

Pottery from the Neolithic settlement at Kadero (Central Sudan)

The pottery from the Neolithic site at Kadero was described for the first time by Chittick (1955). He ascertained, on the basis of a surface collection from the settlement, its remarkable similarity to the ceramics originating from the Esh Shaheinab settlement. A much larger amount of the potteries have been obtained at Kadero in the course of systematic excavations carried out by Krzyżaniak (1975; 1976; 1979) since 1972. About 800 kg of ceramics, consisting of almost 170,000 potsherds, were yielded by a pit of 336 sq. m. excavated in the southern part of the settlement; a smaller pit of 16 sq.m. excavated in the northern deposit yielded about 80 kg (about 20,000 potsherds). This sample was the basis of this preliminary study on the Kadero Neolithic pottery (Table 1).

Petrographical analysis show that the Kadero ceramics were made of a Nile silt and contain a significant proportion of fine-to-medium textured sand particles. Grains of sand of the size range above 0.5 mm are rare. The results of the analysis also permits inclusion of almost all this material to Group IIc, within the classification proposed by Hays and Hassan (1974); the predominant inclusion in this pottery is quartz, but feldspar is also common. Many of these potsherds also contain red grains of ferruginous rock. The colour of fracture is mostly black, grey or dark brown. Surface colour is mostly brown (87% of the uncoated pottery), sometimes black or grey.

Particles of organic matter are very rare. There are only a few sherds with carbonized particles, or voids in the fracture and vessel surfaces, which may originate from a vegetable material, possibly dung. These potsherds are black or dark grey in colour, and are softer than pottery containing mineral temper.

Pots with red-coated surfaces are very common at Kadero. Red ochre wash was applied to one-fourth of the whole sample of potsherds, mostly on both sides of the vessel wall, and seldom on the outside only, with brown or blackened insides of the

pots. This coating is more common to ceramics originating from the upper stratum (0 - 20 cm) of the Kadero settlement.

The surfaces of the pots are usually burnished and only seldom combed. Sherds with an unburnished, coarse surface are very rare at Kadero. They seem to be more common in the lower stratum (20 - 50 cm) of the settlement. The upper stratum contains rare sherds with well polished or scraped surfaces.

Vessel forms at Kadero are, in general, simple (Fig. 1), and consist of deep bowls or pots with restricted orifice, and with hemispheric or ovoid shape. Shallow or small pots are rare. Cups with flat base and ladle-pots occur only sporadically.

Table 1

The Kadero Neolithic pottery

In the southern part of the settlement 11,557 rim sherds have been examined, and in the northern one - 1,355 rim sherds

Ware and patterns	% in the part of the settlement	
	southern	northern
I. Impressed ware		
1. Dotted wavy-line	>0.0	-
2. Burnished dotted wavy-line	>0.0	-
3. Two lines of triangles and multiple lines of dots between them	11.6	9.0
4. Single line of triangles and several lines of dots	6.1	8.4
5. Multiple lines of closely spaced dots	18.0	19.7
6. Two lines of triangles with line of dots between them	3.7	6.3
7. Two lines of triangles or vees	2.5	2.1
8. Close zigzag of dotted lines	10.5	12.2
9. Zigzag of dotted lines	2.5	2.4
10. Zigzag of continuous lines	2.3	1.4
11. Paralell lines of impressed dots	5.1	3.8
12. Semicircular panels of dotted lines	1.3	0.8
II. Incised ware		
1. Incised horizontal lines	8.4	11.1
2. Groups of incised paralell lines	0.2	0.1
3. Semicircular panels of incised lines	8.1	5.6
III. Plain ware		
1. Brown burnished	7.2	5.9
2. Black burnished	1.4	0.3
3. Brown coarse	0.7	0.6
4. Brown scraped	0.1	0.1
5. Brown combed	1.7	1.7
6. Red coated (on both sides of vessel wall)	3.5	5.4
7. Red coated (outside only)	1.7	1.0
8. Red coated outside only, blackened inside	1.2	0.4
IV. Black-top Red ware		
1. Black bands below the rim top	0.5	0.4
2. Row of black triangles below the rim top	1.4	0.7
V. Impressions of a single stamp	0.1	>0.0
VI. Other atypical wares	0.4	0.6
Total	100.0	100.0

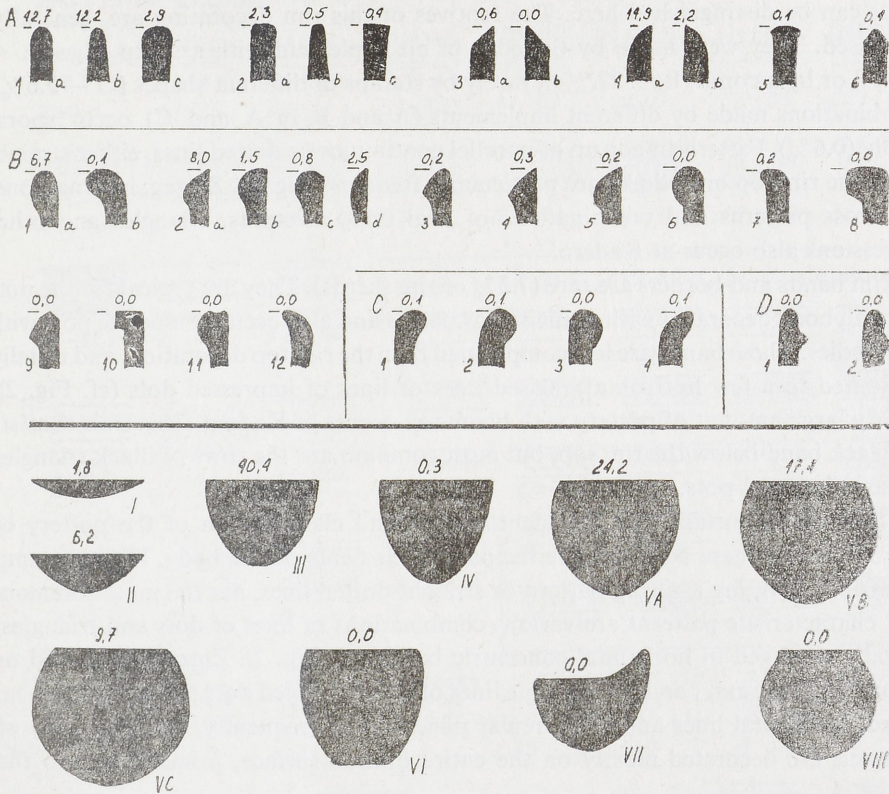


FIG. 1. Kadero. Principal rim and vessel shapes of the Neolithic pottery. The frequency of occurrence in percentage is given on the top of a given trait

Bases are mostly rounded; only a few flat bases have been found. The rim shapes are generally simple, too (cf. Fig. 1). Nearly 80% of rims are a direct continuation of the vessel walls (A) and usually have rounded rim tops. Modeled reverted rims (B) are also common and are associated mainly with restricted vessels. Modeled, everted rims (C) are rare and have been found only in the upper stratum of the settlement. There are also two pieces of rims with modeled or stricken borders below the rim top (D).

Pots with rim diameters of about 18 cm dominate among the unrestricted vessels, whereas the most common diameter of restricted vessels is of 25 cm. The largest pots have a rim diameter of more than 45 cm. Wall thickness ranges from 3 to 13 mm, but most walls are 5 to 6 mm thick.

A very characteristic trait of the Kadero pottery, as well as the pottery of the Central Sudanese Neolithic in general, is its decoration. About 80% of all potsherds found at Kadero are decorated. About 25% of the rims have decoration executed on the rim top. This decoration shows a high degree of differentiation and about 80 va-

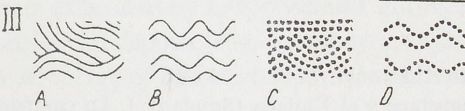
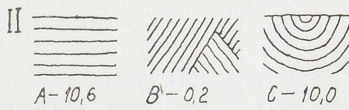
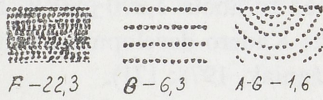
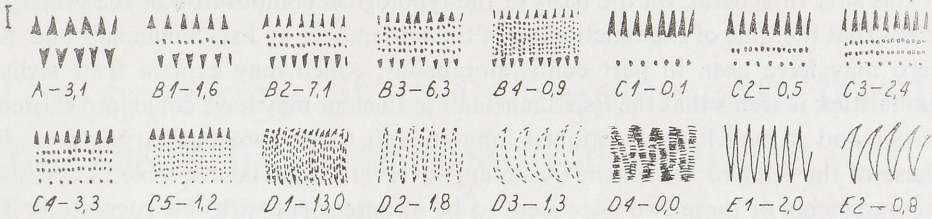
riants can be distinguished here. The motives of this rim decoration are, generally, impressed. They were made by the edge of an implement with a sharp edge (A – 64.1%) or by a comb (B – 27.7%), rarely by stamps of different shapes (C – 7.6%). Combinations made by different implements (A and B, or A and C) occur sporadically (0.6%). Patterns made up of parallel continuous or dotted lines, either straight across the rim top or oblique, are particularly frequent (Fig. 2). Zigzag, herring-bone, criss-cross patterns and combinations of oval dots, crescents, triangles and other impressions also occur at Kadero.

Rim bands and borders are rare (7.3% of rim sherds). They are typical for the pottery with body decorated with semicircular panels and also occur among the pots with plain bodies. These bands are less complicated than the rim top decoration, and usually are limited to a few horizontal, incised lines or lines of impressed dots (cf. Fig. 2). A fairly large amount of pottery with black top occurs at Kadero. This trait consists of a black band below the rim top, but most common are the rows of black triangles on the red coated pots.

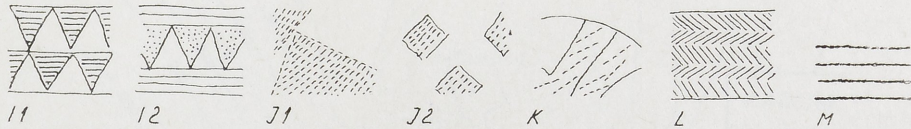
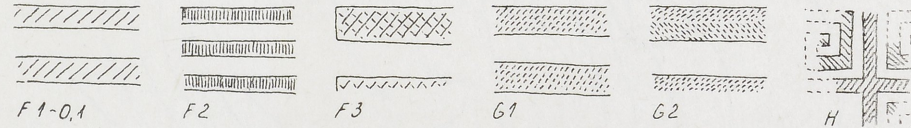
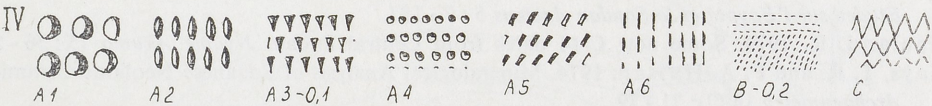
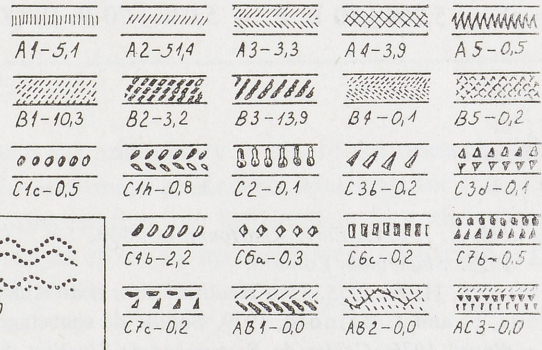
The most important trait for identification and classification of the pottery of the Central Sudanese Neolithic are the pattern elements on the body. Rocker stamp impressions, forming a zigzag pattern or straight dotted lines, are the most common. Most characteristic patterns are various combinations of lines of dots and triangles, generally arranged in horizontal concentric bands (cf. Fig. 2). Zigzags of dotted or continuous lines, and bands of multiple lines of closely spaced dots, are also common. Incised, horizontal lines and semicircular panels occur frequently, too. The body of the vessels are decorated mostly on the entire outside surface, from the rim to the base.

The types of the pottery decoration known from Esh Shaheinab (see Arkell, 1953: 68 - 77, Pls. 29 - 37) have also been found, in similar proportion, at Kadero. The Shaheinab pottery is also similar in the technology to that of Kadero and contain the same, limited number of vessel forms. However, only few sherds with wavy-line or dotted wavy-line patterns, which are more frequent at Esh Shaheinab, have been found at Kadero. On the other hand, at Kadero, a larger amount of pottery with alternately hatched and plain chevrons pattern, hatched bands with close spaced comb impressions have been found. The Kadero pottery contains more types of the decoration which was defined by Arkell as atypical at Esh Shaheinab; these kinds of decoration are different from what is understood as the Khartoum Neolithic style. These ornaments are, however, similar to those excavated from the Omdurman Bridge site (Arkell, 1949: 99 - 106, Pls. 94 - 100), at Esh Shaheinab where the burials of protodynastic date have been found (Arkell, 1953: 82 - 89, Pls. 40 - 43) and also from El Kadada (Geus and Reynolds, 1979: 30 - 81). Also the pottery with finger-nail impressions and other patterns made with a single stamp occur at Kadero.

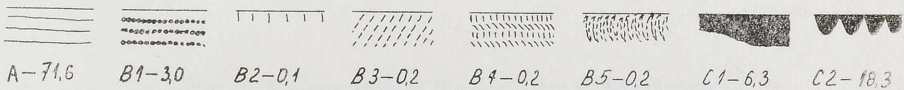
PATTERN ELEMENTS ON THE BODY



RIM TOP DECORATION /selection/



RIM BANDS



The studies on the Kadero pottery shed also some light on the relative chronology of this site. In general, on the basis of the typological composition of the pottery, it seems that the time of the functioning of the settlements at Esh Shaheinab and Kadero may have been in part contemporaneous, which may explain their stylistic similarities; it seems that the Esh Shaheinab settlement may have come into existence earlier and it may have functioned long enough to be contemporary with earlier phase of the Kadero settlement (Krzyżaniak, 1978: 171). The available radiocarbon measurements of these two sites seem to be in agreement with this suggestion. The time-span for Esh Shaheinab settlement is now dated to about $5,370 \pm 80$ B. P. — $5,240 \pm 80$ B. P. (Haaland, 1979: 56), and that of the Kadero development is dated to about $5,260 \pm 90$ B. P. — $5,030 \pm 70$ B. P. (Krzyżaniak, 1978: 171).

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