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Craft production in Lower Egypt during Late Predynastic times with special reference to Ma'adi

Among the Pre- and Protodynastic agricultural communities discovered in Lower Egypt, the most important and the most elaborately organized in its social structure is at Ma'adi. The first excavators (Menghin 1931; 1932; 1934) considered it to be a site-type of a wide cultural pattern that had been developed in Lower Egypt, characterized by completely different elements to those found in Upper Egypt. Its geographical situation on a Pleistocene terrace extending eastwest between the mouths of Wadi Digla and Wadi El Tih was especially favorable for the development of agriculture. Menghin's and Amer's research (1932 - 1953) emphasized the importance of the settlement due to: its great size, long-continuous occupation, the wealth of artefacts and to the knowledge of copper technology. Professors Puglisi and Palmieri in many campaigns discovered elements of its social organization. Clear evidence of the agricultural activity that took place in Ma'adi was shown in our recent excavations here. The equipment consisted of grinding stones in various shapes. Oval shapes were commonest with the faces flat or slightly concave; the bigger ones were of limestone, some being found on the original landsurface close to fireplaces. We found also a large quantity with central depression in dark and light limestone, and traces that they had been used for grinding wheat with circular movements (Fig. 1). The round and flatter objects with only a slight center depression seem to have been used for grinding ochre or other softer materials; some had handles. The grinding, pounding or crushing was done with pestles or hammerstones of flint, granite or sandstone which were found also in various shapes: cylindrical, convex, cubic, fanshape, globular and oval. In some cases they showed, on different sides or on the same side, signs of grinding, pounding and percussion and it is clear that they were used for different purposes.

One object found seems to confirm the hypothesis of a connection with Upper Egypt, this was a rhombic slate grinder palette with engraved decora-



Fig. 1. Ma'adi. Grinding stones.

tions at one end depicting two unidentifiable animals. This type of palette is common in the burials of Upper Egypt, dating back to Early Predynastic times. It is clear that the palette was a luxury object imported from Upper Egypt, which was broken and used later as a hammerstone, traces of percussion being clearly visible.

Spindlewhorls of limestone, whole or fragmentary, and other stone rings were present in great quantity, as were potsherds with perforators; study of the use of this object is continuing.

The bone industry in the settlement is characterized (Fig. 2) by awls, points and spatulae which were probably used for decorating ceramics. Similar objects were found at nearby settlements like Helwan, El-Omari (Debono 1948), Merimde and Heliopolis, but Ma'adi offers a much greater concentration and a far higher level of technology, probably due to the greater wealth of the site. Bone combs with short teeth and concave back also occur. This type of comb dates back to the Gherzean period and is also among the grave goods of Nagadian times.

The need to produce a bigger number of tools could have contributed to the specialization of the craftsmen. They, in fact, were able to use hard stones in the construction of every-day's tools. This may have brought about a more progressive social organization at Ma'adi than in other settlements of Lower Egypt.



Fig. 2. Ma'adi. Bone tools.

We should also like to emphasize the presence in the settlement of stone vases of various shapes and stones. During our recent work a whole basalt vase was found *in situ* in a hut foundation, close to a fireplace, on the original landsurface. Its truncated conical "Lybian" shape, with flat everted rim was recorded at Marsa Matruh (Bates 1915) and in an Early Predynastic grave in southern Upper Egypt. A general connection with Upper Egypt is also indicated by the presence of stone vases in Tura, Heliopolis, Halwan and El-Omari. In the Fayum's ateliers were found where vases in basalt and alabaster were made with stone drills and this workmanship is present in the tombs of Saqqara and Abydos (El-Khouli 1978). Usually stone vases have been found in cemeteries, as grave goods, but at Ma'adi they were found in the settlement being used for exchange, circulating from Upper Egypt towards Sinai and from there, along the Wadi Tih to the Ma'adi region.

A pendant was also found in the settlement, that must have originated in Upper Egypt: an engraved plaster plaque in the form of a baboon in profile with a hole for hanging. The animal's body is engraved with great precisions, the tufts of hair looking like triangles. The same animal is widely depicted on pendants of faience, ceramic and stone at Hierakonpolis (Quibell 1900).

A craft that was developed only at Ma'adi in Predynastic times is confirmed by small copper objects. They seem to be made locally since smelting is present in the settlement. The presence of metal at Ma'adi might mean relations with the mines of Sinai, but in the Wadi Hammamat in the Eastern Desert copper could also be found.

The analysis of luxury present in the Ma'adi settlement, of their quality, workmanship and shape may in future confirm exchange activity amongst peoples who moved over the Eastern Desert and who left traces of their presence in the rock graffiti of Wadi Hammamat and in other areas (Winkler 1938). It is probable that the wealth of the Ma'adi settlement could have encouraged that exchange.

At the same time the hypothesis that stone vase production had its center in Lower Egypt should be examined – this could explain the great production of stone vessels during the first three dynasties for burials at Saqqara. It is only right to suggest that such an important industry inherited a long tradition of stone working such as is found at Ma'adi. Such local craftsmanship could have been increased and included in the State organization when its seat was at Memphis, and would have formed a group of specialized workers supported by the State.

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