

Conclusions

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Kadero is an exceptionally rich site. It is also the best explored prehistoric site in Sudan and one of the best researched sites in northeastern Africa. It would not be so were it not for Lech Krzyżaniak and his enthusiasm, perseverance and organizing skills. His premature death interrupted a final publication that he had envisaged practically from the start of the excavations. It is this legacy that Krzyżaniak's friends and colleagues have taken up and brought to a successful completion in giving us this volume.

Kadero was explored for seventeen seasons. The digging was not limited to the campsite, which is represented by two separate middens, but encompassed also an extensive burial ground. Both the camp and the cemetery belonged to a Neolithic culture designated by researchers as the Khartoum Neolithic, part of the Khartoum Tradition. Radiocarbon dating has placed this culture in the second half of the 5th and at the beginning of the 4th millennium BC (4600-3800 cal. BC).

The area of the site is approximately five hectares. The cultural layer is about 50 cm thick. It had been much thicker but the upper parts are gone owing to longtime deflation. The surface is strewn with objects and production waste of stone and flint, as well as with abundant pottery. The coating layer that these finds created effectively protected the lower cultural level on the site. The cemetery which accompanied the site was used for the duration of the occupation. Of the 248 graves that were explored 26

were much later burials; these have been presented separately in this volume.

The fieldwork at Kadero has been multi-disciplinary from the start, calling upon not only archaeologists of different specialties, but also natural scientists: archeozoologists, archeobotanists and geomorphologists. Physical anthropology also of major importance in the investigations.

These efforts provided data to illuminate the cultural development process of the Neolithic peoples of central Sudan and the environmental background in which it was taking place. An extensive description of the environment comes in a separate chapter including the climate and the floral and faunal cover in the different ecological zones around Kadero. Supplementing this description is a discussion of the geology and geomorphology of the site and its surroundings relevant to Neolithic settlement in the area.

The following chapters in the book are strictly archaeological, discussing the layout of the settlement and cemetery, the planigraphy of the burial ground and detailed description of the burials and grave goods; the Meroitic-period graves are included as well. Next come overviews of vessel pottery, lithic and stone implements, a set of stone maces, bone and ivory objects, jewelry, and an absolutely unique musical instrument. Three separate chapters are devoted to presentations of archaeozoological and archaeobotanical results, as well as an analysis of the human population from the point of view of physical anthropology. The

volume ends with a detailed analysis of radiocarbon dates obtained for the site.

This extensive and exhaustive publication presents the results of many years of research at Kadero, carried out with the application of modern methodologies from the fields of both archaeology and the related natural sciences. The study material is held in storage at the Museum in Khartoum and the Archaeological Museum in Poznań, where it will be available for examination whenever newly developed research methods will promise to be more effective in terms of the obtained results.

For the present, the outcome is a fairly complete picture of a group of Neolithic inhabitants of the Middle Nile region from the turn of the 5th and the 4th millennium BC. These people camped on a small mound of older geological formation washed around by the river flood, surrounded by several different species of acacia and dum palm, and at a certain distance dry scrub and thorn savanna. They kept cattle and to a small degree also goats or sheep, but it was hunting and gathering that provided their main subsistence. The hunted game included primarily antelopes, also gazelle, hares, hippopotami, giraffes and all kinds of predators. Fish were a minor part of the diet despite the nearness of the river. Both riverine and terrestrial snails were collected in numbers. Fruit of *Zizyphus* and *Celtis* (hackelberry) were also collected. It cannot be proven that sorghum, identified among the impressions found on the ceramics, was cultivated or only intensively collected. Large numbers of querns discovered at the site indicate that sorghum, the wild variety as well as varieties in early stages of domestication, constituted part of the food consumed at the site.

The Kadero inhabitants seldom passed forty in age; a few of the men lived to be over fifty. Average adult mortality was 30.8 years for men and 27.7 for women. Child mortality among children under seven years of age was very high (16.7 %).

Burial traditions remained unchanged throughout the existence of the site. The dead were buried in the camp, immediately after death, in grave pits of round or approximately oval shape, laid out on the side in more or less contracted position. The grave inventory, although not always present, included a bigger or smaller set of vessels presumably with a food content, tools and flint knives, palettes, maces,

beads of carnelian, shell and other materials, bracelets of hippopotamus bone and bone tools.

The differentiated grave inventories reflect differences in social status of the buried individuals. This picture of a stratified Neolithic society is augmented by finds of stone maces in elite graves. Similar maces from later periods have been interpreted as symbols of wielded power.

The graves have also yielded a rich pottery collection, including caliciform beakers that appear to have been widely distributed wherever the Khartoum Tradition has been recognized. The beakers were made exclusively for burial purposes.

Quartz, chert and rhyolite, more seldom other fissile rocks, had an important role in the life of the Kadero community, serving to produce arrowhead points and crescent inserts used to make knives with bone handles. An original slicing technology was applied to the production of these inserts. A set found in one of the graves, including quartz stands, a pounder and retouching tool for processing fissile rocks, suggests some kind of specialization of the production.

Different kinds of querns, grinders, pounders, palettes, maces and other objects were also used intensively. Ocher must have been used in rituals forming part of the spiritual life of the Kadero inhabitants, as well as for more mundane economic purposes.

Large mammalian bones were made use of for the production of hunting weapons, perforators, handles for bone tools, not to mention musical instruments, such as the percussion instrument made of hippopotamus bone found in one of the graves.

All the results point to an intentional use of a broad range of different ecosystems found in the neighborhood of the site, starting with the river and its terraces and ending in the adjoining savanna and nearby hills. Research has also indicated an awareness of the location of sources of various raw materials, rhyolite for instance, this mineral being found in the region of the fifth Nile cataract situated some 60 km away.

While not complete by any means, the resulting picture of a Late Neolithic community inhabiting an area on the Middle Nile has clearly contributed to our understanding of this period in the prehistory of northeastern Africa. In doing so, it has fulfilled the chief aims of many years of archaeological explorations and the goal of recording all the results in full in book form.