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CAIRO

FUNERARY COMPLEX OF AMIR KEBIR QURQUMAS FROM MAY 31 TO DECEMBER 31, 1995

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The present report covers the period from May 31 to December 31, 1995.¹ While the main focus of the Mission was the restoration of the monument, members also conducted archaeological excavations on a limited scale, prepared plans and documentation for future works and, not the least, researched particular aspects of the building and site.

I. RESTORATION

The restoration works are a continuation of the program developed by architect Jaroslaw Dobrowolski, director of the Mission until April 31. The present report is an up-to-date review of the work in progress. For technical data and a discussion of the approach in particular cases, the reader is referred to earlier annual reports published in *PAM* (for the most recent report, cf. *supra*).

During the period covered by this report, restoration works were seriously hindered by a 60% reduction of workers in June and the

¹ The Mission comprised specialists from the Polish Centre of Archaeology in Cairo (University of Warsaw) and representatives of the Supreme Council of Antiquities of Egypt. The Polish Center was represented by Dr. Maciej G. Witkowski (in charge of the Mission) and arabist Mr. Dimitri Kirinitsianov, who volunteered in the period from September to December 1995. On the Egyptian side, there were: Mr. Fatin Hassan el Fayz (General Site Inspector) and Mr. Mohammed Osman Mousa (Site Inspector), archaeologists; Eng. Nazmy Daoud Attiya, architect; Rifa'i Muhammad Agami, in charge of the workers. The extensive experience of Mr. Medhat el Mennabawy, General Director of Foreign Missions, Islamic and Coptic Sector of the SCA, as well as his daily presence and interest expressed in the work, were welcomed and found to be of substantial help in implementing the mission's program.

SCA's decision to suspend work completely from July to mid-August due to lack of funds. The exemplary attitude of the Mission, and of the workers especially, permitted the following results to be achieved:

1. The pillars of the *Qasr* arcades were reinforced with special concrete banks made around the foundations of the two most endangered pillars (nos 3 and 4). The casings were designed to reduce by half the pressure exerted by wall on their foundations, thus bringing it well below the safety margin. The measures have been proven to be effective, since no new damages were observed following the November 1995 earthquake of considerable force. The project, prepared by G. Bobowicz in 1993, was supervised by Mr. Nazmy Daoud Attiya.

2. Work continued on insulating the roof of the Mausoleum's loggia and the space around the *Qubba*. The roof slope is 1.5% (the maximum slope possible without overloading extant walls) and should be sufficient to remove rainwater; gutters were modeled in the surface to drive rainwater to existing gargoyles. The roofing consists of a thin layer of crushed brick (providing insulation, ventilation and the opportunity to model the roof slope) in large cement-framed rectangles separated from the wooden ceiling of the loggia only by a layer of waterproof roofing paper. Two layers of waterproof cement alternating with insulated layers of roofing paper followed, and the usual Mamluk-like limestone-slab roof was laid on a thin cushion of sand. Again, the work was supervised by Mr. Nazmy Daoud Attiya.

3. With the view to turning the so-called Mill into a carpenter's workshop (cf. below), the Mission undertook to reinforce the wall structure. Missing wooden elements were reinstalled (in the parts erected during Muhammad Ali's reign), part of the original precinct wall was restored, and all the walls were rebuilt to original height, judged on the basis of preserved evidence.

4. The eroded ashlar blocks in the ground-floor rooms of the *Khanqah/Arwaqa* complex were replaced. A waterproof floor can

now be safely installed and work can proceed on a partial restoration of upper-storey walls, including an extra course of blocks. The goal is to make the plan evident, the complex having been intended by restorers as a "permanent ruin" (project by A. Jurkiewicz, 1987).

5. The four *khawasil* under the Mausoleum and two under the *Madrasa* all received prefabricated limestone-slab pavements instead of the original pugging (cf. below), a typical case of the exigencies of modern practical use (the *khawasil* will be used as storerooms) taking precedence over historical evidence. Similar pavements were installed in the Imam's Niche in the *Dur-qa* of the *Madrasa* and in the six *kutubiyyas* niches in the North Iwan. The secondary floor in unit 3 on the ground-floor of the *Khanqah/Arwaqa* was restored and work has started on unit 4. Leveling works started in the area under the *Qasr* arcades in preparation for installing a pavement there.

6. The ventilation shaft of the toilets and the sewage system were cleared of rubble. Sewage walls were reinforced with masonry as required and iron clamps were installed in the vertical shafts. A brick shaft was built over the opening of this system, which gives on the so called "graveyard court". The system should be freely accessible in view of plans to use the old ducts to hold the modern gutter installations.²

7. The northern fence wall of the Qurqumas Complex received a new topping of two layers of newly hewn limestone ashlar. This also allowed the blind arch over the main northern entrance gate (Bab Muqantar of the *Waqfiyya*) to be reconstructed. The large openings in the southern precinct wall of the Garbas Qasq Complex, which appeared in consequence of the 1992 earthquake, were blocked with new ashlar cut to fit the pattern of adjacent original courses of stones.

² Cf. the water and sewage system for the whole complex, mss, Cairo 1987-1988.

Minor work included the replacement of two broken elements: a support of the *Sabil's* east window pulpit and a limestone lintel over the doors leading to unit 2 of the *Khanqah/Arwaqa* complex. The original broken pieces as well as some analogies served to model the new elements in limestone.

8. With respect to woodwork restoration, the provisional doors in the main entrance to the *Qasr* were replaced by double-leaf wooden doors. Similar doors were installed in the *Mabit* on the upper floor of the *Qasr*. Double-leaf doors appeared in the Toilets and in the *Mabit* of the Mausoleum (design by M. el-Mennabawy and M.G. Witkowski).

Two kutubiyyas were restored in the proper niches of the main room on the upper floor of the *Qasr* (design by J. Zaleski, 1987) and one in the *Mabit* of the Mausoleum (design by M. el-Mennabawy and M.G. Witkowski, 1995).

A large iron grille in a wooden frame with double-leaf shutters was inserted in the window above the mastaba in the main entrance of the *Darkah*. Minor missing elements of the *mash-rabiyyas* in the grilles installed previously in the *Sabil* windows (cf. *supra*, J. Dobrowolski, Report 1994-1995) were reconstructed based on the original project.

Restorations were always based on analogies and the *Waqfiyya* deed describing the complex was followed strictly in replacing reconstructed elements.

II. EXCAVATIONS

1. Excavations were conducted in May and June in the area immediately to the north of the already unearthed *Raba'* foundations. A slightly trapezoidal oblong structure was unearthed, cut through by modern power installations. It was constructed of stones, mud and bricks, bonded with a hard and thick mortar. (Fig. 1) The eastern part of the structure, built of mostly irregular and relatively small pieces of limestone, was identified as the foundations of a medium-size latrine complex (four toilets); the

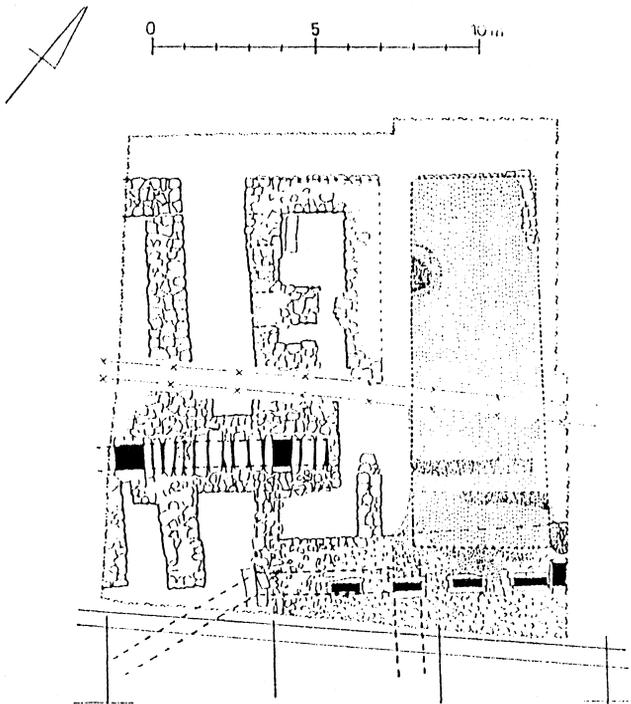


Fig. 1. Funerary Complex of Amir Kebir Qurqumas. Main excavation area 1995. Drawing M.G. Witkowski.

sewage system joined the one in the previously excavated *Raba'* complex.³

The western part of the structure, which resembles a platform (c. 5 x 12 m), was built of small bricks (c. 4 x 6 x 12 cm), laid in at least six and possibly even nine courses, representing a pattern recognized even today as "typical desordonated Mamluk woof".

³ Explored 1987-1994; cf. T. Scholl and M. el-Mennabawy, Great Emir Qurqumas Mausoleum in Cairo: Excavation at the Southern Yard of the Qasr, *PAM* IV-V, 1992-1993 and J. Dobrowolski, *PAM* VI, 1994 (1995).

The mortar used to bond the wall was of good quality and almost certainly waterproof; it also covered the uppermost course of bricks. The platform had deep foundations (1.80 m) made of roughly laid irregular limestone pieces in a strong mud-lime mortar. The evidence would suggest that the platform was actually the bottom of a large water basin or tank.

It is tempting to identify these architectural remains with the "ablution area with 10 toilets and a bath" described in the foundation deed of the Amir Kebir Qurqumas⁴ as part of the household back-up facilities of the main Funerary Complex. A small rectangular (0.50 x 0.60 m) basin-like structure made of limestone slabs, adjoining the latrine area on the north, could be identified tentatively with a kind of watering place for animals which was situated "just outside the ablution area" to believe the *Waqfiyya*.⁵

In the light of these findings and possible identifications, it is necessary to recall the water-wheel installations situated next to the Amir Kebir Qurqumas, just across the modern street (now destroyed but still remembered by the oldest local cemetery guards from the early 20th century) and to reconsider their attribution to the back-up water facilities of the Amir's funerary complex, since such a *saqiyya* is described in the foundation deed.⁶ If confirmed by future excavations, this would not only confirm the frequently contested exactness of Hogga descriptions, but would also provide important information for the reconstruction of the historical topography of the area. Curiously enough, the only small find from these excavations consisted of an almost complete coarse-ware bowl of a typical conical shape, modeled on a slow-turning wheel and deformed during firing.

2. Work on reinforcing the pillar foundations of the *Qasr* arcades revealed the foundations to be of irregular limestone frag-

⁴ Cf. *Waqfiyya*, p.53, 13-14.

⁵ *Ibidem*, p. 55, 6-7.

⁶ *Ibidem*, p. 55.

ments in a strong mud-lime mortar (the same as in the case of the basin-like structure described above). Several courses of ashlar masonry observed against the eastern wall of the foundations of pillar 4 bear testimony to a tomb structure which existed here prior to the construction of the *Qasr* itself (like the other tombs in this area).⁷

3. Trial pits excavated inside the *Khawasil* of the *Madrasa* and Mausoleum before installation of new pavements revealed that originally the floors were made of a thin cement-hard layer of mud-lime pugging, covering a c. 5 cm thick limestone *dakka*. A 20-cm thick layer of humus mixed with organic remains testifies to intensive animal husbandry in these units.

4. The possible adaptation of the southern room of the so-called Mill as a carpenter's workshop necessitated the excavation of trial pits in its interior and along the outside of the eastern wall in order to check the condition of the foundations. It was found that the 2m deep foundations were constructed in essentially the same technique as the walls themselves (mostly of small irregular pieces of limestone in mortar). The upper stratum inside the room (c. 1.30 m thick) was rich in organic remains (humus, remains of straw, broken pieces of wood, animal bones). Large quantities of excavated pottery represented a typical assemblage (cf. below). The stratum served as a foundation for a secondary pavement made of reused(?) limestone blocks.

5. The pavements in unit 3 of the *Khanqah/Arwaqa* were analyzed from the architectural and archaeological point of view before dismantling for restoration purposes and were found to be a secondary installation, made of reused wall ashlar which were extracted from some neighboring ruined structure (most probably from the east wall of the northern room of the Mill which

⁷ T 1 and T 2: cf. J. Brzozowski and J. Kania, Elaboration of the excavations on the Northern Court of the Qasr 1987-1988, *ms*, Cairo 1988, pls 13-14.

is located just opposite the complex). If this was the case, then the secondary room arrangement inside the *Khanqah/Arwaqa* complex must have preceded repairs to the Mill and not been contemporary, as once believed.

A c. 20-cm thick layer of earth below the pavement yielded a deposit of broken, but otherwise nearly complete ceramic vessels: glazed (mostly green and yellow-green) dishes and bowls, two *gulla*-necks (thin-walled with scratched decoration introduced before firing) and some common kitchen ware used for water storage to judge by the heavy salt efflorescence on their surface. Finds also comprised some small (4 x 6 x 12 cm) and badly fired loose bricks, as well as one elaborate fragment of a Turkish pipe bowl. The assemblage is spectacular to some extent, but the composition of the deposit renders it useless for dating purposes (cf. below). The layers situated immediately below this stratum were completely sterile.

6. The ventilation and sewage system shafts of the Mausoleum (already excavated in 1987 and now cleared in order to finish work in this part of the complex) proved to be devoid of any materials of archaeological interest.

7. Clearing work done in various areas in preparation for restoration brought a variety of finds, mainly pottery (kitchen wares and small, mostly unidentifiable fragments of glazed Mamluk ceramics), porcelain (both original Chinese and European imitations of 16th-20th century date) and faience (20th century). The most interesting, but relatively rare finds include fragments of local-clay, faience imitations of porcelain of unidentified date and a variety of fragmentarily preserved "Turkish pipe" bowls. The finds are practically useless for dating purposes, mainly because of a lack of archaeological context (with the exception of the deposit found under the pavement of unit 3 in the *Khanqah/Arwaqa*). Moreover, there do not seem to be any differences in the proportional make-up of the assemblage from different parts of the area (with the exception of a few closed deposits).

III. THEORETICAL RESEARCH

It seems reasonable to include in this report a brief summary of various researches conducted in different fields of interest, since the results of these studies are applied regularly to the solving of current restoration problems.

1. In June and August, the Mission occupied itself with a comparative study (architectural and archaeological) of the building techniques which were applied in the times of Muhammad Ali to the construction of public installations and workshops situated in the Bab el Azab quarter of the Citadel. The results of the study proved useful in preparing adaptation plans for the so called Mill.

2. Archival research led to the discovery of yet unknown iconographical evidence for the Amir Kebir Qurqumas Complex and its environs:

- 19th century photo by H. Bechard (Atelier no. 152), taken before 1878;⁸
- watercolor by Richard Dadd, probably dating back to 1848(7), now in the Victoria and Albert Museum, London (cf. G.M. Ackerman, *Les Orientalistes de l'Ecole Britannique*, Paris 1991, p. 70);
- illustration by A. Willmore for W.H. Bartlett's book *The Nile Boat or Glimpses of the Land of Egypt*, published in 1849 in London by Arthur Hall, Virtue & Co.⁹

3. Additional historical research, as well as a new analysis of the published chronicles of the period and of the *Waqfiyya* have provided satisfactory results and will be published separately in due time.

4. Systematic recording of the inscriptions from the complex was undertaken this summer with a view to completing the corpus

⁸ Cf. E. Eggebrecht, *Aegypten – Faszination und Abenteuer*, Hildesheim, n.d., pp. 28-29.

⁹ Cf. *Kairo. Die Mutter alter Staedte*, ed. U. Beyer, Baden Baden 1983, p. 249, fig. 46.

of inscriptions. All of the inscriptions have either been photographed or copied by hand where access was difficult. The graffiti written on the walls of one of the sufi's cells in the Sultan's Inal Complex were also copied on film by the present author. The inscriptions will be processed using the computer program HOLY QUR'AN, Zero Soft, 1992, in order to spot possible rules governing the choice of texts for the decoration of the complex and their composition (D. Kirinitsianov & M.G. Witkowski).¹⁰

5. In June, two samples of the original wall plaster from the so called Mill were taken to SCA laboratories for composition analysis. The following table shows the results:

sample from external wall		sample from internal wall
60	Quartz SiO_2	55
17	Calcite CaCO_3	24
15	Dolomite $\text{CaMg}(\text{CO}_3)_2$	9
1.2	Gypsum $\text{CaSO}_4 \times 2\text{H}_2\text{O}$	3
none	Albite $(\text{Na,Ca})\text{AlSi}_3\text{O}_8$	7

IV. PLANS AND DOCUMENTATION FOR FUTURE WORK

The past season saw the preparation of two important plans that will provide the basis for future work.

1. Adaptation of the space of the ruined Mill for the purposes of a carpentry workshop. The project assumes that the remaining elements of the original structure will be preserved and show-cased. The roofing and the natural lighting system, as well as other elements of the proposed internal arrangement are modeled

¹⁰ Cf. E. Cruishank Dodd and Sh. Khairallah, *The Image of the World. A Study of Quranic Verses in Islamic Architecture*, vols I-II, Beirut, n.d., passim; S. Lamei Mostafa, *The Cairene Sabil, Form and Meaning, Muqarnas VI*, 1988, pp. 33-42.

either on preserved archaeological and architectural evidence in the monument itself or on direct analogies presented by similar structures from the times of Muhammad Ali, observed on the Citadel. Particular attention was paid to the design of platforms for heavy woodworking machines in order to prevent the transmission of vibrations to the monuments.

2. Re-arrangement of the provisional staircase leading to the *Qasr* and Mausoleum complex. The design currently prepared by the Mission takes into consideration all the architectural, archaeological and literary (cf. *Waqfiyya*, p. 47, 5-7) evidence still available.