

KADERO

Personal adornments

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INTRODUCTION

Looking at the varied offerings placed in the Neolithic graves of the Kadero population one may see how complex the social organization must have been. Besides numerous ceramic vessels and tools made of stone and bone, the deceased received also personal adornments. The jewellery must have had numerous meanings.

Beads, pendants, bracelets and necklaces tell us a great deal about both the technology and the culture of their makers and users. Technologically, they illustrate the ability to drill through brittle or very hard materials (Bednarik 2008:94). More importantly, however, they make it possible to carry out cultural and cognitive deductions. Beads could have been used in a number of ways and for several purposes: they may have been emblematic, for instance, and provided various forms of information about the wearer and his or her status in society. In ethnological parallels, beads sewn into apparel or worn on necklaces may have complex social, economic, ethnic, ideological, religious or emblematic meanings, which are only accessible to a participant of the culture in question (Bednarik 2008:95).

Mineral pigments such as ochre and green malachite which were found in some graves in Kaderto could conceivably be used for utilitarian purposes, but in all likelihood, they were used for symbolic purposes (body painting, coloring of artefacts: tools, pottery and jewellery - e.g. eggshell beads).

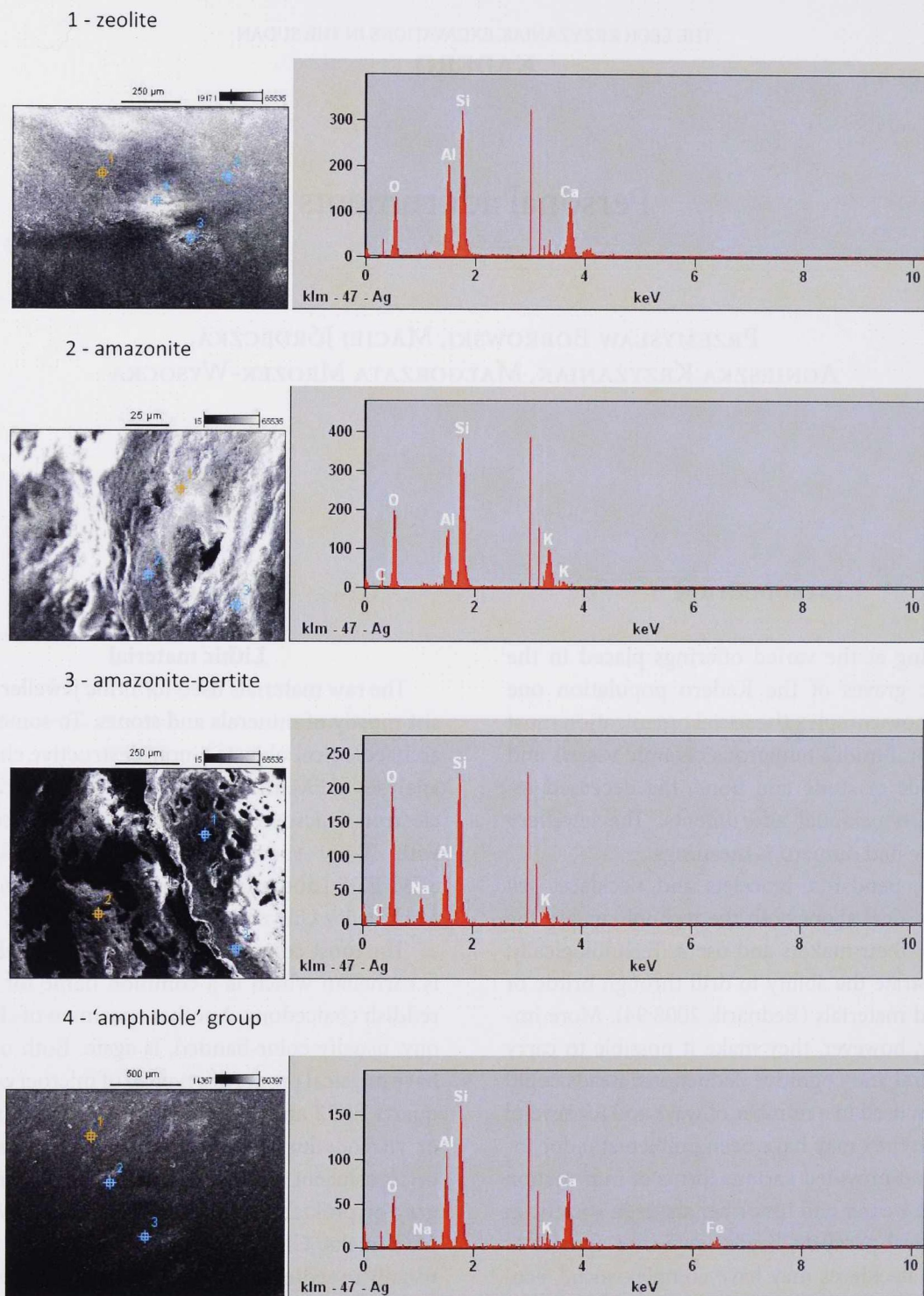
RAW MATERIALS

Lithic material

The raw materials used for lithic jewellery, consist mostly of minerals and stones. To some of the archaeological objects a non-destructive chemical analyses (SEM-EDS) had been applied (scanning electron microscope Hitachi S-3700N coupled with X-ray spectrometer Thermo NORAN – SEM-EDS Laboratory, Institute of Geology, Adam Mickiewicz University, Poznan, Poland).

The most common gemstone found in Kadero is carnelian which is a common name for red or reddish chalcedony. Another specimen of chalcedony, usually color-banded, is agate. Both of them have physical properties typical of microcrystalline quartz SiO₂ and Mohs hardness of 6.5-7, a waxy or vitreous luster; they may be semi-transparent or translucent. Agate is generally dense greenish gray or pinkish white with light olive brown and red streaks. Chalcedony is widespread in Sudan, usually in sedimentary accumulation derived from vesicular basalts. Chalcedony pebbles range in size from 1 to 4 cm.

Besides chalcedony, numerous finds of zeolite used for making lip plugs were found in Kadero. Zeolite is usually white with beige and salmon shades. Its Mohs hardness is 5 to 5.5. Slender and fibrous crystals are translucent with a white streak and a luster that is vitreous to silky. SEM-EDS analysis enable specification of zeolite as scolecite



	CO ₂	Na ₂ O	Al ₂ O ₃	SiO ₂	K ₂ O	Fe ₂ O ₃	CaO
zeolite	---	---	27.83	54.35	---	---	17.82
amazonite	16.82	---	17.02	55.45	10.71	---	---
amazonite-pertite	24.98	8.94	15.15	47.59	3.34	---	---
'amphibolite'	---	---	20.86	48.38	---	23.97	6.79

Fig.1. SEM-EDS analysis - normalized compound [%]

$\text{CaAl}_2\text{Si}_3\text{O}_{10} \cdot 3\text{H}_2\text{O}$ (Fig. 1.1). It occurs commonly in the cavities of weathered basalt fragments.

Two are made of amazonite which is a very distinctive mineral because of its homogenous green and blue color; it is a variety of microcline feldspar KAlSi_3O_8 . Amazonite is 5-6 on Mohs scale and has a vitreous luster. Intergrowth of white albite known as perthites can also be observed, especially during SEM-EDS analyses $\text{NaAlSi}_3\text{O}_8$. Amazonite was quarried in the Red Sea Hills in Egypt or in the Tibesti Mountains (the Central Sahara). As a result of SEM-EDS analyses, only chemical formula of feldspar/perthites could be obtained (Fig. 1.2, 3). It seems to be inadequate to indicate their presumable provenance.

Other semi-precious gemstones such as rock crystal and serpentine were also worked. The first one, colorless and transparent, is a variety of pure quartz. Serpentine is characterized by 2,5-3 Mohs hardness and green color.

A few pieces of lithic jewellery are made of locally available rocks, primarily rhyolite and sandstone, although small amounts of both limestone and quartzite are present. Beads, pendants and tools alike, were made of rhyolite. Rhyolite is aphanitic rock, a pinkish to reddish color, as well as bluish-green. Its felsic composition reveals quite high hardness. Sandstone has a quartz framework and is a fine-grained and well sorted rock with massive structure.

Two pendants made of ochre have been distinguished. Red ochre has a typical reddish brown streak and color which is caused by iron oxides components (hematite and goethite).

Another find associated with lithic jewellery is a lump of green malachite. Several occurrences of malachite are known in Sudan and Egypt but there is no evidence for the existence of any ancient quarry nearby Kadero site.

An elongated object has properties corresponding to amphibole group. It is brownish black with a white streak and has a hardness of 5-6 as well as elongated shape. SEM-EDS analysis reveals an aluminum-iron-calcium silicate composition, which is possible in amphiboles (Fig. 1.4).

Eventually, lithic jewellery was mostly manufactured of locally available materials like chalcedony pebbles, zeolite, rhyolite, sandstone. Geologi-

cal conditions next to Kadero (like Nile valley and plateau) were favourable for exploration of stone sources. Some of the raw materials came from a distant provenance.

Organic

Jewellery was also made of organic materials. Bracelets and armlets were mostly made of elephant as well as hippopotamus ivory. Beads and pendants were made of bones of small mammals, ostrich egg shells as well as bivalve shells from the Nile and the Red Sea (see Gautier & Van Neer in this volume).

NEOLITHIC JEWELLERY

Pendants

Pendants made of stone as well as organic material rarely constituted grave offerings in the Neolithic. They were found in eight graves; however, in six of them they most probably constituted elements of a necklaces made up of carnelian beads (graves 3, 66, 75, 113, 160 and 219). In one grave, besides the pendant there were also plugs made of zeolite (184), and in another there were no other personal adornments (45). Most frequently, the deceased received a single pendant, although in two graves (3 and 113), the necklaces consisted, besides the carnelian beads of four carnelian pendants (198 in the first case and 21 in the other – Krzyżaniak 1992: 135). In both graves, the shapes of pendants are similar; they are small (in the grave 3: 22-30 mm long, 0.9-1.1 mm wide and c.a. 4-5 mm thick; in the grave 113: 14-16 mm long, 5-6 mm wide and 3 mm thick), elongated ovals and have a hole drilled from both sides of a diameter of 2 mm (Fig. 2). A slender, oval carnelian bead found in grave 97 is also very small too (13 x 6 x 3 mm). Another pendant from grave 219 has a similar form; however, it is rectangular (Fig. 3.2). It is made of an agate pebble processed by means of chipping its edges and surface and then polishing the edges. The opening of 1.5 mm in diameter is drilled on both facets, c.a. 4 mm from the top edge of the pendant. This form seems to have been very popular and it is frequently recorded in other sites, such as Kadruka (Reinold 2004:48).

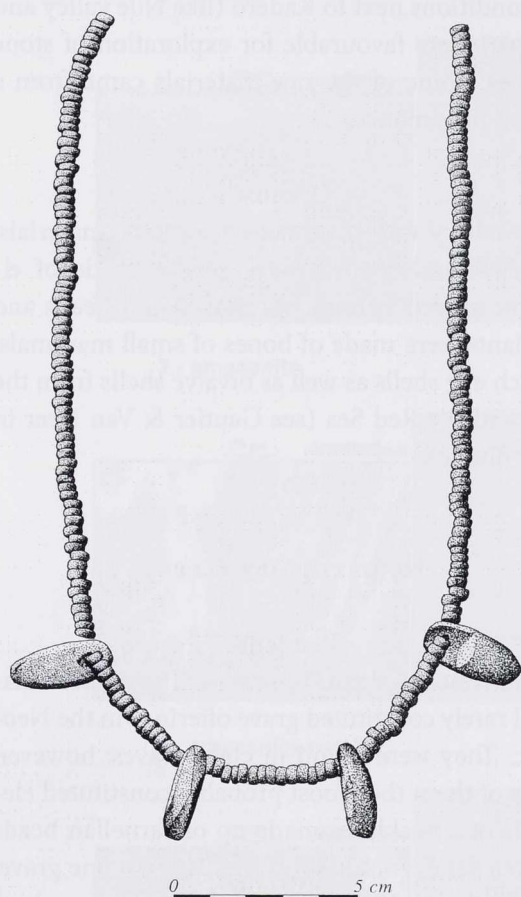


Fig. 2. Kadero 1. Necklace made of carnelian beads and pendants (Grave 3)

A 35 x 16 x 3 mm pendant found in grave 75 is almond-shaped. It might have been made of limestone. It has a 1.5 mm opening drilled from both sides. It most probably constituted an element of a necklace made up of at least seven carnelian beads.

A small, (16 x 10 x 5 mm), pendant from grave 184 has an irregular, “teardrop” shape. It is made of zeolite, with a hole drilled from both facets (Fig. 3.3).

Two pendants made of rhyolite have completely different, cylindrical, pencil-like shapes. The first one, in fact the only one in grave 45 where a 30-35 year old male was buried, is a very regular in shape and well polished piece 78 mm long and up to 14 mm thick. In its narrow top part, a 3 mm hole was drilled in both facets (Fig. 3.1). The other piece belonged to a much richer set of gifts found in grave 66 where another male was buried. It is a cylindrical pendants with a length of 53 mm and maximum diameter amounts 14 mm. The piece constitutes part of a much bigger necklace.



Fig. 3. Kadero 1. Pendants:
1 - rhyolite (Grave 45); 2 - agate (Grave 219);
3 - zeolite (Grave 184); 4 - ochre (surface)

A pendant made of ochre and found in the midden might also be related to the Neolithic. The piece is tear-shaped and oval; its length is 40 mm, width 25 mm and thickness 3 mm. It is made of a flat piece of material with polished facets and edges and a drilled opening from both surfaces of 4.5 mm. On one of the facets, numerous multidirectional scratches are visible which might have been made intentionally (Fig. 3.4).

Among the artefacts made of organic material there was also a pendant made of ostrich egg shell. It was found in the richly equipped grave 160 where a newborn baby was buried. The well preserved piece is white and conical in shape. It is 21 mm long, with a maximum width of 14 mm and thickness - of 2 mm. At the top, the narrower part, there is a 2.5 mm opening. On one of the facets, there was an engraving of a fishbone made by means of a sharp tool. The pendant is very neatly and artfully made (Fig. 5.4).

Beads (and necklaces)

Beads constitute the most numerous pieces of jewellery in Kadero. They were made of various raw materials, although the most popular ones were carnelian beads, Nile crustacean beads as well as beads made of shells from the Red Sea. In several graves there were pieces made of ostrich eggshells. The latter seems to have been a long

standing tradition. First examples date back to the Mid-Palaeolithic and come from, according to research Loiyangalani Valley in the Serengeti National Park¹ (M. Kobusiewicz – oral information, literature). In the Nile Valley, the oldest beads appeared in the Late Palaeolithic sites in Kubbanian (Close 1989:518; Więckowska 1984: 580-581), and Halfan (Marks 1968:434-435). In one of the graves, a bone bead necklace was recorded.

Beads, usually very small in size, constituted parts of bigger pieces of jewellery. Stringed on a very fine line, they were parts of bracelets, necklaces and diadems, sometimes in combination with pendants. They could also be sewn on clothing or containers made of organic material. In Neolithic graves at the site in Kadero, beads were recorded in sets from several dozen to several hundred pieces. When there were fewer stone beads, the graves contained crustacean shell beads or bone beads, sometimes other adornments like bracelets, armlets and pins for piercing lips, nose or ears.

Stone beads

Carnelian

Carnelian was definitely the most popular stone material used for making beads. Carnelian bracelets, necklaces and single beads decorated the bodies in 32 graves (in total almost 1700 beads). Neolithic jewellers managed the hard stone very well, however, there is no evidence that the beads were made in Kadero. Undoubtedly, the production must have represented a high level of technical skills.

The choice of material must have been influenced by its attractive appearance and accessibility, although it is also possible that it might have had symbolic and magical importance. The most popular forms of beads were small, round and flattened discs. They varied in diameter size, between 4.8 and 9.1 (average 6.6 mm). The thickness varied from 1.8 to 5 mm (average 2.8 mm). The opening was always drilled from both sides and its diameter was from 1.2 to 3.8 mm (average 2.27 mm). An exceptional bead in the collec-



Fig.4. Kadero 1. Necklace made of carnelian beads (Grave 4)

tion is a cylindrical piece that was an element of a necklace from grave 66. It is the only piece of this type in the Neolithic burial site in Kadero. Its shape is very regular, the bead is 22 mm long and its diameter is 11 mm. There is an 8 mm opening drilled from both facets.

Agate

In grave 9, two agate beads were recorded. They were part of a necklace/ bracelet composed of 34 more carnelian beads. One, 8.3 x 3.4 mm, was made of dark green and grey plain stone. The opening drilled from both sides was 2.3 mm in diameter. The other stone was light olive brown/pinkish white. The sizes were similar (8.2 x 3.3 mm), however the diameter of the opening was slightly bigger (3.2 mm).

Amazon stone

Single barrel-shaped beads made of green amazonite were found in graves 203 and 219. The first was 8.1 x 4.6 mm in size with the diameter of the opening of 3.2 mm; the other was slightly bigger with the dimensions of 12 x 6.9 mm and the opening of 4.6 mm in diameter.

1 The finds from Morocco are slightly 'younger'. In a cave called Grotte des Pigeons (Taforalt), in the strata dated to 82 000 years, an abundant collection of beads made of *Nassarius gibbosulus*, was found. The shells were also used by the Mid-Palaeolithic societies of South Africa (Blombos), Algeria (Oued Djebbana) and Israel (Skhul) (Bouzouggar et al. 2007:9964)

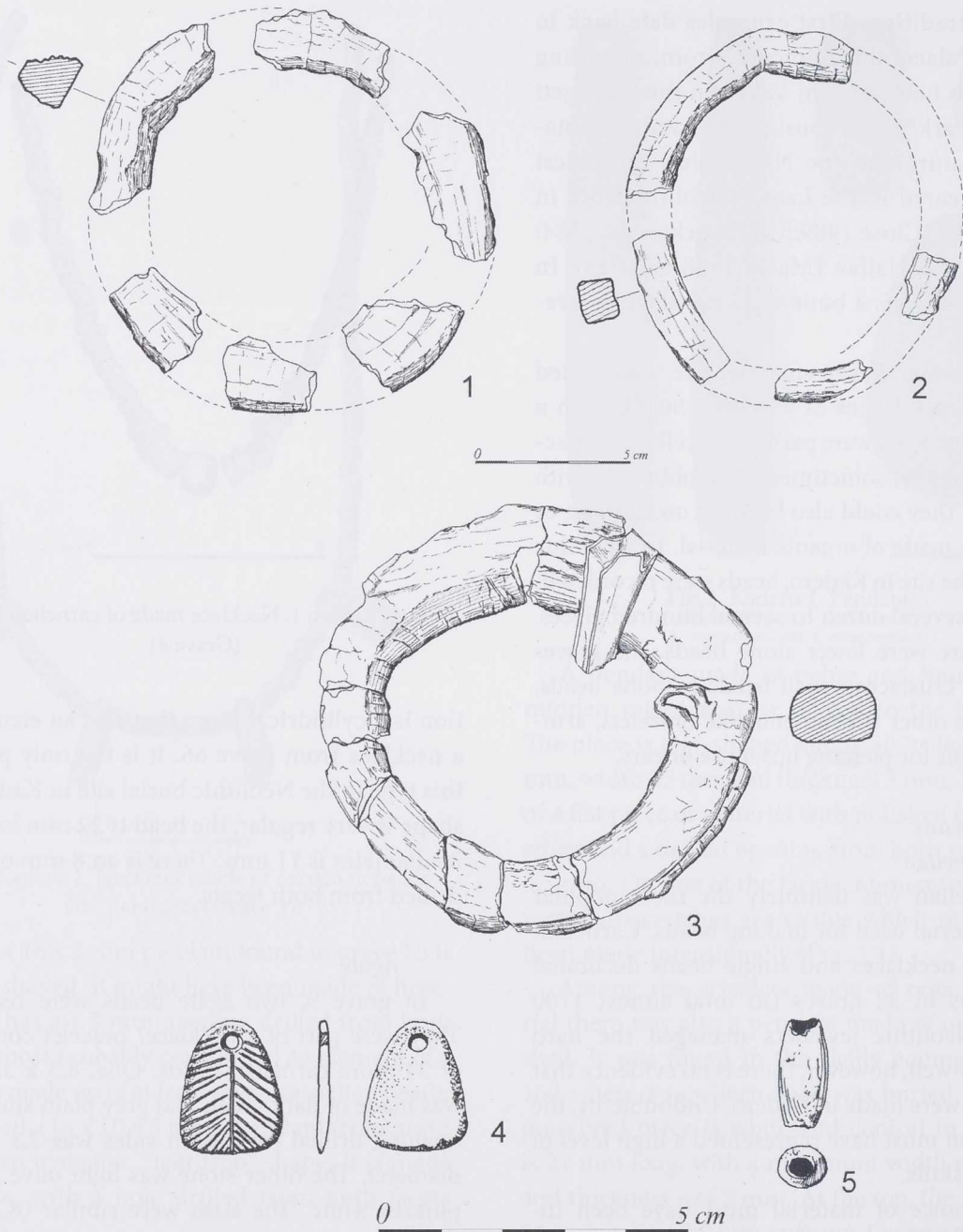


Fig.5. Kadero 1. Cemetery:
 1, 2 Ivory armlets (Grave 215); 3- Ivory armband (Grave 244);
 4- Pendant from ostrich eggshell (Grave 160); 5- Bone bead (Grave 122)

Rock crystal

A single bead made of hard rock crystal was recorded in grave 219. It was barrel shaped, slightly irregular and its size was 14 x 10 mm. As the material was translucent, the manner of double sided drilling may be easily seen as well as the hourglass shape of its profile. The maximum diameters of the opening were 6.1 and 6.4 mm, the minimum – 2.3 mm).

Sandstone

A small bead made of fine-grain sandstone is very interesting. Found in grave 143 (besides seven Red Sea crustacean shell beads and three hippopotamus ivory bracelets), the bead is regrettably very strongly damaged. Its diameter is 5 mm, thickness 1.5 mm and the opening is drilled up to 3 mm. On the surface of the bead there are traces of red color.

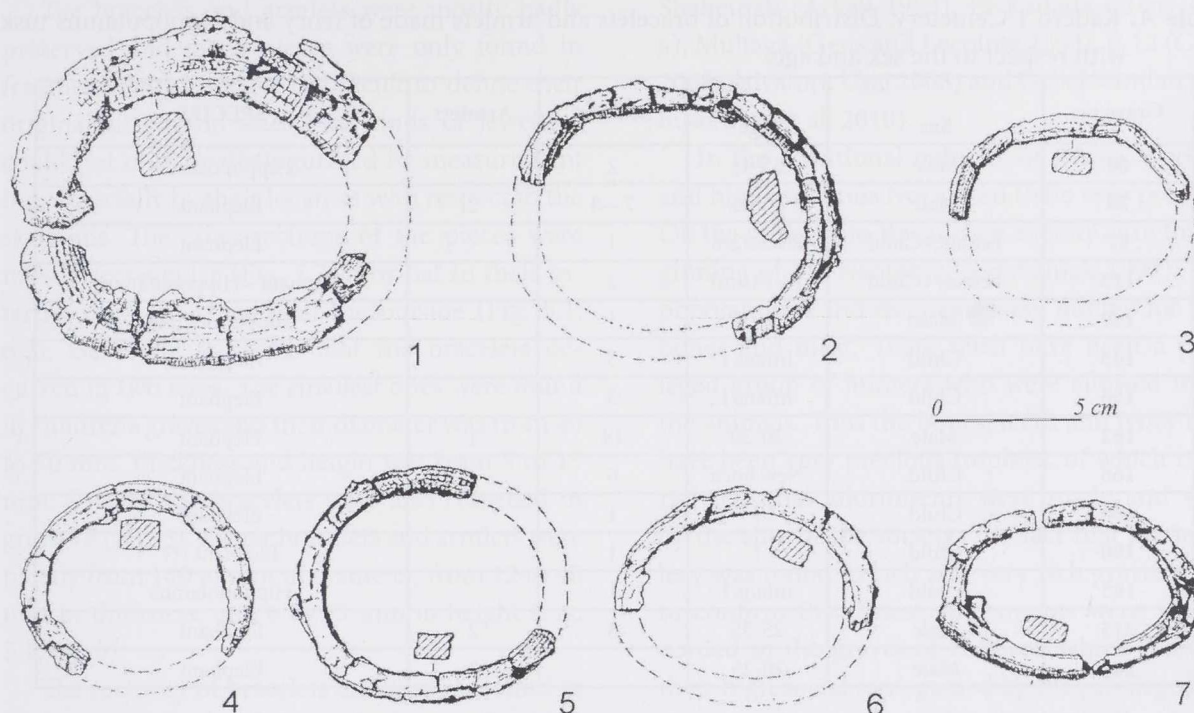


Fig.6. Kadero 1. Cemetery. Ivory bracelets (Grave 8)

Bone beads

In grave 8, where an old man was buried, a necklace made up of 548 bone beads plus 48 fragments was found. The beads were highly mineralised. Their shape was oval or rectangular and their sizes ranged from 3.8 x 3.8 to 5.3 x 5.3 mm, their thickness was from 1.8 to 2.4 mm and the opening's diameter ranged from 1.5 to 1.9 mm.

A single barrel shaped bone bead was the only offering in grave 122 where a woman of 25-35 years of age was buried. It was made of an unidentified mammal's bone; it was 15 mm long and its widest place was 0.7 mm. The diameter of the hole was 4 mm. The bead was plain without any ornaments (Fig. 5.5). Similar barrel shaped beads are known from the R 12 burial sites, however, they were made of stone materials (Salvatori, Usai 2008) and Gebel Ramlah (Kobusiewicz et al 2010).

Moreover, in Kadero seven tiny round bone beads of a rectangular cross-section were found. Their diameter was 6 to 7 mm and the diameter of the opening was 2 mm.

A necklace made of 145 ostrich egg shell beads was the only gift recorded in an inhumation of a man buried at the age of 25-35 (grave 154). All

beads were round and their cross-section was rectangular. The diameter was 5.5 mm-7.5 mm, and the diameter of the openings drilled from both facets was 0.3 mm.

Similar forms of beads and necklaces are very common in Neolithic sites across Central Sudan, Nubia and Egyptian Western Desert. Such examples may be found in such burial places as R12 (Salvatori, Usai 2008) and Gebel Ramlah (Kobusiewicz et al 2010) as well as in numerous settlement sites (see Schild et al 1968; Wendorf, Schild 1980; 2001; Wendorf et al. 1984). Nowadays, Bushmen of Kalahari (Lee 1984) use ostrich egg shells for making jewellery.

Shell beads

Shell beads constituted offerings placed in 14 graves at the site in Kadero. They occurred in various numbers from 1 to 410 pieces and were recorded in inhumations of both sexes at the age of adultus and matusus. Single beads were found in graves 114 and 160. In several graves they were parts of necklaces (graves 5, 66, 96, 143, 156, 182, 202), aprons or belts (graves 13, 210, 242, 244) and in grave 60 they were part of a diadem.

Table A. Kadero 1 Cemetery. Distribution of bracelets and armlets made of ivory and hippopotamus tusk with respect to the sex and age.

Grave no	Sex	Age	Bracelet	Armlets	SPECIES
60	Male	35-45	2		Hippopotamus
78	Male	25-45	7-8	2	Elephant
97	Female+Child	20-30/2-8	1		Elephant
113	Female+Child	18-24/infl	2		Elephant+ Hippopotamus
140	Male	20-30	1		Hippopotamus
143	Child	infans I	3		Elephant
156	Child	infans I	3		Elephant
162	Male	20-30	14	1	Elephant
168	Child	New born	6		Elephant
186	Child	?	1		Elephant
190	Child	?	1		Elephant ???
195	Child	infans I	1		Hippopotamus
215	Male	25-35	8	2	Elephant
244	Male	20-25		2	Elephant

The beads were mostly badly preserved, very frequently they were crushed. Necklaces were recorded in seven graves. Two of them were the inhumations of females and belonged to equipment class III. The others, however, were burials of adult males and Infans children and belonged to class IV, i.e. the most opulently equipped graves.

In four graves where adult men were buried, the beads were located in the lumbar section of the skeletons which suggests that they were parts of an apron or a girdle worn around the hips.

Undoubtedly, the most imposing was a diadem made of shells recorded in grave 60. It was made up of several rows of beads.

Only in two graves were there single beads which made it impossible to define what exactly their function might have been.

Sea shell beads occur also in other Neolithic sites in Central Sudan, Nubia and the Egyptian Western Desert in such burial sites as Shaheinab (Arkell 1953), Kadada (Geus 1984) and Gebel Ramlach (Kobusiewicz et al 2010).

Bracelets and armlets

The only examples of stone bracelets come from the surface of Kadero settlement. Therefore the dating is not certain and unfortunately these are the only fragments of stone bracelets. One was made of very fine, crème color sandstone. Its origi-

nal diameter might have been 13 cm (thickness 2.7 cm, width 2.9 cm). Only 1/5 of the length of the bracelet was preserved. The object has a very fine shape and a semicircular cross-section (flattened from the inside). A similar piece was found in grave 116 in R12 site in Dongola Reach (Salvatori, Usai 2008:Plate 16.79).

Another fragment of a smaller bracelet (below 10 cm in diameter) comes from the surface as well. The item is made of quartz sandstone and it is triangular in shape (thickness 14 and width 22 mm). The fragment constitutes only 1/8-1/6 of its total length.

Another very small fragment of a bracelet was also found; it was a limestone bracelet which had undergone heavy erosion and thus it is difficult to determine its original character. It seems that the bracelet was originally 120 mm in diameter and the cross section was triangular (14 x 14 mm).

Ivory and hippo tusk bracelets and armlets were found in 14 graves which were mostly very richly equipped. Six of the graves belonged to adult males buried at the age of 20-45 years. However, most of them were burials of children at the age defined as Infans I. In two graves, a female with a child was buried (see. Table A), but the bracelets found there, due to their location with respect to the skeleton as well as their sizes, might have belonged to the child.

The bracelets and armlets were mostly badly preserved and many pieces were only found in fragments which makes it difficult to define their original shape and size. Two kinds of jewellery could not only be distinguished by measurement but, especially by their location with respect to the skeletons. The cross-sections of the pieces were mostly rectangular (Fig. 5.2-3) or flat in their internal part and convex on the outside (Fig. 5.1; 6.2). Generally, it seems that the bracelets occurred in two sizes. The smallest ones were found in children's graves and their diameter was from 40 to 80 mm, thickness and height was from 5 to 15 mm. Similar size bracelets were also recorded in grave 78 (Fig. 6). Bigger bracelets and armlets were mostly from 140 to mm in diameter, from 12 to 40 mm in thickness, and 6 to 25 mm in height (Fig. 5.1; 6.1-3).

The majority of bracelets and armlets found in Kadero were made of sliced elephant tusks from which the pulp had been removed. Bracelets were also made of several pieces of bone connected by means of glue made from resin (Arkell 1953; Krzyżaniak 1992; Reinold 2000, Cenci 2008). An example of the latter technology is an armlet recorded in grave 244 which was connected with a transverse link equipped with a small lug (Fig. 6.3). Hippopotamus ivory bracelets probably were made in an identical manner. Before the material was sliced by means of a very sharp edged tool, it must have been soaked in vegetable acid to make it softer and more flexible so that it did not break whilst being processed. The slices might have been polished however, none of the items found in Kadero confirmed this. Nevertheless, numerous fragments of hippopotamus teeth recorded in the settlement of Shaheinab (Arkell 1953) confirm that polishing was actually very popular at that time. It is very difficult to find traces of ornaments or polishing on the facets of jewellery pieces due to very poor preservation of the material. Partial decomposition of the objects found in the ground did not only cause the loss of their crème color, today they are dark gray, also the surface is now very rough.

The bracelets and armlets from Kadero show numerous analogies to those found at other sites such as the sites in Central Sudan, Nubia and the Western Desert in Egypt, and especially in

Shaheinab (Arkell 1953), El Kadada (Geus 1984 a), Multaga (Geus and Lecointe 2003), R 12 (Cenci 2008; Salvatori, Usai 2008) and Gebel Ramlah (Kobusiewicz et al. 2010).

In the traditional cultures of Africa, elephant and hippopotamus ivory used to be very precious. On the upper Nile, it was used as early as in the beginning of the Neolithic (Krzyżaniak 1992). Hippopotamuses and elephants were hunted for their bones and meat. There must have been a privileged group of hunters who were allowed to kill the animals. Thus the bones, teeth and ivory must have been very precious trophies, of which material personal adornments were made and worn by the elite of the society. The fact that the jewellery was found in rich and very rich graves seems to confirm this. These adornments were also recorded in the graves of children which indicates their high social rank gained by the privileged position of their parents (Wenke 1980; Krzyżaniak 1992). At the burial site in Kadero, ivory jewellery was only recorded in the graves of adult males and children (of undetermined sex). At the same time, these finds were not found in female graves which may point to the fact that jewellery was an attribute (a symbol) of masculinity. The presence of ivory bracelets in children's graves might indirectly point to the fact that the graves belonged to little boys. This, however, does not have parallels at other Neolithic burial sites (Salvatori, Usai 2008; Kobusiewicz et al 2010).

Lip-nose and ear-plugs

Labrets were quite common in prehistoric Sudan; they were known at least from the Early Neolithic (Salvatori & Usai 2008:29). They occurred in many shapes and sizes and were made of various materials. The ornament was worn in and projecting from a hole (s) pierced through the skin below the lower and/or upper lip or near the corners of the mouth (Keddie 1989:3). It was a very conservative element that occurred only in cultures with a high level of socio-cultural complexity (Keddie 1989:36). They were found in different cemeteries and settlements such as Shaheinab (Arkell 1953: 23-24, Pl.5.8-11), Geili (Caneva 1988:Fig 19.1-3), Multaga (Geus and Lecointe 2002:37), El Barga (Honegger 2004:33) and many others.



Fig.7. Kadero I. Zeolite labrets:

1, 2 – Grave 8; 3, 4 – Grave 182; 5 – Grave 167; 6, 7 – Grave 120;
8 – surface; 9 – Grave 4; 10, 11 – Grave 184; 13, 14 – surface

In Kadero, the collection of the objects made exclusively of zeolite is relatively rich. They were found in the burial site as well as in the settlement. In 12 graves (4, 8, 106, 113, 120, 140, 167, 182, 184, 197, 220, 242) there were 25 pieces recorded (in the R12 burial site in Northern Dongola Reach only three items of this type were recorded). The deceased most frequently had one or two lip-plugs. In two graves the deceased had three and in a very opulent inhumation where a young woman and a child was buried (grave 113) there were six objects of this type (three for each of the buried bodies?) with possibly included ear studs. Additionally, in the settlement another 21 pins and six half-finished pins were found.

The most numerous group here is represented by nail like items which differ in size (from 13 to

41 mm in length), shape of the shaft (the distal part was straight; convex and narrowed in the proximal section) and the shape of the head (the proximal section) which could be flat, convex (semicircular), bi-conical or it might be not discernible at all.

Lip-plugs recorded in graves (as adornments belonging to one person) on all occasions had similar shape. For instance, a child inhumated in grave 4 had two, almost identical, long and slender (41 x 4,8 x 2 mm)² studs (e.g. Fig. 7.9). The objects found in grave of an adult female (120) are very similar (Fig. 7. 6-7). The man buried in grave 8 had two short and sturdy labrets which only differed in the shape of the heads (Fig. 7. 1, 2). Two pieces recorded in grave 182 where an adult woman was buried are very neatly made. They are very small in size (16.2 and 14.3 mm

² The measurements reflect the total length, the diameter of the head and the thickness of the shaft.

in length), the heads have a diameter of 3.9-4.1 mm and a very clear narrowing underneath the heads (Fig. 7. 3, 4). The adult male from grave 184 had two nail-like lip-plugs with very flat, almost indiscernible head (Fig. 7. 10, 11). A single, slim plug (32 x 5 x 3 mm) found in grave 167 belonged to an adult woman. Very similar items were found in grave 113 where a female and child were buried (average sizes were

27.9 x 4.9 x 2.7 mm) as well as in grave 220 (where the average length was almost 32 mm).

The pieces recorded on the surface are really similar to the plugs found in the graves. Two sturdy, irregular items are of interest here (Fig. 7. 13,14 – a similar object defined as a pendant was found in grave 38 in the R12 dig in Dongola Reach – Salvatori, Usai 2008:Plate 16.15).

PRZEMYSŁAW BOBROWSKI

Introduction

The paper is a general overview of all bone tools that have been found in a Neolithic cemetery as well as in the Kadere I settlement. Some of the artifacts have already been presented by Lech Krzyżaniak in short descriptions or illustrations contained in publications on Kadere I (Krzyżaniak 1978, 1979, 1992a, 1993a). So far, however, the artifacts have not been described in detail or presented visually.

At the archaeological site of Kadere I a total of 27 bone tools were found. The first were discovered only four of them were found in a group in the Neolithic cemetery and the remaining 23 were scattered archaeological findings found during excavations, especially during the digging in the northern part of the settlement.

The site of the cemetery

A group of four artifacts was discovered in the cemetery in grave 167. It consists of a young man aged 18–23 who had a high stature and was buried in a deep position in the soil, with the knees towards the West (compare A. Krzyżaniak's volume in this volume). The grave was well equipped with various artifacts among which were two lip-plugs and two bone points described below.



Fig. 1. Kadere I. Cemetery. Four Neolithic lip-plugs of bone: 1–4 (see text).

Head of lip-plugs

The largest specimen is a one-sided, with a flat head. The preserved length is 146 mm, with width 18 mm, and area 14.5 mm². The ornament is oval in outline. It has two holes 16 mm in diameter, one was perforated from the side of the head into the first part of the shaft.

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