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The Late Neolithic culture-historical sequence in the Central Sudan

Introduction

A research cooperation between archaeologists from the Universities of Khartoum and Bergen, started in 1978 in the area just north of Khartoum and continued in this region until 1980. The work had been concentrated on problems related to adaptation and settlement patterns of the early food-producing communities, the so-called Khartoum Neolithic cultural tradition, 6,000 - 5,000 B.P.

In 1983 survey and excavations were carried out in the Rabak area 230 km south of Khartoum along the White Nile. The individuals participating were Ali Tigani el-Mahi, working on the paleosteological material, Anwar M. Osman, working on the paleobotanical remains, and the author working on the pottery and lithic material.

The aim of the project in this southern region was to find out if the Khartoum Neolithic tradition extended into this area. We wanted furthermore to see if there were traces of settlements dated later than 5,000 B.P. i.e. from the time from which we have no finds in the Khartoum region.

Alltogether 5 sites were surveyed in this area, and excavations were carried out only on one site, the Rabak settlement. This was because the other sites were badly disturbed by later agricultural activities and erosion. The field-work yielded the following results.

The Rabak site

The Rabak site is located *ca* 3 km to the east of the present flow of the White Nile, on an old bank of the river (Fig. 1). The site is elevated *ca* 3,5 m above the surrounding floodplain. The size of the settlement is *ca* 16,000 square metres (an estimation based on the distribution of the surface material) of which only 18 square metres have been excavated. The cultural deposit was *ca* 60 - 80 cm deep. One square

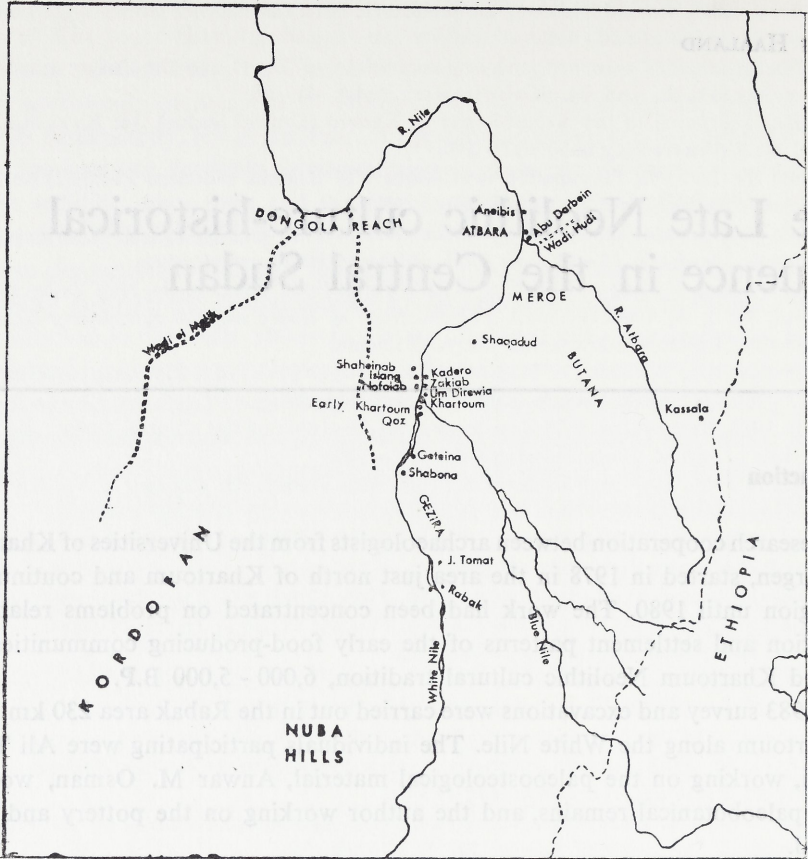


FIG. 1. Archaeological map of the Sudan

(107x/100y) had cultural debris which was 150 cm deep. This was, however, due to a downcutting, and the material indicated a kitchen-midden. It consisted of burnt foodwaste, mainly fishbones (personal communication by Ali Tigani el-Mahi). Since there was no stratigraphy, the occupation debris was excavated by arbitrary levels of 10 cm each. Four radiocarbon dates have been obtained on shell, all from one square (107x/100y). The lowest level (level 15) is dated to $6,020 \pm 130$ B.P., level 6 is dated to $6,050 \pm 100$ B.P. (this is where the downcutting starts), level 3 is dated to $5,860 \pm 80$ B.P., and level 2 to $4,490 \pm 100$ B.P.

The settlement thus seems to have been inhabited for *ca* 1,500 years. The oldest level is clearly contemporary to the Neolithic sites from the Khartoum area, while the latest date falls in the 5th millennium B.P., when no settlement remains have been found in that area.

Lithic artefacts

Tables 1 and 2 show frequency distribution of the lithic tools found at Rabak. On Table 1 are put up the classified tools according to levels from 2 squares (each square is 2 x 2 m). The number of standardized tools is very few, and the same types

Table 1

Rabak site. Lithic tools

Type	Square 107x/100y						Square 111x/100y					
	L. 4-14	L. 3	L. 2	L. 1	Sum	%	L. 4-6	L. 3	L. 2	L. 1	Sum	%
Convex scrapers	5		2	4	11	13,8	4	2	7	4	17	19,5
Concave scrapers	4		2	2	8	10,0			7	4	11	12,6
Groovers	4	1		1	6	7,5	1	2	2		5	5,7
Borers							1		2		3	3,4
Backed flakes	1			1	2	2,5	1	1	2	1	5	5,7
Lunates		1			1	1,2	1		2	1	4	4,7
Truncations				2	2	2,5		1	1		2	2,3
Retouched flakes	26		3	18	47	58,7	5	6	20	5	36	41,4
Bipolar flakes		1	1	1	3	3,8	3	1			4	4,7
Total	40	3	8	29	80	99,8	16	13	43	15	87	100,0

Table 2

Rabak site. Lithic tools

Type	Quartz	Quartzite	Rhyolite	Other material	Sum	%
Convex scrapers	29	30	3		62	13,2
Concave scrapers	17	12	1		30	6,4
Scrapers	11	12			23	4,9
Groovers	13	4			17	3,6
Borers	8	3			11	2,3
Backed flakes	22				22	4,7
Lunates	19				19	9,1
Truncated flakes	8				8	1,7
Denticulates		1			1	0,2
Retouched flakes	133	105	20	2	260	55,4
Bipolar flakes	12	3			15	3,2
Polished axe fragments				1	1	0,2
Total	272	170	24	3	469	99,9

Except squares 107x/100y, and 111x/100y.

of tools seem to occur from top to bottom. Thus the tools from the remaining 10 square metres were classified together (see Table 2).

Another reason for not classifying these artefacts according to levels was that these areas seemed disturbed by the later Meroitic and Moslem grave digging.

The total number of tools from the 18 square metres excavated at the Rabak site is 624. Scrapers were the most numerous group of tools. Within this group the convex scrapers is the most frequent type. Next come engraving tools, groovers/borers and backed tools/lunates. In general this last group of tools is poorly made on bad quality quartz.

Except for a few bipolar flakes all the artefacts were made on flakes, the blade

Table 3

Rabak site. Potsherds from square 107x/100y (4 square metres)

Type of decoration	Levels 14-4		Level 3		Level 2		Level 1	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
1 Dots	36	9,7	27	29,0	17	38,6	14	22,2
2 Vees/dots	2	0,5						
3 Catfish spine	9	2,4	5	5,4	3	6,8	1	1,6
4 Dotted saw tooth	29	7,8	2	2,2	1	2,3	3	4,7
5 Saw tooth			1	1,1	2	4,5	1	1,6
6 Undecorated (wiped)	269	72,3	41	44,0	15	34	19	30
7 Decoration non Khartoum type	13	3,5	3	3,2				
8 Jebel Moya type of decoration			10	10,8	4	9,1	20	31,7
9 Finger nail decoration					2	4,5	3	4,7
10 Others			1	1,1			2	3,1
11 Base	14	3,8	3	3,2				
Total	372	100,0	93	100,0	44	99,8	63	99,8

Levels 14 - 4 are classified together since there is no difference in the ceramics between the different strata. The C-14 dates from these levels indicate the same time period.

technique was not employed. The flaked lithic tools recovered were quite similar to those found in the Neolithic sites in the Khartoum area. The difference lies in the absence of tools such as gouges and grinders. The only polished tools found were a few rubbers and one fragment of a greenstone axe.

Quartz is the most used raw material for the tools, cores and debitage (ca 58 per cent). Quartzite is also represented in a relatively high proportion (ca 37 per cent). The other type of raw material employed is petrified wood. A most interesting find is the occurrence of rhyolite; altogether 26 artefacts made on rhyolite were found. These were mostly made into convex scrapers. Rhyolite does not occur in the area, the nearest source seems to be the 6th Cataract area ca 300 km to the North.

Pottery material

Table 3 shows the frequency distribution of the different types of decorative patterns used on the pots. The sherds are recovered from square, where all the radio-carbon dates were taken. The pottery from levels 14 - 4 is identical with the Khar-

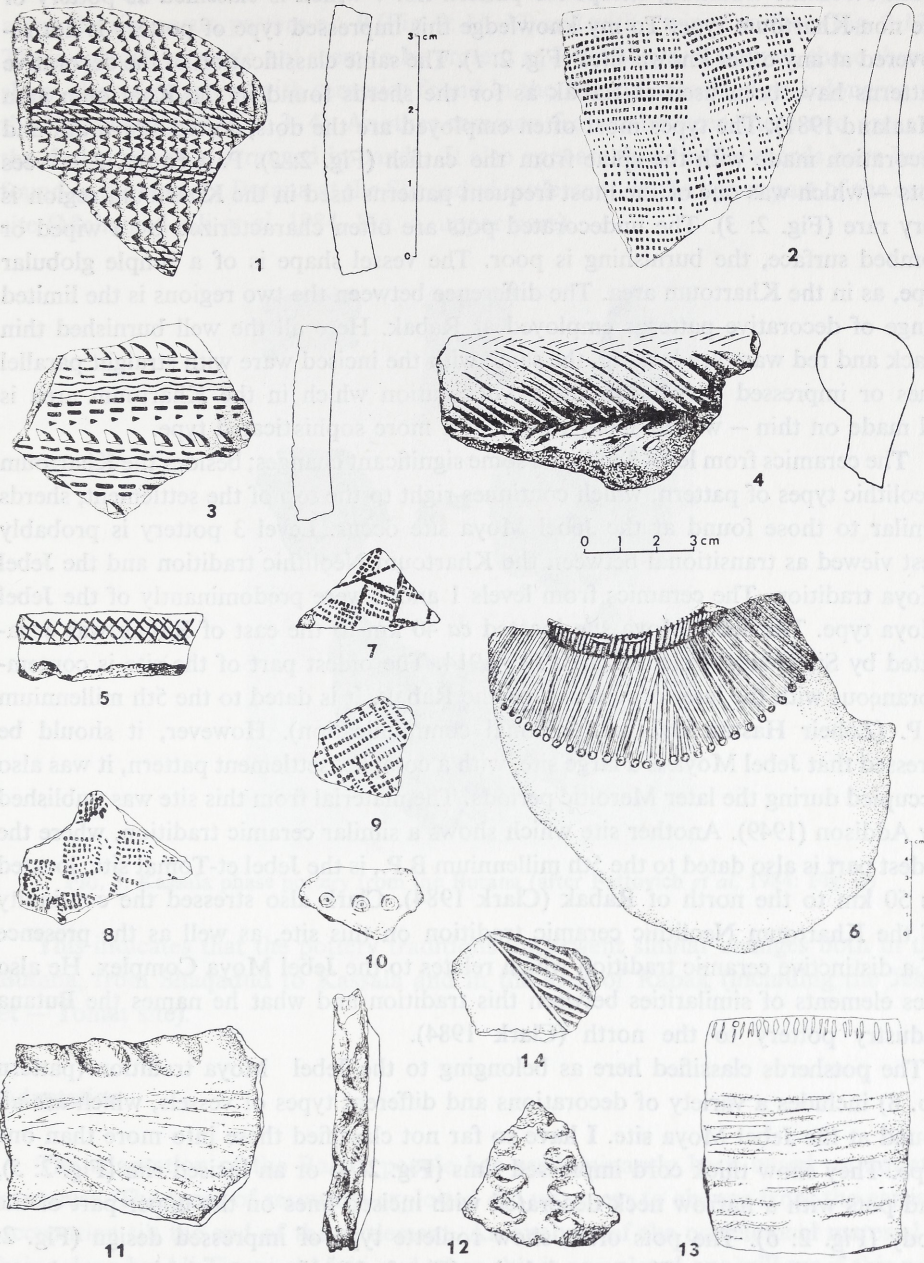


FIG. 2. Rabak site. Pottery sherds

toum Neolithic tradition, except for pattern no. 7 which is classified as pottery of the non-Khartoum type. To my knowledge this impressed type of pottery is not recovered at any other known sites (Fig. 2: 1). The same classification of the decorative patterns have been used at Rabak as for the sherds found in the Khartoum area (Haaland 1981). The types most often employed are the dots, dotted saw-tooth and decoration made with the spine from the catfish (Fig. 2: 2). Pattern no. 2 – vees dots – which was one of the most frequent patterns used in the Khartoum region is very rare (Fig. 2: 3). The undecorated pots are often characterized by a wiped or combed surface, the burnishing is poor. The vessel shape is of a simple globular type, as in the Khartoum area. The difference between the two regions is the limited range of decorative patterns employed at Rabak. Here all the well burnished thin black and red ware are lacking, the same with the incised ware with straight parallel lines or impressed curvilinear design, decoration which in the Khartoum area is all made on thin – walled small vessels of a more sophisticated type.

The ceramics from level 3 indicate some significant changes; besides the Khartoum Neolithic types of pattern, which continues right to the top of the settlement, sherds similar to those found at the Jebel Moya site occur. Level 3 pottery is probably best viewed as transitional between the Khartoum Neolithic tradition and the Jebel Moya tradition. The ceramics from levels 1 and 2 were predominantly of the Jebel Moya type. The Jebel Moya site located *ca* 40 km to the east of Rabak was excavated by Sir Henry Welcome in 1910 - 1914. The oldest part of the site is contemporaneous with the later occupation of the Rabak. It is dated to the 5th millennium B.P. (Zoheir Hassan Babiker, personal communication). However, it should be stressed that Jebel Moya is a large site, with a complex settlement pattern, it was also occupied during the later Meroitic periods. The material from this site was published by Addison (1949). Another site which shows a similar ceramic tradition, where the oldest part is also dated to the 5th millennium B.P., is the Jebel et-Tomat site, located *ca* 50 km to the north of Rabak (Clark 1984). Clark also stressed the continuity of the Khartoum Neolithic ceramic tradition on this site, as well as the presence of a distinctive ceramic tradition which relates to the Jebel Moya Complex. He also sees elements of similarities between this tradition and what he names the Butana industry pottery to the north (Clark 1984).

The potsherds classified here as belonging to the Jebel Moya tradition (pattern no. 8) includes a variety of decorations and different types of vessels, which are all found at the Jebel Moya site. I have so far not classified these into more than one type. They show thick cord impressed rims (Fig. 2: 4) or an incised rim (Fig. 2: 5), and pots with a narrow neck decorated with incised lines on the upper part of the body (Fig. 2: 6). The pots often show roulette type of impressed design (Fig. 2: 7, 8, 9) or other types of impressed design (Fig. 2: 10). However, the impressed type of decoration is dominating as underlined by Clark for the older levels at the Jebel et-Tomat site (Clark 1973). The shape of vessels is much more varied than compared with the Khartoum tradition.

A new type of sherds decorated with fingernail impression, both on the body and along the rim occur, pattern no. 9 (Fig. 2: 11, 12) and with a wiped surface (Fig. 2:13). These ceramic types do not seem to be present at Jebel Moya. However, these sherds show clear similarities with ceramics found in the Butana, classified as belonging to the Kassala phase (Figs. 3-4). Another common feature between these two areas is the design which is arranged in bands. It also appears that similar sherds have been found in the western Butana at the Shaqadud settlement, in the upper part of the cave site (Mohamed Ali *et al.* 1984, Fig. 4, upper part).

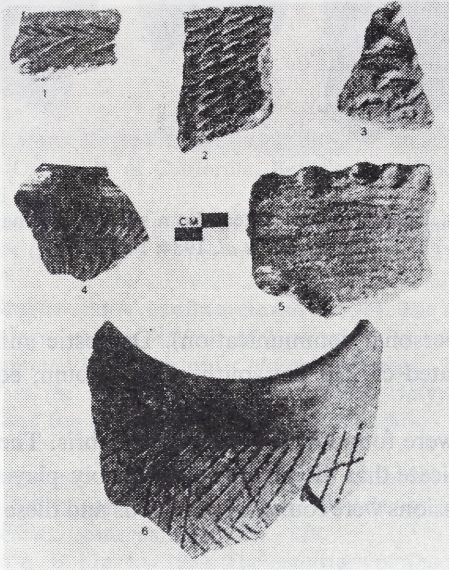


FIG. 3. Kassala phase pottery from the Butana (after Fattovich *et al.* 1984: Fig. 4)

This indicates that the pottery traditions underwent similar changes both in the Butana, from Shaqadud to Kassala and in the area of Rabak (including the Jebel et - Tomat site).

Adaptation

The adaptation of the Rabak people has predominantly been based on aquatic resources. The types of resources exploited did not seem to change from the earliest occupation till the end of the settlement. An analysis of the osteological material is being done by Ali Tigani el-Mahi and when this is completed one will see if this preliminary impression is confirmed.

Besides the aquatic resource exploitation, the Rabak people did some hunting, and domestic animals like cattle were identified from levels dated to 6,000 B.P.

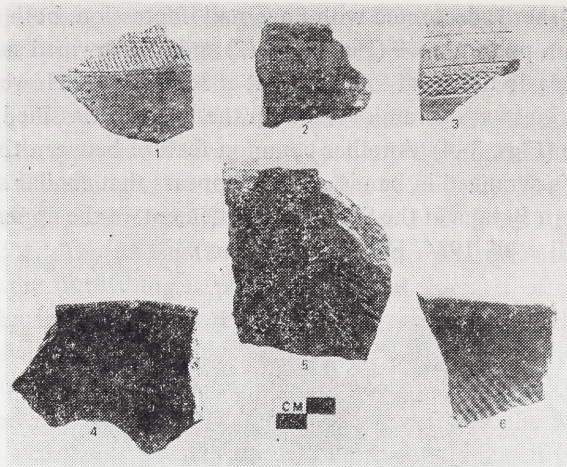


FIG. 4. Kassala phase pottery from sites in Butana (after Fattovich *et al.* 1984: Fig. 5)

(Ali Tigani el-Mahi, personal communication). Domestic animals thus seem to be present at Rabak, located ca 230 km south of Khartoum, equally early as in that area.

No plant remains were found in the settlement debris. The very few grinders recovered on the site indicate that the plant-food probably played a minor role. However, some plant impressions were found on potsherds and these are currently analysed by Anwar M. Osman.

The very large size of the settlement, the wide spectrum of resources utilized with a heavy emphasis on aquatic resources, indicates that Rabak was a site permanently occupied throughout the whole year. However, the presence of cattle might have forced a part of the group inhabiting the Rabak site, to have split up and moved to smaller camps inland to the east. This would probably have been necessary during the rainy season when the plain surrounding the site was partly inundated by the White Nile. In this season one would expect the site to have been swarming with insects due to the surrounding water. The rainfall was much higher during the occupation of the settlement than at present. The rainfall today is 450 mm yearly, while the estimated rainfall 6,000 - 4,000 B.P. would have been higher, probably ca 750 mm (Wickens 1982). These east-west types of migrations were hypothesized by Clark for the people inhabiting the Jebel et - Tomat site (Clark 1984). There might also have been north-south movements of people migrating towards the Butana. The basis for these migrations would have been that the Butana probably could be best exploited for a pastoral production in the rainy season, while in the dry season the Rabak area could provide the best pasture. The Rufaa al Hoi tribe

practised this type of pastoral movements with cattle and sheep, between the Butana and the Gezira until cotton cultivation put a stop to it recently (Lebon 1965: 116). An indication that these types of north-south movements took place is the presence of rhyolite at the Rabak site. Cultural features such as similarities in ceramics between sites in the Butana and in the region of Rabak (including the site of Jebel el-Tnmat) may have been caused by such movements. More work will be needed to get aw understanding of the cultural relationship between the Butana and the Gezira.

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