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Marina El-Alamein: Conservation Work in 2004

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MARINA EL-ALAMEIN

CONSERVATION WORK IN 2004

Stanisław Medeksza et al.

A Polish-Egyptian Restoration Mission from the Polish Center of Archaeology of Warsaw University completed its tenth season of field conservation at the Early Roman town of Marina el-Alamein, working in April and May 2004.¹ Financial limitations on the Egyptian side necessitated the program to be reduced to a minimum. Reconstruction activities with few workers and using building materials leftover from the previous season did not actually start until April 14.

The work program in 2004 covered houses H10"E" and H19, H19a in the southern part of the town, H1 and H21c in the northern part, and tomb complexes T1GH, T1K, T12 located in the southwestern part of the necropolis (see previous report in PAM XV (2004), Fig. 1 for a plan of the site).

1 The team included Prof. Dr. Stanisław Medeksza, director; Dr. Rafał Czerner, Ms Małgorzata Krawczyk, architects; Mr. Wiesław Grzegorek, architect and civil engineer; Mrs. Irma Fuks-Rembisz and Mr. Piotr Zambrzycki, stone conservators; Ms Grażyna Bąkowska, Mrs. Renata Kucharczyk, archaeologists; Ms Małgorzata Mrozek, geologist. Dr. Grzegorz Majcherek, ceramologist, joined the team momentarily. Representing the Egyptian side was the Director of the site of Marina el-Alamein, Mr. Mahmud Yasin, assisted by SCA Inspector, Mr. Ihab Ghazi, to whom we address words of acknowledgment for their help in the course of the season.

The Mission is indebted, as always, to the Supreme Council of Antiquities and to the Secretary General Dr. Zahi Hawass. AKME Zdzisław Wiśniewski has kept faith with our work, assisting the mission with essential additional funding. Mrs. Iwona Zych kindly edited the published version of this report.

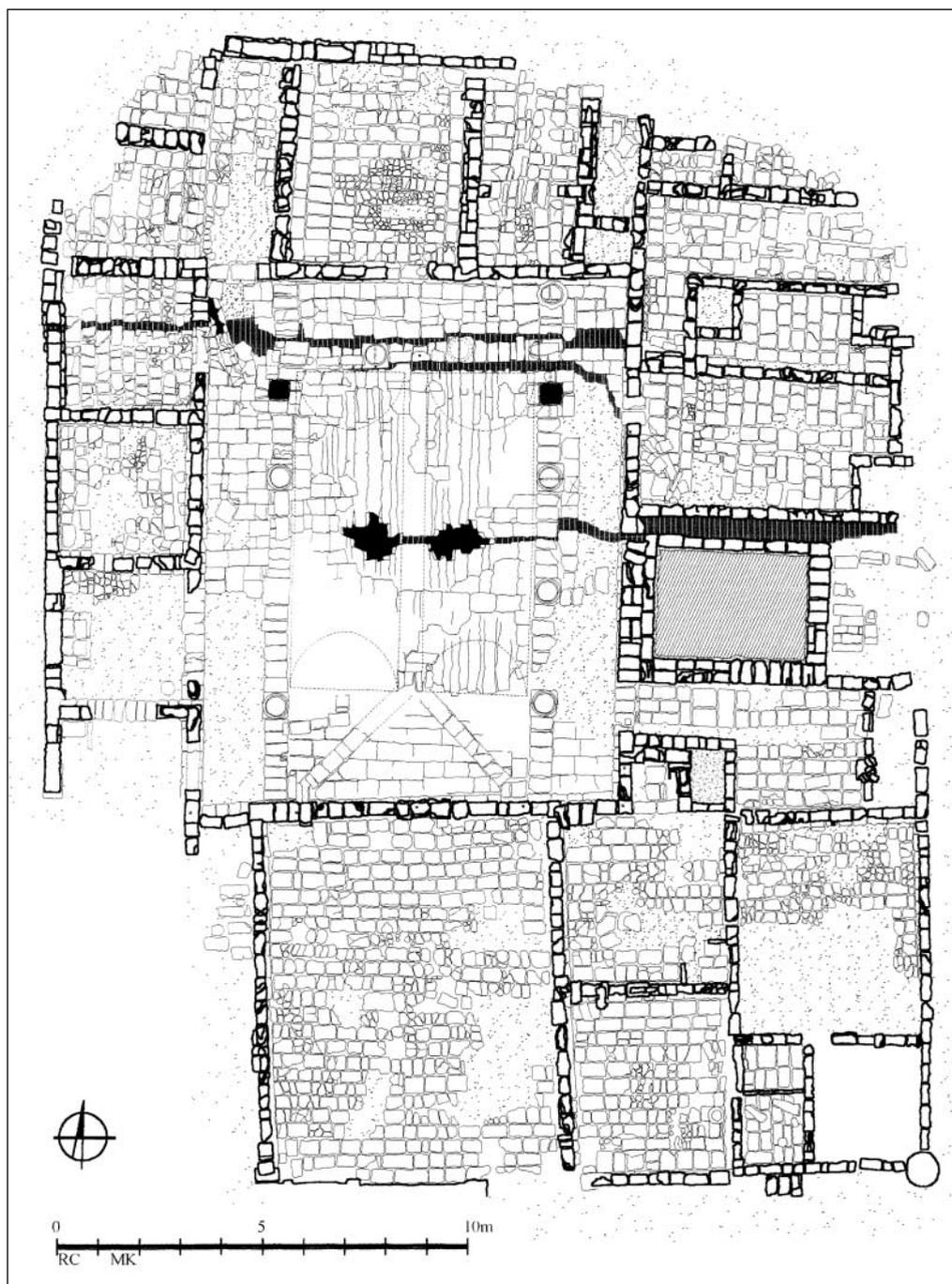


Fig. 1. Inventory plan of House H1, following clearing work in 2004
(Drawing R. Czerner, M. Krawczyk)

BUILDING WORK, CONSERVATION AND RECONSTRUCTION

Work began with routine clearing and maintenance assessment of previously conserved structures.² Concurrently, an architectural inventory was taken and the documentation of House H1 completed [Fig. 1], revising earlier plans and descriptions, which had not had the benefit of a thorough clearing of the structure during the original rescue excavations by inspectors from the Egyptian Antiquities Organization in 1986-1987.

In the area of House H10"E" [Fig. 2], where work has been ongoing since 1998, especially with regard to reconstructing the street arrangement in an effort to enhance the display potential of the houses in this district, walls were built up to an average height of 1.20 m. Architectural phasing was emphasized by varying the height of walls, pointing work and finishing touches on the bondwork in the central part of the house, in rooms 5, 6, 15, 17 and 17a. Building-conservation work was completed on the eastern outer wall separating rooms 15, 17 and 17a from the eastern N-S street.

Continued clearing work conducted under archaeological supervision in House H19 made it evident that all rooms numbered from 11 up were part of the next house in this insula [cf. Fig. 2], which was bounded on the north by a 2.00 m wide alley similar to the one on the south. Room 22, and parts of 23 and 24, as well as 25 were now investigated. It appears that rooms 21, 22 and 25 were added to the western wall of room 20, while 24 was added to 22, corrupting in many places the

original street grid. Preservation work on surviving walls was completed, replacing the clay mortar in the broken-stone bondwork with lime mortar in the accepted proportions (6:3:1) of sand, slaked lime and white Portland cement. Walls were built up to an average of 1.20-1.40 m (in rooms 20, 21 and 22, and the eastern wall of 23). Well-fitted stone chips in a lime-cement mortar forming a protective cap on the top of surviving walls will eliminate the danger of the clay being washed out by corrosive rains.

Last year, the parapet of the commemorative monument connected with an inscription dedicated to Commodus, occupying the two square "cubicles" (2a and 2b, 4.40 x 2.00 m) in House 21c was reconstructed.³ Work continued this season on a partial reconstruction of this monument. Three of four columns which had once formed a portico together with the engaged pillars in the back wall were re-erected on the podium. The arrangement of the portico was reconstructed on the grounds of an analysis of preserved architectural elements and comparative studies [Fig. 3].

Each column had originally consisted of four drums, each 0.53 m high and from 0.31 to 0.29 m in diameter. One drum with painted plaster featuring a floral design was preserved in 2001-2002 (for future museum display).⁴ Four other drums have been preserved, plus a base 0.28 m high and one capital, also 0.28 m high. These elements were reinforced and

2 For previous work, see annual reports in *Polish Archaeology in the Mediterranean*, starting with vol. 7, where issues connected with the deleterious site conditions and questions of conservation methodology, as well as applied procedures have been discussed repeatedly.

3 Cf. Fig. 3 in *PAM XV, Reports 2003* (2004), 95.

4 Cf. *PAM XIII, Reports 2001* (2002), 1000 and Fig. 14.

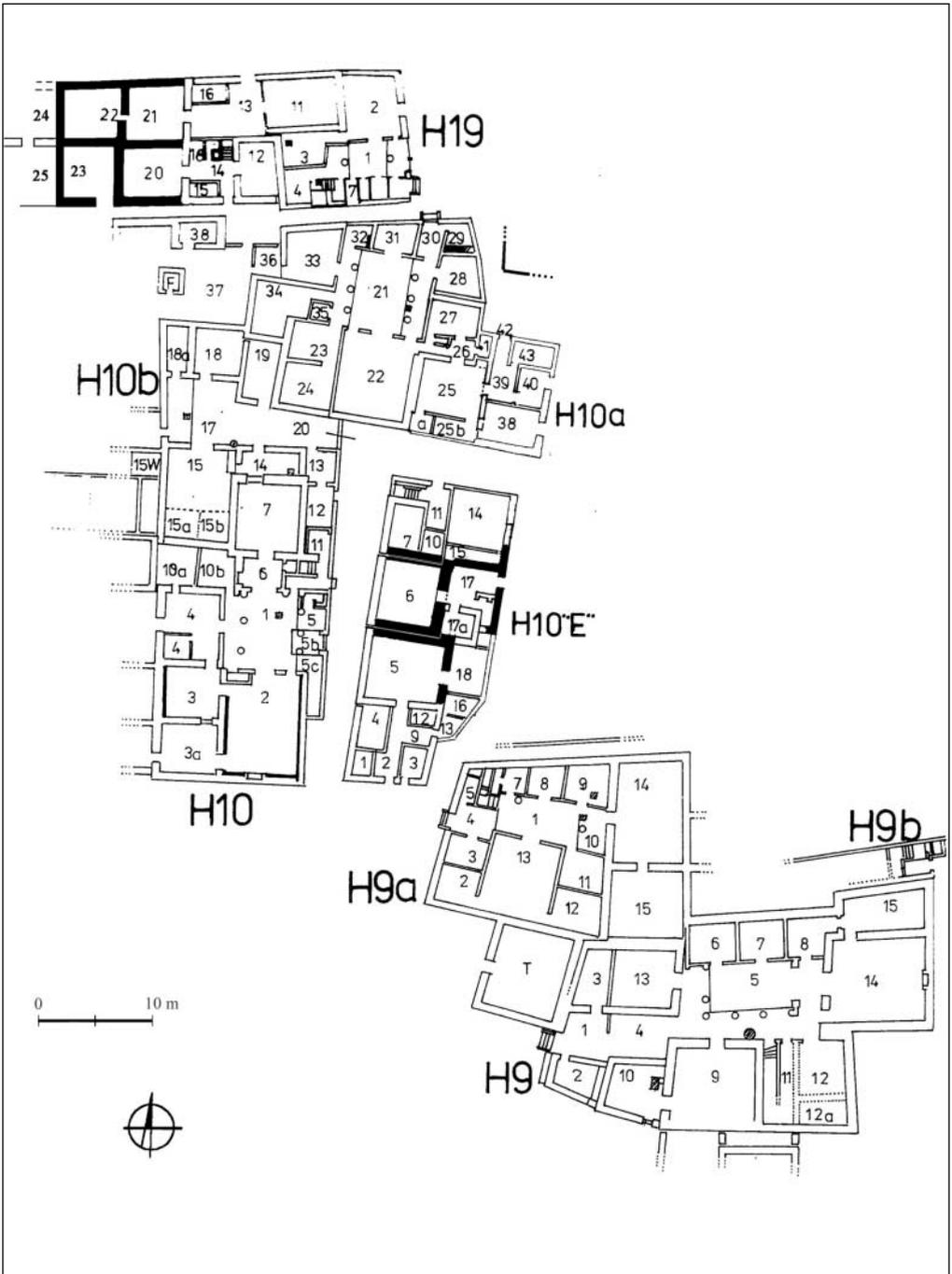


Fig. 2. Plan of complex of houses in the southern part of the ancient town
(Drawing S. Medeksza)

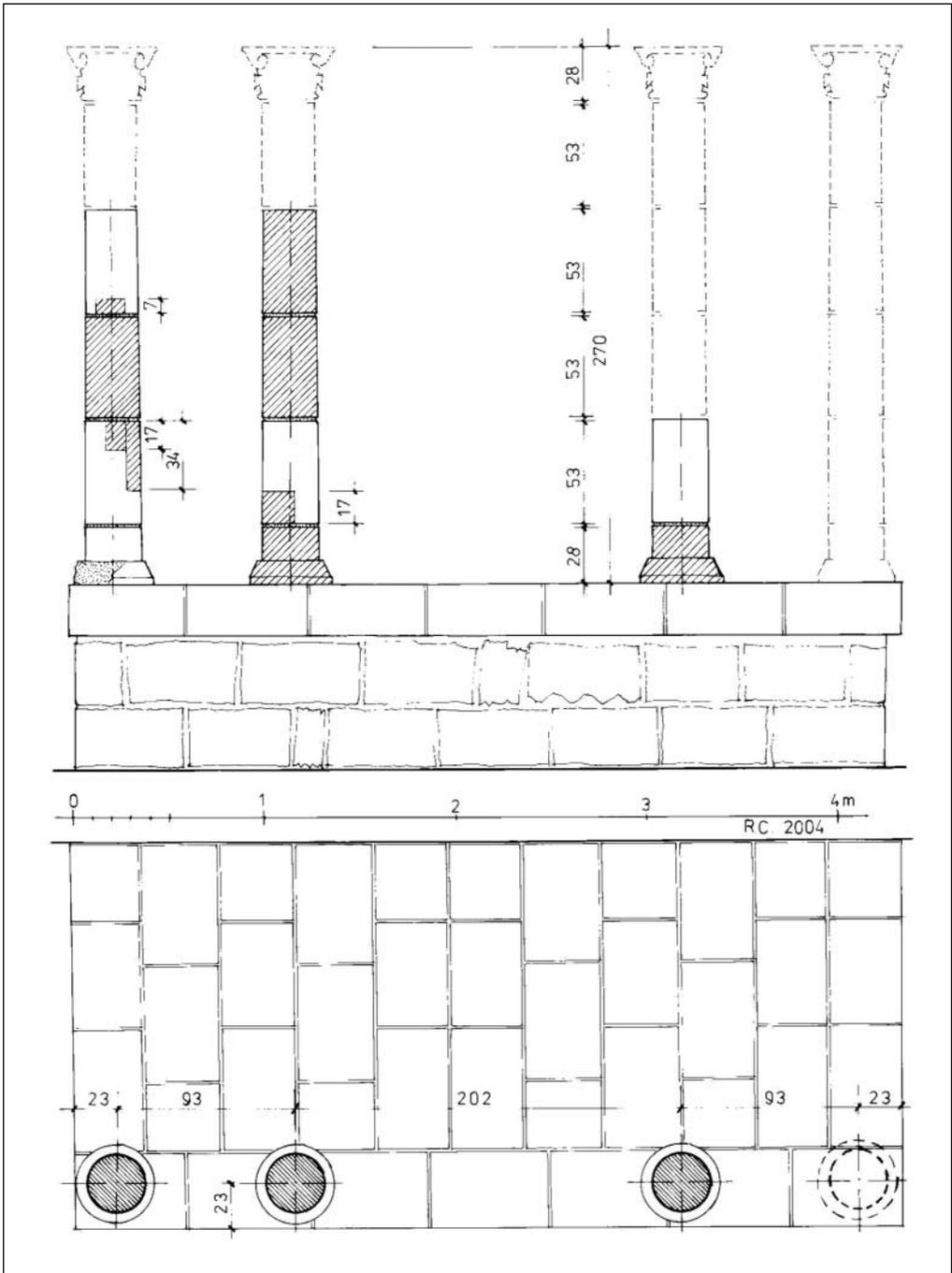


Fig. 3. Drawing reconstruction of the commemorative monument in House 21c
(Drawing R. Czerner)

the losses filled in with limestone of parameters like the original.⁵ Four new drums and two new bases were made for the purposes of anastylosis, which should be completed in the coming season, using elements prepared this year.

ANASTYLOSIS OF TOMB T1K

The anastylosis of the pillar structure of Tomb T1K was completed largely in the past season. (The tomb had been excavated in 1994,⁶ and it was then that the inventory drawings were prepared and a drawing reconstruction of the superstructure proposed).⁷ This year an architrave was introduced crowning the cornice, two receding courses of blocks and the base of a small pillar topping the structure [Fig. 4].⁸ Most of the elements were original and were found toppled around the tomb. Only two of four architrave blocks and the blocks of the second course above the cornice had survived. The rest have now been reconstructed in new limestone. The corner fragment of one of the four blocks forming the full circumference of the cornice was broken off and lost. There were other losses as well, requiring full workshop conservation⁹ that included desalination. Epoxy resin (KEMAPOXY 150 by C.M.B., produced in Egypt) was used to fasten the corner piece made in new limestone, reinforced with two stainless steel rods. Larger losses were filled

in with new limestone, smaller ones with mineral putty (binder-to-filler ratio 1:3). The binder was a mixture of slaked lime with white Portland cement (1:1), the filler crushed lime. A small amount of 5% solution of acryl resin (PRIMAL AC 33) was added to the mortar.

Specialist conservation work on this tomb superstructure covered also a structural reinforcement of the carved elements of the tympanum above the small niche holding a sculptured stela in the middle of the east side. A silicon stone strengthener (OH by Remmers) was used for the purpose.

The anastylosis of all the elements was carried out using traditional methods with mortar in accepted proportions of sand, slaked lime and white Portland cement (6:3:1). The bigger losses were filled in with putty and a finishing chromatic unification was carried out using mineral pigments.

HYPOGEUM T1GH

Following upon previous conservation work in this hypogeum,¹⁰ which included the restoration of dromos H and the decorated casing of the light shaft of the hypogeum in 2002-2003 [Fig. 5], the mission now proceeded with a partial reconstruction of the entrance kiosk to dromos G [Fig. 6].¹¹ Since it seems likely that the kiosk was destroyed already when the neighboring pillar tomb T1D was con-

5 Piotr Zambrzycki was responsible for the conservation work.

6 Cf W.A. Daszewski, *PAM VI, Reports 1994* (1995), 31 and Figs. 2,3.

7 See Fig. 5 in previous report, *PAM XV*, op. cit., 97.

8 Anastylosis by Rafał Czerner and Wiesław Grzegorek.

9 Specialist conservation work by Irma Fuks-Rembisz and Piotr Zambrzycki, who have also contributed their remarks to this report.

10 Undertaken first in 1993 by an Egyptian-Polish team headed by Jarosław Dobrowolski, cf. *PAM V, Reports 1993* (1994), 37-38. Dromos G was protected then and the natural stone ceilings in the hypogeum were supported on artificial pillars. In 1998, our mission began work on the destroyed entrance kiosk, recomposing and fixing the lintel of the main entrance with cornice and dentils.

11 Reconstruction by Rafał Czerner and Wiesław Grzegorek. See also W.A. Daszewski, "A la recherche d'une Égypte peu connue: Travaux sur la côte nord-ouest à Marina el-Alamein", *CRAI* 1993, 409, Fig. 5.

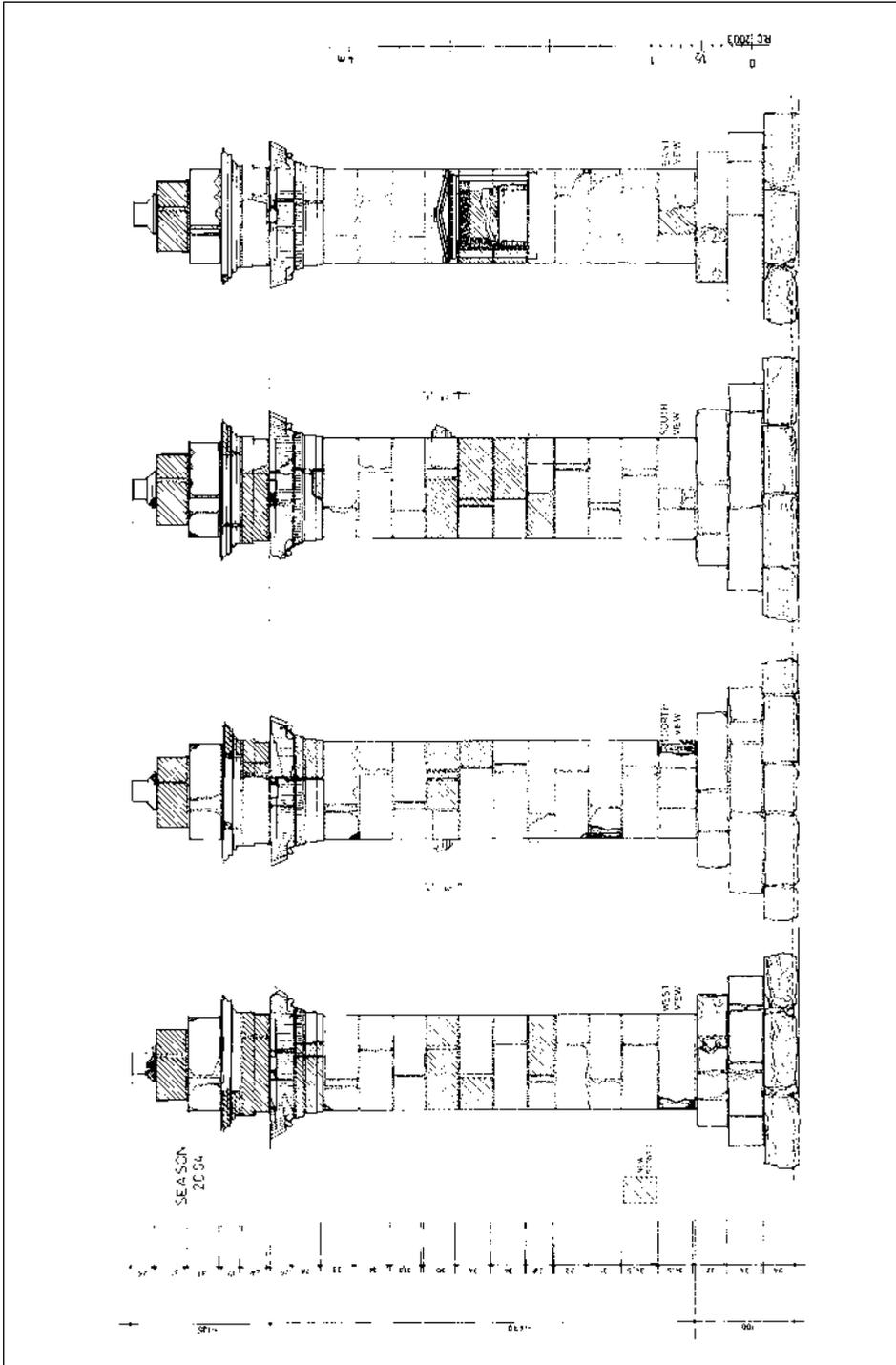


Fig. 4. Analysis of the pillar structure of Tomb T1K
(Drawing R. Czerner, based partly on earlier documentation by J. Dobrowolski)

structed (its lower walls stand on the lower parts of the western wall of the kiosk), the reconstruction on this side was not carried out. Only parts of the eastern and northern (front) walls were restored, including the entrance with the original cornice (preserved in 1998).

In earlier seasons, the underground structure of the dromos (G) with its virtually complete vaulting had been consolidated. All the foundation walls were in place, rising 0.24 m above ground level, but built up with five courses of stone blocks to a height of c. 1.50 m. The foundation courses preserved incised lines tracing the plan of the kiosk; also, two blocks of the first course of the walls in the southeastern and northwestern corners had been preserved, including carved bases and lower parts of small pilasters. The two blocks were 0.33 m high, equal to the upper foundation course and of the same width: 0.40 m in the eastern wall and 0.52 m in the northern one. These dimensions were adopted for all the new blocks used in the reconstruction of the walls and jambs.

The eastern wall was largely built up of original limestone blocks recovered from the fill, while the northern one with the northeastern pilaster, entrance jambs and doorframe were made of new blocks, following the evidence of traced lines on the foundation course. The height of the doorway was reconstructed as three times the width, a common design evidenced in contemporaneous structures discovered in the area. It corresponds to five courses of wall blocks, each measuring 0.33 m in height. The original cornice was placed above the successive, sixth layer containing the lintel. Its presentation at the proper height is didactic. The front wall west of the doorway was given a jagged form to suggest its collapse and to remind of the partial destruction of the kiosk when neighboring

tomb T1D was built. Elements of the kiosk were mounted using traditional methods with mortar following accepted proportions (sand to slaked lime to white Portland cement 6:3:1). The new elements were unified chromatically with the original stones using mineral pigments.

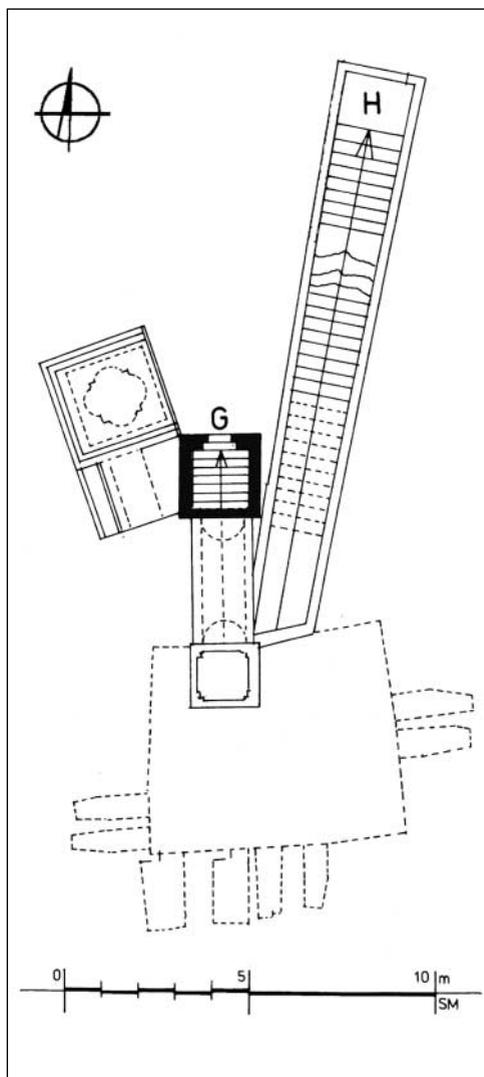


Fig. 5. Plan of hypogeum T1GH and neighboring pillar tomb T1D (Drawing S. Medeksza)

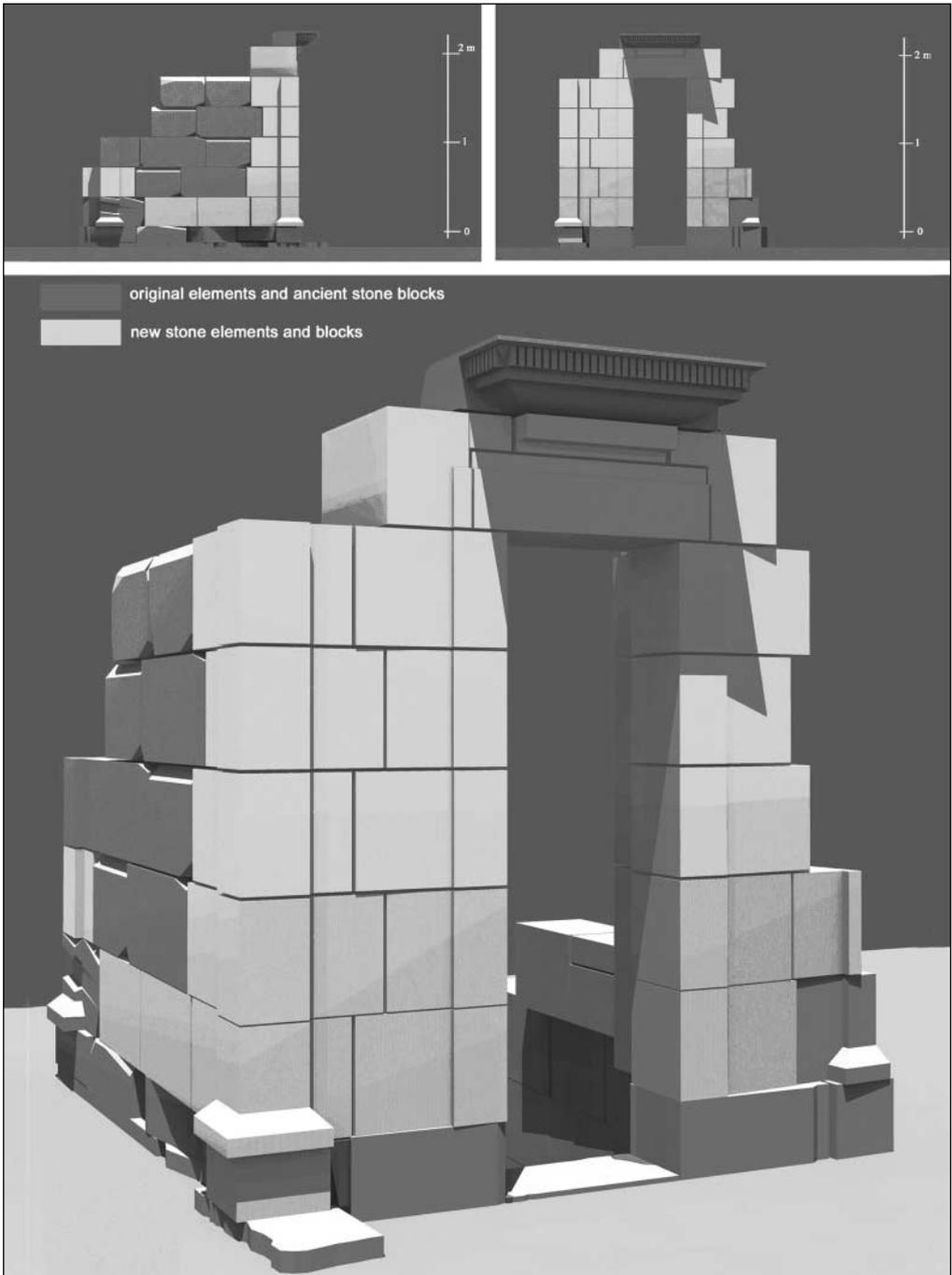


Fig. 6. Reconstruction of the kiosk of Tomb T1GH
(Drawing R. Czerner)

In 2004, Tomb T12, excavated back in 1994-1995 by the Polish Archaeological Mission directed by W. A. Daszewski,¹² was cleared again, uncovering the lower part together with the foundations. This

season pointing of the limestone blocks in the pedestal part of the pillar tomb (four upper courses of blocks) was completed. A lime-cement mortar (using class 35 Portland cement) was used for the purpose.

ARCHAEOLOGICAL CONTROL¹³

All archaeological investigations were strictly coordinated with the conservation program for particular architectural structures.

In continuation of previous explorations in House H19, rooms 22, 23, 24, 25 were cleared to give access to the walls for preservation. Room 22 (4.85 by 4.25 m) was found to have another doorway (0.80 m wide, reconstructed height over 2.00 m) in the north wall, the jambs preserved in place and evidently belonging to an earlier phase in the existence of the house. The underlying deposit consisted of sand with large quantities of pottery. In the western wall, a niche was discovered with two big stones

(0.40 x 0.38 m) forming a gable roof over it (height of niche 0.80 m, width 0.63 m, depth 0.42 m). The fill yielded potsherds, a few bronze coins and a ring, bronze and iron nails, an ostrakon, fragments of oil lamps, glass, fragments of terracotta figurines [*Fig. 7*], cosmetic spatulae and pins of bone, two of the pins with a hand decorating the top and a snake-bracelet wound around the shaft at the base of the ornament [*Fig. 8*],¹⁴ and large quantities of animal bones.

An interesting find of four clay jars, three virtually intact [*Fig. 9*], was made in a small compartment (25a), measuring 1.18 x 0.78m, in House H1.

GEOLOGICAL RESEARCH

Geological investigations carried out during the season at Marina el Alamein¹⁵ concentrated on stone building materials used on the site. The prevailing stone was an oolitic limestone, white as a rule and weathering to beige. In petrographic terms, it is a grainstone with loose grain structure, consisting mainly of ooids filled with sparite (oomicrosparite). This Quaternary limestone comes to the surface along the

African Mediterranean coast from Abu Qir to Salum. It was used for walls and floors, as well as for architectural decoration.

Ten varieties of marble have been identified provisionally based on macroscopic observation:

- 1) red, fine- and medium-blasted, with calcite veins 1.5 mm wide;
- 2) breccia, dark gray calcite clasts, medium-blasted, surrounded by cherry red fine-

12 Cf. Daszewski, *PAM VI*, op. cit., 31-32; *PAM VII, Reports 1995* (1996), 40, Fig. 5.

13 Grażyna Bąkowska supervised the clearing and contributed to this part of the report.

14 The hand may have held a pearl or an apple, cf. M. Guisan, "Bijoux romains d'Avenches", in: *Bulletin de l'Association Pro Aventico* 23 (1975), 35, Pl. 15, nos. 4,5. For pins ending in hands, cf. Germanen, Hunnen und Awaren, *Schätze der Völkerwanderungszeit*, W. Menghin (Nuremberg 1987), 344, no. 34, Pl. 49, and V. Sarianidi, *Die Kunst des Alten Afghanistan* (Leipzig 1986), 178.

15 The following remarks were contributed by Małgorzata Mrozek.



Fig. 7. *Terracotta camel's head*
(Photo W. Grzegorek)



Fig. 8. *Bone pins and spatulae*
(Photo W. Grzegorek)



Fig. 9. *Jars from House H1*
(Photo W. Grzegorek)

- blasted veins, the whole sectioned by straight veins of white calcite up to 5 cm long and up to 3 mm wide;
- 3) spotted, medium- and coarse-blasted, white or cream, with gray or black veins of various shape;
 - 4) veined, coarse-blasted, white or cream, with dark gray oriented veins featuring either crisp or blurred outlines;
 - 5) dotted, medium or coarse-blasted, elongated pale clasts, 0.5-5 cm big, with oriented texture in a dark gray or black stone background;
 - 6) dark gray, fine- or medium-blasted, with occasional light calcite veins;
 - 7) banded, medium-blasted, with evident thicker lighter bands and thinner darker ones, disrupted by faults running obliquely to the layering;
 - 8) gray, fine- or coarse-blasted, the variegated structure reflected also in the coloring;
 - 9) light cream with dark bands, coarse-blasted, bands 1.5 cm, slightly blurred at the edges;

10) gray, coarse-blasted, revealing a wavy texture in the break.

All the varieties of marble are represented in the assemblage of revetment slabs. The surfaces range from uneven and coarse to full polish. The slabs are from 0.8 to 4.8 cm thick, the most common thickness being 1.5-1.8 cm. Since some revetment slabs constituted edge pieces, the following edge finishings were distinguished: plain rounded, cut back at an angle and jagged. Marble columns and bases were also in evidence, now scattered in the post-construction dumps.

Other stone material from the site included: petrified wood c. 10 cm long on average; pebbles representing different kinds of stone, like cream pelite limestone, pink limestone, granite, basalt and pumice; medium-grained sandstone of dark yellow color, presumably a whetstone; block of tonalite, measuring 40x30x20 cm, medium-clastic with chaotic texture.

SUMMARY

Once again the absolute necessity of combining discovery with immediate conservation has been emphasized. The technical condition of newly excavated architecture is satisfactory on the whole, but deteriorates rapidly, often after just one year out in the open. This is particularly disastrous to any vestiges of painted plaster and stone elements of architectural decoration. Lacking proper storage facilities for carved stone decoration, the mission is obliged to preserve in the field. Needless to say, archaeological control is essential in order not to obliterate original contexts where still existing.

Restoration and reconstruction methods have been an issue in the course of the past season. The restoration of preserved fragments of architecture does not admit the replacing of old building material with new one. Reconstruction on the other hand should in principle use modern materials and technologies. Furthermore, all modern conservation should be clearly identifiable, either by varied jointing, color or building material, and imitation should be avoided as it distorts the picture, making it impossible to discern the ancient original from modern addition.