

## STONE OBJECTS

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The collection of articles made from different kinds of stone is relatively small – it amounts to only thirty catalogued items. As regards the intended application of the stone objects, we should distinguish, first a group of stone implements (**L 1-26**), then two objects that fall into the category of stone pottery – a louterion and a mortar (**L 28-29**) – and finally a stone counterbalance (**L 30**). All these objects are related to the everyday domestic life of the settlement inhabitants. The only other item in our collection (**L 27**) is a fragment of some architectural detail, and it was probably just chance that brought it to building U6 for reuse, since no other details connected with its particular order of architecture have been found there.

The largest and most representative group is made up of stone implements used for various different purposes in the household. It should be noted that here for the first time we have a truly comprehensive set of implements to be found during the excavation of such an architectural complex as building U6. It is a matter of no less importance that in order to elucidate the functional purpose of each tool or implement all such items have been examined in the Laboratory of Archaeological Technology at the Institute of the History of Material Culture of the Russian AS. This research was carried out by Dr. N.N. Skakun; the rock identification was the work of the geologist G.M. Kovnurko.

Rocks of varying degrees of hardness were used as the raw material for making the tools included in our collection: metamorphic sandstone, diabase, organogenic limestone, gneiss. None of these rocks is found in the vicinity of the settlement or, indeed, anywhere else within the Tarkhankut Peninsula area, so we must conclude that all our objects were imported here either as half-finished products or as completed articles. The nearest region where these rocks are to be found in any abundance is the south coast of the Crimean peninsula. However, it cannot be excluded that they could have come from the southern Black Sea coast.

Some of the implements were shaped as cubes or discs – for this purpose the *piquage* technique (that is, gradual chipping away by repeated strokes with a pointed implement), smoothing with an abrader, or sometimes even polishing was used.

Noteworthy is the distribution of the find-spots of the stone implements within the area of building U6. The majority of the implements were found lying on the floors of rooms and only some isolated examples were in the courtyard. In the rooms, the find-spots of the stone objects were irregularly distributed. Thus eight abrading-tools and graters were found in *room 12* (the sanctuary) and *room 13* adjoining it; in *room 3*, there were six objects; three specimens were found on the floor of *room 33*, and one in each of *rooms 1* and *28*. There were no stone tools in any of the other rooms of building U6. It is quite reasonable to suppose that whetting and sharpening of the cutting edges of metal tools was done in the places where such tools were actually used.

The analysis of find-spots given above enabled us to identify the functions of the majority of the stone objects. However, in three cases (**L 8**, **L 11**, **L 23**) an exact identification of function was not possible because the tools were evidently not in use for any length of time, and so there are very few physical signs of the use(s) they might have been put to. Another of the objects (**L 4**) indeed showed no traces of use at all; judging by its shape it was a plug for stopping certain narrow-mouthed vessels – most probably amphorae.

The identifiable tools most strongly represented in our collection are, first, two different

types of abraders (whetstones or grindstones), for whetting and sharpening the blades of metal tools (13 specimens), closely followed by graters (*palettes*) for grinding both organic and mineral materials (8 specimens). Tools that evidently had multiple functions were also identified. Thus two items showed traces of having been used both as abrading-tools and as graters; three others had been used as small hammers for light smithery and also as abraders; and yet another was simultaneously an anvil and an abrader. On the surface of some of the objects microscopic particles of copper or bronze oxides are preserved; on the operative parts of most of the abraders there were iron oxides; and on one of the implements microscopic remains of ochre have been identified.

## CATALOGUE

**L 1.** U6 room 1. Find list 1/9. 1969. Pl. 171.

Stone tool made from a smooth round pebble. Bifunctional: 1, used as a percussive tool (small hammer) – there are traces of one of the butt-ends having been worn out by constant use, the other end is broken off; 2, used as an abrader for sharpening metal tools.

Operative parts: the three flat faces.

Material: dense metamorphic sandstone.

Dimensions: length 13.2 cm, width 6.7 cm, thickness 5.0 cm.

**L 2.** U6 room 3. Find list 6/57. 1969. Pl. 171.

Stone tool. An abrader for the fine grinding (whetting) of blades of metal tools.

Operative parts: the two opposite flat faces.

Material: crystal slate (probably gneiss).

Dimensions: length 7.5 cm, width 7.2 cm, thickness 3 cm.

**L 3.** U6 room 3. Find list 6/57. 1969. Pl. 171.

Implement made from a smooth pebble. An abrader for sharpening metal tools.

Operative parts: the two opposite flat faces.

Material: dense metamorphic sandstone of nearly square shape; the four flat surfaces were worked by means of the *piquage* technique.

Dimensions: length 7.4 cm, width 6.6 cm, thickness 4.3 cm.

**L 4.** U6 room 3. Find list 6/56. 1969. Pl. 171.

Stone plug shaped as truncated cone. The sides were worked by means of the *piquage* technique.

Material: dense organogenic limestone.

Dimensions: upper-plane diameter 6 cm, lower-plane diameter 8.2 cm, height 4.6 cm.

**L 5.** U6 room 3. Find list 6/58. 1969. Pl. 171.

Stone implement made from a smooth pebble. Grater (palette) for grinding ochre.

Operative parts: the two opposite flat faces. On one of the faces is a natural pit where microscopic remains of ochre are preserved. On the opposite face, remains of mineral pigment have also been identified.

Material: medium-grained metamorphic laminated sandstone.

Dimensions: length 12.4 cm, width 3.3-5.8 cm, thickness 1.9 cm.

**L 6.** U6 room 3. Find list 6/58. 1969. Pl. 171.

Stone implement made from a flat pebble. Bifunctional: 1, used as a grater (palette) for grinding pigment, the operative parts are the two opposite flat faces; 2, used as an abrader for sharpening the blades of metal tools.

Material: dense medium-grained metamorphic sandstone.

Dimensions: length 15.9 cm, width 7.8 cm, thickness 1.9-2.6 cm.

**L 7.** U6 room 12. Find list 6/78. 1971. Pl. 172.

Stone implement made from a disc-shaped pebble. Bifunctional: 1, used as an anvil for smithing small objects, both the opposite flat faces of the stone being employed for the purpose; 2, used as a grater.

Material: dense metamorphic feldspar sandstone.

Dimensions: length about 7.6 cm, width 4.2 cm.

**L 8.** U6 room 12. Find list 6/70. 1971. Pl. 173.

Stone implement made from a round-shaped pebble. Grater (?); the fact that it was evidently not in use for any length of time makes it difficult to define the precise function(s) of this implement.

Material: metamorphic quartz-feldspar sandstone.

Dimensions: diameter 9.3 cm, thickness 3.9 cm.

**L 9.** U6 room 12. Find list 6/32. 1971.

Stone tool. An abrader for sharpening metal tools.

Operative parts: three faces.

Material: organogenic limestone.

Dimensions: length 8.9 cm, width 6.5 cm, thickness 2.8 cm.

**L 10.** U6 room 12. Find list 6/80. 1971. Pl. 173.

Stone tool. An abrader for sharpening the cutting edges of metal tools.

Operative parts: the two opposite flat faces.

Material: organogenic limestone with clearly discernible platelets of mica.

Dimensions: length 10.9 cm, width 9.6 cm, thickness 6.3 cm.

**L 11.** U6 room 12. Find list 6/81. 1969. Pl. 172.

Stone tool made from a flat rectangular pebble. Bifunctional: 1, used as a small hammer; the operative parts were both butt-end surfaces; 2, the two opposite flat faces were used as an abrader for sharpening the blades of metal tools. On one of these faces, particles of copper or bronze oxides are preserved.

Material: dense fine-grained metamorphic sandstone.

Dimensions: length 10.0 cm, width 5.5 cm, thickness 2.3-2.5 cm.

**L 12.** U6 room 3. Find list 6/58. 1971. Pl. 172.

Stone tool made from an oblong pebble. An abrader for sharpening the cutting edges of metal tools.

Operative parts: the two opposite flat faces; microscopic particles of ferrous oxide are preserved on both faces.

Material: dense metamorphic sandstone.

Dimensions: length 6.8 cm, width 3.2-4.6 cm, thickness 2.8 cm.

**L 13.** U6 room 13. Find list 8/63. 1971. Pl. 173.

Stone tool. A cylindrical pestle. One end is convex, polished to a lustre; the other end – the operative part – was used for grinding solids. Fashioned by means of an abrader and *piquage*.

Material: hard organogenic limestone.

Dimensions: length 11 cm, diameter 4.6-4.9 cm.

**L 14.** U6 room 13. Find list 2/64. 1971. Pl. 174.

Stone tool made from a flat pebble. An abrader for whetting the cutting edges of metal tools.

Operative parts: two opposite flat faces and one other side were utilized. On all three faces, particles of ferrous and copper oxides are preserved.

Material: fine-grained metamorphic sandstone.

Dimensions: length 12.0 cm, width 3.4 cm, thickness 0.9 cm.

**L 15.** U6 room 28. Find list 12/3. 1972. Pl. 172.

Stone tool. Bifunctional: 1, a grater for grinding mineral pigment; 2, an abrader for whetting the cutting edges of metal tools.

Operative parts: the two opposite flat faces. The sides and angles of the butt-end show traces of reuse, having been worn down by some hard material.

Material: dense metamorphic sandstone with a stratified structure.

Dimensions: length 15.9 cm, width 7.8 cm, thickness 1.9-2.6 cm.

**L 16.** U6 room 33. Find list 4/16. 1973. Pl. 172.

Stone tool. Bifunctional: 1, used as a small hammer; the operative parts were both the butt-end surfaces of the stone; 2, an abrader for whetting the cutting edges of metal tools; the operative parts were the two opposite flat faces.

Material: fine-grained metamorphic sandstone.

Dimensions: length 11.2 cm, width 5.6 cm, thickness 3.0 cm.

**L 17.** U6 room 33. Find list 4/14. 1973. Pl. 172.

Stone implement made from a disc-shaped pebble. A grater for grinding vegetable materials.

Operative parts: the flat faces.

Material: fine-grained metamorphic sandstone.

Dimensions: diameter 8.3 cm.

**L 18.** U6 room 33. Find list 4/15. 1973. Pl. 173.

Stone implement made from a globular pebble; the angles have been fashioned by means of *piquage*. A grater for grinding mineral pigments.

Operative parts: the four flat faces.

Material: dense fine-grained metamorphic sandstone.

Dimensions: length 5.9 cm, width 5.8 cm, height 5.5 cm.

**L 19.** U6 courtyard, B-6. Find list 16/124. 1972. Pl. 172.

Fragmented stone tool made from a flat pebble. An abrader for whetting the cutting edges of metal tools.

Operative parts: the two opposite flat faces.

Material: dense metamorphic sandstone with inclusion of quartz grains.

Dimensions: preserved length 6.5 cm, width 4.3 cm, thickness 1.6 cm.

**L 20.** U6 courtyard, B-5. 1973. Pl. 173.

Stone tool made from a disc-shaped pebble. Bifunctional: 1, one of the flat faces was smoothed and polished, and used for grinding solid materials to powder; 2, the second flat face was used as a small hammer.

Material: dense laminated organogenic limestone.

Dimensions: diameter 5.3 cm, thickness 4.0 cm.

**L 21.** U6 courtyard, E-6. Find list 17/130. 1972. Pl. 173.

Egg-shaped pestle. The rounded end is polished.

Operative part: the cone-shaped butt-end, where cracks are clearly visible. It was used for grinding hard materials to powder.

Material: greenish diabase.

Dimensions: length 6.1 cm, diameter from 4.5 cm.

**L 22.** U6 courtyard, B-4. Find list 1/71. 1973. Pl. 172.

Fragmented stone tool made from a flat pebble. An abrader for whetting the blades of metal tools.

Operative parts: the two opposite flat faces.

Material: dense fine-grained metamorphic sandstone.

Dimensions: preserved length 6.5 cm, width 8.3 cm, thickness 2.6 cm.

**L 23.** U6 courtyard, B-4. Find list 1/125. 1973. Pl. 172.

Fragment of a stone tool in the shape of a truncated cone. On the surface, traces of sawing are clearly recognisable; the stone was polished with an abrader. The function has not been identified.

Material: dense fine-grained metamorphic sandstone.

Dimensions: preserved length 3.5 cm, diameter 1.4 cm.

**L 24.** U6 courtyard, B-4. 1973. Pl. 173.

Fragment of a stone tool made from a flat pebble. An abrader for whetting the blades of metal tools.

Material: dense fine-grained metamorphic sandstone.

**L 25.** U6 courtyard, B-6. Find list 6/124. 1972. Pl. 173.

Fragment of a stone tool made from a flat pebble. It has not been possible to identify the function; possibly an abrader.

Material: dense metamorphic sandstone.

Dimensions: 5 cm × 2.8 cm × 3 cm.

**L 26.** U6 room 12. Find list 6/44. 1971.

Stone tool made from a cube-shaped pebble. The angles have been rounded by means of *piquage*. A grater for grinding mineral pigment (ochre) to powder.

The operative surfaces are all the six faces of the stone; however, there are two opposite faces that are more worn by use than any of the others.

Material: hard laminated metamorphic sandstone.

Dimensions: 6.8 cm × 6.1 cm × 5.3 cm.

**L 27.** U6 room 11. Find list 5/63. 1971. Pl. 174.

Fragment of an architectural detail: more exact attribution is not possible. All sides of the stone are neatly worked; the back has been split off.

Material: dense fine-grained limestone of yellowish white colour (the so-called *Inkerman* rock).

Dimensions: height 8 cm, width 3.2 cm.

**L 28.** U6 room 16. Find list 10. 1971. Pl. 174.

Limestone louterion; the rim is upright and rounded on top; massively thick walls run smoothly down to the flat bottom. The two flattened handle-supports are just at the rim. One of handles has an incised mark E (see **H 17**).

Dimensions: mouth diameter 43.0 cm; bottom diameter 25.0 cm; height 18.0 cm; wall thickness 3.0-5.0 cm. Dimensions of handles: length 8.0 cm, thickness 4.0 cm, width 5.0 cm.

The vessel was cut from a single limestone block; both the

inner and outer surfaces bear clearly visible traces of tool-marks. Split into several fragments at some time in antiquity, then restored.

**L 29.** U6 room 12. Find list 6. 1971. Pl. 174.

Oval limestone trough. The upright rim is cut off flat on top; massive walls run smoothly down to the flat bottom.

The dimensions of handles show slight differences. First handle: length 16.0 cm, width 11.0 cm, thickness at the wall surface 6.0 cm. The second handle is more massive: height 18.0 cm, width 19.0 cm. Dimensions of the vessel: maximum length 68.0 cm; maximum width 36.0 cm; height 33.0 cm. The trough is cut from a single block of Pontic limestone. Both the inner and outer surfaces, bear clearly visible traces of tool-marks. The vessel was split into several fragments; restored after excavation.

**L 30.** U6 room 12. Find list 6. 1971.

Counterweight. Made from a single fragment of limestone-shellrock. The corners of the stone are cut away thus rounding its shape. The lower side is flattened and crossed by a groove 3.0 cm wide and up to 0.5 cm deep for the accommodation of a wooden rod. The counterweight was fixed onto the rod by means of cords running round and over the upper side of the stone. Four additional grooves were gouged across the surface of the stone (at right-angles to the direction of the rod), thus providing slots in which to fix the encircling cords more securely. The width of these grooves is 2.0-2.5 cm and the depth up to 1.0 cm.