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## ANTHROPOLOGY OF THE CHRISTIAN POPULATION AT SAYALA (EGYPTIAN NUBIA, 6th – 11th CENTURY A. D.) Preliminary Report

**ABSTRACT:** *From the three separated cemeteries of the Christian period at Sayala, remains of 160 individuals were unearthed by the Austrian Nubian mission. They were studied from the demographic, morphologic and palaeopathological views. The vital statistics were found to have been unfavourable. In the anthropometric and anthroposcopic features there was a clear-cut sexual dimorphism but only slight difference between people buried in the individual cemeteries. Among numerous pathological findings, some rare diagnoses as spinal tuberculosis, primary carcinoma or metastatic carcinoma were revealed.*

**KEY WORDS:** *Egyptian Nubia – 6th – 11th century A.D. skeletons – Pathology.*

The area of Sayala, 130 km south of Aswan, was investigated by the Austrian mission in the scope of the Nubian safeguarding action of UNESCO in 1961 – 1965. Besides other objects, numerous cemeteries were excavated, yielding remains of more than 650 individuals, which I elaborated thanks to invitations of the Museum of Natural History in Vienna and the Austrian Commission for UNESCO.

Two Middle Kingdom series were published in a monograph (Strouhal and Jungwirth 1984), five Late Roman – Early Byzantine series were prepared for publication and three Christian series are in course of elaboration. Several preliminary reports and papers on paleopathological findings appeared in print (Strouhal and Jungwirth 1971, 1977, 1979, 1980, 1982, Strouhal 1979, 1981, 1987a, b, 1989a, b).

The Christian population of Sayala lived in a fortified settlement comprising a basilica, situated on the left bank of the Nile (Bietak and Schwarz 1987). They buried their dead mainly in the cemetery labelled K, extending on a slight slope northwest of the village. From its 90 investigated tombs remains of 133 individuals were unearthed, belonging to all age groups of both sexes. In a small courtyard south of the basilica, the small cemetery I, containing 11 better built and equipped tombs, was situated, containing 12 individuals,

exclusively adult or juvenile males possibly priests, as well as 4 children, whose sex was not yet determined. The third cemetery J was situated south of another smaller church, lying isolated 67.5 m southwest of the southwest corner of the wall of the fortified settlement. In its 12 tombs, 15 individuals – 5 adult males, 4 adult females and 6 children were buried, probably family members of benefactors of the church.

Demographically, the Christian human material of Sayala as a whole was characterized by a great share of infants and children up to 15 years (53.1%). Among the remaining individuals, females (52.6%) were more numerous than males (47.4%). The average age at death of individuals from 15 years up was 35.6 years for males and 34.7 years for females, for the whole population, however, only 18.2 years. This might reflect unfavourable sanitary and health conditions of the settlement.

Altogether 62 craniometric, 152 osteometric, 206 cranioscopic and 127 osteoscopic features as well as anomalies and pathologies, if they occurred, were studied in each individual. In infants and very small children, the number of studied features was reduced. The usual methodology described by Strouhal and Jungwirth (1984) was applied, comprising measurements of both vertical and horizontal facial profiles.

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In craniometrics the braincase was found to have been long and narrow, dolichocranic (M 71.9, F 72.8), low, on the border of chamae- and orthocrany (M 69.2, F 70.3) and metriocranic (M 96.0, F 96.6). The face was narrow and low, mesoprosopic (M 87.6, F 89.9) and mesene (M 53.1, F 54.0), the nose low and broad, chamaerrhine, especially in females (M 52.6, F 55.1), the orbits small, mesoconch (M 80.2, F 82.7), all mandibular measurements small. The vertical facial profile was orthognathous except for the alveolar profile angle which was hyperprognath to prognath. In the horizontal profiles there was a definite flatness of the upper face and a slight depression of the nasal root.

Males from cemetery I were in most measurements greater than those of the other cemeteries, being at the same time near to mesocrany (74.7), ortho- (73.3) and slightly acrocranic (98.6) with a higher mesoprosopic (53.1) and leptene (56.3) face, mesorrhine (49.4) nose and bigger mandibles. A slight tendency in females from cemetery J to higher values in comparison with other females was caused by the inclusion of an abnormally high and robust woman (J 1/4) in this small group. No shape differences were, however, apparent in the indices.

In osteometrics the population was characterized by short dimensions, small humeral and femoral heads, but medium robust diaphyses. Males I and females J differed by greater dimensions. This is well reflected in stature, reconstructed according to the tables for American Negroes by Trotter and Gleser (1952) which were found to suit better to Nubian proportions than the tables for Whites (Strouhal and Jungwirth 1984). While males K and J were of medium stature (165.4 and 165.1 cm respectively), males I grew higher (168.4 cm). At the same time, females K were medium high (156.4 cm), their neighbours buried in cemetery J being higher (159.8 cm).

The significance of sexual and group differences between the cemeteries was tested by variance analysis on probability levels 0.05 and 0.01. Concerning sexual differentiation, more than a half of the craniometric measurements were either significantly (11.4%) or highly significantly (41.9%) different, the overwhelming majority of the osteometric measurements either significantly (12.6%), but mostly highly significantly different (76.0%).

On the other hand, group differences were only rarely proved as significant, most probably because of the small number of individuals in groups I and J. Between males K and J as well as I and J no significant differences appeared. Between males K and I only 3 craniometric (4.8%) and a single osteometric (0.8%) features, between females K and J 4 craniometric (6.6%) and 15 osteometric (12.0%) features were proved as significantly or highly significantly different.

Also the distribution and testing by chi-square test of the cranio- and osteoscopic features showed a well-cut sexual differentiation in sexually dependent features, but only a few significant group differences.

Pathological findings were described at another occasion (Strouhal 1989b). We may summarize that the frequency of injuries was low and mostly of not-fighting origin. Inflammations were also rare, but an unusually extensive and fatal case of spinal tuberculosis was found in a 22-24 year old male (Strouhal 1989a). Besides a few benign tumours (osteomas and cyst of the

nasopalatine ductus), there was a case with extensive destruction of the maxilla and palate bone in a 35-45 year old male caused most probably by a primary carcinoma of the left oral, pharyngeal or nasopharyngeal region. The skeleton of a 35-45 year old female was penetrated by numerous osteolytic foci suggesting secondary deposits of a metastasizing carcinoma. Degenerative-productive changes were common and started already in young adult age. Cribra orbitalia occurred in a low percentage of children and rarely in young adults. In the extensive list of congenital anomalies there were some cases of hyphertrophic middle turbinate and bullae ethmoideae. The incidence of tooth decay was surprisingly high and started already in deciduous dentition. Altogether the great rate of morbidity explains the unfavourable vital statistics of the Christian population at Sayala.

The complete publication of the material with tabulated numerical data is currently under preparation (Strouhal and Neuwirth, in prep.).

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