

The demography of the populations from Kadero (Central Sudan)

In the course of excavations carried out at Kadero in 1972-1980, Neolithic (ca 5,100-5,300 B.P.) and Late Meroitic (ca 200-400 A.D.) burial grounds were found. The Neolithic burials were found in two localities on the mound at Kadero (Krzyżaniak, this volume) whereas the Late Meroitic cemetery was located in a separate part of the site (Krzyżaniak, 1979). All skeletons found in these inhumations were considerably decomposed due to the erosion which had previously taken place on the mound (most of the skeletons were found just under the surface), and also due to the fact that the soil of the site contain a heavy content of calcium carbonate which is known to cause disintegration of human bones.

The skeletal remains from all burial grounds were examined by T. Dzierżykraj-Rogalski and this author, mostly during excavation. The poor state of preservation of these remains, however, made impeded anthropological observation and measurements. Nevertheless, it was possible to determine to a varying degree the sex and age of 52 individuals from these cemeteries: 25 males, 12 females and 15 children. This is illustrated by the Table 1.

Altogether, 54 graves have been discovered at Kadero so far, but graves Nos. 52-54, excavated during the last season in the Neolithic burial ground have not yet been examined by physical anthropologists who were absent at the terminal stage of the campaign. Of the 51 graves we investigated, 36 are of the Neolithic chronology, 14 – Late Meroitic and 1 – Post-Meroitic. In total, in the 36 Neolithic graves 37 individuals were interred: 18 males, 8 females and 11 children. In the 14 Late Meroitic burials 14 individuals were interred: 6 males, 4 females and 4 children.

The number of males buried in both cemeteries thus considerably exceeds that of females. In the Neolithic population the sex distribution of adults is 69.2% of males to 30.8% of females. In the Late Meroitic group this proportion is 60.0% of males to 40.0% of females.

The higher frequency of males than females is not unusual in anthropological material known from northern Nubia. Vagn Nielsen (1970) found a majority of males

Table 1

Sex and age at death of the individuals buried at Kadero

Grave No.	Chronology:		Sex	Age at death in years
	N – Neolithic	LM – Late Meroitic		
1		N	(child)	–
2		N	female	50
3		N	male	45
4		N	(child)	4 - 6
5		N	female	25 - 30
6		N	(child)	13 - 15?
7		N	(child)	7 - 8
8		N	male	50 - 60
9		N	male	30 - 40
10		N	female?	35 - 45
11		N	(child)	6 - 10
12		N	male	50 - 55
13		N	male	35 - 40
14		N	male	50 - 55
15		N	male	55 - 60
16		N	(child)	2 - 3
17		N	female	19 - 23?
18		N	(child)	0.5
19		LM	(child)	4
20		LM	female	28 - 30
21		LM	male	35 - 40?
22		LM	female	18 - 20?
23		LM	female	30?
24		LM	(child)	15 - 16?
25		LM	male?	25 - 30
26		LM	(child)	4 - 5
27		LM	male	30 - 35
28		LM	male	25 - 28?
29		LM	(child)	3 - 4
30		LM	male	35
31		N	female	30?
32		LM	male?	17 - 18
33		N	(child)	–
34		N	(child)	3 - 5?
35		N	male	35 - 45?
36		N	male	35 - 45?
37		N	female	adult
38		N	male	30 - 35?
39		LM	female	25 - 28?
40		N	male	35 - 40
41		N	male	30
42		N	male	30 - 55?
43		PM	male	25 - 28

cont. Table 1

44	N	male	45 - 50
45	N	male?	30 - 35
46	N	ind. I: female?	25?
		ind. II: (child)	5 - 6?
47	N	(child)	1 - 2?
48	N	male	35 - 40?
49	N	male	50 - 55
50	N	female	40
51	N	male	40?

in most groups of skeletal material: 56.2% in the C-Group, 60.8% in the Pharaonic group and 54.7% in the X-Group. However, in the Meroitic group from that area there is a small excess of females amounting to 5.6%. According to Nielsen the excess of males in above mentioned groups was partly caused by the bad state of preservation of the more fragile bones of females. Strouhal and Jungwirth (1971) found in the Late Roman cemeteries at Sayala a clear predominance of males, *e.g.* in the burial ground A - 61.9%, CI - 55.7%, CII - 56.0% and CIII - 63.1% of males. 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 the skeletons were identified as males (Billy, 1976). In the Meroitic cemetery at Aksha 53% of the identified skeletons were male (Chamla, 1967). On the other hand, there are also cemeteries in Nubia with an even proportion of males and females, *e.g.* in the X-Group burial ground at Wadi Quitna (Strouhal, 1971) and in the A-Group site studied by Vagn Nielsen (*op. cit.*). According to Strouhal (1977) some cemeteries in Nubia were reserved for adults only, either for both sexes (in even proportion) or mostly for men (warriors?), whereas other cemeteries are said to be used predominantly for women and children.

At Kadero, the predominance of males may have been the result of the bad state of preservation of bones of females but, particularly in the case of the Neolithic population, this phenomenon may be the result of burial customs and taboos of this social group; *e.g.* one can suppose that women who died at parturition were buried together with the infant in a separate burial ground.

The frequency of child remains in the Neolithic Kadero group is 29.7% and in the Late Meroitic one - 28.6%. In the material from the Scandinavian Joint Expedition excavations in northern Nubia, the frequency of child and juvenile remains varies between 14.3% in the Pharaonic graves and 35.1% in the series of Christian date (Vagn Nielsen, *op. cit.*). At Wadi Qitna (Strouhal, 1977) the frequency of child burials up to 14 years old was 32.9%. As regards the strikingly high infant mortality in the Neolithic and Meroitic populations in the Sudan, we must admit that the bones of children, certainly much more perishable than those of adults are not truly represented in our sample and, hence, we do not have clear evidence of this high rate of

mortality in these populations. It is also possible that a large number of dead children were not inhumed in adult cemeteries but elsewhere. This supposition seems to be confirmed by Strouhal's studies of the large burial complex in Sayala where, in some cemeteries, there was a very limited number of skeletons of children (CI – 6.2%, CII – 3.6%, CIII – 6.0%) but in cemetery N a surprisingly high number – 62.5% of all burials – were those of children (Strouhal, 1977). On the other hand, Polish excavations at Faras disclosed large pots containing the bones of newborns buried under the floor of the local church. The same phenomenon was noted in Balat, in the Dakhleh Oasis in Pharaonic burials (T. Dzierżykray-Rogalski, personal communication). It can not be excluded that the newborns were buried in a separate place in earlier periods, too. If this was so, the small frequency of the remains of children in the Kadero material may have been due to their total dissintegration and/or the custom of interring their remains in a separate place.

Arithmetic mean of the age at death of the Neolithic adults at Kadero is 42.6 years (SD=8.47) for males and 33.4 years (SD=10.27) for females. In the Late Meroitic population the mean age at death for males is 29.4 years (SD=7.21) and for females 26.1 years (SD=4.97). The mean age at death is, therefore, much lower for both sexes in the Late Meroitic population than in the local Neolithic group. The age at death of the Late Meroitic individuals from Kadero is rather low but we have to remember that the sample of our material is too small to draw any definite conclusion in this respect.

The age at death in the Neolithic population of Kadero is relatively high, higher than for instance that observed for Neolithic Europe. For example, at Kadero 27.8% of all male and 12.5% of female burials are over 50 years of age. In Neolithic Poland, only 2.2% of the population lived more than 50 years (Dzierżykray-Rogalski, 1957). In the A-Group population studied by Vagn Nielsen (*op. cit.*) there were only 3.1% of males and 9.7% of females over 50 years old. The age at death in the Kadero Neolithic population is also higher than that observed in a much later period in northern Nubia. For instance, in the complex CI in Sayala studied by Strouhal and Jungwirth (1971) the mean age at death was 36.3 years for males and 31 years for females.

The presently excavated graves at Kadero undoubtedly are only a part of the Neolithic burial grounds on this site and, consequently, our present sample is incomplete, representing only a part of the buried population. It is, therefore, hoped that the excavations at Kadero will be continued and more skeletal material will be examined by physical anthropologists. Nevertheless, already at this stage of the research, it seems that the general conditions of life of this Neolithic population were relatively good, much better than in subsequent periods in Nubia. In contrast, the burials from the Late Meroitic times seem to be the remains of the population who experienced worse living conditions than the local Neolithic group.

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