Analysis of the Skeletal Population from the Cemetery of Bodzia

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The Skeletal Material and the Research Methods

At the necropolis of Bodzia a total of 58 graves with 52 human skeletons were uncovered and explored. Graves D153, D156, E41, E43, E70, E850, E854, E857, E858, E861 did not contain human remains and were excluded from further analysis. The majority of the bone material collected in 2007 was poorly preserved; many bones were preserved only as stains in the sand and could not be retrieved. The bone material explored in 2009 was in a much better condition, some skeletons were almost complete; the majority, however, were of very bad to moderate preservation. The bones of children and young people were very brittle and cracked. The bones were in such a state most probably because the skeletons were deposited close to the surface of the ground and further damage was caused by the physical and chemical properties of the soil.

All the bone remains excavated at the cemetery were transported to the Department of Anthropology at the Faculty of Biology and Environment Protection at the Nicolaus Copernicus University in Toruń. They were cleaned, reconstructed and submitted to a detailed morphological analysis. Using the features which distinguish women's bones from men's,¹ the sex of the deceased was determined. The age of death of the individuals was determined utilizing anthropological criteria such as the changes in the morphology of the pubic symphysis surface and the auricular surface of the ilium, the degree of the ecto- and endocranial obliteration of the cranial sutures or, for children, the degree of ossification of respective elements of the skeleton and the length of the shafts of the long bones in the upper and lower limbs.² Also the measurements of the skull and bones³ were used to describe the morphological differences in the discussed population. The retrieved bone material is assumed to be representative for the whole cemetery used by the small local human population.

³ See Martin, Saller 1957.
Sex, Age, and Stature of the Population from Bodzia

Among the 52 analyzed skeletons, 14 were considered to be males, and 21 females. It was impossible to determine the sex in 17 cases. Of these, 14 skeletons belonged to children and young individuals and 3 most probably belonged to adults (more than 20 years old) but too poorly and fragmentarily preserved to allow identification of sex (Fig. 6.1).

The data on the age at death and sex were used to analyses the life expectancy. At the investigated cemetery female skeletons were slightly more numerous than those of males. In the analyzed population the largest group was adults, whose proportion amounted to as many as 74% of the total. Only 26% of the material represented the remains of children who died before age 15 (Fig. 6.2). The empirical data suggest that children buried at the cemetery were under-represented in comparison to the theoretically expected (model) figure. As the literature suggests, in populations like this, the proportion of buried children may be even as high as 50%. However, this problem concerns especially the youngest individuals.

The deceased were grouped according to their age in 10-year intervals (Fig. 6.3). The proportion of skeletons is the highest in the interval between 20 and 30 years of age. In the group of people who died before reaching 20, the most numerous are those who died during their first 10 years of life (these are mostly children aged infans I, i.e., up to 7 years old). In the next interval the proportion is smaller. This may be caused by the decreased selection pressure on the individuals who managed to survive their early childhood (the most difficult period of progressive ontogenesis). The youngest children are the most vulnerable to various diseases, including the infectious ones, as well as nutritional deficiencies, metabolic disorders and acute gastrointestinal disorders caused by food poisoning, which are frequent causes of deaths.

In the investigated population, there is an increase in the frequency of deaths in the 40–50 interval, which should probably be connected with the high concentration of deaths in the adult age (maturus, i.e., ca 35–55 years). In the last category of age the frequency is clearly lower. It seems, however, that this is not due to low life expectancy in the oldest age group, as may be the case in the 10–20 year old interval, but rather to the decreased number of individuals living up to that age and their low representation in the living population (only a small number of people managed to live to late adult and senile age). It seems that in the investigated population individuals did not survive longer than 50–60 years. None of the analyzed skeletons belonged to an individual older than 60 years according to the biological criteria.

The proportions of deaths were compared for women and men. As in the previous analysis the material was divided into decades. The analysis