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CEMETERY A IN NAQLUN: ANTHROPOLOGICAL STRUCTURE OF THE BURIALS

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Abstract: The morphological-comparative method of anthropological analysis was applied by the author to the examination of skeletal remains of a few hundred individuals from the medieval cemetery in Naqlun compared to results of Michalski's 1964 study concerning the anthropological structure of modern Egyptians. The modern population of Fayum appears to reflect the ancient structure much better than the medieval population from Cemetery A in Naqlun. Moreover, there seems to be an evident decrease in racial diversity from antiquity to modern times, but the Naqlun skulls break out from this order

Keywords: Keywords: Naqlun, Egypt, cemetery A, medieval Christian, morphological-comparative method, racial diversity, anthropological structure

INTRODUCTION

Archaeological excavations on the site of Cemetery A at the monastery in Naqlun in Fayum Oasis have produced, beside an array of archaeological material, the skeletal remains of a few hundred individuals. The data thus has permitted in depth inferences to be made regarding many aspects of the life (and death) of the ancient medieval Christian population (Piasecki 2001). While a comprehensive study of the assemblage is pending, part of the material may be compared with the results of Michalski's study (1964) concerning the anthropological structure of modern Egyptians, as well as Wierciński's research on the population of Predynastic and Early Dynastic Egypt (1965; 1978). The comparison is possible owing to the application

of a standard model of data analysis which avails itself routinely of Martin's method and generally follows the Polish School of Anthropology.

The modern population of Fayum Oasis has been the topic of anthropological analysis repeatedly (Craig 1911; Field 1952; Jasicki 1969; Mayer 1969; Wierciński 1970), but only Michalski's study (1964) permits comparisons with the Naqlun material, because the same method was used. Moreover, making inferences is hindered by the fact that the assumption that all those buried in the Naqlun cemetery were inhabitants of the oasis cannot be upheld in the light of information on the burial customs of medieval Copts (Wipszycka-Bravo, personal communication).

METHOD

The method, seldom used today mainly for reasons other than substantive (Wierciński 1985), remains the most convenient and efficient manner of description despite repeatedly voiced reservations. This is attested by numerous syntheses based on it, concerning the anthropological structure in different parts of the world. The morphological-comparative method, as it is called, takes recourse to the individual typology paradigm (Henzel, Michalski

1955); it was used in the above-mentioned works of Michalski and Wierciński, thus allowing comparative study. Its principal assumption is the discontinuous morphological space of our species and the relatively high inheritability of so-called racial elements defining the said discontinuities. From the point of view of zoological classification assumptions it is fully correct and used for describing intra-species differentiation in the distant past.

RACIAL STRUCTURE

Racial structure represented by the examined skulls is shown in *Table 1*. Data analysis leads to the following determinations:

a) The deceased buried in the Naqlun cemetery represented definitely the White variety (total for both sexes: 86.8%), the men having a characteristic majority compared to the women (6.8%), which may reflect a number of phenomena (see below). Excluding the share of the intermediate Laponoid variant (White and Yellow variant cross-breed, usually connected in statistical counts with the White variety, as here), the share is slightly smaller: 79.2%, and the male majority even larger, reaching almost twice as much at 11.6 %.

b) The other varieties are more or less similarly few and should be treated as an admixture (possibly remains of an older population layer).

c) The racial composition of the White variety demonstrates a very characteristic make-up: fair-pigmented forms, that is, Nordic and Cromagnonoid, constitute only 12.1% (13.3% when the Laponoid is rejected). The male superiority is respec-

tively 8.4% and a very close 7.8%). Dark-pigmented forms show a markedly close domination structure. Three elements: Oriental, Berber and Mediterranean oscillate slightly below 20%, while the Armenoid is decidedly less numerous (average 12.2%). The differences between the sexes appear to be statistically insignificant, although the turn does not differ from the expected.

The percentage of fair-pigmented elements, which is relatively high for the southern fringes of the Mediterranean, could on one hand attest to the influence of an old substrate, analogously to the fair-pigmented Berbers from the Atlas and Fez (and part of the Canarian Guanchis also). On the other hand, it cannot be excluded that this is due to the Copts extensive contacts with the fairer Near Eastern and northern Mediterranean populations.

d) The Yellow variety unexpectedly appears to be more numerous than the Black one, although the difference is small (6.9% compared to 6.3%); after adding the Laponoid, which gives the morpho-

logical effect of “yellowing”, the number rises to 14.5% (or 10.7% after treating the Laponoid formally as “composed half and half of the Yellow and White variety), that is, more than twice as much as the Black variety. There is nothing out of the ordinary in this result, because the northern expanses of Egypt are much closer to Asia than to Black Africa. The differences between particular elements are insignificant (after dividing in half, the Laponoid has 3.8% summarily and 3.0% and 4.9%, respectively for men and women). The differences between sexes are like those for the Black variety, meaning there is distinctly more women in the group. The absence of Mongoloid in the examined material can be due

to the overall small number of the Yellow variant or the “masking” effect resulting from a large Laponoid share.

e) The Black variety amounts to only 6.3% and its share is limited practically to the distinct presence of the Sudan element among women (7.4%). Pigmoid is very rare and Australoid accidental (although both elements could indicate an older substrate). The absence of the Equatorial element could be evidence for lack of contacts with West Africa, which are definitely later and concern the Islamic world, while the absence of Bushmenoid could be the effect of “splitting” and the resultant morphological effect of “excess” of the Tibetan element.

Table 1. Racial structure (%) represented by skulls from Cemetery A in Naqlun

Elements	M	F	Σ
a (Nordic)	8.8	4.9	7.2
y (Cromagnonoid)	4.9	0.8	3.3
b (Berber)	19.2	18.0	18.8
e (Mediterranean)	17.1	19.7	18.1
k (Oriental)	21.0	18.0	19.7
h (Armenoid)	12.6	11.5	12.2
l (Laponoid)	6.0	9.8	7.6
White variety (total)	89.6	82.8	86.8
q (Tibetan)	2.7	4.1	3.3
z (Pacific)	3.3	4.1	3.6
Yellow variety (total)	6.0	8.2	6.9
o (Pigmoid)	1.6	1.6	1.6
s (Sudan)	2.2	7.4	4.3
t (Australoid)	0.5	–	0.3
Black variety (total)	4.4	9.0	6.3
	100.0	100.0	100.0

TYPOLOGICAL COMPOSITION

The strong differentiation in terms of the share of racial elements becomes even more complicated to interpret when analyzing the typological composition [Table 2]. The total number of typological units is 38 (4 individuals per type!). This type of composition attests to a strongly mixed population.

The mixed composition of the population is confirmed by the frequency of pure races [Table 3]. Apart from the Cromagnonoid, they represent all elements of the White variety forming the Naqlun series (additionally confirming its evidently White-variety character). The elements are relatively not numerous, totaling in effect only 8.5%, with males being almost twice as numerous. Despite the low numbers of each of the pure races, this infers a mixed origin with a small share of autochthons.

In terms of variety, the White variety types constitute exactly three-fourths of the series, while the mixed White–Yellow and White–Black varieties have an equal share [Table 4]. The superiority of women in the mixed White–Black variety is evident (typical of the White–Black border zones), compensated by the lower share of women of types representing the White variety.

The absence of Black–Yellow cross-breeds indicates a lack of contacts with Southeast Asia, which was Christianized late (and mostly in the Catholic rite at that).

The number of derivative types is also high, which confirms the significant role of the Berber substrate in keeping with the domination structure [Table 5]. It is here that the distinct superiority of this substrate over the Oriental (6.8%!) and Mediterranean (9.9%) becomes manifest. The Berber derivatives are also the most homogenous (%/n), which would indicate its local origin. Even so, they do not constitute even one third of all typological types. The Berberoid cannot be considered a long resident population, because a comparison of the sexes (six female types compared to seven male types and respectively 26.1% among women compared to 25.3% among men) is not sufficient grounds for such a statement.

This structure should be seen as the result of a population incoming for the most part from the east and northeast, and mixing with a local substrate clearly dominated by Berber race derivatives. Nine of the numerous types have to be counted to give 50% of the series(!) [Table 6].

COMPARATIVE ANALYSIS

Current research on the Naqlun skulls compared with A. Wierciński's findings (1980) concerning the Pre- and Early Dynastic series [Table 7] lead to the following conclusions:

a) The "core" of the early anthropological structure of Egypt formed by the Berber (b), Mediterranean (c) and Oriental (k)

elements, constituting a sum of from 70% to 90% in Wierciński's research, makes up only 56.6% of the Naqlun series. They are complemented with the Armenoid (h) element of undoubtedly Levantine origin, together with which they make up only 70%. The share of the Tibetan element, not evaluated but suggested by Wierciński,

Cemetery A in Naqlun: anthropological structure of the burials

EGYPT

Table 2. Typological composition of the skulls from Naqlun

Anthropological type		M		F		Σ	
		n	%	n	%	n	%
AA	Nordic race	1	1.1	1	1.6	2	1.3
AB	Aegean	2	2.2	–	–	2	1.3
AE	Northwestern	3	3.3	–	–	3	2.0
AK	Amorite	6	6.6	3	4.9	9	5.9
AL	Subnordic	2	2.2	–	–	2	1.3
AQ	Chukhonic	1	1.1	1	1.6	2	1.3
YB	Riffean	2	2.2	–	–	2	1.3
YE	Atlantic	3	3.3	–	–	3	2.0
YK	Rephaitic	3	3.3	–	–	3	2.0
YZ	Ushuan	–	–	1	1.6	1	0.7
YS	Cromagnonoid-Sudan	1	1.1	–	–	1	0.7
BB	Berber	4	4.4	1	1.6	5	3.3
BE	Chamite	6	6.6	4	6.6	10	6.6
BK	Kushite	7	7.7	6	9.8	13	8.6
BH	Levantinean	8	8.8	5	8.2	13	8.6
BL	Berberoid	1	1.1	3	4.9	4	2.6
BZ	Sub-Himalayan	1	1.1	1	1.6	2	1.3
BO	Pigmoid	–	–	1	1.6	1	0.7
EE	Mediterranean race	1	1.1	1	1.6	2	1.3
EK	Sub-Oriental	4	4.4	3	4.9	7	4.6
EH	Littoral	4	4.4	3	4.9	7	4.6
EL	Sub-Laponoid	1	1.1	5	8.2	6	3.9
EQ	Southeastern	1	1.1	2	3.3	3	2.0
EZ	Ladin	2	2.2	2	3.3	4	2.6
EO	Sub-Pigmoid	1	1.1	–	–	1	0.7
ES	Ethiopian	3	3.3	3	4.9	6	3.9
ET	Vedic	1	1.1	–	–	1	0.7
KK	Oriental race	2	2.2	1	1.6	2	1.3
KH	Sub-Armenoid	3	3.3	1	1.6	4	2.6
KL	Western Asiatic	4	4.4	3	4.9	7	4.6
KQ	Caspian	3	3.3	–	–	3	2.0
KZ	Aral	3	3.3	1	1.6	4	2.6
KO	Oriental-Pigmy	1	1.1	–	–	1	0.7
KS	Meridional	–	–	3	4.9	3	2.0
HH	Armenoid	2	2.2	–	–	2	1.3
HL	Alpic	3	3.3	1	1.6	4	2.6
HO	Armenoid-Pigmy	1	1.1	1	1.6	2	1.3
HS	Aswan	–	–	3	4.9	3	2.0
		91	100.0	61	100.0	152	100.0

Table 3. Share of so-called pure races in the Naqlun series

Race		M (%)	F (%)	Σ (%)	
Nordic	AA	1.1	1.6	1.3	
Berber	BB	4.4	1.6	3.3	
Mediterranean	EE	1.1	1.6	1.3	
Oriental	KK	2.2	1.6	1.3	
Armenoid	HH	2.2	–	1.3	
Total		11.0	6.4	8.5	Key: M – male F – female Σ – sex indeterminate

Table 4. Anthropological type of skulls from Naqlun in terms of the variant

	M	F	Σ	
White variant — pure races	11.0	6.4	8.5	
White variant — intermediate types	68.1	62.5	66.5	
White–Yellow mixed types	12.1	13.1	12.5	
White–Black mixed types	8.8	18.0	12.5	
	100.0	100.0	100.0	Key: M – male F – female Σ – sex indeterminate

Table 5. Frequency of anthropological types derived from particular racial elements

Derivative types		n	%	%/n	
b	Berber element	9	43.7	4.9	
k	Oriental element	11	36.9	3.3	
e	Mediterranean element	12	33.9	2.8	
h	Armenoid element	7	23.0	3.3	
l	Laponoid element	5	15.0	3.0	
a	Nornic element	6	12.1	2,1	
y	Cromagnonoid element	5	9.7	1.9	
s	Sudan element	4	8.6	2.4	
z	Pacific element	4	7.2	1.8	
o	Pigmy element	4	3.4	0.9	
q	Tibetan element	3	3.3	1.1	
t	Australoid element	1	0.7	0.7	Key: n – sample

assuming the insignificance of changes in the share of this component over time, should not distort these proportions.

b) The share of the Black variety, highly changeable in the early series, clearly dropping with the shift to the north, is not significantly different in the Naqlun series.

c) The comparable number of fair-pigmented elements (Nordic and Cromagnonoid), changeable in the early series, is most likely a reflection of many different factors, repeating the archaic structure as much as bearing out numerous later influences.

d) The fairly high share of the Laponoid in Naqlun, changeable in the early series and interpreted by Wierciński as Levantine influence, could also reflect the presence of an older, archaic substrate.

e) The domination structure of the early series is much more distinct. For seven out of nine analyzed series there is an evident superiority of the Berber element (sometimes doubled!) and only

two series demonstrate a similar majority as in Naqlun (and insignificant at that) of the Oriental element. Moreover, for all the Pre- and Early Dynastic series the two most numerous elements summed together exceed half (at least 55 %), while in Naqlun this is achieved only after counting three elements. It confirms the theory about the distinct heterogeneity of the Naqlun skulls.

Extensive field research by the Polish–Arabian Anthropological Expedition served Michalski to present a synthesis of the anthropological structure of modern Egypt (1964) [Fig. 1].

Table 6. The most numerous anthropological types in Naqlun

Type		Share (%)
Kushite	BK	8.6
Levantinean	BH	8.6
Chamite	BE	6.6
Amorite	AK	5.9
Sub-Oriental	EK	4.6
Littoral	EH	4.6
Caspian	KQ	4.6
Ethiopian	ES	3.9
Berber race	BB	3.3

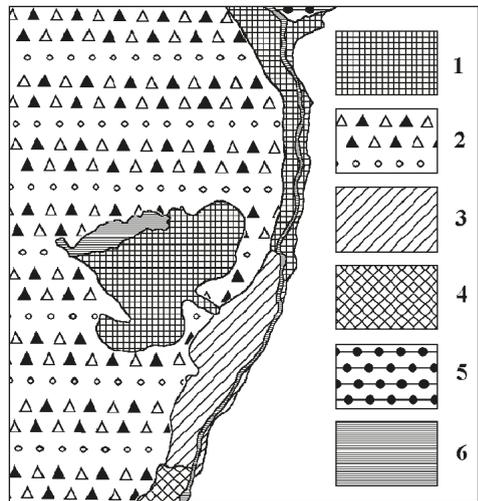


Fig. 1. Anthropological structure of modern Egypt. Fragment of Michalski’s map (1964), updated. Fayum Oasis in the center.

- Key to racial composition:
- 1) $b=e>>k$ “Ancient Egyptians”
 - 2) $e>>k>>a$ “New Bedouin”
 - 3) $b>>e>>a$ “Copts”
 - 4) “Modern Egyptians”
 - 5) “Old Bedouin”
 - 6) Nile and Qarun Lake

Table 7. Racial structure of the Pre- and Early Dynastic series (Wierciński 1980)

Racial element	Wadi Digla	Abydos Predynastic	Abydos Early Dynastic	Gebelein	Naqada	Badari	Maadi	Helwan	Saqqara
Nordic (a)	-	2.0	10.9	4.3	-	4.5	2.5	9.7	12.5
Cromagnonoid (y)	6.3	-	-	3.2	1.4	4.5	-	1.6	2.3
Berber+tibetan (b+q)	21.9	38.0	32.6	41.5	47.1	47.0	40.0	40.3	37.5
Mediterranean (e)	28.1	10.0	8.7	14.9	28.6	20.2	25.0	21.0	32.5
Oriental (k)	34.4	40.0	28.3	22.3	14.3	20.9	20.0	13.7	2.5
Armenoid (h)	3.1	2.0	4.3	-	-	2.2	7.5	6.5	2.5
Laponoid (l)	3.1	-	-	1.1	-	1.5	2.5	4.8	10.0
Bushmanoid +Pigmy (n+o)	-	8.0	6.5	5.3	8.6	-	-	0.8	-
Sudan+Equatorial (s+x)	3.1	-	8.7	7.4	-	2.2	2.5	1.6	-
Pacific (z)	-	-	-	-	-	-	-	-	2.5
n	16	25	22	47	35	67	24	62	20

Key: n - sample

The racial structure of Fayum Province [Table 8] differs from the Naqlun series by the distinctly superior share of the Berber and Mediterranean element, forming together 50 % of the population. The share of the Oriental element remains similar. Armenoid is virtually absent, while the share of the White variety (including Laponoid) and that of the Yellow variety (without Laponoid) remain practically the same. The share of the Black variety is kept at a similar level, too.

The racial composition of the Naqlun series, which can be represented schemati-

cally as follows: $k > b = e > h$, is definitely different from the modern one, the Oriental element appearing in third place: $b = e > k$. The Armenoid share is so evidently different from the Coptic model, that it drops to the last position together with the Bushmenoid.

Much larger differences are to be observed upon comparing typological composition. The makeup for the Naqlun series is: $BK = BH > BE > AK$, while the modern population in the 1960s was characterized by the following: $BE > EK > AB$ [Table 9].

Table 8. Racial structure of Fayum Province (after Michalski 1964)

Elements	%
a (Nordic)	10.0
y (Cromagnonoid)	3.3
b (Berber)	25.0
e (Mediterranean)	25.0
k (Oriental)	15.0
h (Armenoid)	1.7
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White variety (total)	80.0
l (Laponoid)	5.0
q (Tibetan)	6.7
z (Pacific)	3.3
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Yellow variety (total)	15.0
n (Bushmenoid)	1.7
s (Sudan)	3.3
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Black variety (total)	5.0
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	100.0

Table 9. Typological composition in the Fayum province (after Michalski 1964, updated)

Anthropological type		n	%
AB	Aegean	3	10.0
AK	Amorite	1	3.3
AN	Rehobotic	1	3.3
AS	Nornic Sudan	1	3.3
YB	Riffean	1	3.3
YK	Rephaitic	1	3.3
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BB	Berber race	1	3.3
BE	Chamite	5	16.7
BH	Levantinean	1	3.3
BL	Berberoid	1	3.3
BQ	Pseudo-Chamite	2	6.7
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EE	Mediterranean race	1	3.3
EK	Sub-Oriental	4	13.3
EQ	Southeastern	2	6.7
EZ	Ladin	2	6.7
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KL	Western Asiatic	2	6.7
KS	Meridional type	1	3.3
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		30	99.8

To some extent differences in the modern typological composition may be due to the smaller sample analyzed, but even so, the number of types at 17 is considerably smaller compared to 38 from Naqlun, and the most numerous of the Naqlun types (Kushite and

Levantine) represent shares less by half compared to the most numerous modern type (Chamite), meaning that domination structures are distinctly different. The Naqlun series therefore is much more varied and hence strongly mixed.

CONCLUSIONS

Based on the results of comparative research discussed above the following conclusions can be formulated:

a) The modern population of Fayum Oasis reflects the ancient structure much better than the medieval population buried in Cemetery A at Naqlun, although with a distinct decrease in the share of the Berber element which could be the effect not only

of external change, but also microevolution.

b) There seems to be an evident decrease in racial diversity from antiquity to modern times, but the Naqlun skulls appear to break out from this order.

c) The cranial material from Naqlun attests to a mixed origin of the individuals buried in the cemetery, drawing on a broader area than just the province.

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