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South from Kadruka: the Neolithic in the Northern Dongola Reach, Sudan

Between January 1993 and February 1996 the Sudan Archaeological Research Society (SARS) undertook four seasons of survey in the Northern Dongola Reach of Sudan on the right bank of the Nile. The area chosen for study lay between those previously and currently being investigated by Jacques Reinold of the French Section of the National Corporation for Antiquities and Museums in Khartoum and the Royal Ontario Museum. This left an 80 km stretch of the river and the survey extended from the river bank to the edge of the plateau, a maximum of 18 km to the east. Prior to the commencement of the study only one site had been recorded in detail, at Kawa, and a few others had been very briefly mentioned. The survey located, and in many cases planned and sampled, over 450 sites, the greatest proportion of which could be dated to the Neolithic and Kerma periods.

Palaeohydrology

Jacques Reinold, working immediately to the north in the area around Kadruka since 1986, had already, by observing the linear distribution of Neolithic settlement sites (1987:44), suggested that they lay along the banks of a branch of the Nile running in the bed of the Wadi el Khowi which lies close to the plateau. Satellite imagery of the area from the Third Cataract to Eimani a little south of Kadruka indicated the presence of several palaeochannels (Marcolongo and Surian 1993). The SARS project has provided additional information on these palaeochannels which are in certain areas highly visible. Their course is most clearly delineated in the Kerma period when their banks were lined with nucleated and often large settlements. In the Kerma period the distribution of sites shows that in the Northern Dongola Reach the Nile flowed in a braided channel (Fig. 1). In the area under study there were three Nile main channels, one of

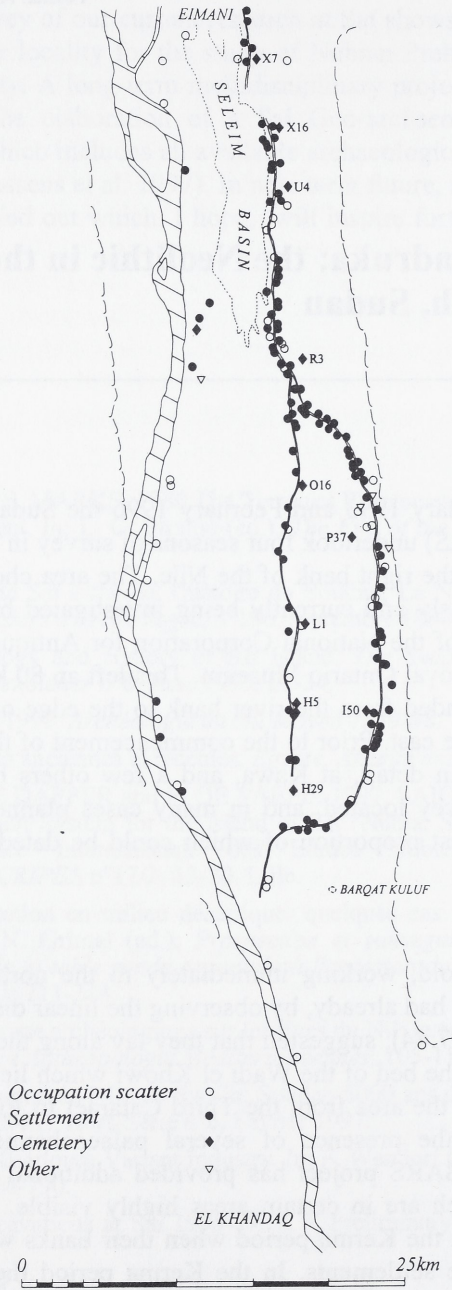


Fig. 1.

Sites on the east bank of the Nile in the Northern Dongola Reach during the Kerma period.

which is the present day river (the Dongola Nile). The point of evulsion was about 19 km north of el Khandag. After about 8 km the eastern channel further divides into two, one channel flowing due north (the Hawawiya Nile) the other (the Alfreda Nile) swinging well to the east close to the plateau edge before flowing north-west to rejoin the central channel 7 km east-south-east of Kawa. The combined eastern stream (the Seleim Nile) then flows north close to the edge of the Seleim basin, a southern extension of the Kerma basin and on into the Kadruka and Kerma regions.

Settlements/occupation scatters

The situation in the Neolithic period is more difficult to assess as the settlements appear to be much more dispersed and are extremely large. They are difficult to define archaeologically as the vast spreads of occupation material gradually fade away in some areas, but in many others their edges are masked by the extensive dune fields. Few areas are devoid of at least some artefacts which may be assumed to predate the Kerma period. However, there is a north-south belt of undulating gravel river terraces between the Hawawiya and Dongola Niles where occupation material was rare or non-existent. The occupation scatters were not recorded systematically except along the main east-west transects through the survey area at intervals of 5 minutes of latitude. Elsewhere only major concentrations were designated with a site code although these are seldom discrete sites. The occupation scatters consist of a mass of pebbles, many of which have been struck, as well as more readily recognisable lithics and polished stone tools such as axes. Evidence for lithic manufacture was noted on some sites where concentrations of cores and debitage were found. However, for many tasks the edge resulting from simply breaking one of the abundant quartzite pebbles will have been a suitable tool. Retouching may seldom have been necessary, it being as easy to discard a worn tool and fashion another from the readily available pebbles. Pottery was also common within some of the occupation scatters and a number of concentrations of sherds were found which appear to be from a small number of pots that were smashed into little pieces and left as they lay. These are frequently found on very low mounds, the sherds having served to inhibit the erosion of the underlying earth.

Cemeteries

The only nucleated features of Neolithic date in this area are the cemeteries. As around Kadruka these invariably are to be found on the prominent natural mounds which are a feature of the region. Not only do they occupy prominent mounds but they appear to occupy every prominent mound which is today not occupied by settlements of later periods. It should be borne in mind that many Kerma settlements may overlie cemeteries, or settlements, of the Neolithic period

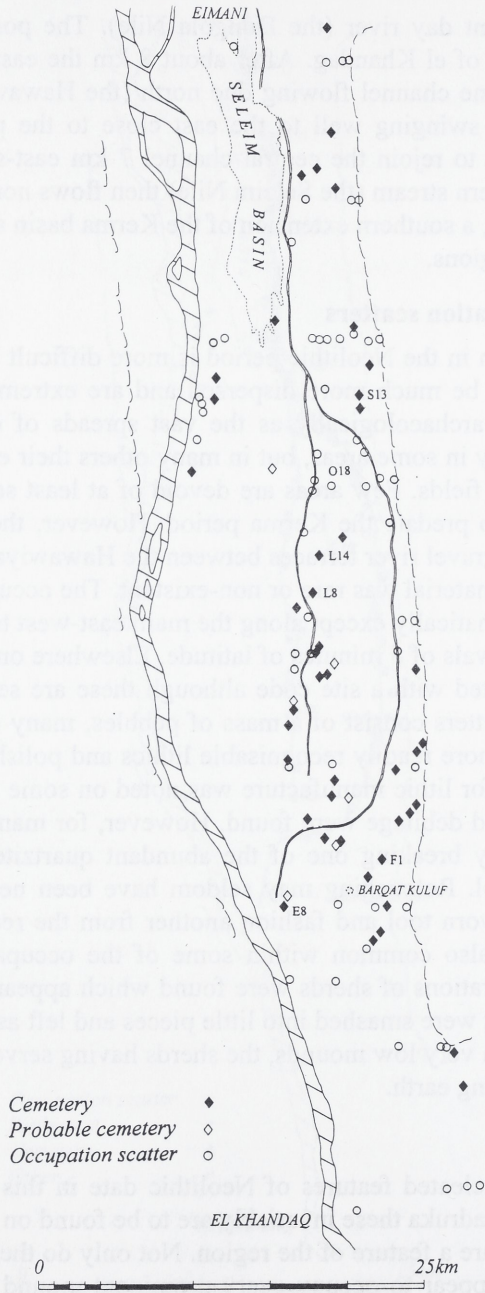


Fig. 2.

Sites on the east bank of the Nile in the Northern Dongola Reach during the Neolithic period.

The distribution of cemeteries, therefore, reflects the location of the natural mounds and cannot be used as good evidence to suggest the location of population centres in the Neolithic period (see Fig. 2). Other raised areas such as the prominent gravel river terraces were not utilised for cemeteries. The cemetery sites were often very rich in artefacts and skeletons were frequently visible on the ground surface. All artefacts were collected from these sites and limited excavation was also undertaken where the imminent destruction of the graves was highly likely.

In cemetery L14 four burials were examined, one of which was disarticulated. The other three contained individuals buried in a contracted position on their right sides with the heads to the east or south facing north or east. They were generally accompanied by pottery vessels. Among these were a number of types found at Kadruka including caliciform beakers, one of which is almost identical in form and decoration to that recovered from Cemetery KDK 2 (cf. Reinold 1987, fig. 11b and Welsby 1997, fig. 2). This had been placed on the body in the pelvic area within grave L14-6. Another vessel closely paralleled from Kadruka is a colander which was found *in situ* at site L8 set within a bowl which was itself set within another (see Reinold 1994, 86; Sjöström 1994, fig. 3.4; Welsby 1997, fig. 7). Nests of bowls were noted in several graves. Surface collections of finds and artefacts recovered *in situ* indicated that the deceased were also accompanied by bone tools, awls and gouges, often very small polished axe heads, palettes - both large flat pebbles (cf. Lecoite 1987, pl. III.1) and others fashioned from hard stones - and small counters or rubbers. These latter types, which were usually fashioned from hard sandstone, were circular, with convex faces and had a thickness relative to their diameters frequently in the range 49-79 %. Jewellery in the form of beads, stone pendants, and ivory bangles was also recovered. In one grave at L14 was a collection of shells, pebbles (palettes) and axes which may have been contained in a bag (cf. a similar concentration of shells and stone from el Ghaba in Lecoite 1987, pl. III.2). Another grave on the same site had a concentration of mollusc shells placed by the knees of the deceased. A unique find was a fine lathe-turned quartzite jar in the cemetery at site F1 (Welsby 1996, fig. 2). As in the cemeteries excavated at Kadruka, in at least one case burials had been placed one upon another.

Two other sites may possibly be of Neolithic date although no dating evidence was available. One is an isolated mound (site O18) 7.3 x 5.8m in size, covered in fragments of elephant teeth (kindly identified by L. Chaix). The other (site M4) is in the plain immediately to the west of the Wadi el Khowi in an area where there are abundant Neolithic occupation scatters. Here there are several concentrations of human bone and one body *in situ*, a crouched inhumation on its right side with the head to the north east.

No evidence for later burials was found on any of the Neolithic cemeteries although immediately to the south of that at site E8 was a large cemetery of Kushite date.

Burnt mounds

The region abounds in what have been termed burnt mounds. The dating of these is unclear but many are found in areas where there appears to have been little occupation since the Neolithic or at least since the Kerma period. Although they are all broadly similar, piles of burnt earth beneath which, in the excavated examples (see Welsby 1997, fig. 5), is a narrow fire-reddened trench dug into the alluvium, there is a range of variation and they may have had a range of functions and be of differing dates. One large, oval, burnt mound (site P8(2)) 15 km south east of Kawa appears to be associated with heavily burnt mud bricks. It is approximately 3.2 x 2.6m in size and stands to a height of 744mm. Another (site L24(8)) several kilometres to the south has lost its 'superstructure' but a fire-reddened sinuous trench, 5.05m long and 600m wide, is clearly visible.

Erosion

Evidence for extensive erosion, largely caused by wind action, has been found in a number of areas in the Sudanese Nile valley. Around Kadruka Reinold has estimated that between 400 and 800mm of earth has been lost since the Neolithic period (1994, 72). The evidence for at least some of the area a little upstream is for much more extensive erosion, between 300mm and well over 2m. This scale of erosion will have totally removed the occupation surfaces and whatever structures there may have been in the Neolithic settlements and has removed the Neolithic ground surfaces (and tomb monuments?) in the cemeteries so that many of the burials now are partly exposed and others may well already have been totally destroyed. Another effect of this erosion in the settlement sites is that, with the progressive removal of occupation deposits, the heavier artefacts - stone tools and pottery in particular - have been concentrated onto the present ground surface giving a false impression of the density of occupation in that period.

Throughout the area modern water pumps, to gain access to the sub-surface water, are set at the bottom of holes approximately 4m square and several metres deep. These provide vertical sections through the alluvium and in a number of these earlier features, particularly hearths, are visible within and sealed by the alluvium. This indicates that since human activity began in the region depositional as well as erosional forces have been at work, both of which have conspired to make it difficult, if not impossible, for the archaeologist to reconstruct the pattern of occupation and land use at any time. In the Dongola Reach, as elsewhere in the Middle Nile valley, the only preserved remains of the Neolithic pe-

riod may have to be sought beneath later features, in this case beneath the Kerma settlements. These have been much more resistant to erosion owing to the presence of structures of mud brick and stone which have stabilised the ground surface to some extent.

Neolithic and Kerma period utilisation of the region

The results of the SARS work complements that of the French Unit at Kadruka. It appears that much of the region from the plateau to the present day Nile was occupied in the Neolithic period with the inhabitants utilising the banks of the palaeochannels but probably with a nomadic or semi-nomadic lifestyle based for only a part of the year along the channels. Presumably they did not attempt to return to the exact location of their previous camp and, hence the vast and dispersed spreads of occupation material. The economy in the Kerma period appears different with permanent nucleated settlements becoming the norm, confined to the immediate vicinity of the palaeochannels and perhaps to be associated with agricultural activities along their banks and also along the edges of the Seleim Basin.

Although the artefact scatters have been described as settlements extending over many kilometres, this may well give a false impression of the character of human occupation in the region in the Neolithic and in the succeeding pre-Kerma period. Although the pottery from the survey has not yet been studied in detail, little ceramic material identified as pre-Kerma has been noted. We should perhaps interpret these vast spreads as delimiting a 'zone of settlement' which, at any one time, may only have been occupied by small groups of people living in seasonal camps.

The presence of the palaeochannels and of the Kerma/Seleim basin will have allowed the utilisation of a much greater percentage of the Nile valley in the Northern Dongola Reach than has been possible at any time in the later Holocene before the very recent past. This area was thus one of the most favoured reaches of the Middle Nile and the large number of cemeteries and the abundance of Neolithic artefacts testify to the relatively large population it will have been able to support. The special features of the reach also offer a plausible scenario for the growth of Kerma during the 3rd millennium BC and will have made a major contribution to its prosperity for a millennium.

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