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## Anthropological examination of human remains from Geili (Central Sudan)

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In February 1973 Italian Mission for Prehistoric Research in Egypt and Sudan, headed by Professor Salvatore Puglisi invited T. Dzierżykray-Rogalski and me to examine human skeletons discovered in Geili. These skeletons are only a sample of many skeletons discovered there, dated as far back as Early Khartoum, Neolithic and Meroitic times. Only in 1973 - 1974 34 burials were found there. However, we have had no opportunity to examine this whole material, so I would present only the results of anthropological analysis of ten skeletons examined, just to point to some questions originating from this investigation. The site of Geili consists of a large settlement and cemetery similar to those of Esh-Shaheinab and Kadero, at least for findings coming from the upper two layers (four strata were discovered at Geili).

The graves indicate that the site was used as a burial place already in Early Khartoum times. Skeletons from these graves were found in a strongly contracted position, the same was the position of the Late Neolithic ("protodynastic") burials. Later on, the site was used intensively for Meroitic burial where skeletons were found in loosely contracted position. The position of the skeletons was therefore typical for the burial customs known from the Central Sudan.

It should be emphasized that the sites used as both a settlement and burial ground for many centuries, like these in Geili or Kadero, are situated near the river, but there were probably other conveniences, too.

In seven examined graves 10 individuals were buried. In one grave dated as Early Khartoum (T-16) were two individuals: one male 35 - 40 years old and a child 5 - 7 years old. The male was about 177 cm tall, massively built. His bones were covered with ochre.

In three Late Neolithic ("protodynastic") graves we distinguished five individuals, all females, aged: 60 years, 55 - 60 years, 25 years, 18 - 20 years and 16 - 18 years. In two graves (T-9 and T-10) two persons were buried; in one case (T-21) only one very young woman was buried. In T-9 a woman about 60 years old and another one about 25 years old was buried. In T-10 we found also an older woman 55 - 60 years old buried together with the young one, aged 18 - 20 years.



In Meroitic graves there were three single burials containing two young females (17 - 18 years old and 19 - 20 years old) and one child 9 - 10 years old.

The question arises if this is just a chance that in the Late Neolithic and Meroitic graves only females and one child were found, or it could be a female cemetery?

In Kadero we examined also the Neolithic and Meroitic inhumations. The number of males buried in both cemeteries exceed this of females considerably. In the Neolithic population of Kadero sex distribution of the adults is 70% of males (69.2%) and 30% of females (30.8%). In the Meroitic group this proportion is 60% of males and 40% of females.

More males than females in the Nubian anthropological material is not unusual. Vagn Nielsen (1970) found an excess of males in most groups of Nubian skeletons. This applies to the C-Group (56.2% of males), the Pharaonic group (60.8%) and the X-Group (54.7%). But in the Meroitic group studied by Nielsen there is a small excess of females (amounting to 5.6%). According to Nielsen excess of males is partly caused by the bad preservation of the more fragile bones of females. Strouhal (1977) found in the Sayala cemeteries a clear predominance of males (in Late Roman cemeteries: A - 61,9% of males in C-I - 55.7%, CII - 56%, CIII - even 63.1%). A similar situation was described in the series from the Egyptian fort at Mirgissa, dated to the Middle Kingdom and Second Intermediary Period, where 60.6% of males were found (Billy 1976). In the Meroitic cemetery of Aksha there were 53% of males (Chamla 1967). On the other hand, there are also cemeteries with even proportion of males and females (for example X-Group Wadi Qitna, A-Group in Nielsen's material). According to Strouhal (1977) some cemeteries in the Sudan were reserved for adults, either with both sexes in even proportion or with the predominance of males (warriors?). Other cemeteries were used predominantly by women and children and it could have been so at Geili, but it is necessary to examine all skeletons there to draw such conclusion.

The stature of persons buried at Geili was calculated by Trotter and Gleser method. It was possible to determine this for the male from the grave dated as Early Khartoum; it was a tall man, 177 cm of stature, his bones were massive, thick and strong. It was also possible to calculate the stature of three females from the Late Neolithic graves: this from the grave T-9, 25 years old, was 174 cm tall, another one, about 60 years old, was 160 cm tall, the female from grave T-10, 18 - 20 years old, was 164 cm tall, but her growing was not yet completed as the femur had not yet fused distal epiphysis. From the Meroitic graves we were able to measure the length of bones of only one female 19 - 20 years old (T-6) and she was 162 cm tall, but her growth was not finished either as there were not yet fused epiphyses.

The individuals buried in the Early Khartoum and Late Neolithic graves were all massively built, with thick bones, and tall.

Preserved facial bones indicate that the faces were without or with only slight prognathism, the noses were rather narrow, but the features of mandible were typical



for the "Black" variety (especially articular process bent medially) but we are not stating their racial affinities.

In the Late Neolithic graves we also found cases of paleopathology. The female 60 years old from the grave T-9 had immense tartar covering whole teeth. She had also spondylosis, especially of cervical part of vertebral column with two vertebrae completely fused, so her head was barely movable. Extensive spondylosis was observed in lumbar part of vertebral column, too. In bones of limbs we observed extensive changes caused by osteoarthritis.

The same kind of changes showed female 55 - 60 years old from the grave T-10. She had very developed spondylosis of cervical and lumbar part of vertebral column, as well as osteoarthritis in joints of limbs. This kind of changes is typical for the aged individual and in Egypt and Sudan is very frequent. It seems strange that we did not find this kind of paleopathology (or any other pathological changes) at Kadero where we already examined the bones of 52 individuals.

Our data concerning the individuals buried at Geili are incomplete and are not representing the whole population neither from the Early Khartoum, Late Neolithic nor from the Meroitic cemeteries. More material should be examined to elucidate the problem of sex distribution, burial customs (for example, to explain if in the Late Neolithic graves usually two persons were buried together). It would be also interesting to analyse age at death in these populations as well as to study their racial affinities and morphological features. Last but not least, it would be interesting to clear up the question if frequency of spondylosis and osteoarthritis was really that high among older individuals and if so, to try to explain why it was absent at nearby Kadero?

## References

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