MAREA
SECOND INTERIM REPORT, 2001

Hanna Szymańska, Krzysztof Babraj

The second season of excavations at Marea, which lasted from August 13 to September 30, 2001, was possible thanks to a grant from the State Committee for Scientific Research of the Republic of Poland (no. H01H 042 21) and resources provided by the Polish Center of Archaeology of Warsaw University and private sponsors.[1)]

A bath building of the Byzantine period uncovered in the previous season remained the focus of the exploration. The initial field campaign had brought an idea of the general layout of the structure and of the main rooms. The objective now was to establish the extent of the structure and trace the outer walls; with this purpose in mind the excavated area was extended to cover a total of 304 sq. m (16 by 19 m).

The project for recording all the visible architectural remains within the urban area covered by the SCA license was continued concurrently with the archaeological work.

1) The team was directed by Dr. Hanna Szymańska and included: Mr. Krzysztof Babraj, archaeologist; Dr. Grzegorz Majcherek, ceramologist; Prof. Dr. Ewa Wipszycka-Bravo, historian; Ms Daria Tarara, architect; Ms Teresa Żurkowska-Mastalerz, art restorer; Mr. Tomasz Kalarus, photographer. The Supreme Council of Antiquities was represented by Messrs. Hamed El Housaini and Sayed Abdel Azeem, inspectors.

We owe the deepest gratitude to Prof. Dr. Gaballa Ali Gaballa, Secretary General of Egypt's Supreme Council of Antiquities, and Dr. Mohammed Abdel Maqsud, General Director of the SCA Egyptian Antiquities Sector, for their contribution to the success of the expedition. In the field, the cooperation of Mr. Adly Roushdy Amir, General Director of the Alexandrian Antiquities Department, has proved unmatched, as before.

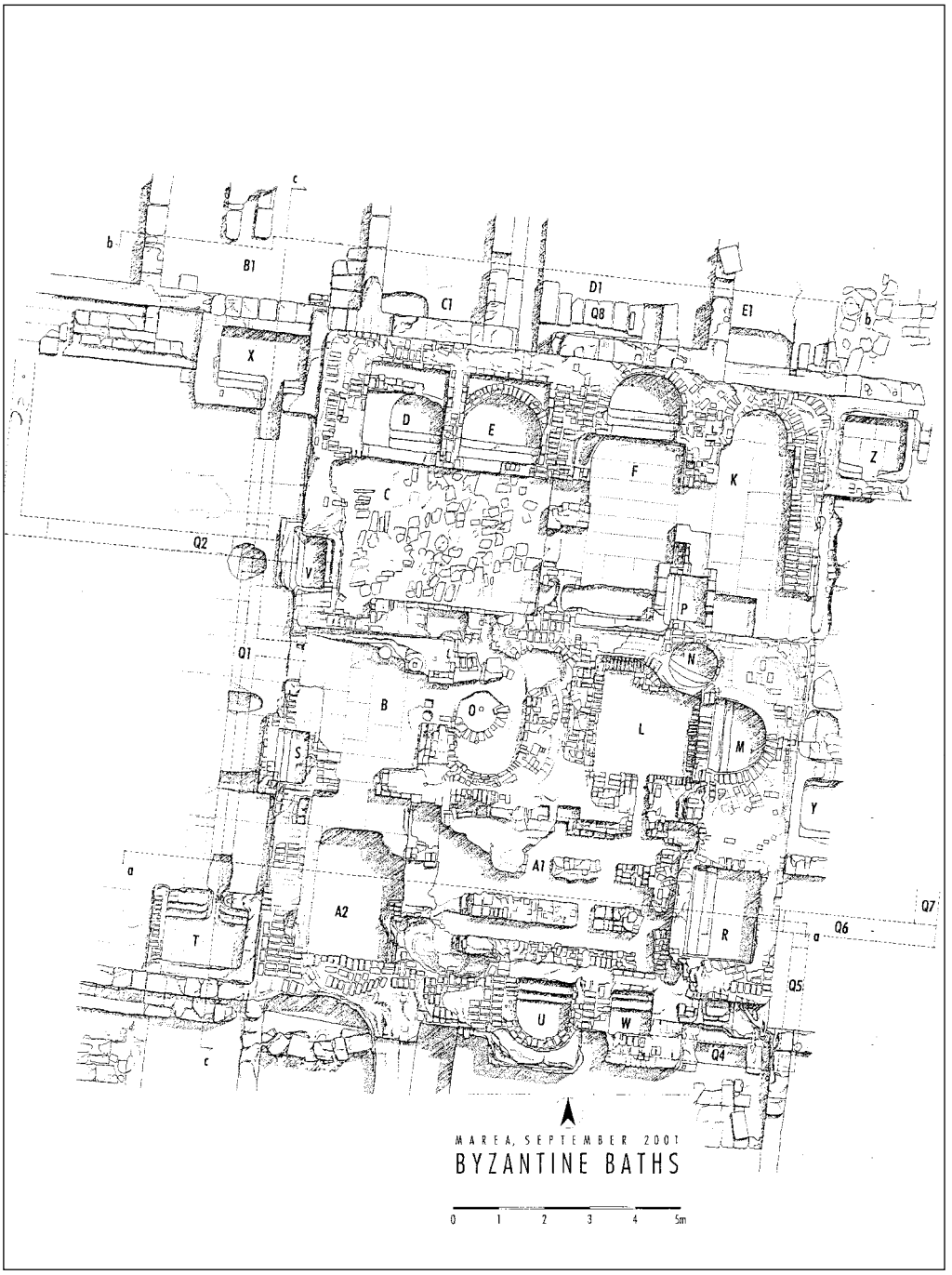

Fig. 1. Plan of the bath, after excavations in 2001 (Drawing D. Tarara)

BYZANTINE BATH

The functional division of the bath into the men's part and the women's part was now confirmed beyond all doubt. A wall divided the two parts with the women's section being entered from the east through unit K[2)] and the men's from the west through unit B. The present exploration was focused on this part of the bath, units A and L in particular (*Figs. 1, 3 and 4*).

Room A, which had not been explored beyond the top layer in the previous season, was now cleared and found to comprise two independent parts, A1 and A2. A doorway connected the two parts, a partly surviving threshold in this doorway (*Fig. 2*), consisting of a marble slab with a circular hole for mounting the door pivot and thickly plastered side walls of brick.

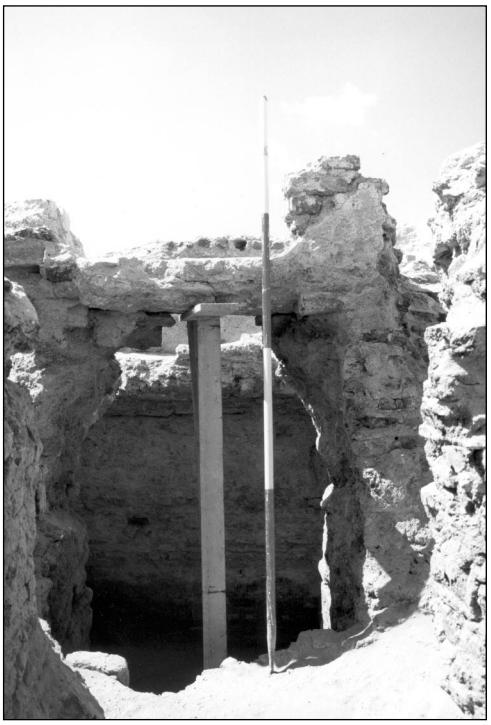

Fig. 2. Doorway with surviving threshold between rooms A1 and A2 (supported by the scaffolding), view from the east (Photo T. Kalarus)

Nothing survives of the floor of room A1 (which measures 2.90 by 5.25 m) but a small section against the northern wall. Based on this evidence, it is possible to say that the floor consisted of a lime mortar surface poured over a 20-cm thick bedding of sand and small pebbles. No evidence of marble flagging has been observed here.

In room A2 (2.20 by 3.70 m) marble flagging was recorded as imprints in the floor bedding only in the northern end of the room, directly by the entrance from room B (the presumed *apodyterium*, otherwise cloakroom, excavated last year). The debris filling this space yielded enough painted plaster fragments – the colors surviving in excellent condition – for a vegetal ornament to be reconstructed (*Fig. 5*). The colors, which range from yellow and red to black and white, represent the preferred pigments used in decorating Coptic ceramics.

There can be little doubt – in view of the commonly accepted principles of circulation in Roman baths and the nature of the wall decoration – that chamber A2 served as a *tepidarium* where clients accustomed their bodies to a moderate temperature. That the room was heated is further confirmed by burned clay and brick discovered in the wall east of the entrance, testifying to the presence of a second set of *tubulatio* positioned opposite the previously uncovered set in the room's west wall.

2) For site location and results of the first season, see H. Szymańska, K. Babraj, *PAM XII, Reports 2000* (Warsaw 2001) 35-45.

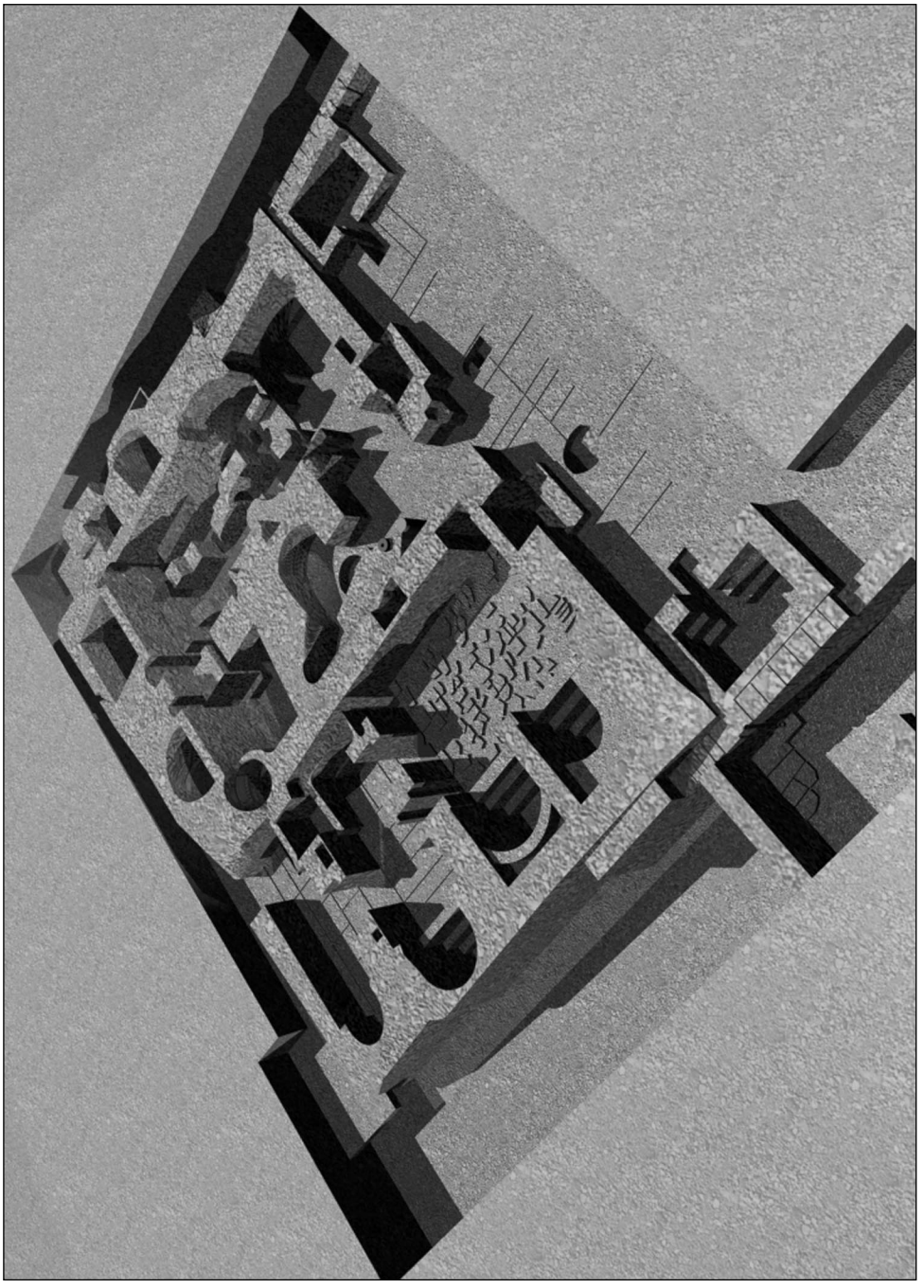

Fig. 3. Computer rendering of the excavated parts of the bath, view from the northwest (Rendering D. Tarara)

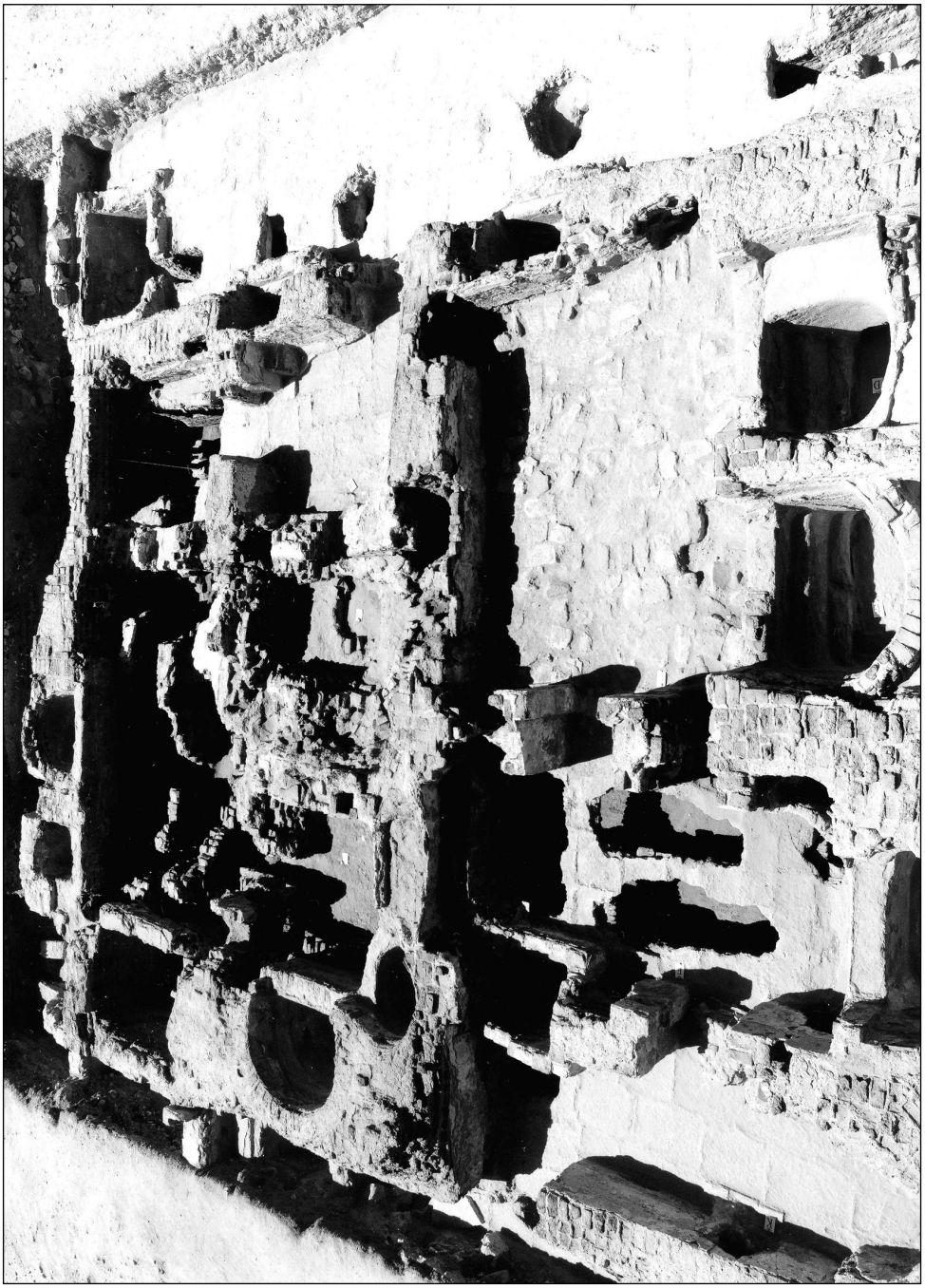

Fig. 4. View of the bath from the north (Photo T. Kalarus)

The division between chambers A1 and A2 was repeated on the cellar level with a vaulted passage connecting the space under unit A2 with the hypocaust cellar under room A1 (cf. *Fig. 2*). Yet another vaulted passage in the northern wall of the space under room A2 connected it with the yet unexplored cellar under *apodyterium* B (entered last year through furnace O, but left unexplored). A third passage in the southern wall of this space turned out to be an arched exit that had been blocked with clay and earth. Outside it, indeed already outside the bath building, a low irregular wall had been built of stones, forming a kind of rounded bulkhead protecting this entrance (cf. *Fig. 12*). The space itself was of considerable height (all of 3 m) and had a regular brick-laid floor.

The hypocaust cellar under the floor of room A1 (*Fig. 6*) was also furnished with a brick-laid floor, upon which there stood three brick walls, all oriented east-west, supporting the floor of the room above on vaults. The bricks used for the construction of these walls were flat, measuring 23.5 x 19 x 3 cm, laid in alternate header/stretcher bond. Clay was used instead of lime mortar as bonding (similarly in the lateral walls of the cellar) in order to prevent heat-induced cracking – clay when mixed with greasy soot forms an elastic, stretching mass. The center wall (3.80 m long) had a passage through it at about one-third of its length. Fragments of the vaults (assuring proper circulation of warm air throughout the cellar) have survived between the south wall of the

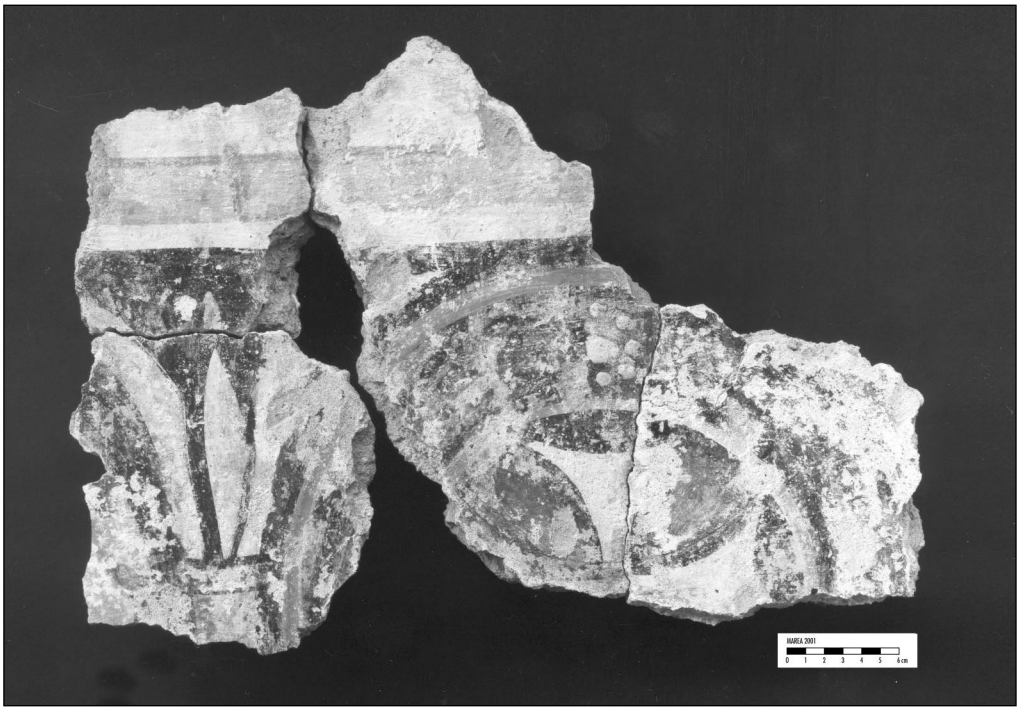

Fig. 5. Fragments of painted mural decoration from chamber A2 (Photo T. Kalarus)

cellar and the southernmost of the hypocaust walls, altogether in five places along this section.

An arched niche, constructed of brick, was revealed in the east wall of the hypocaust cellar, next to pool R. Substantial evidence of burned brick could indicate the presence of chimney flues meant to heat the walls of this pool. Burned brick and ashes – presumed as evidence of a furnace – were revealed by its west wall, close to the passage leading to the space under room A2. Its location is entirely logical in this spot, yet it is also possible that the cellar was heated by the furnace O, uncovered last year, which served to heat the washbasin in the *apodyterium*. On top of this furnace there was ample room for two instead of just one boiler. There were four smoke flues installed here, as well as a channel leading to the hypocaust cellar. In small public bathing establishments, especially in Egypt,[3] systems of this kind were used in conjunction with appropriate installations for water-circulation management.

The south wall of the hypocaust cellar, slightly off-set, was furnished with two

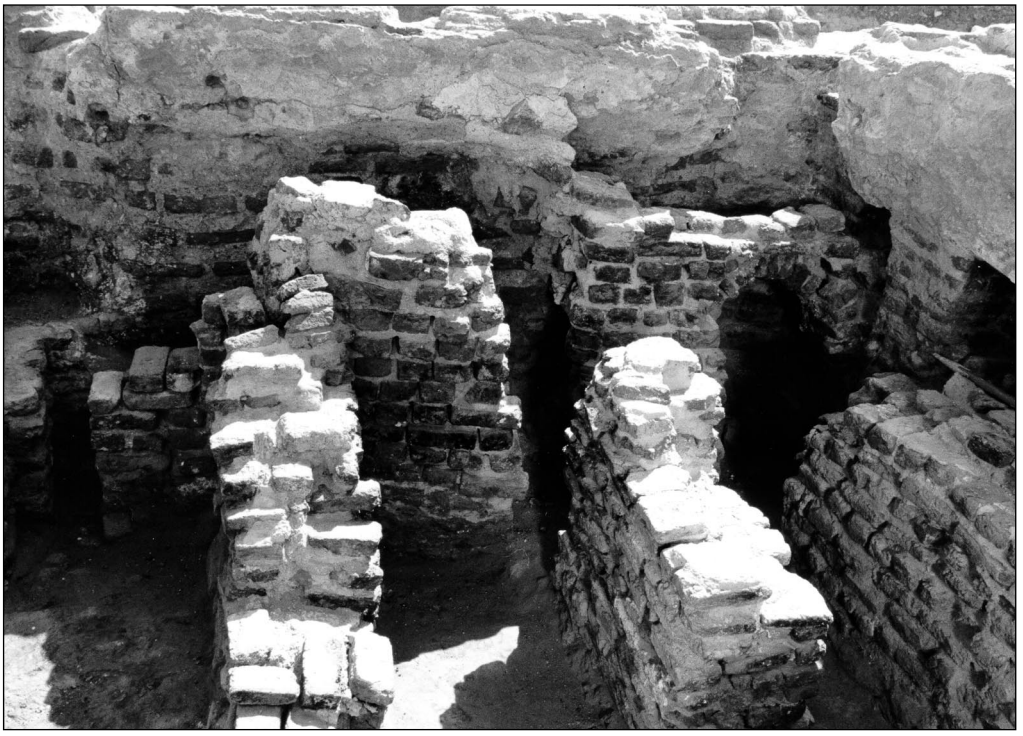

Fig. 6. Hypocaust cellar under room A1, view from the west (Photo T. Kalarus)

3) In Karanis, for example, cf. S. A. El-Nassery, G. Wagner, G. Castel, Un grand bain gréco-romain à Karanis, *BIFAO* 76 (1976), 265-266. Similarly in a villa in Boscoreale in Italy, where one of the furnaces heated the hypocaust cellar and a water boiler, cf. J. Durm, Die Baukunst der Römer (Stuttgart1905), figs. 772, 773.

Fig. 7. Marble column shaft with two rods attached for suspending lamps (Photo T. Kalarus)

small niches (50 x 50 cm; 30 cm deep), which may have been used for placing oil lamps. Similar niches were revealed in the opposite walls of the chamber under room A2.

The debris filling chamber A1 yielded interesting data on the putative roof of the bath and the interior decoration. One example is the shaft of a marble column, 18 cm in diameter, and a Corinthian capital measuring 19 cm across at the base, the two perhaps belonging together. At approximately mid-height, the column shaft had two small bronze rods attached with mortar (*Fig. 7*). The column could not have served any structural purpose, while the soot on the capital, assuming the two pieces were a set, would suggest that lamps may have once been suspended from the rods. A similar but slightly smaller Corinthian capital (16.5 cm in diameter at the base) was discovered in chamber L, and a marble column base (27 cm in bottom diameter) at the bottom of the adjacent pool R; the latter piece resembles the base uncovered last year in chamber A1. All these architectural elements must have belonged to the interior decoration of the bath. Interestingly, the brick debris from east of the entrance to chamber A1 yielded two pieces of brick wall with heart-shaped openings cut through the thickness. These openings had once been paned – indeed, a piece of green glass has survived, plastered to the edge of the aperture (*Fig. 8*; see also p. 70 below). These two surviving fragments must have constituted a structural part – either of the wall or vault – of a passage leading from the *tepidarium* (A2) to chamber A1.

The space under chamber L (3 by 2.36 m) was entered via a narrow passage in the north wall of the hypocaust cellar under chamber A1. Its function remains obscure for now, but it had a brick-laid

floor and yielded evidence of ashes and burned bricks – traces of yet another furnace perhaps – in the northwestern corner.

The rule in installations of this kind was to use water to wash away ashes from the furnaces.[4] Yet in the case of furnace O there is every indication that the ashes were removed from the area of the bath manually. An ash dump appears to have accumulated right outside the south wall of the bath, at the western end, in the immediate vicinity of the exit from the chamber under A2 (50-56 cm below the occupational level of the bath) forming a layer 15 cm thick over an area of at least 2 sq. m. Above the ashes and covering an area of 2.25 s.q. m, there is a structure of stones with no recognizable function, bordered on the north by a stone wall, which is the southern outer wall of the bath.

This outer wall of the bath has been traced only at the western end, where it was constructed of brick. The eastern part suffered much defacement as a result of later rebuilding. Firstly, a stone wall was built at right angles to it, cutting off the ash dump from the passage leading to the furnace. Two other stone walls were executed a meter apart, just east of the cellar exit. Here, in the gap between the

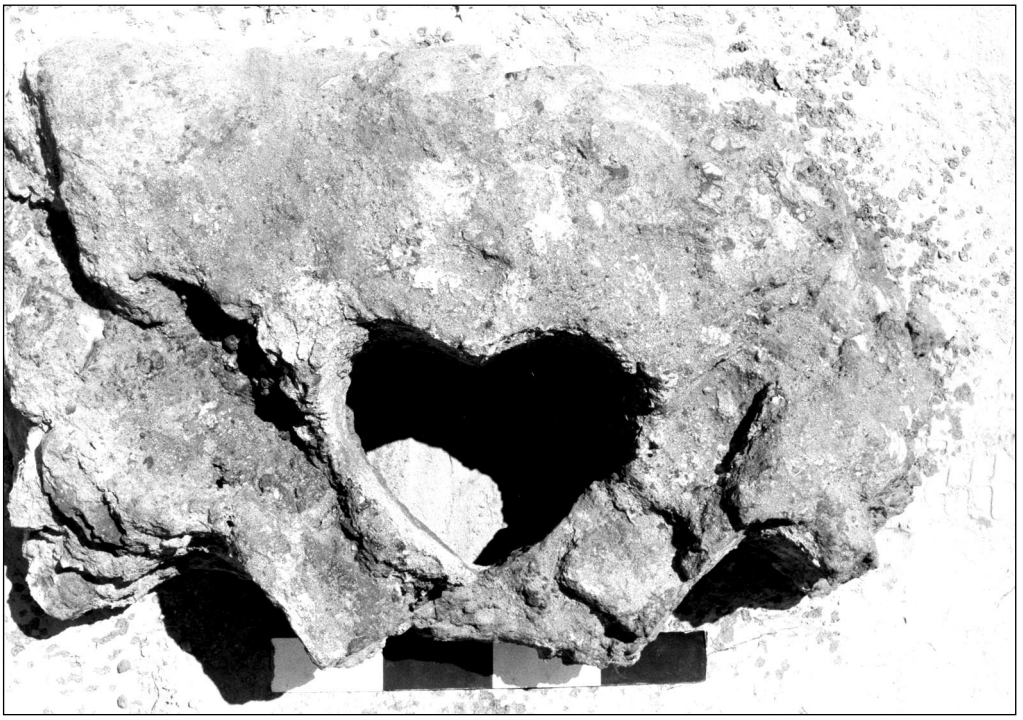

Fig. 8. Wall fragment with paned opening (Photo T. Kalarus)

4) W. Kołątaj, Imperial Bath at Kom el-Dikka, *Alexandrie VI*, Varsovie 1992,150.

walls, the footing of the south wall of the bath was recorded at a depth of 214 cm below the occupational level of the bath. Still further east two pools were uncovered superposed on the structure of this wall. The first of the pools, U, was semicircular in shape (1.27 m deep) and furnished with the mandatory three steps. It was rebuilt at one point, confirming yet again the two-phased building sequence already established elsewhere in the bath. The new pool was smaller, built into the older one, the voids filled in with clay (*Fig. 9*). A smaller pool W, almost square in shape (0.90 by 0.88 m, 1.25 m deep) and also furnished with steps, was found next to it. At the eastern end of the uncovered section of the south wall of the bath a drainpipe of triangular section was found. It had discharged water into a channel (Q4) that runs east-west and was covered with three stone slabs. An extension of the trench in the southeastern corner of the excavated area brought to light, instead of the expected traces of a street above the channel, yet another stone structure with no evident relation to the bath. The channel itself was found to turn at right angles to the north (Q5), joining up with the drain from pool R and continuing eastward (Q6) and then northward (Q7).

Clearing the area behind the wall of pool R brought some interesting finds. In two of the shattered amphorae found lying here there was evidence of white and yellow pigment. Perhaps the materials leftover from the redecoration project had been stored behind this wall. Here, as well

Fig. 9. Pool U in the southern part of the bath, view from the south (Photo T. Kalarus)

as in the entire southern part of the trench, shards of window panes were found in quantity, some of them still embedded in plaster (cf. below, *Figs. 2:8-9*; 3 on pp. 67-68). Some have plaster attached in such a way that they must have been used as wall revetment, imitating the mosaic decoration so common in ancient architecture. Few such finds have been noted in the archaeological record to date[5] and their significance for studies of lighting in public buildings of Late Antiquity cannot be underestimated.

A stone wall joins at right angles the parapet walls of pools R and M. Partly uncovered this year, it presumably belongs to another structure that was adjacent to the bath on the east. North of this wall and east of the bath, a rectangular pool (Y) came to light. Explorations of the setting for the foot of the washbasin (a second *labrum*) discovered last year brought to light two lamps and a Byzantine coin. A square pool (Z), measuring 1.30 m to the side, fills the northeastern corner of the building. Steps line its south side, interrupted approximately in the middle by a passage leading down into a sewage channel (?). Imprints of slabs testify to marble flooring inside the pool.

Twin pools X (1.84 by 1.37 m; 1.17 m deep) and T (1.05 m deep), fitted into the corners of the building at either end of the west wall of the bath, reveal the same design as pool Z. A passage cuts through the steps, leading down into the town sewage system. Three test pits were excavated in line with the presumed channel (Q1) draining the two pools. It turned out to be 0.5 m wide and between 0.70 and 1.30 m high, built of stone blocks and brick-vaulted where other channels branch off (*Fig. 10*). In many places there are thick deposits of boiler scale on the walls. Branches strike off from channel Q1, which is the widest, toward the twin pools with steps, V and S (0.8 by 1.1 m) discovered this year. These two pools, believed to be water storage facilities (?), flanked the entrance to chamber B. A third section reached the threshold in the entrance to the *apodyterium* (B), draining rainwater perhaps. Clearing the cellar below this chamber in the coming season should provide more

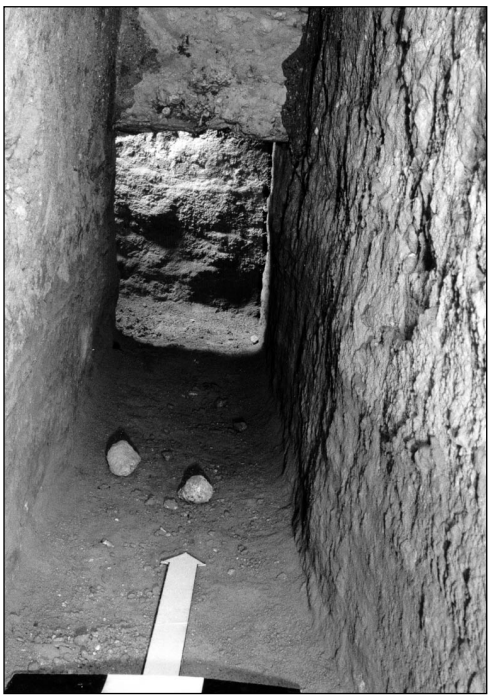

Fig. 10. Channel Q1, view from the south (Photo T. Kalarus)

5) Similar finds of glass from Jerash and Jerusalem have been dated to the 4th-5th century. cf. C. H. Kraeling, Gerasa: the city of the Decapolis (New Haven 1938), 546, pl. XXXVb; D. B. Harden, "Roman windowpanes from Jerash and later parallels", *Iraq* 6 (1939), 81; A. Engle, Light, Lamps and Windows in Antiquity, in: *Readings in Glass History 20* (Jerusalem 1987), 79-94. For a detailed description of these finds, see the contribution by R. Kucharczyk in this volume.

information about the course of this channel. Another channel (Q2) runs westward for about 5 m and then turns off northward (Q3).

The fill accumulated at the northern end of channel Q1 yielded 20 oil lamps (a few from the same mould!) and another 15 came from the area around the northern end of Q3. These are highly typical Byzantine lamps with rays or relief circles, or grapevine clusters on the shoulders, dated principally to the years AD 550-650 (*Fig. 11*).[6)]

The northern outer wall of the bath, constructed of bricks reinforced with stone blocks, was also traced this year. It has turned out to be a continuous wall, running beyond the structure of the bath both to the east and to the west. On the northern side, it is joined at right angles by four stone walls, which divide the space there into four units, possibly shops adjoining the bath. In the biggest of these units, B1, a clay pipe was found, presumably once used for draining wastewater into a sewage channel, which remains to be discovered. In the southeastern corner a shelf made of stones was revealed and above it a small semicircular niche (0.5 m wide, 0.6 m high, 0.4 m deep). A drain (Q8) runs below the units (C1, D1 and E1), cut off on the west by one of the perpendicular walls; it collected wastewater from pools D, E and F, drained through small narrow channels.

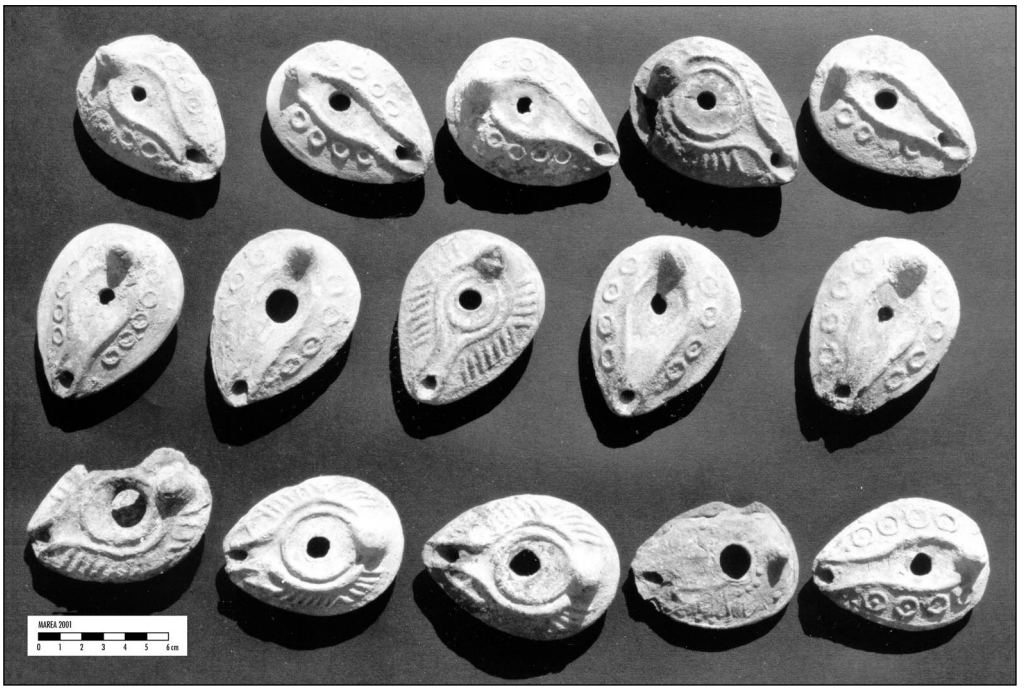

Fig. 11. Oil lamps found inside channel Q1 (Photo T. Kalarus)

6) D. M. Bailey, Catalogue of the Lamps in the British Museum. III. Roman Provincial Lamps (London 1988), 269, Q 2228, pl. 53, 144, fig. 141; 274, Q 2266, pl. 55.

These conduits yielded a variety of women's accessories, presumably lost during bathing: a bone hairpin, 37 glass beads of various colors and sizes, one amethyst bead and a small cross of bronze. The section of the drain running under the floor of chamber D1 was covered with stone slabs. The floor itself was observed only in the north balk. Remains of a small stone structure, superposed in part on the channel, were discovered in the southeastern end of E1. Its function will become apparent once the collapsed stones have been removed from the eastern part of the chamber.

The most noteworthy find from the northern extension of the trench is an ostracon with the inscription written in Greek: Πετρος κυρι(ος) (*Petros kyrios*), found in chamber E1 (*Fig. 12*); it should probably be referred to the last phase in the operation of the bath, that is, the mid-7th century.[7] A total of 50 bronze coins, mostly heavily corroded, were recovered from the fill of the pool discharge conduits. Those that could be read (before cleaning by a conservator) are attributable to the 7th-century Byzantine emperors, from Heraclius II to Justinian II.

Two layers of stone blocks piled in chamber C were also removed this year. An Arab post-reform coin found underneath confirms conclusively the attribution of these stones to the second phase in the existence of the bath, perhaps even after it

Fig. 12. Ostracon with Greek inscription (Photo T. Kalarus)

7) As indicated by the graphy of the letter Π, considered as characteristic of the period after AD 650. Dr. Tomasz Derda (Warsaw University) has kindly read and interpreted the text on the ostracon.

had gone out of use. Charred soil and burned bricks in the northwestern corner and on either side of the passage leading to chamber F, which was heated from the hypocaust cellar, are a remnant of the *tubulatio* system.

Current studies have confirmed beyond all doubt that there were two stages in the operation of the bath. The pottery, which is as yet the best dating indicator,[8] as well as lamps and coins, suggest that the building was constructed in the 6th-7th century and was rebuilt substantially in the Early Islamic period, that is, in the late 7th-8th century. As no glazed Islamic wares are in evidence, it would suggest that the establishment was abandoned by the early 8th century.

PRESERVATION WORKS

In the course of this year's work it became obvious that parts of the ancient building would need to be protected professionally. Wooden supports have been introduced wherever surviving vaults threatened to collapse: in the entrance from outside to the space under chamber A2 (*Fig. 13*), as well as in the entrances to the cellars under chambers B and A1 (cf. *Fig. 2*); finally, also under the extant section of floor uncovered in the northern end of the hypocaust cellar under A1.

CONCLUSIONS

The site recording project this year covered the four huge stone-built jetties on the lake.[9]

The size of the jetties, as well as of other architectural complexes recorded on the site, testify to the town's importance as a port in Antiquity. It could not have been merely a stopover for pilgrims headed to Abu Mina.[10] As one of Alexandria's more important regional satellite centers and furnished with a basilican church of hardly inconsequential size, Marea must have been a regular city with a settled population.[11]

8) For a detailed discussion of this season's pottery finds from Marea, see contribution by G. Majcherek in this volume.

9) The jetties and harbor are being studied by the Hellenic-Egyptian Mission for Marea Port Installations headed by Nikos Lianos (Hellenic Society for the Study and Preservation of Marine Cultural Heritage; Department of Architecture of Demokritos University of Thrace; and Department of Underwater Archaeology of the Supreme Council of Antiquities of Egypt).

10) For a discussion of the name of the town (Philoxenite or Marea) and its nature, see M. Rodziewicz, "Alexandria and District of Mareotis", in: *Graeco-Arabica* 2, 199-216; also Szymańska, Babraj, *PAM* XII, op. cit., 37, note 4; K. Babraj, H. Szymańska, "Marea am Maryut-See. Die erste Grabungssaison im Herbst 2000", *Kemet* 10/3 (2001), 68-69.

11) R. Alston, The City in Roman and Byzantine Egypt (London and New York 2002), 317, 337-338. The author agreed with Marea's importance as a large town. He repeats after F. El-Faharani ("Recent excavations at Marea in Egypt", in: Das römisch-byzantinische Ägypten. Akten des internationalen Symposions 26-30. September 1978 in Trier, *Aegyptiaca Treverensia* 2 (1983), 175-186) the unfortunate interpretation of a bath complex as a basilica. Meanwhile, the ruins of the church are situated on a promontory situated further east on Lake Mareotis.

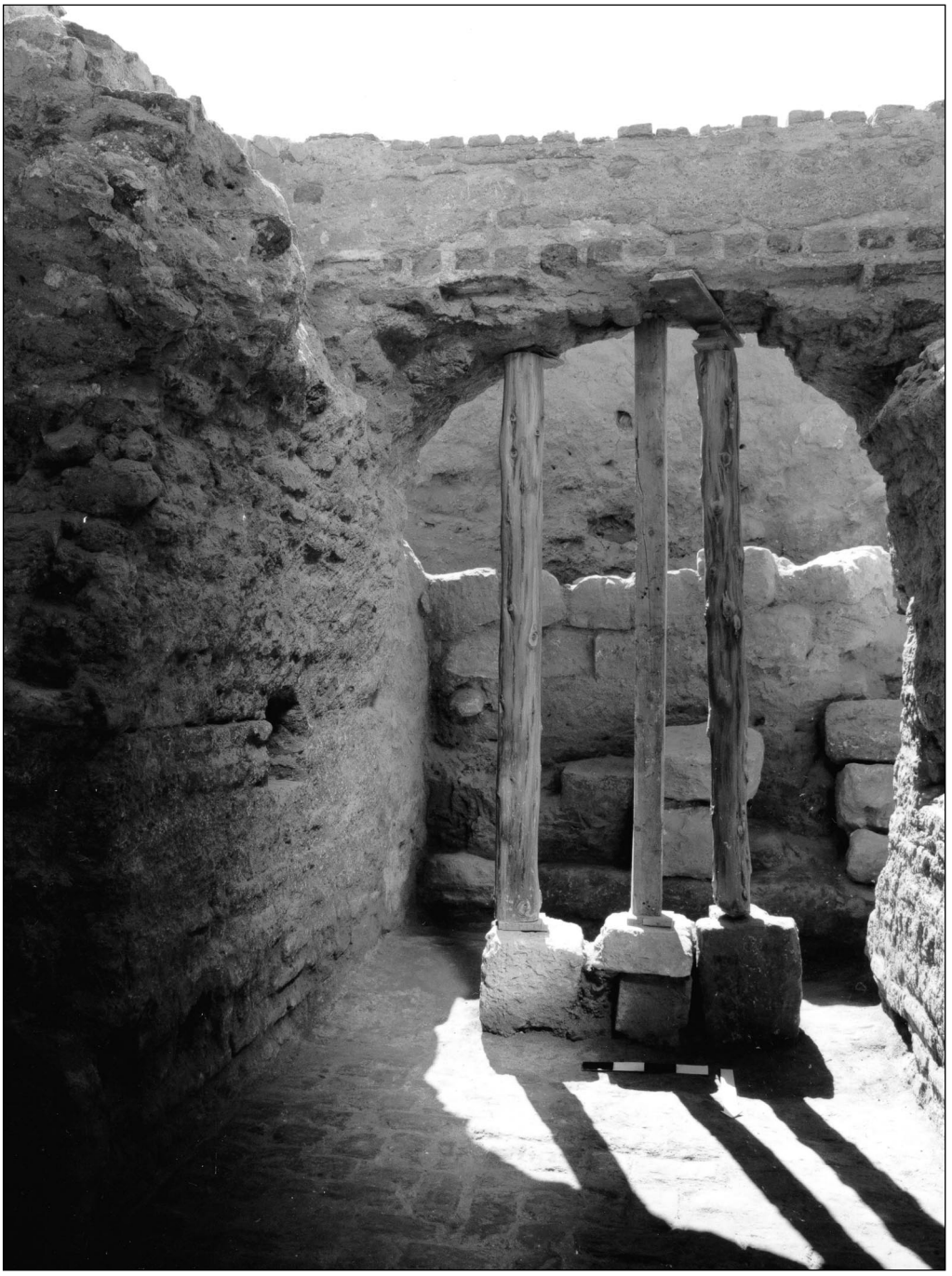

Fig. 13. Wooden support under vault of the entrance into the space under chamber A2, view from the north (Photo T. Kalarus)