Wojciech Kołątaj

# Report on the Conservation Activities at Kom El-Dikka in Alexandria in the Spring Season of 1991

Polish Archaeology in the Mediterranean 3, 15-18

1992

# REPORT ON THE CONSERVATION ACTIVITIES AT KOM EL-DIKKA IN ALEXANDRIA IN THE SPRING SEASON OF 1991

**Wojciech Kołątaj**

In 1991 the Polish-Egyptian Mission at Kom el-Dikka in Alexandria was obliged to limit the spring season to just the period from March 11 to June 30, 1991.[1] Conservation activities were carried out only in the cisterns and the bath.

In the cisterns the original foundation of the northeastern corner of the structure was uncovered and work began on the reconstruction of its eastern facade, following the conservation program presented in an earlier report.[2] New limestone blocks introduced into the structure were comparable in size and visual characteristics to blocks used in antiquity. They were laid in layers, using a cement-lime mortar and preserving all the joints, bonds and footings of the original structure. Every few layers stainless steel braces $\phi$ 10 mm, ca. 1 m long, were used to anchor the facade to the undamaged core of the wall. In the upper layers (similarly to preserved parts) a lime mortar with crushed bricks was used. Regardless of the deformation of the preserved upper part of this corner of the cistern facade, the reconstructed layers are horizontal. The difference between the last reconstructed layer of the facade and the pre-

---

[1] The mission included: Dr. eng. Wojciech Kołątaj, director; Dr. eng. Jan Borkowski, eng. Stanisław Szpakowski and Mr. Grzegorz Majcherek. The Egyptian side was represented by Mr. Ala'a ed-Din Mahrous and Mrs. Mona Shaban Hafez, inspectors of the EAO.

[2] Cf. Conservation work on Kom el-Dikka in Alexandria in the 1989 season, *PAM* II, 1989-90 (1991), p. 17.

served original parts which are not horizontal presently, was filled in with cement. The cracking of original sections of the facade was removed by re-laying of these parts, using aluminum foil strips to mark them off.

In order to stabilize the most endangered southern part of the structure, the fourth buttress was reconstructed following the uncovering of its foundations. The same technique as in the case of buttresses 2 and 3 was used, in keeping with principles of conservation adopted for the entire building.

The buttresses were fitted with drains to run off the excess rainwater. The ends of steel braces were left sticking out of the facade in order to mark the places where anchoring was introduced. Channels were left for resistance blocks in places where in the future lengthwise and in-depth compression of the monument's walls is planned.

In the baths, work continued on the foundations of the Southern Portico. Depending upon the degree of damages in medieval times, the foundation reached a depth of 5 to 6 m above sea level. Originally, this was a wall of pillar construction, 1.60 m wide and founded about 5 m below the floors of the Bath. The pillars are now largely missing, having suffered greatly at the hands of stone-robbers in the Middle Ages, when the limestone blocs of which they were constructed (0.40 x 0.30 x 0.30 m – 0.40 x 0.40 x 0.50 m) were in great demand for other building purposes. The parts of the wall between pillars which were constructed of small blocks facing an inner core of *opus caementicum* in an ash mortar, have survived on the most part, although highly disintegrated in places owing to missing pillars. Generally, the preserved, undamaged parts of the foundation do not exceed 20% of the substance.

Anastylosis was carried out on about 30 cubic meters of this foundation using ancient elements – blocks found during excavations. The lime and cement mortar was prepared thin in

order to accommodate the bad ground conditions in Alexandria and the generally difficult carbonization of mortar in foundations of this thickness and depth. The old parts were isolated from the new by jute insulating paper.

This work was followed by an anastylosis of two red granite columns, both 5.85 m high, in the Northern Portico of the baths. All the broken sections of these columns of a diameter of about 70-80 cm had horizontal planes of the breaks and so could be joined together without clamps or tenons of any kind. An original Ionian capital was set up on the marble column in the northern corner of the gymnasium which belonged to the western wing (its position was determined on the basis of an analysis of the recorded situation of elements of architectural decoration uncovered in excavations). One of the granite columns was topped with a Corinthian capital the bottom part of which had been reconstructed in artificial stone in the 1985/1986 season. There are two possible explanations for this obvious difference in the decoration of the two colonnades constituting the corner of the gymnasium. Analogies would suggest that either the colonnades were intentionally decorated with different type capitals or else the Late Roman and Byzantine architects of the complex paid little attention to stylistic homogeneity of the elements of architectural decoration reused in their structure.

In the southern portico one granite column was re-erected. It belongs to the southeastern corner of the southern gymnasium. The diagonal break (40-45° angle) necessitated stainless steel rods 40 cm long, 2.2 cm in diameter, to be inserted into joining planes. The joining was first tested on plaster models of the two planes of the break furnished with matching guide pipe inserts which permitted the nests for the joining rods to be cut in exactly matching places on the two planes and under a proper angle to ensure a precise connection. The actual

joining was done without using any joining substances, with a precision of 1 mm, moving elements weighing over 6 tons each with a manually operated pulley. The tripod used was of steel pipes 10 m high, the chain transmission of the pulley was 1:100.

The entire program of conservation work carried out at Kom el-Dikka will be published in a separate volume appearing in the "Alexandria" series.