tomb¹².

The Lydian levels were attained by the north wall of the Roman mausoleum (ISVC) and the stout south wall and doorway of the Hellenistic tomb (Figs. 1, L; 2, A, B; 3; 16).

The Lydian walls were sealed by a strong deposit of carbonized matter (10 cm thick), at the 89.8 m level, Fig. 3, obviously the result of a conflagration. One is tempted to consider this a result of the burning of Sardis by the Lonians in 499 B. C.

The deepest footing of the Hellenistic tomb wall rests on top of the burned level. Rubble walls of three different types starting at different depths may represent three different levels. Built of mixed large and small river stones wall "A" runs east-west. It has been exposed to a length of ca. 4.50 m and is preserved to a maximum height of 1.60 m (89.3-3-87.60). It is 0.85 m wide and appears to have on top an intentional "channel", perhaps, to give better hold to the mud-brick which was placed above. The bottom of wall "A" lies

¹² The lekythos is closely paralleled by the piece *Sardis* 1, 121, II r. 128.

at the deepest level attained so far (5 meters below Roman floor of Pc 59-1). Wall "B", which is exposed only in part for ca. 2 m, is built of large carefully set oblong pieces of limestone; it runs at an oblique angle to wall "A". Its base is some

0.8 m higher than the base of "A". The preserved height is 0.5 m. Wall "C" runs north-south, from wall "A" (into which it does not bend) under the south wall of the Hellenistic tomb (length exposed ca. 1.8 m). It is composed of markedly small, carefully laid stones and is 0.75 m high. Traces of mud brick¹³ were abundant; painted fragments of terracotta slabs, perhaps from revetment, also occurred in the fill. Lydian pottery was found in quantity, especially in the last two meters of the excavation. Here as in the area of the "House of Bronzes" monochrome black and grey wares increased in the lower portion of the dig. Among the sherds was a piece of Eastern Greek (Ephesian?) Geometric (P 59.372).

Immediately to the south of walls A, B, C, the deep foundation walls and grave pits of the Roman mausoleum have cut into the Lydian levels.

There is no suggestion so far of any features typical of Lydian graves; the walls look like foundation walls of houses. The discovery that Lydian habitations are to be found along the east bank of the Pactolus is of prime importance for the topography of Sardis. Only continued excavation can clarify the character of the structures and their position with respect to a street or road; but the Lydian city may have extended up the Pactolus as far as the Artemis temple, perhaps along a "Sacred Road" (cf. Didyma, Ephesus).

Some two hundred meters south of Salihli highway and slightly east of the

¹³ Mud brick fragments are recognizable by their compactness and orange-red color; but lack of measurable individual bricks suggests that we deal with pise which to this day is used in Sardis. It is fashioned rather like concrete by placing the mud in a frame of large boards.

areas of B and House of Bronzes there rises a hill composed of two flat-topped terraces, which we have called "Upper Terrace" (Yüksek Teras; also Keçlik Ka-yası) and "Middle Terrace" (UT, Fig. 4). At the top of the formation, some 25 meters above the highway, runs a well-served stretch of the city wall. It seemed desirable to investigate the city wall in this important section, where it makes a sharp bend turning uphill in a southern direction after climbing eastward up from the Pactolus. Surface finds, of Lydian sherds encouraged the hope that structures of the Lydian era might be found in the

area. A grid including the hill as well as the areas of the House of Bronzes and of Building B was laid down by Canfield. D. P. Hansen, on whose report we draw, then excavated a trench ca. 18 by 18 meters at the eastern scarp of the Upper Terrace¹⁴. In its deepest parts the excavation reached down to nearly ten meters. (Fig. 4, UT, Trench 1) It revealed that the Upper Terrace is composed of large strata of debris sloping southward toward the city wall. These strata consist of earth, ashes, and structural fragments such as, tiles, wall paintings on stucco, pieces of marble, mosaics, as well as quantities of potsherds. Disrupted stretches of a crude retaining wall were found close to the surface on the northern and eastern sides of the terrace. To a depth of at least nine meters the fill is homogeneous. Apparently the terrace was built up in one period. The latest coins found so far in the fill are those of Theodosius I (379-395 A. D.), Honorius II (393-423 A. D.); a coin of Theodosius II (408-450 A. D.) was found very close (40 cm.) to the surface.

Among the numerous objects ranging from Hellenistic through late Roman

¹⁴ The zero point of the coordinates is at southeast corner of Building B. Levels for the entire area covered by the grid are based on the (arbitrary) datum of 100. for a point behind the north apse of Building B. Cf. *BASOR* 154, p. 14.

periods were many toilet articles of feminine usage such as bone and ivory pins; nicely carved ivory figurines, of a winged amorino of the second or early third century A. D. (Hypnos?), Fig. 17, and cruder ones of a Pan, and of a Venus; several terracottas including a striking "grotesque" head, and a glazed patera fragment in form of a ram's head are worthy of special notice. Small marble sculptures (torso of Venus pudica, of a Zeus-like male draped figure), a fragment of a small Egyptian statue of black stone (feet and pillar), and painted stucco fragments ranging from Pompeian red to fragments suggestive of the third century A. D. were found. Coins found in the debris ran from Hellenistic through late Roman period. The hill is a veritable mine of Hellenistic, and Roman pottery.

A stepped trench, ca. 2.5 meters long, 2-5 meters wide, was then dug down the north slope (Fig. 4, UT, Trench II). It has revealed part of a tile-paved room supported by a barrel-vaulted chamber. Two oblong, paved basins or channels adjoin the chamber to the south. The use of mortar red rubble with facing bands of bricks is similar to but more careful than that employed in walls of Building B. These structures are Roman, of the first or early second century A. D.

The base of the city wall was sounded from the south (Fig. 4, UT, Trench III). The city wall is of homogeneous construction. Its upper part preserved to considerable height rests on a somewhat wider foundation wall, which is 2.8 m. deep. A narrow trench (2.3 m.) was dug to a depth of 4.7 m., 1.5 m below the footing of the foundation wall without encountering any indication of an earlier construction.

Mixed fill of the same type as that of the terrace continued to this depth. The excavation lasted from July 16. to August 23.

Our view is that this stretch of the city wall was built in one concentrated effort as a measure of retrenchment in a period of emergency. It was designed to link the

lower city, and especially the vital area of the bridge across, the Pactdlus with the defenses of the cit:adel. The nature of the terra,in is such that this stretch can be readily attacked from the himocks to the south and the peril at this particular spot is increased by the turn, which the wall must make. One may discern even today an attempt to make a glacis on the slope outside the wall. The building of a large platform inside looks like an attempt to create an area capable of accommodating a sizable number of troops which from here could be readily dispatched for the defense of the Pactdlus bank and the bridge. The debris dumped into the Upper Terrace may well come from Hellenistic and Roman houses, which were razed to create the glacis and robbed of stones to construct the wall.

As a monument of military architecture the city wall of Sardis will deserve careful investigation. Holes for beams suggest that on the inside of the Sitone curtain a wooden structure at least three stories high supported a walk at the top. The questions will need to be examined whether the entire fortification of Sardis still visible above ground and estimated by

H. C. Butler to have a length of two miles,¹⁵ goes back to a unified design of the Early Byzantine era.

Excavations in the area of the House of Bronzes (Fig. 4, HoB) begun in 1958¹⁶ were considerably enlarged in 1959 (from ca. 180 sqm to ca. 750 sqm). We plan eventually to excavate here an urban quarter which will link up with the commercial and the public buildings around Building B. On the plan (Fig. 4) the area presents itself as a large oblong running north-south with a westward extension

¹⁵ *Sardis*, 29. In the nearly one thousand years of its existence this wall has undergone repairs; but the original portions are not of "excessively poor construction" as Butler states.

¹⁶ *BASOR* 154 (April 1959), 22-34, plan fig. 8.

along the Salihli highway. The excavations involve three major objectives and three major periods: The late Roman and Early Byzantine residential complex of the House of Bronzes and its neighbors; the Hellenistic and Roman cemetery, largely occupying the western extension; and the Lydian strata and habitations which are being traced in the northern part of the excavation along the highway. The following description is based on reports of Hansen and Steinberg.

On the north side, the inclined ramp (or street 7 A) forms the entrance to the House of Bronzes. It was paved with bricks placed vertically on edge, in the manner still encountered in Mediterranean cities. From the work and storage Unit 7 (excavated in 1958) an entrance leads past a large tank eastward into Units 15 and 19, both of these likewise serving as work and storage rooms. Unit 15 is paved with marble slabs one of which is incised with Christian crosses within a circle of the kind also found in the temple of Artemis. Unit 19 is paved with tiles. Fragments of a large pithos with incised letters (gamma, alpha, mu) and a stone pestle¹⁷ were found here.

Returning to the axial alignment of 7 A and 7, one enters the tile-paved antechamber 8, (Fig. 18, upper right) from which a staircase led up to a floor above (2 steps preserved). The large Unit 5 (Fig. 18), sumptuously paved with a floor of colored marble in *opus sectile* patterns, was clearly an important unit. According to Canfield's observation the floor slopes slightly eastward and provisions for a run off of rain water are made at the foot of the wall in the recess of the eastern wall. Two iron door sockets were still in place in the marble threshold lying between the antechamber 8 and Unit 5. Parts of an iron lock and door hinges were also recovered. The design of the floor displays

¹⁷ Similar to that found together with stone mortars in Unit 7, in 1958. Cf. *BASOR* 1954, 27.

three groups of rectangles, somewhat irregularly placed, one with a small circular central design, and a fourth, large circular pattern. In its border are incised two ligatured inscriptions TR ?IE, the latter perhaps an abbreviation for *IESus*. A number of marble pieces are re-used. One of them bears a badly effaced funerary inscription of the second century A.D. (read by Professor Louis Robert). Next to the door was a niche in the north wall which produced some fine glass vases (Fig. 19). In front of the recess in the eastern wall there stood, presumably as supports of a marble table, a Roman table leg in shape of a lion, a small Ionic column, and an inscription cut down to be used as a base. The last-named shows two lines under a crescent moon and is a dedication to the moon god Men Axioteinos (Fig. 20).¹⁸ A hexagonal bronze censer, of the kind already found in 1958, an iron shovel, and an iron chisel came to light.

Unit 13, likewise paved with marble, opened almost to its full width on Unit 5. Included among the marbles were remains of two arch-like marble slabs. An elevation with steps in the northeast corner was conjecturally considered a pulpit by A. H. Detweiler but may be part of a staircase. The south wall at one time curved into an apse-like shape. A bronze *polycandelon* (Fig. 21) and the rectangular iron frame (of a chair?) were found on the threshold to Unit 13. In the center of the room lay an iron sword, witness perhaps to warlike events preceding the destruction of the House of Bronzes by fire. A door in the southeast corner leads to the tile-paved Unit 20.

Lying alongside of Unit 5, but on a higher level (99.2 against 97.6) m Unit 6 paved with large tiles may (in the latest

¹⁸ First recognized by Prof. Zeph Stewart, Harvard, who visited the excavation. Complete interpretation given by L. Robert.

¹⁹ Cf. the section in *BASOR* 154, p. 27, fig. 10, and plan fig. 8, showing relation of levels between Unit 5 and the higher floor of Unit 6.

phase) have communicated with Unit 5 through a door and steps.

Little can as yet be made about the function of the Units 20, 22, 21, 21 W₁ and 14, which lie along the south edge of the excavation. The most remarkable feature is a settling pot and terracotta pipes, found in Unit 21.

It is not yet clear whether Units 14, 17, 16, and 11 A, in the southwest corner of the excavation belong to the House of Bronzes. Their floor levels correspond to that of room 6, being on a level of 99. Unit 14 has a raised bench built of tiles on the south side. Unit 16 is of considerable interest for the chronology and structural development of the buildings in this sector: Beneath its tiled floor there was discovered a small vaulted tomb, built of brick and concrete (2.5 m by 0.6 m by 1. m), its walls stuccoed and painted with flowers and floral filliets. The style is reminiscent of the painting of a tomb excavated by T. L. Shear on the western face of Kagirlik Tepe (KG)²⁰. The date, in broadest terms, must fall in the period comprising the second to the fourth century A. D. Only a few badly preserved bones were recovered. But even if, as Hansen surmises, the builders of Unit 16 disturbed or robbed the grave, they yet piously elected to preserve it under their structure. A Byzantine coin of the sixth century (Justin II, 565-578 A. D.), found sealed in the floor above the tomb, gives the approximate date of construction of Unit 16.

The much rebuilt walls of Unit 11 and to the north of it pose complex problems. The northern part of Unit 11 and the adjacent Unit 10 appears to be a street with a drain in center. Through Unit 4, a staircase of the House of Bronzes (Unit 3) could be entered from the street. The walls north of the street (11) seem to belong to a residential complex other than the House of Bronzes. In the well built

²⁰ *A. J. A.* 31 (1927) 19ff., pls. 3-6. For Kagirlik Tepe cf. *BASOR* 154, p. 13.

channel which cuts north-south through the structure there were found six lamps of types current from the third to the fifth centuries A. D.

Gareful observation of the sequence of walls in Unit 12 and soundings made under the floors of Units 7 and 13 (Hansen) permit to clarify to some extent the chronology and structural sequence. Hellenistic chamber tombs under floor, i.e. Area 12 and part of a Hellenistic jamb may have been incorporated in the structure north of Unit 11 (Phase IC). Roman tile graves of the first or second century A. D. overlay Hellenistic walls within Unit 12.

A late Roman structure, not earlier than the third century A. D. (because of marble spoils used in its walls) preceded the House of Bronzes. Its powerful wall still serves as west wall of Units 7 A, 7, and 8. This wall was found to continue southward under the floors of Units 5 and 13. It is not yet clear whether this phase corresponds to the Roman walls of Phase IB found in Area 112.

The first major phase of construction was that of the House of Bronzes proper which was inhabited until the early seventh century A. D. This was proved by coins of Heraclius found under the earth floor of Area 7 and confirmed by the coin of the sixth century A. D. found under Area 16. Thus the remarkable bronzes found in 1958 and 1959 as well as the fine glass vessels found in Unit 5 (Fig. 19) belong to the Early Byzantine era²¹.

Signs are multiplying that the entire western quarter of Sardis was devastated in the early seventh century A. D. Whether or not the area of the House of Bronzes was reoccupied thereafter we cannot as yet say. We know that kilns were active in Building B in the Middle Byzantine period. If the House of Bronzes area was occupied at that time, the occupation has not left any distinctive traces. We

²¹ Cf. *BASOR* 154 (1959) 22, 31 f., figs. II f. *ILN* (May 30, 1959) 925, figs. 5, 8, 10. *Archaeology* 12 (Spring 1959) 58, figs. II • 12.

must remember, however, that the ruins are so close to the surface that the top level may have been destroyed by ploughing.

A post-Heraklian agency must be responsible for the still yet inexplicable planing of our most important find of sculpture - the two Roman statues which were found lying foot to foot only 50 cm below the present surface, a male figure lying with his shoulders to north, a female to south (Fig. 22). The male figure (Fig. 23) was lying partly on the east wall of Area 21 but could hardly have maintained itself in this position unless supported by fill that must have risen to nearly the top of preserved wall. The female marble statue was lying farther to the south (Fig. 24). The heads of both statues were worked separately and inserted; they have not been retrieved. Certain parts of bases, arms, and feet were dowelled on to the figures; front of base and left foot of the male and right foot and lower arms of the female are missing. The statues, of good Roman workmanship, are probably not later than the first century A. D.

The cemetery, of which the full extent is unknown²², consists of Hellenistic chamber tombs and Roman rectangular graves of the type encountered in 1958 on Kagirlik Tepe²³. The general type and construction of Hellenistic tombs is the same as those of "Tomb of the Lintel". The chambers are ca. 3.2,5 by 2.5 m. Tombs "j" and "k" are parts of a larger complex which can be traced through Units 12 and 23. All three tombs, show careful stuccoing with incision imitating ashlar masonry clearly visible in "n"²⁴. In all three the

²² In 1953 three chamber tombs were exposed in the ditch south of the Salihli highway, 70 m east of the Pactolus bridge and ca. 200 m west of the present excavations. They have since disintegrated.

²³ Cf. *BASOR* 154 (1959) 13, "brick built" grave "H".

²⁴ For use of this technique in non-funerary structures cf. *Sardis* I, 132, 111. 148.

arrangement is that of a triclinium but only the two benches along the sides are funerary benches. In all three, one of the benches has a raised head rest and a shoulder rest. All three were entered by stairways, from the south but "n" has a dromos between the staircase and the chamber. Tomb "k" has in the east wall a niche resembling that observed in the south wall of the "Tomb of the Lintel".

Eleven Roman graves were encountered (*a-l; l, m, o*). They are built of bricks laid in mortar and covered with large slabs of schist. Virtually all graves have been opened, some in antiquity to introduce a secondary burial. Thus, in tomb *l*, bones of the first burial were found pushed into one corner. Long-necked bottles (*ungentaria*) in pottery, and glass and a coin tentatively identified as that of Domitian, c. 81-96 A. D. point to the use of the cemetery in the first and second century A. D. A nice terracotta charioteer was found near the corner (outside) of a tomb (Fig. 25). The pretty marble of urn of "l" (Fig. 26) was filled with earth which combined the disturbed bones of a child. Its front shows a carefully rendered lock with keyhole flanked by palmettes.

In contrast to 1958 when immediate results were obtained in the Lydian strata Area 9 (House of Bronzes) ²⁵ our investigations of 1959 had to proceed slowly, partly because of the later structures overlying Lydian levels, partly because powerful riverine (or flood) deposits which intervened between the strata.

In Area 9 ("Lydian Shop") excavation was extended northward, then westward. Fragmentary stone foundations of houses and scanty remains of mudbrick form no coherent plan. To the west, floors adjoining the Lydian walls represent two levels (II A, II B; 96.6 and 95.9). Pottery finds continued abundant but the pieces were less well preserved

²⁵ *BASOR* 154, pp. 27 ff. and figs. 8-10, 13-15,

than those in the "Lydian Shop". The Roman graves *c, d, e* (also *f-g*) were removed along with the mixed upper fill. Only 1.65 m (98.6) below modern surface the higher Lydian level (II A) was reached. Here we found a nearly complete rectangular room (Unit 24,) ca. 3.75 by 4. m. (Fig. 27). The foundation walls are of rubble laid in mud. Two earth floors were recognized (at 98.6; 98.3). The top floor showed traces of burning and yielded in

addition to a large quantity of Lydian sherds fragments of an Eastern Greek vase (Samian?, ca. 550-525 B. C.). A typical vase from this sixth century level is a jug with leaf-pattern on shoulder (Fig. 28). The walls of Level II A rest on a heavy water-laid deposit of sand and gravel (ca. 1.5 m thick). It separates the upper Lydian level from the lower Lydian level II B (at 96.7). The floor of this level was recognizable but only disconnected bits of walls were found (Unit 215). There is evidence of extensive and violent burning over the floor. The Rhodian jug (Fig. 219) indicates that the lower level lasted through the second half of the seventh century B.

C. It seems to correlate with the floor level of the "Lydian Shop" in Area 9 (at 96.8).

After the removal of the wall adjacent to west side of the Hellenistic tomb "j" ²⁶ a sounding was taken to a depth of five meters (91.8) below the lower Lydian level II B. Under a riverine deposit more than 4 meters deep, we encountered (at ca. 92.5) a layer of mud and ashes mixed with red and gray monochrome potsherds. The area was too small and the sherds not sufficiently distinctive to determine whether this material belongs to the Early Iron or the Late Bronze Age ²⁷.

²⁶ No datable material was found to determine whether this corner belonged with the Hellenistic tombs or with an earlier (Persian?) phase. So far in this area only a small red-figure fragment found in mixed fill can be assigned to the Persian era.

²⁷ Only one painted sherd of Lydian Geometric type was found,

Another sounding in depth was taken at the southern edge of the excavations in Unit 21 W. It reached a depth of ca. 6 meters below the surface (94.3;). Here riverine deposits began at 3.215 m below surface and still continued at the bottom of the pit. Lydian painted and monochrome wares were scattered in fair quantity throughout the deposit of sand and gravel.

In 1958 we had begun the excavation of a row of Early Byzantine shops which adjoin the southern facade of Building "B" (Figs. 4, 30, 31). At the time we freed completely shops SW 1, 2 and explored the eastern part of shop SW 3. Three areas in front (south of) these shops were designated as SW 4-6.

In 1959 the alignment was traced westward for a total length of nearly 60 m. According to our system of numbering, shop SW 3 is immediately adjoined by shops SW 7, 8, and 9. These were excavated completely, SW 1043 partially.

In 1958 we had surmised that a floor existed in SW 3 at a level higher (97.3) than those preserved in SW 1, 2.²⁸ This turned out to be correct. During the last phase of their existence, approximately the same level of ca. 97 m held for the entrance doors of all shops West of SW

3. We have ascertained that earlier levels represented by tile floors exist (in Shop SW 8) but have made no attempt to explore them. According to David G. Mitten, from whose report much of the following is quoted, Shop SW 3 had an incomplete floor. A brick bench, partly disrupted, ran along the north wall. A low partition wall extended from the south wall. On its west side was a rubble and plaster platform; large quantities of slag and much black ash were found above the platform. They suggest that some type of industrial operation took place here in the northwest

²⁸ *BASOR* 154 (April 1959) 16-18, plan fig. 3. The arbitrary datum of 100 is based on a point at the northern apse of the North Hall of Building B.

²⁹ *BASOR* 154, p. 17.

corner was a marble tank or basin adjoined by a marble paved area. A large basin or re-used mortar of volcanic stone with a hole in the bottom sat in the tank, it may have been installed when the water system feeding the tank became inoperative. The shop is unusually long (11 m) and had two doors; perhaps because two shops were combined into one.

Shop SW 7 contained the same slag, ashes, and bones, as SW 3.

Shops SW 8 and 9 (Fig. 30) form a unit. They communicate through a door in the west wall of SW 8 with a marble threshold of which the iron door socket is still in place. In the northeast corner of SW 8 is a marble tank or basin built of re-used slabs (Figs. 30, 31). Of the two front slabs, that on the west was originally an honorary inscription (two olive wreaths on top) and was then re-used as a funerary stele. An inscription across the lower part mentions a funerary precinct and sarcophagus. The slab on the

right (east) side shows in its lower part a Greek inscription of good Roman Imperial period, now upside down. It mentions a *Hadrianeion*. The basin was fed by a terracotta pipe at its southeast corner; it came out of the wall on top of the (eastern) slab. At a later phase, two powerful crosses with rounded bases, were cut on the two frontal slabs (Fig. 30); the tank or basin was surrounded on the south and west sides with a marble pavement. Resting on the pavement in front (south) of the basin was a marble block with a rectangular top (Fig. 31). Its interior was hollowed out as a hemisphere; it had a hole with a terracotta plug in its bottom. The block resembles baptismal fonts. We assume that in its latest phase the shop was converted into a chapel or baptistry.

The small adjacent room SW 9 had in its northwest corner a large terracotta pipe encased in plaster; it stood on a brick construction which may have been an oven. Pithoi and other vessels were found in and on the tile and stone floor.

Though objects found in SW 8 and 9 were numerous (including a Byzantine bronze belt buckle) they throw no further light on the function of this curious complex.

The excavated parts of SW 10 and 11 were largely filled with coarse rubble and brick. A fine small marble torso of Athena (H. 0.18 m, Fig. 32) was found in SW 10.

Fragment of a mosaic of white tesserae was found *in situ* just outside the south wall of SW 10; it is of importance as indication that some sort of covered structure (colonnade?) may have existed in front of the shops.

Shop SW 12 was perhaps not a shop but an entrance into the complex behind the shops (West "B") as its west wall aligns with the large masonry pier of "West B" (Fig. 4). Its door was twice as wide as those of other shops (2.2; 1.1 m) and had an impressive marble threshold. A large marble lintel lay just inside (north of) the doorway; it may have fallen from top of the door. The room was paved with a mosaic of dark-blue and white tesserae. Interlaced squares, each having an ivy leaf in center, constitute the interior panel framed by a narrow band of crenellated "turrets" and a wider band of interlaced circles (guilloche).

The westernmost shop SW 13 yielded little in its top level. A door with a door sill is preserved in its west wall; an indication that this is the western corner of the shop complex. A sounding made in the southwest corner uncovered two large parallel pipes³⁰ of terracotta (tops at 96.8). They run diagonally toward the southwest corner of SW 113, turn south, then pass under the shop wall through a low brick arch. These pipes lay across a wall of smoothed mortared rubble (at 95.8). Its orientation differs from the orientation of the Byzantine shops and

³⁰ Similar pipes were found under SW 2 in 1958 and under the floor of the South Hall of Building B in 1959.

makes certain the existence of an earlier structure. Late Hellenistic and early Roman sigillate wares were associated with this level. A small squat-bodied bottle was a common shape among the plain wares.

Water-laid deposits of sand and gravel set in 2.5 m. below (94.5) the floor level of the Byzantine shop and continued for 1.5 m. downward (93.). These deposits overlay dark brown earth mixed with mudbrick fragments, carbonized matter, bones, as well as Lydian sherds, painted and monochrome; one small bit of Protocorinthian sherd was also found. At ca. 92, a compacted level suggested an earth floor. In the lowest part of this deep, rounding the fill was becoming more sandy.

An archaic Lydian terracotta revetment made in relief and painted in black and red on white slip, shows the head of a griffin about to snap at another animal's tail. It was found in the pit at ca. 94. Level (Fig. 33). It may be recalled that another fragment of an archaic architectural terracotta was found in 1958 in the neighboring building "B"³¹.

Toward the end of the season a trench was opened along the west side of the complex west of building "B". The complex will be referred to as, "West B" (Fig. 4). A well-built pier of large masonry is aligned with a similar pier behind the east wall of the Byzantine Shop SW

13. Other piers of the same kind exist behind the Byzantine Shops SW 7, 8, and 9. Between the two large piers of the west side is a wall with a west face of carefully cut small stone masonry. It includes two smaller piers. Between the northern of the two smaller piers and the large pier to the south there was a door with stone jambs and a large broken stone lintel *in situ*. The door was later bricked up. Just west of the masonry wall we discovered a public latrine (ca. 7 m north-south, 3.2 m east-west), which, from the coins found,

³¹ BASOR 154, 32.

must be contemporaneous with Byzantine shops. The latrine included elaborate arrangements for flushing and drainage. On each of the long sides under the seats there was a channel, its walls and floor plastered; the eastern was 1.5 deep, the western only 0.7 m. The floor of the latrine was built of marble spoils. Marble seats were supported on stone brackets two of which still protrude from the west wall. Several broken marble seats were retrieved. Many Byzantine bronze coins, much glass ware, and fragments of a Roman marble group of Bacchus with a satyr and a panther were among the finds.

In the huge Building B, (Fig. 4) which forms the center of the whole area, the level of debris was lowered along the east and west sides of the South Hall. Subsequently, the entire south apse and the adjacent part of South Hall were freed to a distance of ca. 24 meters counting from the semicircular platform in the south apse northward³². During the last days of the excavation, Canfield made a sounding at the other end of the building in the north apse of the North Hall. Like the south apse the north apse had a raised semicircular platform running along its inner wall; but no inscribed statue base comparable to that of Lucius Verus (found in the south apse in 1951⁸) came to light.

In the South Hall a few marble blocks re-used as supports for a recent structure on 99.2 level and a rubble wall of the same period were taken down. Local inhabitants considered them remains of Greek stables built during the war of 1922; but they were perhaps too deeply buried (ca. 1-2 m) to be of so recent a date. The fill within the South Hall was 3-4 m deep, stratified by lime kiln and ash levels. A two-handled jar sealed with a lead lid was found at ca. 98 m in association with a level of burned lime. It proved to contain only earth and stones. Farther down, at a level of ca.

³² as The advance made in 1959 can be judged by comparing the plan Fig. 4 with *BASOR* 154, p. 12, fig. 3.

97.8, part of a lime kiln construction came to light. It was built against the west wall, just south of the arch "w 3." A Byzantine coin of John Tzimisces (969-976 A. D.) and numerous sherds of Byzantine green and yellow sgraffiato wares indicate the approximate date of this level. A very striking yellow jug decorated with a tree motif is the best preserved piece (Fig. 34).

At the Roman floor level (98.5-96.75) we found several areas with original marble pavement *in situ*; throughout, imprints of marble slabs are clear in the cement bedding. They permit reconstruction of the design of the pavement. Much of the yellow marble footing of the platform in the south apse is preserved. Mosaic tesserae found on the floor were not *in situ* and must have fallen on the floor from above. Evidence for a conflagration continued in heavy concentration of ashes, charcoal and slag in the level immediately above the floor³³.

Architecturally, the freeing of two arches on the west side showed that they are curiously asymmetrical in relation to those of the east side. Shallow piers project from the external walls; these were cut into to accommodate vertical drains or pipes.

A pit ca. 4 m by 5 m was made through the floor of South Hall (floor level 96.75). It reached a depth of but was flooded and partly refilled by a rainstorm late in August. Under the first floor (of red cement, ca. 0.08 m thick) was a stone bedding (0.2,5 m thick) set in mortar. There followed a second floor of red cement of same thickness and material as the first. A large terracotta pipe (outer D. 0.22 m) ran under it (east-west) across the hall (top at 96.6?). Below the second floor was a tremendously strong packing, 1.25 m deep, of mortared rubble. The earth under it contained mixed fill. At the east edge of the pit a strong wall ran

³³ Cf. *BASOR* 154, p. 16. now known to be earlier than the tenth century A. D.

north-south, its top was 1 m below the first floor at (95.77). Sherds ranged from Greek (Geometric (Cycladic? scyphus fragment, Rhodian bird bowl fragment) through Hellenistic relief-decorated 2nd Early Roman sigillate wares. The most important piece is the fragment of a mould for a hemispheric bowl showing under an ovolo two lovers embracing while a pomegranate jumps at them from the left. A strange figure with donkey ears and indication of donkey's hair jumps in astonishment. (Fig. 315) The piece is Late Hellenistic or Early Roman. Ca. 4 meters below the floor of the South Hall (at 92.65) a floor of *opus signinum* was observed, again Late Hellenistic or Early Roman in date.

The sounding indicates, that (a) the present structure B was probably re-floored and the present floor laid on top of an earlier one; (b) for reasons unknown but perhaps because of irregular character of the site or irregular preservation of earlier buildings the builders of B laid down an unusually heavy bedding for the South Hall; (c) Late Hellenistic or Early Roman structures existed in the area; (d) prior or during the construction of B they were covered with earth excavated in part from Lydian levels.

The fragment of a marble statue was found in the north apse of the North Hall and in the South Hall part of a battered marble throne with a marble foot.

A trench was started in the area henceforth designated as "East B" (Fig. 4), about 35 m east of "B" itself. Immediately we came upon numerous fragments of large and ornate marble architecture. Their position bespoke violent destruction and collapse of the building to which they belong. So far we have located a row of column bases from a colonnade running north-south. In the area to the east of the column bases we have not yet reached the ground level; in the first days of the excavation we have freed the upper part of a monumental gate with three entrances.

This gate must have given access to the central hall of Building B. Fragments of a monumental inscription on the entablature from the gate refer to a *Sebastos* and *Ioulia Sebaste* (Fig. 36); either Julia Domna or Julia Maesa qualify. The inscription thus insures a date early in the third century A. D., though this may equally be the date of a restoration or of original construction. Powerful torded columns were employed in the decorative order of the gate. In the eastern colonnade, architectural pieces display such marked differences in style as to suggest two or more periods of construction. We are only certain that the colonnade was in use un-

til the sixth century A. D.; for a coin of Justinian was found above the marble floor of small lozenge slabs, which adjoins the columns. Low rubble walls built between the columns probably belong to this period. The four bases excavated are Ionic or Corinthian; they supported two half columns linked to a shaft. The shafts of the columns are plain, the capitals Doric. Amidst the welter of architecture we found several marble sculptures: the torso of a draped female figure, a small torso of

Ganymede, head of Tyche with traces of gilding. Two magnificent Corinthian marble capitals of mid-second century A. D., may belong to the entrance of the colonnade. One features a head of helmeted Athena (Fig. 37), the other a very lively head of a grinning satyr (Fig. 38). Clearly, the central hall of the gymnasium B and the adjacent complexes West B and East

B constituted a very impressive group of public buildings; their fleeing from masses of earth and debris will be task of considerable magnitude but promises ample rewards.

During the summer of 1959 a determined attempt was made to penetrate to the foundations of the great masonry structure CGE and to explore structures presumed to lie under the rubble heaps to

the north of it ³⁴. Work was begun, on June 26 and carried on until September '5. Initially A. Steinberg was in charge, followed by Del Chiaro, Greenewalt, Hanfmann, and again Del Chiaro. The excavations extended along the east face of CG and northward for ca. 70 m.; and reached a maximum length of ca. 35 m. along the wall A at the northern limit of the excavated area. A. M. Shapiro and T. Casendino recorded the plan and elevation (Figs. 39, 40).

Nearly fifty workmen and ten horse-carts were employed. The removal of the large fa;en masonry which blocked our progress last ye. It was greatly expedited by the permission of the Department of State Waterworks, to use on its "free day" a 25-ton Bucyrus crane. We are greatly indebted to Director General Süleyman Demirel, and the Director of the Sixth District, Mehmet Yavaş, for their kind cooperation. By leave of His Excellency, the Vali of Manisa, it was possible to employ for one day for the purpose of nmpmaking a bulldozer of the Public Works Department. Upon its arrival eady in August, a Citroen truck with crane and dumping caissons generously presented to the expedition through the Fogg Museum by an anonymous donor, was of vital help in disposing of the large quantities of excavated earth and extracting of fallen stones. Despite this concentration of forces, we were baffled in our main purpose by reaching the water table, some 7-8 meters below the modern surface of the Hermus Plain.

It is perhaps most useful to describe the results by levels. Occupation dated by Byzantine coins of the tenth century was observed in 1958 in Main Arch West (MAW) and Main Arch East (MAE) at levels of ca. 101.5-99. And in the circular

³⁴ *BASOR* 154, pp. 18-22, figs. 6-7 *Archaeology* 12 (Spring 1959) 57, fig. 5.

unit HM at ca. 100 ³⁵. It was reconfirmed in 1959 at tongue wall Sp, which projects west from HM at ca. 101 (Fig. 39). Here weak screen walls of brick and thick deposits of ashes attested the same industrial activity that was observed west of MAW in 1958 (S, in Fig. 39). On the east side of OGE, in front of South Chamber East (SCE) and the long vault T ("tunnel") a large jar of Byzantine ribbed ware was sitting in earth (at ca. 98.1) obviously *in situ*, near the corner of the southeast pier of CGE (j, in Fig. 39); shafts of small marble columns, were lying on the same earth level. Finds of Middle Byzantine sgraffiato sherds and glass bracelets

³⁶ continued, especially in the Unit north of Hm, between 101. - 100.

The most important result of the campaign was the emergence of a vast Roman bathing complex which utilized the pre-existing masonry structures GGE and CGW but added a vast array of units to the north, east, and possibly west. Mortar rubble and brick are the materials used in different combinations. Iron nails for suspension of marble slabs were observed on the south face of wall A (Figs. 39, 40, at right) near the corner with east face of wall NS; such marble revetments survived *in situ* in niches of the circular unit Hm. Technical criteria suggest a date between the second and the fourth centuries A. D. The only object useful for dating is a Roman lamp of a type current from the third through the fifth centuries A. D.

Beginning at the north end of the excavation (Figs. 39, 40) the powerful relieving wall A runs east west (width 3.5 m. length ca. 30 m). Powerful relieving arches (a) are seen in its north face near the east end and in the center; some limestone voussoirs are still *in situ*. A

³⁵ Levels are calculated from an (arbitrary) datum of 100. placed approximately at the top of the impost course of the masonry structure CGE. Cf. *BASOR* 154, p. 22, n. 46.

³⁶ *Journal of Glass Studies* 1 (1959) 53 f.

smaller brick arch is located at the very westernmost end. In trying to determine where the wall A stops towards the west we came, ca. 3.5 m below modern surface (99.8) upon blocks of marble entablature (m in Fig. 39) apparently forming a corner. It is not clear but possible that a wall continued westward at a lower level; lack of time and means prevented us from clarifying the problem. On the east side, wall F constitutes a north-south alignment between Unit Hm and wall A which continues northward. In one phase, F made a right angle with wall K. South of K lies the tiled landing L (at ca. 100.). From this, landing one reached the smaller staircase St, (Figs. 39, 40) built of Hies supported on brick arches (Fig. 41). Starting at 98.8 this remarkably well-preserved stair descended to a small landing against the north face of the circular Unit Hm, then turned to descend northward. West of it are the remains of another brick arch (a') projecting from the rubble face of Hm. Tiles platforms (pl, Fig. 39) at ca. 100 and rubble walls running east from east face of Hm suggest that there was the floor of an upper story at approximately this level.

Excavation of the Unit Hm, which was taken down to ca. 98. along the interior shows that we were mistaken in considering it a hemicycle³⁷. Rather the original masonry constitutes a little more than a quarter of the circle (Fig. 39); the Roman builders had expanded it into a circular structure by adding the rest of the circle in rubble with brick used for six arched recesses (Fig. 40). The resultant unit suggests the *lacoinicum* (sweat bath) almost standard for Roman thermae. The arched recesses (a'1-a'6) have "floors" at ca. 91.8 but there is no way of telling how deep down the unit reaches. Marble slabs of revetments and red stucco plaster are preserved in recess (a'1). The west side

³⁷ As in *BASOR* 154, p. 15, 20.

of Hm is constituted by the large wall NS which bonds with its north end into wall A.

Coming now to the transformation of the original masonry structure CGE (Figs. 39, 40, 42), we observe five walls (o, a, b, c, d) taking off from the piers of the east face in easterly direction. They are built largely of rubble, though some use brick courses. They cannot be Byzantine wave-breakers as we had suggested in 1958³⁸. It is clear now that they belong to the Roman additions. Their highest preserved point is at 99.5; they may have reached to the impost course at 100. Wall b is known to continue downward below 94.8, a preserved height of more than 5 m. Parts of collapsed vaults (v', in front of MAE, Fig. 39) and arches of brick (a', in front of T, Figs. 39, 40) indicate how the units between these rubble walls were spanned.

Within the masonry structure itself, the North Chamber, East (NCE, Fig. 40) received a well-built Roman barrel vault which supported a floor at ca. 98. m. Excavation was taken down to the water level (94.8-95.) without revealing another floor.

The east chamber of the Main Arch (MAE) had a complicated history. As reported last year, a feature of its lower part is a powerful arch of masonry³⁹. In and under this arch, somewhat off center, the Romans built a brick arch, (f, Figs. 39, 40, 43) of which the top was at 96.5 m, the threshold, under the water table at ca. 94.8. Terracotta pipes ran from the arch to join other, vertical pipes (p', Figs. 39, 40). Heavy deposits of charcoal and other burned matter suggest that this is the furnace of the bathing establishment. A cement floor at ca. 95.6 - 8 seems to belong with the heating chamber or *praefurnium*. It rests on masonry blocks, which may have been placed in this position by Roman builders, or may belong

³⁸ *BASOR* 154, p. 21.

³⁹ *BASOR* 154, pp. 20 f., fig. 7.

to the original masonry structure. Intriguing bronze objects, heavy cast plates (0.05 by 0.05 m) with pegs projecting from the center of each side, were found above the *praefurnium* floor. This floor is divided by a channel ca. 1 m. below the floor level (94.6) (r, in elevation, Fig 40); it leads, straight to the opening of the arch and was perhaps used for fueling of the furnace (Fig. 43). The brick pier z (Figs. 39, 40) may have supported the springing of the brick arch which spanned the east end of the *praefurnium*.

The discovery of scattered hypocaust tiles in various parts of the excavation lends color to the assumption that a heating system utilizing hot air existed in the Roman complex.

South of MAE excavation in South Chamber East (SCE) and "Tunnel" (T) was taken to 97. level without coming upon Roman floors (Figs. 39, 40). Rough calculation of the curvature of the lower masonry arch in MAE shows that the building may continue downward for 2 or 3 meters below the water table. Apart from penetration in depth, some details have been added to our knowledge of the original limestone masonry structure SCE. It is now seen that piers project southward both at southeast and southwest corners. An original masonry tongue wall (Sp, Fig. 39) takes off westward from the west wall of Hm but we have not excavated

to sufficient depth to ascertain whether it stops or continues. The function of SCE and of the parallel structure SCW remains enigmatic.

The history of the complex may be sketched as follows. During a dry cycle there were built the original structures SCE and SCW. They could not have been erected, had the water table been as high as today. Dry conditions must have continued when the Romans enlarged this nucleus into a vast bathing complex. At some time in late antiquity the vigorous control imposed upon the torrent which invades the area from the south was relaxed, perhaps at a time when the low-lying ground at OG was left outside the Byzantine city wall. Flood-deposits began to accumulate with such rapidity that by the tenth century A. D. the structure was buried to approximately its upper story (levels of ca. 98.5 - 100.). Byzantine craftsmen then took possession, refurbishing some of the upper units.

These conditions have insured the preservation of many interesting architectural features; however, complete excavation would call for elaborate mechanical equipment. During the next campaign we plan no more than a limited exploration of the furnace complex, the circular unit Hm, and the staircase unit adjoining it to the north.

