

MARINA EL-ALAMEIN

CONSERVATION WORK, 2001

Stanisław Medeksza

The Polish-Egyptian Preservation Mission working at Marina el-Alamein continued its program of restoration focused on two complexes of private residences in the ancient town (Fig. 1). In the area of buildings H 9-H 9a and H 10-H 10a-H 10b, where preservation has been concluded, it was decided now to include houses H 19 and H 10"E", both situated on the fringes of the area. Activities in the other complex, H 21c, are now in full progress. More work was done on the aboveground mausoleum of Tomb 6 located in the necropolis southwest of the town, again in view of future display.

The mission lasted from March 25 to May 30, 2001.¹⁾

1) The mission directed by Prof. Dr. Stanisław Medeksza comprised: Dr. Rafał Czerner, architect; Mr. Wiesław Grzegorek, architect and constructor; Dr. Andrzej B. Biernacki and Ms Monika Nowak, archaeologists; Mr. Eryk Bunsch, stone restorer; Ms Małgorzata Ujma; wall painting restorer; Prof. Dr. Janusz Skoczylas, geologist; and Mr. Maciej Wasielek, draftsman. The Egyptian side was represented by Marina Site Director, Mr. Abdel Latif el-Wakil, to whom we are deeply indebted for his day-to-day assistance and friendly efficiency season after season.

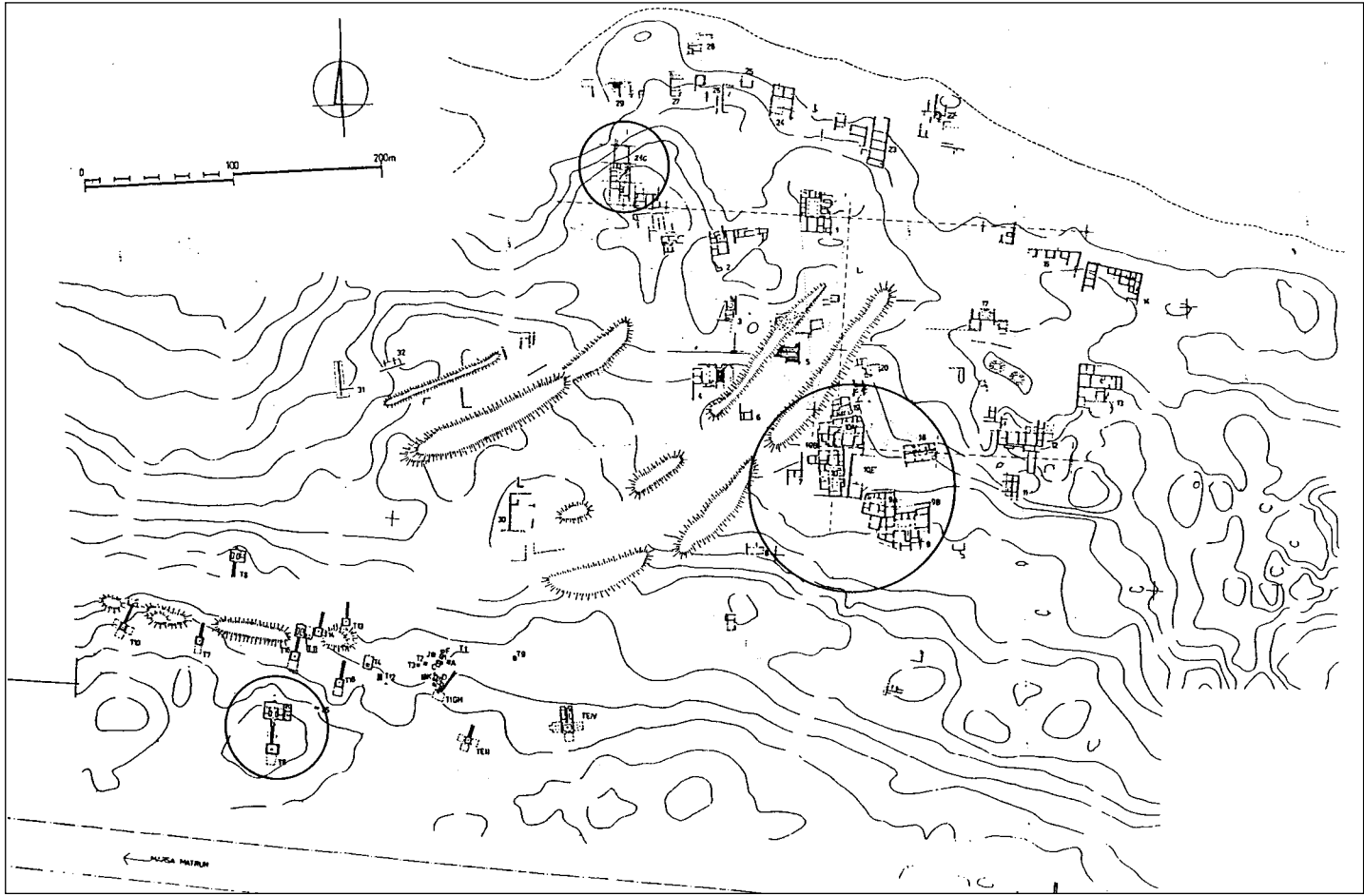


Fig. 1. Plan of the ancient town and cemeteries showing the location of areas under restoration in 2001 (After Polish Archaeological Mission: K. Kamiński, A. & J. Dobrowolski, T. Kaczor)

CONSERVATION WORK

Following various preparatory activities ranging from a routine inspection of the condition of areas where preservation has been concluded through clearing of excavated soil leftover from previous excavations by the Egyptian Antiquities authorities (the dumps occasionally rising to 1.50 m and more above the ruins)²⁾ and archaeological investigations of undisturbed layers in areas programmed for conservation, the team of restorers and architects carried out the following program:

- Corrections, additions and removing damage caused by vandals in buildings where the preservation and restoration program has already been completed (houses H 9 and H 9a in particular);
- Current architectural studies preparatory to conservation work (houses H 19 and H 21c, as well as H 10"E");
- Building conservation (houses H 19, H 21c, streets, tomb T 6);
- Wall painting conservation.

MAINTENANCE CONSERVATION

Maintenance conservation has turned out to be a returning issue every year. Over the past few seasons the team has been developing and experimenting with conservation technologies designed to be effective in the specific climatic conditions of the site. Houses H 9 and H 9a, as well as much of H 10, where conservation activities have already been completed, now serve as a test ground for these methods. Much has been learned about processes of degradation occurring in the local limestone once it is exposed continuously to weathering. Certain assumptions

regarding conservation principles have had to be made. For one, original ancient building methods cannot be applied in this case as the clay-lime mortars and clay grounds used under lime wall plastering are highly undurable. In effect, the addition of small quantities of white cement to lime mortars (owing to the poor quality of lime available in Marina) has proved essential.

Of equal importance in maintaining the site monuments in good condition is the regular removal of sand blown in over the winter seasons; its saltiness makes it a highly corrosive element.

ARCHITECTURAL STUDIES

Considering that the architectural complexes in question were never fully explored and there exists no archaeological or detailed architectural documentation of the work, all planned restoration activities on the site have to be preceded by architectural studies. These often require considerable earthworks, chiefly to remove dumps of excavated soil left from the excavations, as well as archaeological rescue exploration wherever undisturbed layers are encountered.

Once this preliminary work has been accomplished, it is possible to trace walls, rooms and entire houses, as well as to observe building sequences and, as a side issue, to date the various phases in the development of individual buildings and the residential quarters as a whole.

This season attention was focused on houses H 19 and H 21c, where restoration is on-going, and H 10"E" preparatory to

2) These unplanned earthworks have yielded a number of elements of architectural decoration, such as a marble column shaft, fragment of a Doric entablature with tryglyph and many smaller pieces, none of them belonging to any of the complexes currently under restoration.

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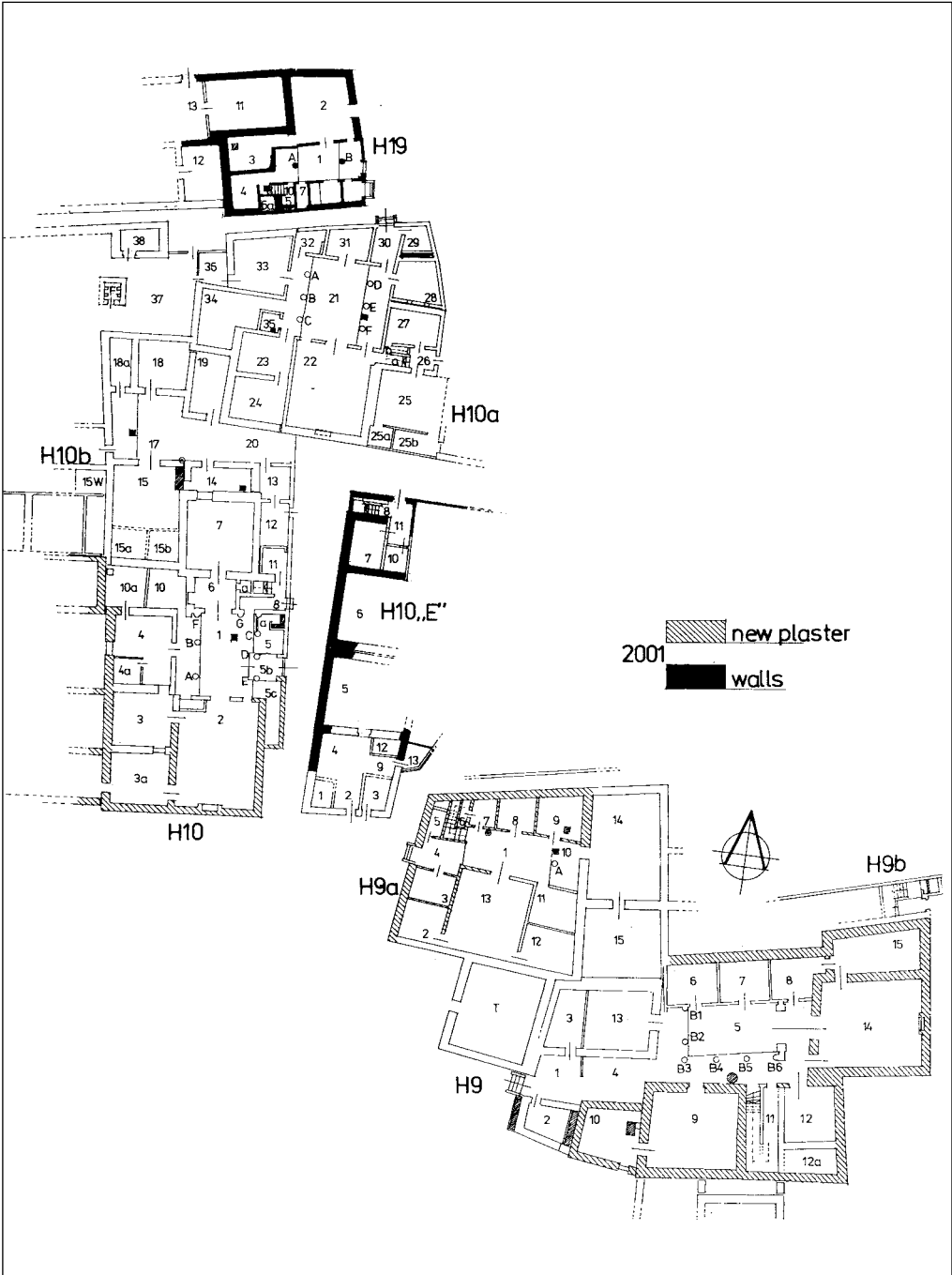


Fig. 2. Houses H 9 and H 10 with H 19 and H 10“E”. Plan showing extent of work in 2001 (Drawing S. Medeksza)

undertaking conservation in the coming season (*Fig. 2*).

1. **House H 19.** While the western end of the building still escapes study, its northward extent has been traced (*Fig. 3*). Room 2 turned out to be a corner space, adjoined on the west by room 11 (6.65 by 4.15 m). The northern wall of these rooms was at the same time the outer wall of the structure, and running westward along it was another alley, parallel to the one separating the house from neighboring house H 10a to the south. A doorway with stone jambs interrupted this wall just beyond room 11; through it one enters room 13. Only a thin partition wall (built of stone slabs measuring 0.50 x 0.35 x 0.16 m)

separated the two rooms, which were connected by means of a doorway, 10.5 m wide, situated in the middle of this wall. The last of the newly discovered chambers, room 12 (4.76 by 3.40 m) was entered from the part of the house, which as yet escapes recognition, through a doorway 1.06 m wide.

Practically, all the walls in the newly uncovered part of the house were built of broken stone bonded in a lime-clay mortar. Only the walls between rooms 3 and 4, and 12 were of mud brick in a clay mortar and on a stone underpinning. All were covered with lime plaster.

Much more technological diversity can be observed in the southeastern part of the

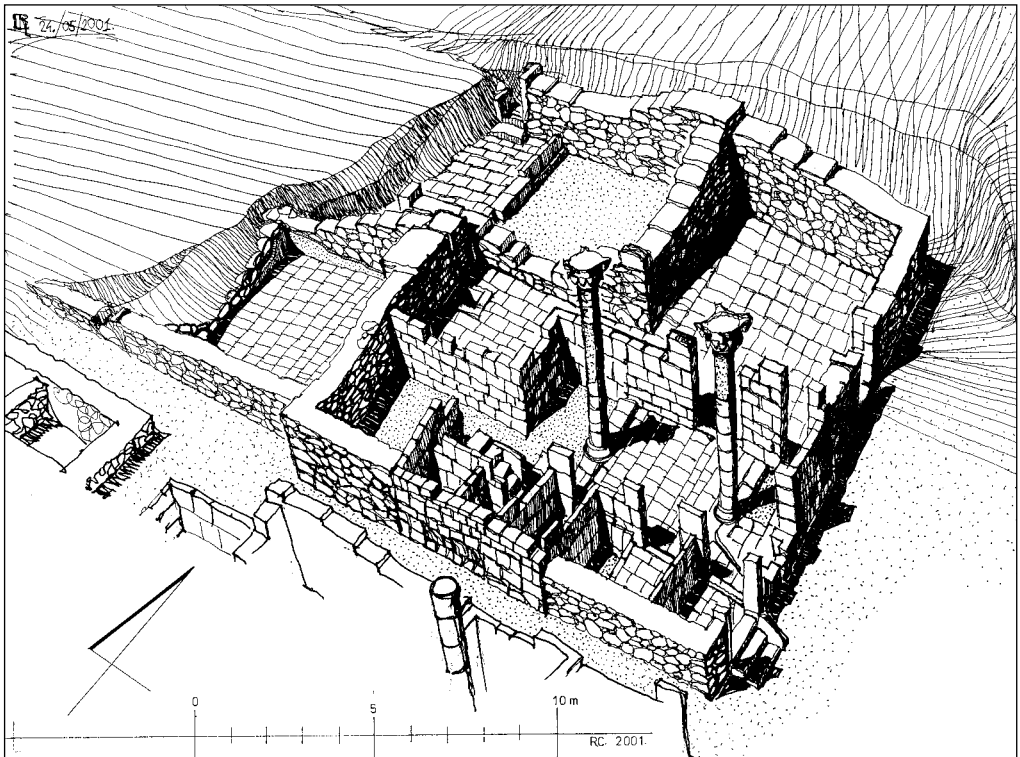


Fig. 3. House H 19. Axonometry after the 2001 season (Drawing R. Czerner)

house (uncovered during Egyptian excavations in the late 1980s and early 1990s). Solely the eastern section of the south wall was made of broken stone in a lime-clay binder. All the other external and partition walls were constructed of stone blocks (0.30 x 0.26 x 0.60 m) in lime mortar. The overall impression is that various sections of particular walls had been added or restructured. Building sequences are, thus, difficult to distinguish, the most telltale sign of the multi-phase nature of the structure being the repeatedly altered entrance to the house from the east. Originally, one entered the house straight from the porticoed courtyard (1). A small vestibule (9) was added later on the south; through it one entered at right angles the eastern portico of the courtyard. This new entrance was located slightly further south and practically door-to-door with the entrance to H 10a.

Yet another entrance from the same street square led into room 2. This was a spacious chamber, distinguished by its accessibility. A centrally positioned doorway, 1.45 m wide, led to it from the courtyard and another door, 0.60 m wide, opened from the eastern portico of the courtyard. In the southwestern corner of this room, a doorway led to a passage that entered space 3, where the opening of a cistern underlying rooms 3 and 4 was located, as well as staircase 10. Perhaps room 3 should be considered as a kitchen, in view of the direct access to water and the passage connecting it with what could have been a *triclinium* (room no. 2).

2. **House H 10“E”.** The house lies opposite the H 10 complex, separated from it by a N-S street (cf. *Fig. 2*). Only the eastern side, some thirteen units, has been recognized so far, even so there is ample evidence for agglutination as the principle of architectural development here. Blocks

of rooms, each encased by an independent wall of broken stone bonded with lime-clay mortar, appear to have been added on. They could have been small separate dwellings, too.

Two such blocks have been identified so far. In the southern end, there are seven rooms forming a unit: nos. 1, 2, 3, 4, 9, 12 and 13, apparently of household use. Room 3 had a separate entrance; it appears to be functionally unrelated to the rest of the section; perhaps it had been used as a shop. The other entrance, right next to it a little further to the west, led into room 2. Both of these doorways opened out on a small square, from which one could also enter house H 9a.

On the opposite, southern end of house H 10“E”, a small entrance led from an E-W oriented alley into room 11. West of the entrance there was a staircase (8). The remaining rooms in this section have yet to be cleared and studied.

The length of the house façade, totaling 28.30 m, marks the eastern border of the N-S street fronting house H 10. This wall proved to be of broken stone, while the other walls in house H 10“E”, as much as they have been cleared to date, were erected of stone slabs (0.52 x 0.35 x 0.15 m).

3. **House H 21c.** House H 21c, excavated by Egyptian archaeologists, lies in the northern part of the town, probably near the port and commercial quarters on the lagoon shore. Streets border it on the east, south and west. A street collector draining sewage from the town into the port basin underlies the street on the east and a similar channel should be expected under the street on the west, considering the two wells that have been discovered here. One of the wells had discharged excrements from the latrine in house H 21c, the other presumably wastewater from the kitchen area. The homogeneity of

the structure is now quite clear. The house is not connected with any other building in the quarter except for the hall to the north of it and even with it there is no direct connection. This hall (H 21c“N”) lies on a level 1.30 m lower than H 21c; it measures 10.45 by 7.50 m (cf. *Figs. 7, 9*). Like the house, it, too, must have served some other than residential purposes. Visually, the hall does not interfere with the architectural homogeneity of the complex; hence, it will be included in the restoration program.

All the walls of the building are of single-block thickness, employing regular blocks measuring 30 x 30 x 45 cm – 35 x 35 x 60 cm. A thick layer of burning, including charred pieces of roof beams, recorded in several of the chambers, adds to

the already collected evidence for a cataclysmic destruction of the area by fire.

BUILDING CONSERVATION

1. **Houses H 10-H 10a-H 10b.** Apart from replacing joint fillers in a few places, the main task of the season was to complete the reconstruction of missing elements of the tympanum above the niche in room 2, this having survived only in 60%.³⁾ The last of the six required elements was now put into place.

2. **House H 10“E”.** Some building conservation work was carried out on the outer northern and western walls, and the entrance to room 11 on the north, as well as the partition walls in order to clarify their course and raise them in height to an average 1.20 m. The partial restoration of



Fig. 4. House H 19. View from the northwest, state after the 2001 season (Photo S. Medeksza)

3) Method based on R. Czerner's drawing reconstruction, prepared and applied by stone restorer P. Zambrzycki. Cf. S. Medeksza, *PAM XI, Reports 1999 (2000)*, Figs. 5, 6.



Fig. 5. Street running N-S between houses H 10 and H 10"E", view from the north, from the corner of the E-W street in Fig. 6 (Photo S. Medeksza)



Fig. 6. Street running E-W between houses H 10a and H 10"E", view from the east toward the corner of the N-S street in Fig. 5 (Photo S. Medeksza)

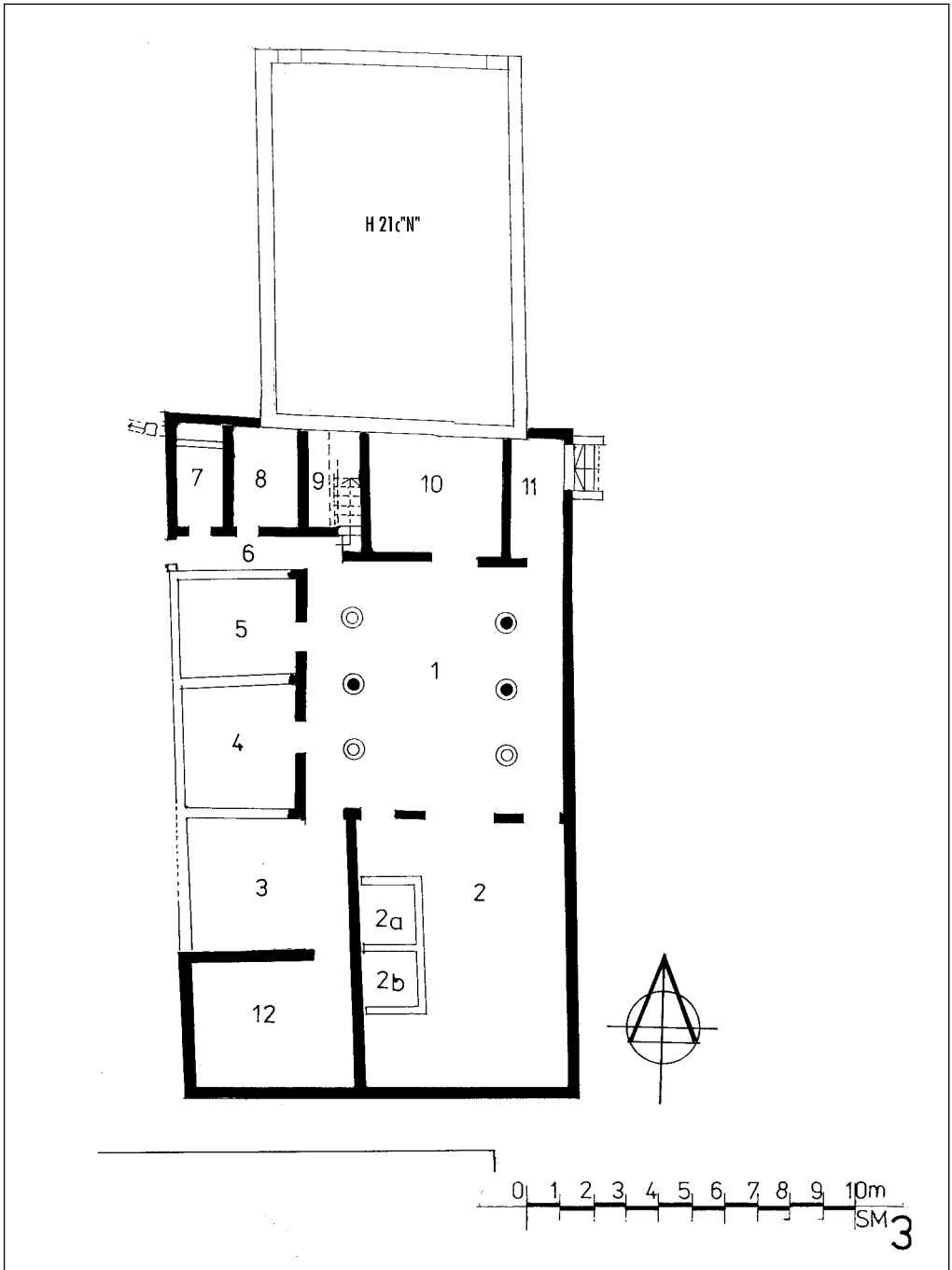


Fig. 7. House H 21c. Plan showing work completed in 2001
(Drawing S. Medeksza)

the western outer wall of house H 10“E”, which helped to set off the street running in front of the entrance to house H 10, enriched the display of the ancient residential quarter in Marina (*Figs. 5, 6*).

3. **House H 19.** The main thrust of building conservation activities this season, beside H 21c, was focused on this house (*Fig. 4*). Two columns with Nabatean-style capitals⁴ were raised in the courtyard. All the walls around rooms 1, 2, 3, 4, 5, 6, 6a, 7, 8, 9 and 10 were either re-laid or raised. In room 11, all the walls except for the west one were raised, while in room 12 only the east wall and part of the north wall could be raised. In room 13, the northern outer wall of the house was extended to reach the eastern jamb of the street entrance.

The wall between rooms 3 and 4 and the west wall of room 12 were originally made of mud brick in a mud mortar bonding. Without expensive chemicals there is no way to preserve such construction. Thus, for the sake of momentary preservation – until the necessary funds will have been raised – these walls have been encased in a stone facing and capped with closely fitting slabs, using lime mortar for bonding and introducing appropriate draining facilities.

4. **House H 21c.** A complete anastylosis of two columns in the eastern portico of the courtyard was carried out (*Figs. 7, 8, 9*). The remaining columns were raised as much as the preserved stone elements permitted it. Furthermore, the outer and partition walls were both easily



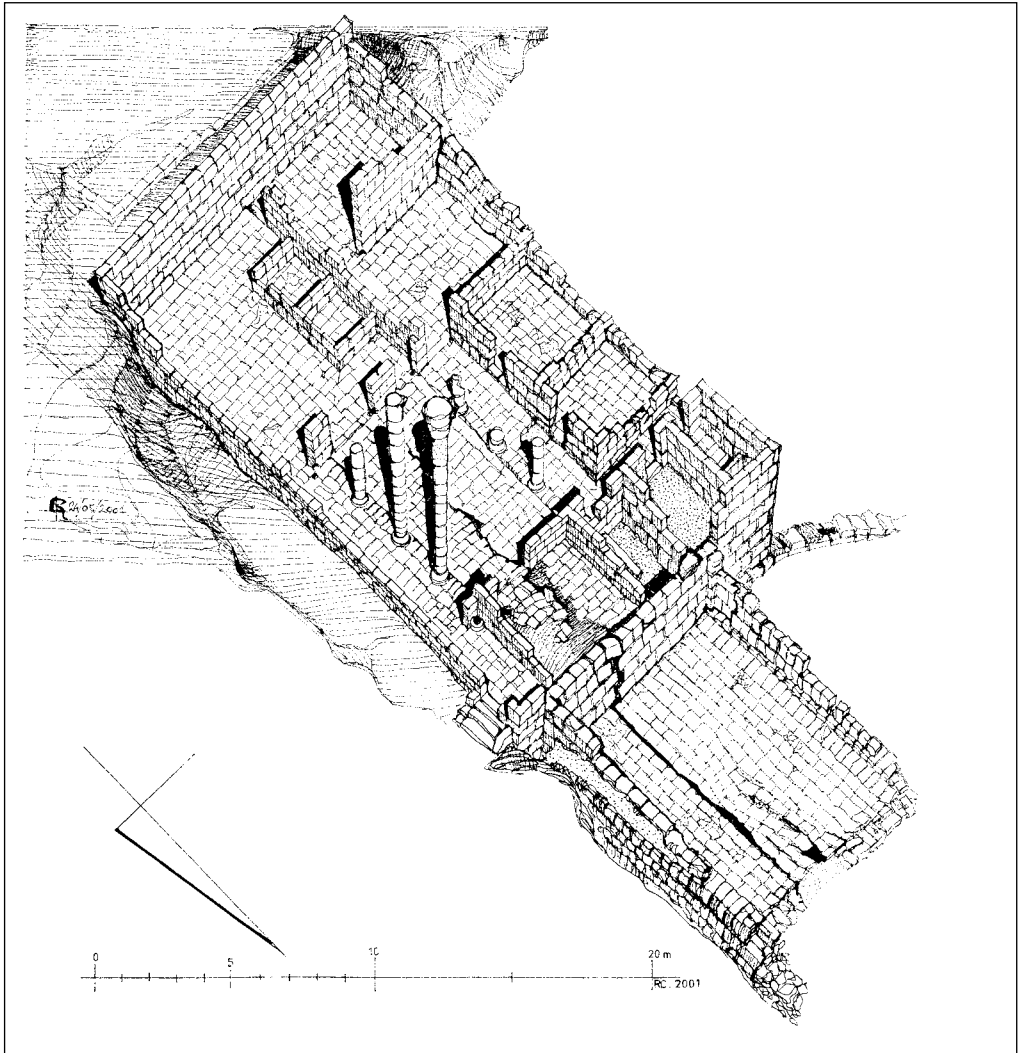
Fig. 8. House H 21c. State after the 2001 season, view from the southwest (Photo S. Medeksza)

4) Cf. W.A. Daszewski, *Nouvelles recherches sur la côte Nord de l'Égypte. Un type meconnu de chapiteaux*, *ET XV* (1990), 109-124.

reconstructed from fallen blocks, lying obviously undisturbed from the time of the cataclysmic earthquake that had toppled the building. The lime mortar used in the restoration had a small proportion of white cement mixed in for the sake of durability.

5. **Tomb T 6.** Specialist stonecutting complemented last year's building restora-

tions, helping to emphasize the main line of symmetry that runs through the mausoleum (*Fig. 10*). Helwan limestone was used for the drums of engaged columns, reveals and profiled niche framing (*Fig. 11*). The only exception, with regard to the stone material used, is a block belonging to a monolithic pillar with



*Fig. 9. House H 21c. Axonometry after the 2001 season
(Drawing R. Czerner)*

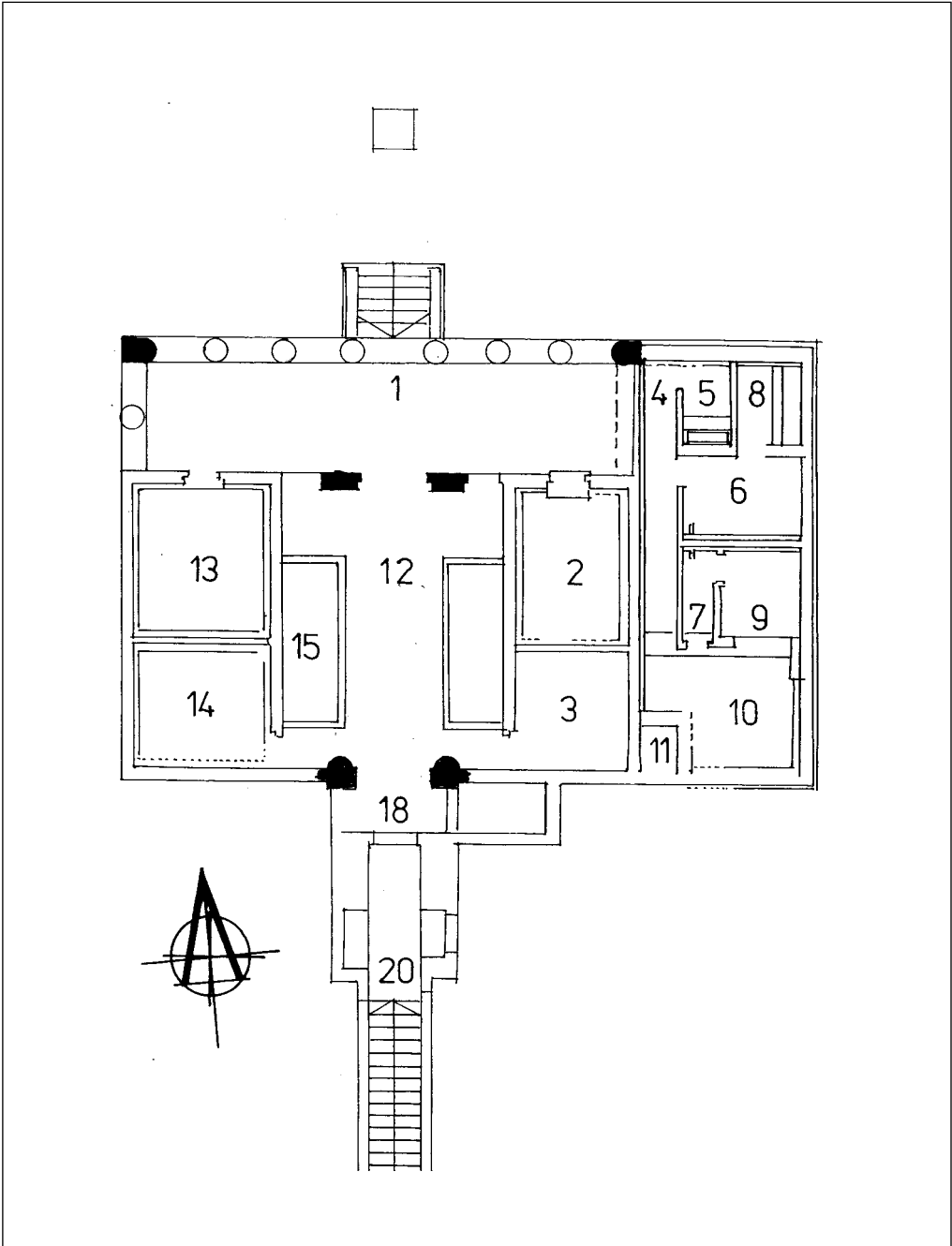


Fig. 10. Tomb-hypogeum T 6. Plan of aboveground mausoleum. Elements introduced in 2001 are marked in black (Drawing S. Medeksza, after K. Kamiński et al., PAM X, Reports 1998 (1999), 44)

engaged column that flanked the main entrance to the portico on the west; owing to the size of this element, it had to be cut in a single block of Tura limestone.

All the blocks were fitted and dry-laid, leaving a joint 1-3 mm thick. *Anathyrosis* of the surface helped to achieve a better fit. Four engaged column drums were mounted

using for bonding lime mortar with some white cement for the sake of durability. An epoxy binder was used to join elements made of the much harder Helwan limestone. The new material will thus be tested at the site to see how it reacts to varying atmospheric conditions existing there.



Fig. 11. Tomb-hypogeum T 6. A newly cut stone element in the aboveground mausoleum (Photo S. Medeksza)

WALL PAINTING CONSERVATION

Work proceeded as planned on a fragment of grotesque mural discovered last year.⁵⁾ It will be displayed on the original stone ground, hence the need to fill in the structurally weak parts of the stone block around the broken plaster edges (*Fig. 12*). Conservation of a piece of mural depicting a female head crowned with the prow of a ship⁶⁾ was completed. The eight fragments were joined together with epoxy resin and the surface treated comprehensively to prepare the piece for museum display (*Fig. 13*).

A piece of decoration of importance for understanding the phasing of painted decoration in house H 21c was uncovered in the center of the newly cleared room 12. It is a plastered and painted column shaft, 0.343 m in diameter, 0.55 m high. Of the two layers of plaster, the initial one survives over a greater expanse of the shaft (*Fig. 14*). Originally, the decoration consisted of a scrolling vegetal ornament. The second layer seems to have been a monochromatic red. The stone shaft is in good condition; the conservator's chief goal in this case was to halt deterioration processes.



Fig. 12. Fragment of a grotesque painting from H 10a, after conservation (Photo S. Medeksza)



Fig. 13. Female head crowned with the prow of a ship from H 10"E", after conservation (Photo S. Medeksza)

5) Cf. Medeksza, *PAM XII, Reports 2000* (2001), 71-72, Fig. 8 (before conservation).

6) *Ibid.*, 71, Fig. 7 (before restoration).



*Fig. 14. House H 21c, room 12: Column shaft with two layers of painted plaster, under conservation
(Photo S. Medeksza)*

ARCHAEOLOGICAL RESCUE WORK⁷⁾

Rescue excavations were carried out wherever preparation for conservation-related building work threatened to destroy stratigraphically significant assemblages. Most of the present work concentrated on clearing floor levels and digging trenches wherever reconstruction of walls and entire rooms required it.

1. **House H 10b.** Work focused on the northwestern part of the house and the alley separating it from neighboring house H 19. Room 38 (3.30 by 1.86 m, cf. *Fig. 2*) was cleared and a probe dug to a depth of 1.80 m. The stratigraphy here proved undisturbed, facilitating the study of successive occupational levels. The small finds from these layers – oil lamps, bone pins, cooking ware (pans), tableware, amphorae, bronze objects and coins – reflect a chronological horizon from the last thirty years of the 1st century through the 2nd century AD. Previous results with regard to the multiphase character of the private residential building in Marina have been confirmed, revealing yet again the presence of an occupational level dating to the second quarter of the 2nd century AD. Below this level, at a depth of 0.70-0.75 m, there appears an occupational level dated to the last quarter of the 1st century AD.

The remains of a brick-and-stone furnace were uncovered 3.90 m south of the north wall of this room. The furnace, which measures 2.00 by 2.08 m, preserves an arrangement of four brick pillars adjacent to the walls, as well as remains of the clay covering. The pillars were originally 0.60 m high. A coin found inside the furnace has been identified as

Hadrian's and dated provisionally to AD 120-126.

Originally, this part of the house had served household purposes, but in the second half of the 2nd century AD, presumably after a catastrophe of some kind, it was turned into a convenient rubbish dump.

The fill in the eastern part of the room yielded a concentration of amphorae stoppers with Latin stamps impressed in the lime mortar.

2. **House H 10“E”.** In view of upcoming conservation work in this area, exploration started of the western end of the house, identifying in the process four big rooms siding the western wall of the building (length of rooms 4, 5, 6 and 7, respectively 6.31 m, 6.62 m, 5.62 m and 4.12 m). The remains of a staircase, 0.90 m wide, were cleared in the northwestern corner of the structure. Four steps (0.25 m deep and 0.17-0.18 m high each) were recorded. What must have been a drain for wastewater (0.37 m wide) was discovered running for a distance of 3.10 m between the north wall of the house and the staircase. A section of the northern wall was discovered with an entrance in it measuring 0.80 m in width. The doorway opens onto a small corridor (11), measuring 4.12 by 1.82 m. An entrance, 0.70 m wide, in the south wall gives access to a small chamber (2.18 by 1.82 m). The fill of this space yielded some oil lamps and a heavily worn bronze coin dated provisionally to the 2nd century AD. Another entrance, in the western wall of the corridor, 1.20 m wide, leads to room 7 (4.12 by 1.82 m). This hall yielded oil

7) This section of the report has been contributed by Dr. A.B. Biernacki, who supervised the work, assisted by M. Nowak.

lamps, bone pins and pottery, including a single wine amphora.

3. **House H 19.** In consequence of clearing work in rooms 11, 12 and 13, situated in the western part of the house, a female head (of Aphrodite ?) made of veined white marble was discovered in a layer of burning. To judge by its size (0.11 m high) and evidence of tenon-joining, it was part of a sculpture that, if standing, could have been 0.90 m high. The craftsmanship is recognizable as good despite the damages (*Fig. 15*); hence it is likely that the piece was imported to the town.

4. **House H 21c.** Cleaning work in the southwestern part of the house, preparatory for conservation activities, revealed a stone weight with remnants of a bronze handle (weighing 6.150 kg) in the fill of room 12.

Exploration of the cistern under the stone floor of the peristyle courtyard yielded three sculpted heads: of a mask, a highly schematic male head and a head of Helios, all very crudely executed in limestone. These pieces could be the work of a novice to the sculptor's trade. The cistern itself measured 9.14 by 1.50 m and had a square opening (0.12 m to the side) in its vault, where the rainfall drain emptied into it. The drain was traced for about one meter in room 10, where it was joined by a vertical pipe coming down from the roof in the vestibule, just by the entrance to the peristyle corridor.

Oil lamps discovered in the fill represent a variety of discus decoration: Athena, dolphins, musicians, peacock, rosette, lion or ram (?). Three lamps bear producer stamps on the base. Small finds include spoons and pins of bone, two bronze rings, bronze corner fittings from

a table or brazier in the form of a stylized palmetto with tiny volutes. Pottery comprises an amphora, examples of tableware, cooking pans, including one with part of a producer's name impressed in retrograde: [...] *LEMED*. Eight bronze coins belong to Nero, Vespasian, Hadrian and Marcus Aurelius; the single silver coin was issued by Caracalla.⁸⁾

5. **New tomb.** While clearing an area under the building of a new site museum, the Egyptian Antiquities Organization staff inadvertently hit upon a new chamber

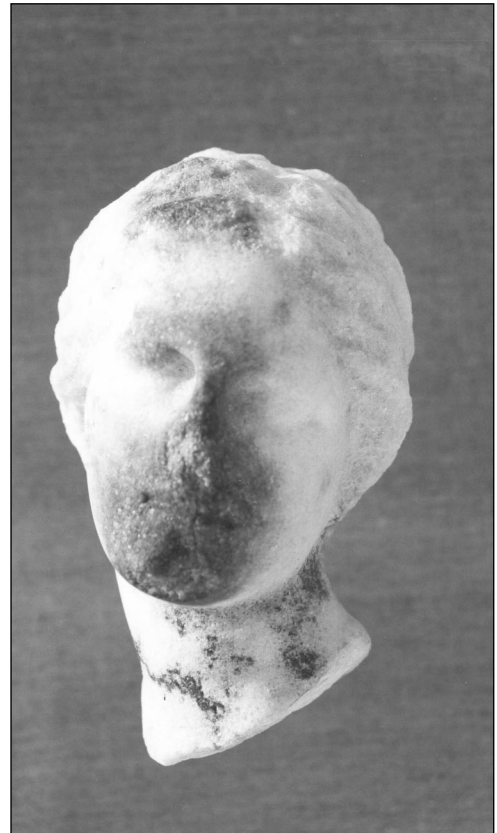


Fig. 15. Marble head of Aphrodite (?) from H 19 (Photo S. Medeksza)

8) The authors are indebted to Prof. B. Lichočka for kindly identifying the newly found coins.

tomb. A digital camera introduced through a small hole in the roof of the burial chamber revealed loculi, a number of offering tables and a small horned altar

among others. The tomb was left for the Polish Archaeological Mission under Prof. W.A. Daszewski to investigate in the coming season.

GEOLOGICAL SURVEY⁹⁾

The objectives of a geological survey carried out in Marina were twofold: identifying the nature of bedrock on the site and the kinds of stone used in building and for carving architectural decoration, the latter goal combined with a reconnaissance of sources of building material in the immediate region.

The bedrock in Marina is a typical Quaternary calcarenite that underlies Egypt's entire Mediterranean coast. This rock is characterized by a tendency to crack. The cracking is dependent on a variety of factors, not the least of which is the intensity of man-related interference,

such as quarrying, as well as the close proximity one to another of the rock-cut structures. This rock, which reveals poor physical and chemical characteristics, turns out to be the most commonly used building material in the ancient town.

Pending a full report, it can be said that residual quantities of black limestone have been observed in the buildings currently under reconstruction. Seven kinds of marble have also been identified, as well as one block of gray-black granite (0.43 x 0.30 x 0.20 m), a piece of basalt and a thermally altered stone, presumably also basalt (gabra ?).

9) Information presented in this section of the report has been contributed by Prof. Dr. J. Skoczylas.