

A CONTRIBUTION TO THE ANTHROPOLOGY OF THE RECENT EGYPTIAN POPULATION

EVŽEN STROUHAL—ROMAN REISENAUER

PART II

REGIONAL VARIABILITY OF SOME ANTHROPOLOGICAL FEATURES

ON THE HISTORY OF THE INVESTIGATION OF THE RECENT EGYPTIAN POPULATION

Although the aim of the depicting of foreign nations on the old-Egyptian reliefs was to show the distinction in the culture which was expressed by the different hair-style, cut of beard or by different clothing, some body characters, however, were also used to express differences among the nations, e. g. skin colour, head shape, facial appearance, or stature. The inhabitants of southern regions (called by the Egyptians „Nhsj“) including the country of Punt stood closest to the Egyptian type. Expressive characters caused visible differences between the Egyptians and the Negroes or the Nubians. The same applies for the Libyans, lighter in colour, and for the bearded Asiatics. So we can say that here there already appear elements of anthropological knowledge (Matiegková 1935).

The famous medieval Arabic traveller Makrizi (1366—1442) also observed the physical type of the Egyptians and found that southward the inhabitants were getting darker.

The European travellers of the second half of 18th century expressed a number of fantastic opinions about the contemporary population on the basis of superficial observation. Poinssinet de Sivey (1769) derived the Egyptians from an „old Celtic colony“, Volney (1783—1785) considered them to be Negroes and even Winckelmann (1802) admitted their immigration from China (quot. Chantre 1904).

Napoleon's expedition to Egypt brought a new era of wider recognition of Egypt. A new scientific branche — egyptology — was born. Very interesting is the fact that egyptology from its beginning included also anthropology as one of its branches. The first good description of an inhabitant from Upper Egypt was carried through by Jomard (1809) who supposed him to be less mixed with heterogenous elements than people from other parts of Egypt. Larrey (1813), the well-known physician and surgeon of the Napoleonic army, stressed the importance of the Copts as direct descendants of the old Egyptians and after comparing Coptic and Abyssinian skulls he assumed their anthropological relationship. These first steps in Egyptian anthropology did not reach, however, beyond simple observation.

During the last century the main effort was devoted to the problem of the origin of the old Egyp-

tians. Therefore studies on skeletal material were performed and the results were compared with the aspective impression from the recent population. In this respect E. T. Hamy (1887) showed himself to be a good observer who described in detail the inhabitants of Upper Egypt and stressed the relationship of the Egyptians with other nations speaking Hamitic languages (Bedja, Somalians, Abyssinians etc.). The inhabitants of the Siwa oasis were considered by him as Berbers pushed eastward.

Worth of mentioning is the name of Abbate Pascha (1892, 1893, 1908). This Cairo physician can be considered as the first Egyptian anthropologist of local origin and in the same time as a very early pioneer of physiological anthropology and occupational medicine.

The real foundations of physical anthropology of recent Egyptian population were laid by E. Chantre who first used the set of objective measuring and descriptive methods for the investigation of living people. In the years 1900—1904 he published a few monographs in parts about several Egyptian ethnical groups. This material was then included after the osteological part in his comprehensive work on the anthropology of Egypt (1904). In spite of his compilation of relatively big number of examined persons — 694 men and 164 women — he devalued the later statistical use of some of his data by arranging the values of both sexes into common tables. He also used a few of now old-fashioned measurements of the old French school. With these reserves Chantre's work remains till today practically the only, even though general source of information concerning some ethnical groups (e. g. some Bedouin tribes, the Nubians, Bisharin, Ababda) and especially concerning the women. After all Chantre's data are useful even for other groups for comparison with the results of later investigators. Chantre for example produced evidence about the dependence of skin pigmentation on the geographical latitude, the markedly bigger leptorrhina of the fellaheen in the Delta, the homogeneity of the head index and on the contrary the heterogeneity of facial and nasal indices, and a lot of further evidence. Against the previous opinion Chantre stressed the close relation between the fellaheen and the Copts. In the living population he distinguished two morphological types, a fine one and a rough one, which

were determined formerly by other authors in skeletal material. As to the origin of the Egyptians he pointed out their autochtony and close relationship with the Berber nations of North Africa.

In the same time G. Fritsch (1904) published his illustrated atlas of the Egyptian "folk types". It shows 52 photographs of undressed persons both men and women taken in three norms and their overdrawn proportion schemes, but only minimum of the metrical data.

C. S. Myers (1903, 1905, 1906, 1908) wrote a serial on anthropometrical and some descriptive features of recent Egyptians. He devoted his attention both to the religion and geographical division. He reached a number of valuable results but his material is usually blamed by subsequent authors for its selective character. As a matter of fact he investigated only the soldiers of the Egyptian army ($n = 540$) which for its limited contingent had the possibility of perfect selection of the physically best developed young men.

J. I. Craig (1911) organized a widespread anthropometrical campaign. He examined about 10,000 men from different prisons, people of different professions. The objections against this type of material he rejected by quoting that there is no "typical stratum of criminals" in Egypt. He arranged the results according to the birth-place of the investigated persons and thus arose a valuable survey on geographical division of some anthropometrical features in Egypt. Unfortunately the number of studied features is low. Craig gives even more statistical parameters besides the mean and therefore his results are useful up till today. The most valuable of his results are the bigger brachycephaly and lesser length of the fore-arm in the municipal inhabitants in comparison with the peasants, the increasing length of the fore-arm, fingers and foot in the direction from the north to the south, the slight tendency to taller stature in the Delta from the east to the west and alongside the Nile from the north to the south. The cephalic index tends to somewhat higher values in the Delta when compared with Middle and Upper Egypt. To explain some of these phenomena he admits the possibility of negroid influence besides the functional causes.

One of the most important and excellently carried out works is Hrdlička's monograph (1912, in Czech 1913) on recent population of the Kharga oasis. The author undertook his investigations during his Egyptian journey at the end of the year 1908. The chapters on physical anthropology are preceded by the informative description of the nature, health, social and historical conditions and by the data on vital statistics. The set of chosen metrical features, indices and descriptive data is quite sufficient for the characteristics of the population. Even statistical parameters and graphical diagrams in the form of frequency polygons are introduced. The whole documentary material with pictures of some individuals in two norms are included. As a physician Hrdlička did not forget to study also some physiological data as pulse

frequency, respiration-rate, temperature, dynamometry, which are till now almost unique in the whole anthropological literature of Egypt. In the concluding appreciation of the results the author sharply distinguishes the health and economical factors from the racial ones. The lower body height and somewhat under average body development can be explained by longlasting undernourishment. The inhabitants are only partially mixed with the descendants of negro slaves and moreover to a less intensity than in the Upper Egypt. The unmixed part indicates almost a homogen type, which corresponds with the type of Egyptian population of the Nile valley. In consequence of a certain isolation Hrdlička expresses the possibility that the inhabitants of Kharga are better representatives as descendants of the old Egyptians than the more mixed people of many regions in the Nile valley.

M. M. Orensteen (1915) used the sets of men from Cairo collected by Craig to calculate the correlations among some measurements. While the mutual correlation of the fore-arm, finger and foot length and the stature is high and in fact the same among the most different racial groups, he found out a very low correlation of the head length and head breadth, this being a different feature in comparison with some other groups. We may suppose that this illustrates the heterogeneity of the Cairo population.

In C. G. Seligman's (1917) work on physical characters of the Arabs also some groups of Egyptian Arabs are discussed. The author pointed out the preservation of their original physical type with a low intensity of morphological modifications due to the environment.

W. Cline (1932) published some anthropometrical notes on the natives from the Siwa oasis.

Ammar Abbas devoted his attention to the province of Sharqia in the eastern Delta. After short essays (1940, 1941) he wrote the monograph (1914) containing apart from anthropometry and anthroposcopy also chapters on serology, anthropometrical correlations and dermatography. He used the rich material of 1000 men from the different regions of the province and a sufficient set of features. Unfortunately he did not introduced all the needed statistical parameters, though his diagrams of individual distribution or the geographical variability of features are very detailed. His work lacks also the documentary material and photographs. Out of the author's results "from this main corridor between the West Asia and the North Africa" we must quote the intermediary position of the Sharqia inhabitants between the Egyptians of other regions and the proper Arabs. Strong Arab influence, which can be divided into north-Arabic and south-Arabic elements, is the most striking anthropological character of the Sharqia province. Less expressive is the influence of the Turkish element and of the west-Arabic element (Berberian Arabs Al-Hanadi). No least trace of negro influence was found. The author could assert that also in the frame of the eastern Delta the geographical latitude has its influence on the hair and skin colour, less on the eye

colour. Besides this in the east-west pigmentation differences are obviously to be seen ethnical factors. The great merit of the work of A m m a r A b b a s remains in his effort for deep element analysis. Thus he could determine six "anthropometrical regions" of the province into which, however, he did not redistribute his material.

M. Mitwalli Mousa (1938, 1943, 1946) devoted a comprehensive study to the oases of the Western (Libyan) Desert. In the first part of his publication (1943) he included anthropometrical data, i. e. the means, the percentage distribution into quantitative classes and the frequency polygons. The whole material, some photographs and a few of descriptive features are included only in the manuscript of his Ph. D. thesis at the Liverpool University (1938). The second part of his publications (1946) consists of demographical, sociological and ethnographical data. On analysing his material he divides the population of the oases into a southern group (Dakhla and Kharga) and a northern one (Baharia, Farafra and Siwa). The inhabitants of the southern oases are according to the author very homogen and close related to the Nile valley population. Thus Mitwalli, though he does not present it, confirms the hypothesis of Hrdlička. In the morphology of the inhabitants of the northern oases there are some mutual relations but in the same time the natives from Siwa differ from those in Baharia and Farafra with their high statures, absolutely bigger heads, broader foreheads and higher nasal indices. As the Siwa skulls from the Roman period are much more similar to the type of the inhabitants of Baharia and Farafra than to the present inhabitants of Siwa, the author concludes that in Siwa a certain change of type took place in the last two thousand years, particularly the change caused by mixture of the inhabitants with the former slaves of west-African origin. According to ethnography, linguistics and history the population of the northern oases is related to Libya. The author places the investigated sets among other Arab and Berber groups of north Africa. He admits also a possible influencing of the Baharia people by some Arab groups from the Nile valley and Sinai. But the main characteristic is the existence of a Libyan element strongest in Siwa, followed by Farafra, less in Baharia and least in the southern oases.

The first effort for synthesis of the anthropological knowledge of Egypt was made by A. M. Batrawi (1946), the excellent Egyptian anthropologist. The result of his former extensive studies on skeletal material of Nubia and other parts of Egypt combined with the literature data on historical anthropology of Egypt enabled him to confront the history of Egyptian population with its present state. For this comparison he used data of Myers, Craig and Hrdlička, arranging them in larger regional groups. By this procedure some interesting conclusions concerning recent population were gained. Batrawi found the mean head measurements of the Middle Egyptians close to those of Upper Egyptians, while their mean

stature and limb measurements are closer to those of Lower Egyptian, e. g. inhabitants of Delta, the differences, however, being only slight. All measurements with the Nubians are lower than among the Egyptians, with the exception of bigger head breadth and consequently of higher head index. Values of the cephalic index from all parts of Egypt fall into range of the group A of the old Egyptian skulls and thus reveal the predominance of the Upper Egyptian type among the modern population. In contrast to this a substantial increase of cephalic index took place in Nubia when comparing recent population with the series of ancient skeletal material. Batrawi pointed out the small variability of the set from the Kharga oasis as a typical feature of isolated communities.

A. Haffez (1951) contributed to the poorly researched branch of soft body parts anthropology of recent Egyptians by his study on the surprisingly high frequency of absence of the small palm muscle among them.

H. Field (1952) investigated population samples of the Faiyum, Sinai and Sudan Nubia being altogether interested in Arab population of south-west Asia and north-east Africa. Using the Harvard system of measurements, indices and basic descriptive features he published all necessary statistical data. Individual data and photographs are lacking.*) He concludes the analysis of every group by the description of a mean type. Valuable are his general information about historical, health and social-economic conditions and some biostatistic data.

Field's publication contains also two purely anthropometrical contributions by G. W. Murray (1952), gained during his investigation of Bedouins from the Western Desert Jumejati and Awlad Ali in El Alamein in 1931 and of the Sinai Bedouins Towara in the year 1934.

Material of recent inhabitants from Edfu in the Upper Egypt ($n = 290$) collected in 1939 by S. Žejmo-Žejmis, appreciated preliminary I. Michalski (1958). Following the classification schemes, which he elaborated together with T. Henzel (1955), he introduces by word description the typical features of the "races" and "types" occurring in Egypt. It is first of all the Berberic race (BB), in the second place the Mediterranean race (EE). In Upper Egypt the Oriental race (KK) is more often to be found and on the contrary the Armenoid race (HH) occurs more in Lower Egypt. Out of the mixed "types" in Egypt mostly appears the Hamitic type (BE), in Upper Egypt often the Kushitic type (BK), in Lower Egypt more the Levantin type (BH), further occur the Mediterranean-Oriental (Suboriental) type (EK), the Subarmenoid type (KH) and some others. Types originated in mixing with the Sudan race (SS) appear only in Upper Egypt, i. e. the Meridional type (KS), the Ethiopic type (ĖS), the Nubian type (BS) etc. Michalski observed in the Egyptian population also the influence of the "most archaic form of the

*) Individual data are available on microfilms. I would like to express my thanks to professor dr. H. Field for his kindly sending them to me.

yellow race", the Highland race (QQ), and further the Lapponoid race (LL), both first of all in the forms of hybrids with the Berberic race (QB, LB). The question of the mixture with the yellow race in Egypt is old. It was discussed and rejected already by Chantre (1904). Recently this theme was again introduced particularly by Wierciński (1958) in his communication on the races of Egypt based mainly on historical skeletal material. His attitude is positive.

In the year 1961 the material data collected by the Arab-Polish Anthropological Expedition 1958/59 were published. It contains a rich set of 80 dimensions, indices and descriptive features and further 11 data in total of 2125 persons from the localities of the Western Desert (Marsa Matruh, Sidi Barrani, Sollum and Siwa oasis). The statistical and typological elaboration of this material will appear as the second part of the publication. Preliminary reports were presented at the Africanistic anthropological symposium in Białystok, Poland, in 1962 (Batrawi, Górny, Dzierżykray-Rogalski, Michalski etc.).

Meanwhile the material collected by the Arab-Polish Expedition was used by R. - P. Charles (1962) for a typologic study. His division is based mainly on facial measurements, first of all on the relation of the nasion-stomion measurement and the maximum breadth of the head. This typology starting from the conception of F. Falkenburger (1946) elaborated on craniological material seeks to find the same criteria for the study of both skeletal remains as well as living people. The population of the Western Desert is formed, according to the results of Charles, by the autochthonic elements, as Hamitic, Mediterranean and Subnegroid, known in Egypt already from ancient times. One part of the population contains also elements of eastern origin. The group of "strangers" differs only in higher percentage of the Subnegroids and lower percentage of the Mediterraneans. Disadvantage of the Charles typology is the neglect of important taxonomical features as pigmentation, stature etc. and the terminology, composed of older names with a different sense and of some new titles.

The results of Mittwally's measurements of 400 Nubians in the most northern part of Sudan performed in 1947 are still unavailable.

W. Szwaykowski (1960, 1962 B) informed together with I. Szwaykowska about his investigations of Nubians and natives from Luxor. The full publication of this material is in the press.*

A. Wiercińska (1963) published a study out of the material collected by A. Wierciński, containing 70 male and 19 female Cairo University students and 32 patients of the Cairo clinics. This set suffers from a rather heterogenous origin of the investigated persons and lacks individual values of measurements as well as their statistical elaboration. Thus the author limits her analysis only to typology, following the system of I. Michalski (1958).

In a recent publication based on new materials I. Michalski (1963) gives a survey of all "races" and "types" forming according to him the typological structure of the Mediterranean Area including Egypt. Besides the more typical "central fraction" of every race and type he introduces the "peripheral fraction" being less typical one.

Some of preliminary results of the second Arab-Polish Anthropological Expedition 1962 were presented by S. Górny in collaboration with S. Niemiec (1962 B, C) at the Africanistic anthropological symposium in Białystok in 1962. They concerned the anthropological structure of the Faiyum Bedouins and of the population of western Delta.

Thus in recent years it is mainly the Polish anthropology which has taken an active part in anthropological research in Egypt.

A number of special studies was devoted also to the investigation of blood group frequencies in Egyptian population. The results were discussed by Batrawi (1946), Mourant (1954), Cwirko-Godycki and Dzierżykray-Rogalski (1962) etc.

Many reviews on human races, races of Europe, Middle East and Africa introduce chapters on racial composition of Egypt, detailed e. g. Coon 1939, Seligman 1957, Vallois 1957 and others. The anthropology of Egypt is mentioned even in some ethnographical works, e. g. Ayrout 1954, Herzog 1957 etc. No new materials are contained in these works. They present only a survey with somewhat different interpretation by the different authors.

The Czechoslovak Institute of Egyptology of Charles University started the systematical study of Egyptian population by the investigation of two sets of inhabitants of the Middle Egypt locality Abusir and of the Upper Egypt town Qift in the year 1961. The results were presented in the first part of this Contribution (Anthropologie No. 3 — 1963, pp. 3—33).

COMPARISON OF THE RESULTS FROM ABUSIR AND QIFT WITH OTHER EGYPTIAN SETS AND THE REGIONAL VARIABILITY OF FEATURES

I. METRICAL MORPHOLOGICAL FEATURES

For the confrontation of our results from Abusir and Qift with the literary data on anthropology of

*) The results were, however, submitted for the purpose of our comparative study by the courtesy of dr. W. Szwaykowski in a personal communication.

recent Egyptian population we have used all the available publications giving the required informations with the exception of Myers's work (1903, 1905, 1906, 1908) and that of Cline (1932). Further we have excluded samples with the number of individuals under 25 and Chantre's (1904) data computed for the both sexes together. Thus it

was possible to arrange data of 46 sets from the Egyptian territory and two sets from the northern Sudan (Field 1952). Including our two samples there are on the whole 50 sets suitable for the comparison.

A. Methodics

Appreciation of a big amount of rough numerical data is rather difficult and not intuitive. That is why we have chosen the graphical method i. e. the column diagrams. We established deviations of means of individual features of the compared sets from the respective means of the Abusir set. Diagrams were arranged to enable comparison of the size of deviations not only of the same feature at different sets but even of the different features at the same sets. The material from Abusir was chosen as the basic set, as it was investigated by one of us, it has the central position in the Middle Egypt and the number of investigated individuals ($n = 64$) is sufficient.

The basic line in the middle of each diagram represent the mean value of the respective feature of the Abusir set. The scales of diagrams were arranged by a "common denominator" which is the variability of every feature in the Abusir set. On the diagrams this variability is depicted in the unified measure as the confidence interval of the sample mean ($\bar{x} \pm 3\hat{\sigma}_x$) on the level $p = 0,9973$ by interrupted lines. This arrangement enables us, directly according to the height of each column, to determine the deviation grade of the most different features in comparison with the Abusir means. At the same time the possibility of reading absolute values of the features on the scales is preserved.

Single columns correspond with the different sets, marked by numbers. In order to give an idea about the geographical variability of features the sets were arranged (see the *map*) from the Western (Libyan) Desert across the Delta towards the east to the Sinai. After this values for big town sets were placed. The row continues over the Faiyum oasis and Middle Egypt towards Upper Egypt and Nubia. At the end values of two sets from the Eastern (Arabic) Desert and one set from the northern Sudan were added. The omitting of a column of a certain number means that the respective datum is not available. Numerical documentation for the construction of the diagrams is summarized on the *table 1*.*

Metrical features belong to those anthropological data which are most frequently compared in confidence of their strictly defined methodics. But this is sometimes not the case and there are measurements with which two different authors would not reach the same result. To find easily the eventual systematical error of some authors the various columns were differentiated graphically according to the authors (see *diagram 1*).

The statistical significance of the differences be-

*) Results of Szwaykowski from Luxor, coming too late, could not be included in the diagrams, but they are presented in *table 1* and *table 2*.

tween the means was proved by t-test in all cases where the respective standard deviation was mentioned in the literature besides the mean. Only in Craig's material we have limited the calculation to geographically close sets. On the diagrams the tested values, in case of significance, are marked with full stops. The insignificant differences possess empty stops. In sets which could not be compared with the Abusir set by the t-test we can only suppose that the mean, lying in the limits of the mentioned confidence interval of the Abusir mean, differs probably only insignificantly. The tested differences in features of 12 sets compared with the respective means in Abusir and Qift sets are summarized on *table 2* and the other tested values out of the Craig's material are presented on *table 3* (see further).

B. Ethnical characteristics of the compared sets

From the ethnical point of view a number of sets represents first of all the settled country natives of the Egyptian origin (see the *map*). Here we can place the sets of the southern oases of the Western Desert (1-3), of the western Delta (8-10), of the Middle and Upper Egypt (31-36, 38-41, 50).

In Faiyum (27-29), moreover, the influence of the colonisation of Macedonian and other Greeks in the Ptolemaic time is often pointed out (Craig).

Sets from the northern oasis of the Western Desert (4-6) are related to Libyan (Berberic) elements and population of Baharia (5) even to Arab elements (Mittelli).

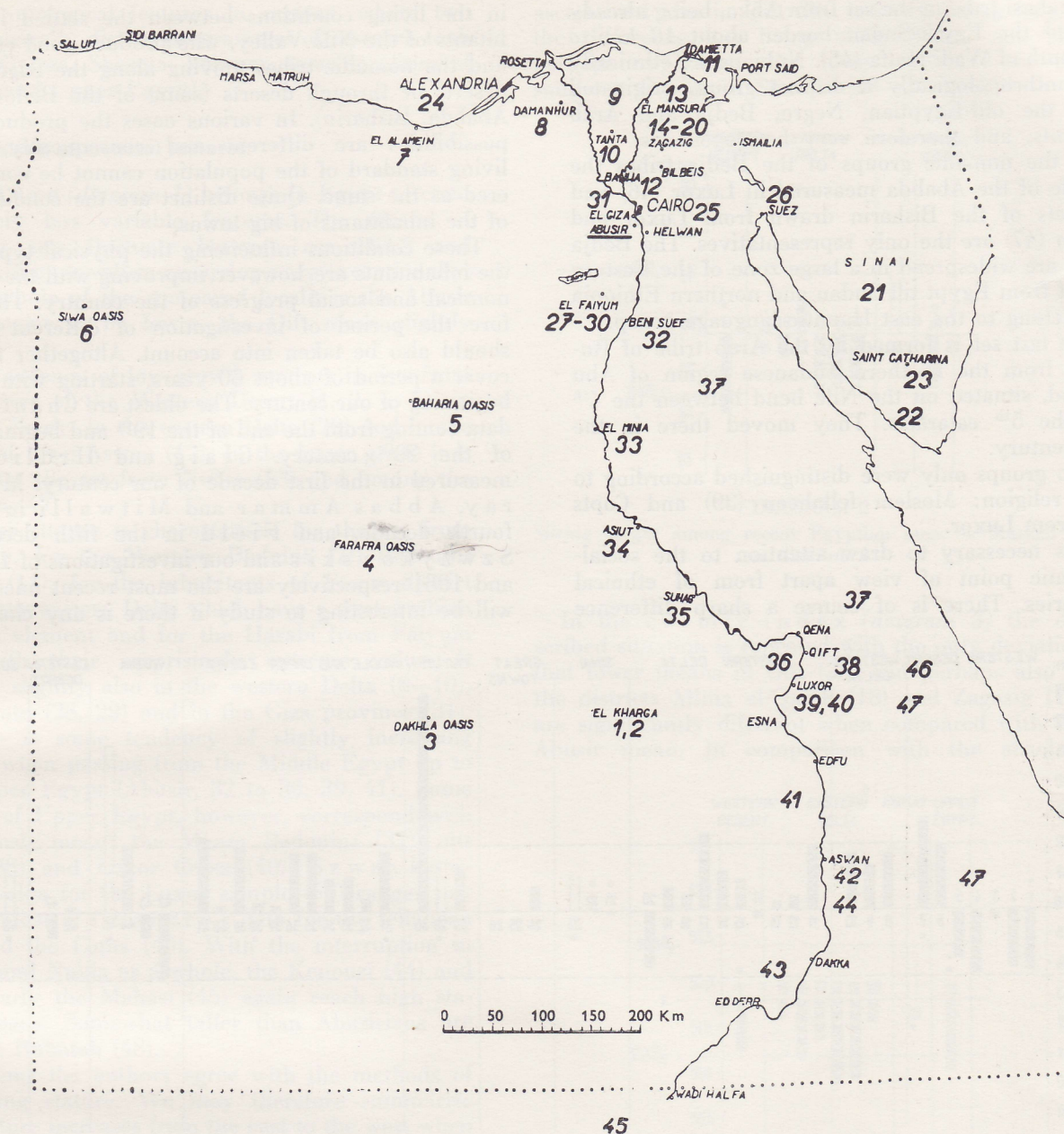
The sets from the eastern Delta (12-14) have been determined by Craig as the descendants of Bedawin Arabs. The Arab influence is to be seen very strongly especially in the Sharqia province (14), from which we have also detailed data for different districts (15-20). As to Abbas Ammar the influence of Syrian Arabs was found in the northern part of Kafr Saqr (15), Turkish influence in the western part of Hihya (16), a south-Arabian one in the eastern part of Hihya (16). In the north-eastern part of Faqus (17) the south-Arabian together with the west-Arabian influence were noticed. In Zagazig (19) in the region of El-Kurein the south-Arabian influence and in Belbeis (20) the north-Arabian one are present.

The nomadic Bedouin groups are represented at first by the set of tribes Jumejati and Awlad Ali (7) from the Western Desert (vicinity of El-Alamein). The Ayaida (11) live on fishing near the Manzala lake in the northern part of the eastern Delta and formerly were considered by mistake as descendants of the Hyksos. The Bedouin mixture from the Sinai (24) includes mainly tribes of the Sawarha, Qarasha, Terabin, Muzeina, Tiaha etc. In the set of the south-Sinai tribe confederation Towara (22) tribes of the Muzeina, Wilad Said and Aleikat dominate. Harabi from the Faiyum (30) originated as to Chantre perhaps in the west (Tunis). The Maaza tribe (37) is considered as descendant of the old Libyans and lives in some places of Middle and Upper Egypt.

TABLE 1
Means of Metrical Features of Contemporary Egyptians Used for Comparison

Sample	n	Author	Measurement (Index) Nr.	Stature																			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Western Desert	1	Kharga	100—150	163.80	84.00	18.90	14.14	10.26	11.35	13.15	10.30	4.87	3.73	51.26	74.83	72.6*	86.30	78.0*	78.4*	76.59			
	2	Kharga	205	163.90		19.20	14.42	10.47	11.41	12.88		5.15	3.90		74.80	72.6*	84.1†	78.4					
	3	Dakhla	344—397	165.50		19.40	14.48	10.52	11.32	13.49		5.04	4.00		75.00	72.7*	84.00	78.10					
	4	Farafra	51	163.70		19.30	14.07	10.30	11.32	13.35		5.35	3.76		73.70	73.2*	88.20	79.50					
	5	Bahariya	196	164.20		19.30	14.01	10.13	11.40	12.91		5.48	3.66		73.30	73.3*	88.10	78.30					
	6	Siwa	220—221	168.00		19.70	14.36	10.43	11.24	13.16		4.90	3.99		74.10	72.7*	89.50	79.30					
	7	Western Beduins (El—Alamein)	40	168.85		19.39	14.33	10.95	11.77	13.07	10.10	4.77	3.74		73.80	76.4*	90.00	83.8*	77.3*				
Western Delta	8	Beheira	525—526	167.68		19.12	14.36								75.20								
	9	Gharbia	1104—1105	167.33		19.10	14.35								75.22								
	10	Menoufia	717—718	167.70		19.11	14.36								75.21								
	11	Ayaida (Menzala)	25	168.00		19.20	14.30			13.50		4.90	3.60		74.48								
Eastern Delta	12	Oaltubia	295	166.24		19.08	14.37								75.36								
	13	Dagahlia	504	166.06		19.03	14.40								75.69								
	14	Sharqia	515—516	165.54		19.08	14.36								75.39								
	15	Kafr Saqr	94	166.84		18.71	14.44	10.66	11.59	13.14		5.10	3.31	51.60	77.28	73.8*	88.37	81.20					
	16	Hikya	109	167.13		18.72	14.44	10.67	11.64	13.25		5.11	3.32	51.13	77.00	73.9*	87.86	80.49					
	17	Faqus	141	168.38		18.81	14.38	10.58	11.76	13.20		5.24	3.30	51.37	76.56	73.6*	89.14	80.40					
	18	Minia El—Qamh	128	166.38		18.77	14.33	10.74	11.63	13.14		5.07	3.37	50.87	75.77	75.0*	88.61	81.70					
	19	Zagazig	288	166.55		18.75	14.38	10.66	11.54	13.24		5.08	3.35	50.92	76.74	74.1*	87.29	80.58					
	20	Belbeis	144	163.95		18.76	14.27	10.50	11.54	13.07		5.09	3.35	51.56	76.00	73.6*	88.43	80.40					
	Sinai	21	Beduins	67—150	165.72		19.37	13.97	11.38	12.03	13.28	10.91	5.49	3.67		72.95	81.22	91.05	85.58	82.06			
22		Towara	63	165.80		19.13	13.91	10.69	11.74	12.92	9.74	5.02	3.91		72.95	76.9*	91.52	82.7*	75.4*				
23		Jebelia (St. Catherine)	42—73	167.01		19.21	13.86	11.35	12.14	13.33	10.94	5.43	3.59		72.24	82.21	91.95	85.66	82.45				
24		Alexandria	643	166.62		18.97	14.47								76.29								
Great towns	25	Cairo	799—802	165.79		19.05	14.44								75.87								
	26	Suez (Canal Zone)	127	165.87		19.06	14.51								76.18								
	27	Faiyum	413	167.20		19.12	14.19								74.24								
	28	Tamya	135—186	87.37		18.98	14.23	11.73	12.11	13.59	11.80	5.53	3.73	52.32	74.91	82.39	89.45	86.30	89.62				
Faiyum	29	Fidimin	281—306	167.46		19.13	13.93	11.37	12.25	13.47	11.31	5.75	3.76		73.05	81.61	91.15	84.58	84.43				
	30	Harabi (Kasr el—Guebala)	29	173.00		19.50	14.40			13.80		4.70	3.60		75.82								
	31	Giza	326	167.80		19.17	14.32								74.75								
	32	Beni Suef	384	166.23		19.17	14.27								74.47								
Middle and Upper Egypt	33	Minia	491	166.97		19.17	14.26								74.46								
	34	Asiut	887—889	166.89		19.09	14.25								74.70								
	35	Girga	610	167.77		19.15	14.23								74.38								
	36	Oena	824	167.80		19.12	14.23								74.48								
	37	Maaza (Kena, Beni Suef)	34	166.00		19.20	14.40	10.48	11.51	13.00	10.11	4.50	3.70		75.00								
	38	Qift	28	166.11		18.95	14.16			13.32		4.90	3.96	51.00	74.66	74.06	86.41	78.63	76.06				
	39	Luxor (Fellaheen)	58	168.00		19.00	14.20			13.30		4.50	3.80		75.40								
	40	Luxor (Copts)	96	166.00		18.80	14.20			13.30		4.70	3.60		75.53								
	50	Luxor	200	166.90		19.11	14.28	10.00	11.56	13.47	10.39	4.96	3.89		74.90	70.0*	85.41	74.2*	77.1*				
	41	Aswan (North)	115	168.33		19.18	14.40								75.14								
Nubia	42	Aswan (Town)	52	168.64		18.89	14.35								75.99								
	43	Aswan (South, e.g. Nubia)	95	165.06		18.97	14.52								76.37								
	44	Kenouzi (Shellal)	35	168.00		19.00	14.50			13.00		4.80	3.80		76.57								
	45	Mahasi (Abka)	25—26	171.36		19.27	14.21	11.63	12.26	13.54	11.41	5.64	4.07		75.00	80.92	90.85	85.82	84.43				
Eastern Desert	46	Ababda (Luxor)	63	166.00		18.90	14.10			13.20		4.40	3.70		74.60								
	47	Bisharin (Luxor, Aswan)	78	165.00		18.10	14.30			12.70		4.60	3.50		79.00								
Sudan	48	Rubatab (Abu Hamed)	36—38	167.49		19.10	14.27	11.50	12.29	13.20	11.07	5.95	3.80		75.41	80.83	93.20	87.18	84.04				
	49	Abusir	64	165.81		19.15	14.21	10.81	11.79	13.45	10.49	4.96	3.74	51.79	74.31	76.17	87.80	80.50	78.12				
Diagram Nr.				1	2	4	5	10	7	8	13	15	16	3	6	11	9	12	14	17			

Notes. * = calculated by means of absolute average values
† = recalculated by means of absolute average values, this index rises to 88.6



THE MAP OF EGYPT

Localities, out of which sets were included in our work, are marked by the numbers:

1. Kharga, 2. Kharga, 3. Dakhla, 4. Farafra, 5. Baharia, 6. Siwa, 7. Western Bedouins (El-Alamein), 8. Beheira, 9. Gharbia, 10. Menoufia, 11. Bedouins Ayaida (Menzala), 12. Qalioubia, 13. Daqahlia, 14. Sharqia, 15. Kafr Saqr, 16. Hihya, 17. Faqus, 18. Minia El-Qamh, 19. Zagazig, 20. Belbeis, 21. Sinai Bedouins, 22. Bedouins Towara, 23. Jebelia (Saint Catherine), 24. Alexandria, 25. Cairo, 26. Suez (Canal Zone), 27. Faiyum, 28. Tamiya, 29. Fidimin, 30. Bedouins Harabi, 31. Giza, 32. Beni Suef, 33. Minia, 34. Asiut, 35. Girga, 36. Qena, 37. Bedouins Maaza (Qena, Beni Suef), 38. Qift, 39. Luxor (fellaheen), 40. Luxor (Copts), 41. Aswan north, 42. Aswan town, 43. Aswan south i. e. Nubia, 44. Kenouzi (Shellal), 45. Mahasi (Abka), 46. Adabda (Luxor), 47. Bisharin (Luxor, Aswan), 48. Rubatab (Abu Hamed in northern Sudan).

A special group of distant European origin are the Jebelia from the Sinai (23). They represent descendants of Bosnian and Walachian slaves, donated by Justinian (483—565) to the St. Catherine monastery where they were employed as servants since that time.

The sets from great towns (24—26) were put apart for the considerably mixed structure of their inhabitants. The set from the Suez canal zone was arranged with this group as it represents also

a mixed population with a considerable element of new colonists.

In the south of Egypt ethnically different groups are settled. Together with the Egyptians, Sudanese and other elements, Nubians are to be found on a large scale already in the set of the town Aswan (42). The set from the southern part of the Aswan province represents Lower Nubia as a whole (43). The Nubian tribe, Kenouzi, is represented with more details in the sample from Shellal (44) and

the Mahasi tribe in the set from Abka, being already beyond the Egypt-Sudan border about 16 km to the south of Wadi Halfa (45). Nubians are ethnically and anthropologically a distinct group, originated from the old-Egyptian, Negro, Bedja and Arab elements, and therefore very heterogeneous.

Of the nomadic groups of the Bedja tribes the sample of the Ababda measured in Luxor (46) and the sets of the Bisharin drawn from Luxor and Aswan (47) are the only representatives. The Bedja tribes are widespread in a large zone of the Eastern Desert from Egypt till Sudan and northern Ethiopia and belong to the east Hamitic language group.

The last set is formed by the Arab tribe of Rubatab from the northern Sudanese region of Abu Hamed, situated on the Nile bend between the 4th and the 5th cataracts. They moved there in the 14th century.

Two groups only were distinguished according to their religion: Moslem fellaheen (39) and Copts (40) from Luxor.

It is necessary to draw attention to the social-economic point of view apart from of ethnical categories. There is of course a sharp difference

in the living conditions between the settled inhabitants of the Nile Valley, who produce good crops, and the nomadic tribes moving along the edges of deserts or through deserts (some of the Bedouins, Ababda, Bisharin). In various oases the production possibilities are different and consequently the living standard of the population cannot be considered as the same. Quite distinct are the conditions of the inhabitants of big towns.

These conditions influencing the physical type of the inhabitants are, however, improving with the economical and social progress of the country. Therefore the period of investigation of different sets should also be taken into account. Altogether they cover a period of about 60 years, starting with the beginning of our century. The oldest are Chantre's data coming from the end of the 19th and beginning of the 20th century. Craig and Hrdlička measured in the first decade of our century, Murray, Abbas Ammar and Mitwalli in the fourth decade, and Field in the fifth decade. Szwaykowski's and our investigations of 1960 and 1961 respectively are the most recent ones. It will be interesting to study if there is any change

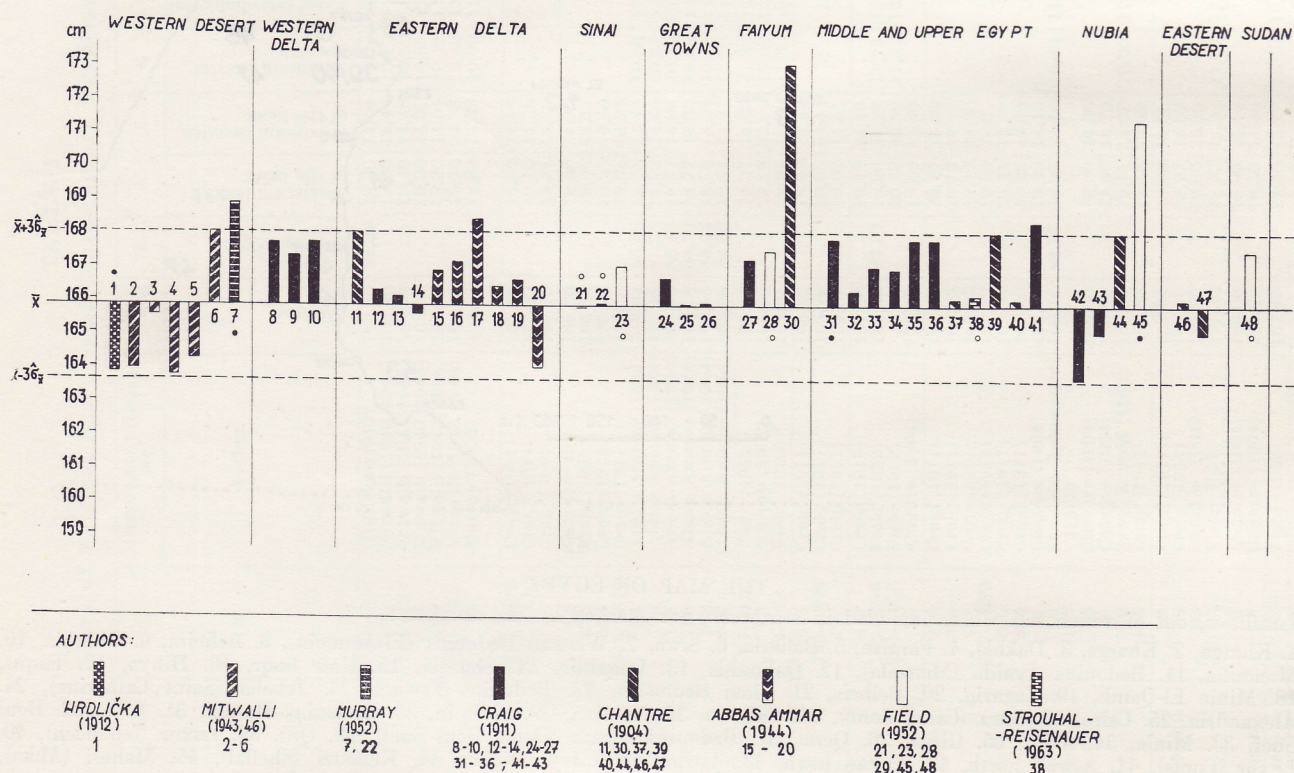


DIAGRAM 1

Stature among recent Egyptian men

\bar{x} — arithmetical mean of the Abusir set

$\bar{x} \pm 3\sigma_{\bar{x}}$, $\bar{x} - 3\sigma_{\bar{x}}$ — limits of the confidence interval of the Abusir sample mean (99,73 %)

● — significantly different value in comparison with the Abusir mean

○ — insignificantly different value in comparison with the Abusir mean

The ordinal numbers at single columns mark sets: 1. Kharga, 2. Kharga, 3. Dakhla, 4. Farafra, 5. Baharia, 6. Siwa, 7. Western Bedouins (El-Alamein), 8. Beheira, 9. Gharbia, 10. Menoufia, 11. Bedouins Ayaida (Menzala), 12. Qalioubia, 13. Daqahlia, 14. Sharqia, 15. Kafr Saqr, 16. Hihya, 17. Faqus, 18. Minia El-Qamh, 19. Zagazig, 20. Belbeis, 21. Sinai Bedouins, 22. Bedouins Towara, 23. Jebelia (Saint Catherine), 24. Alexandria, 25. Cairo, 26. Suez (Canal Zone), 27. Faiyum, 28. Tamiya, 29. Fidimin, 30. Bedouins Harabi, 31. Giza, 32. Beni Suef, 33. Minia, 34. Asiut, 35. Garga, 36. Qena, 37. Bedouins Maaza (Qena, Beni Suef), 38. Qift, 39. Luxor (fellaheen), 40. Luxor (Copts), 41. Aswan north, 42. Aswan town, 43. Aswan south i. e. Nubia, 44. Kenouzi (Shellal), 45. Mahasi (Abka), 46. Ababda (Luxor), 47. Bisharin (Luxor, Aswan), 48. Rubatab (Abu Hamed in northern Sudan). Szwaykowski's Luxor set (50) is not included, see table 1.

in anthropological features in regions, where two chronologically distant programmes of research took place (Kharga, Sharqia, Faiyum, some localities of Middle and Upper Egypt).

C. Analysis of metrical features

Stature (*diagram 1*) belongs in Egypt to comparatively less variable features. The means of different sets fluctuate between cca 163.5 and 169 cm, higher values occurring only exceptionally. In the whole of the compared localities the Abusir mean seems to be lower, the Qift mean slightly lower.

The tendency of low growth appears in sets from some oases of the Western Desert (1, 2, 4, 5), in Belbeis district in the eastern Delta (20) and in the region of town Aswan (42). In the lesser grade it is hinted by the set from Nubia (43) and among the Bisharin (47).

Higher stature is characteristic for the set from Siwa (6), for the Western Bedouins (7), Bedouins Ayaida (11), for the inhabitants of Faqus district (17) of the eastern Delta which have a west-Arabian ethnical element and for the Harabi from Faiyum (30) with their surprisingly extreme value. It appears slightly also in the western Delta (8–10), in Faiyum (28, 29) and in the Giza province (31).

There is some tendency of slightly increasing stature when passing from the Middle Egypt up to the Upper Egypt (Abusir, 32 to 36, 39, 41). Some groups of Upper Egypt, however, correspond with the Abusir mean: the Maaza Bedouins (37), our Qifts (38) and Luxor Copts (40). Szwaykowski's value for the Luxor sample (50) ranges just in the midst of Chantre's data for the fellaheen (39) and the Copts (40). With the interruption in Aswan and Nubia as a whole, the Kenouzi (44) and particularly the Mahasi (45) again reach high stature means. Somewhat taller than Abusirians are also the Rubatab (48).

It seems the authors agree with the methods of measuring stature. We may therefore summarize that stature increases from the east to the west when passing from the Sinai through the Delta to the Western Desert. This increase could be related to several western elements. A second gradient of increasing the stature can be traced from the Middle to the Upper Egypt and Nubia. Here we can find also some irregularities due to different origin (Faiyum, Maaza), correspondence with areas of higher stature (Giza), local factors (Qift, Luxor Copts, Aswan, Nubia). When assessing the stature we must however take into account also the influence of longstanding undernourishment existing very probably in the remote oases of the Western Desert and applying perhaps even for Nubia, as the cause of low statures in these localities.

Till now we have only a few data for the sitting height (*diagram 2*). Values of the northern districts of Sharqia (15–17) are close to the Abusir mean. Significantly higher value shows the set from Tamiya in Faiyum (28), significantly lower is the mean from Kharga oasis (1). We have

ascertained also in Qift (38) a lower sitting height, the difference but being insignificant, and this perhaps applies to the lower values from the southern districts of Sharqia (18–20), too.

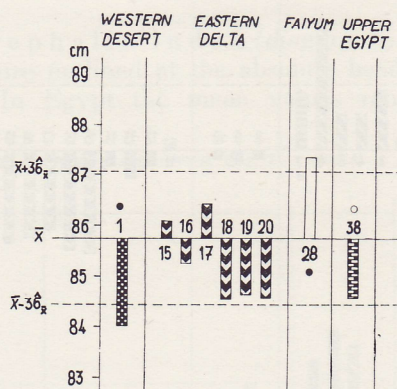


DIAGRAM 2

Sitting height among recent Egyptian men. — Marked as on diagram 1.

In the cormic index (*diagram 3*) the described situation is repeated with the only deviation that lower means in Qift (38) and perhaps also in the districts Minia el-Qamh (18) and Zagazig (19) are significantly different when compared with the Abusir mean. In comparison with the absolute

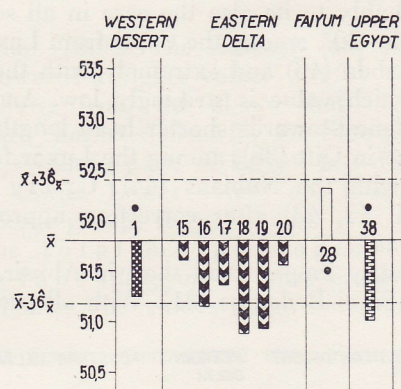


DIAGRAM 3

Cormic index among recent Egyptian men. — Marked as on diagram 1.

dimension the relative sitting height in Hihya (16) is expressively lower and on the contrary higher in Belbeis (20) due to the lower stature in this district.

We can suppose that there is some tendency to a relatively longer trunk in Middle Egypt and on the contrary to a shorter trunk in Upper Egypt and Kharga, the same being the case in some places of the eastern Delta.

Maximum head length (*diagram 4*) also shows no very great variability in Egypt. The majority of values fall between 18.7 and 19.5 cm. In the whole of the compared localities the mean of Abusir is a slightly higher, the mean of Qift slightly lower.

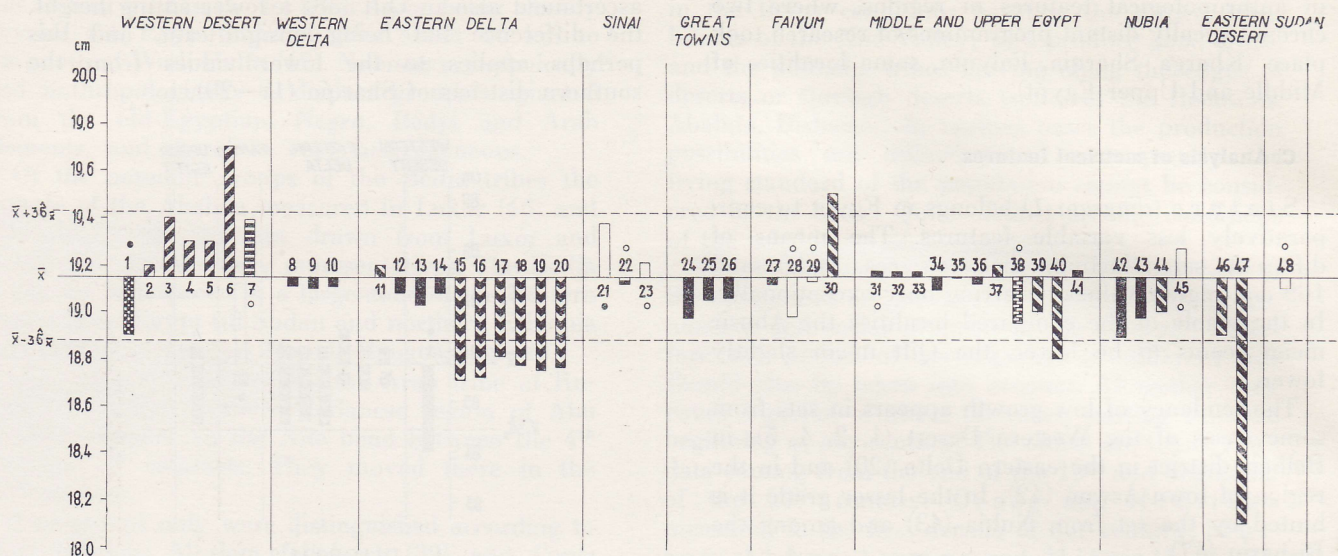


DIAGRAM 4

Maximum length of the head among recent Egyptian men. — Marked as on diagram 1.

As to methodical deviations, Craig on the contrary to other authors measured the head length from nasion instead of glabella enabling him to get lower values (full columns). Batrawi (1946) recommended a correction by adding 2.1 mm.

Significantly shorter head than in Abusir was found in Hrdlička's set from Kharga (1). This seems probably to be also the case in all sets from Sharqia (15–20), among the Copts from Luxor (40), by the Ababda (46) and extremely with the Bisharin (47) which value is strikingly low. An insignificant tendency towards shorter head length can be noticed also in Qift (38), among the Luxor fellaheen (39) and with the Nubians (44). Craig's lower values (24, 42, 43) after correction approach the Abusir mean.

Significantly longer head than in Abusir we can see in the Sinai Bedouins (21). With all probability

we can suppose this even in Dakhla (3), quite clearly in Siwa (6), further by the Western Bedouins (7) and the Harabi from Faiyum (30). Out of the Craig's sets the Middle-Egyptian (31–33) and the north-Aswan (41) ones should reach slightly higher values after correction.

There is an evident contrast between Hrdlička's and Mitwalli's results from Kharga, the former being lower, the latter higher. This difference will be seen also in most other measurements.

Consequently to our analysis there seems to be in Egypt two regions with lesser head length: one is the province Sharqia and the other, less expressive, the southern part of the country. Longer head characterizes some of the Bedouin and oases groups.

Also the maximum head breadth (diagram 5) does not reveal any big variability. It moves between 13.9 and 14.5 cm. The means in

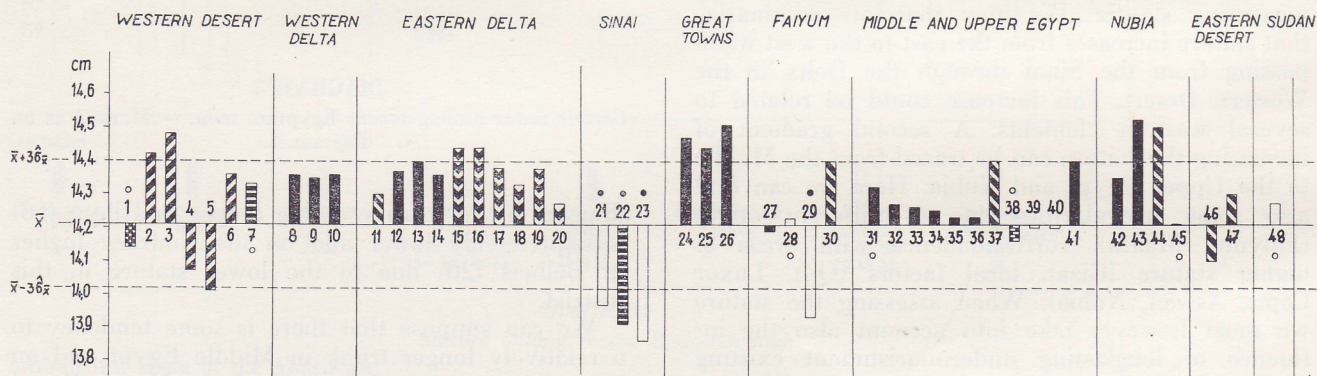


DIAGRAM 5

Maximum breadth of the head among recent Egyptian men. — Marked as on diagram 1.

Abusir and most obviously in Qift are slightly under the supposed middle value of the whole Egypt.

In comparison with the Abusir mean the head is significantly narrower in the sets from Sinai

(21–23), at Faiyum Fidimin (29) and perhaps also in Baharia (5).

On the contrary a broader head can be noticed in Kharga (2) and Dakhla (3), in Kafr Saqr (15) and Hihya (16), in big towns (24–26), among the

Faiyum Harabi (30), Bedouins Maaza (37) and further in groups from the southern region (41-44) with the exception of Mahasi (45). A tendency towards a bigger head breadth seems to be generally widespread also at other sets through the whole Delta.

With regard to the universal methodics of this measurement we can conclude that the narrower

type of the head is typical for Sinai and some other rather isolated groups. A broader head occurs in Egypt either in the most northern zone (Delta) or in the south (southern oases, Aswan north and Nubia).

The cephalic index (diagram 6) completes the picture outlined at the absolute head measurements. In Egypt the mean values range mostly

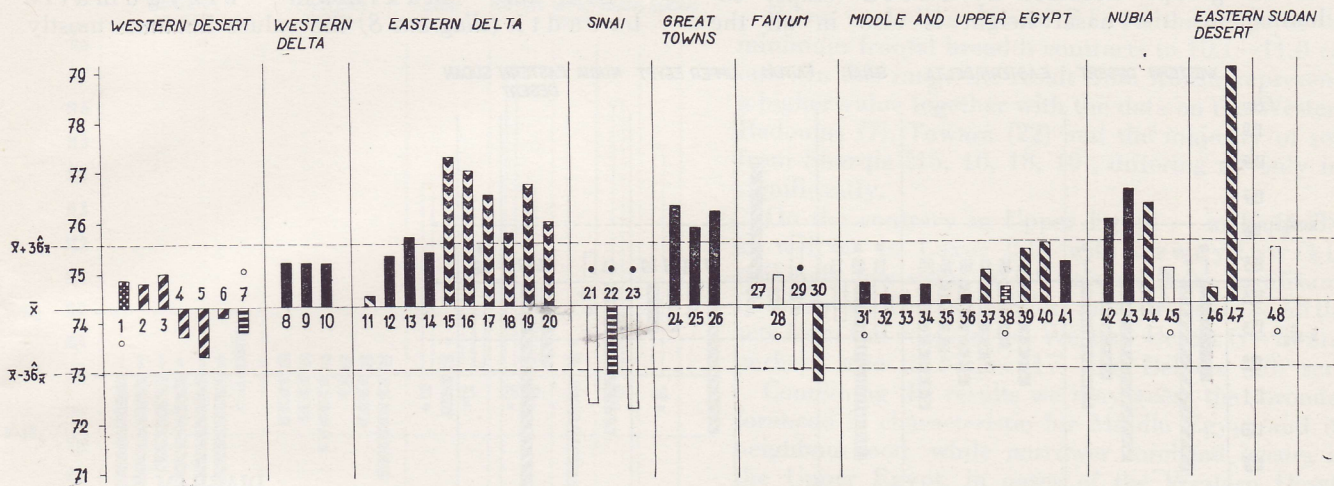


DIAGRAM 6

Cephalic index among recent Egyptian men. — Marked as on diagram 1.

from 72.5 to 77 (dolichocephaly and mesocephaly). The result from Qift falls to the middle of these limits, the result from Abusir is slightly lower.

It must be remembered that Craig's data are nearly one index unit higher than the others due to the artificially fixed shorter head length.

In the sets from the Western Desert (1-7) the reverse tendencies in the absolute measurements are approaching equality and in the index we do not observe greater differences as against the Abusir mean. In spite of this there is some small distinction inside this group ranging between the highest value in Dakhla (3) and the lowest one in Baharia (5). The data from the western Delta (8-10) and also those from the eastern Delta (11-14) are after correction near the Abusir mean. In the districts of Sharqia (15-20) and less distinctly also in the big towns (24-26) the index reaches, however, higher values than in Abusir. On the contrary significantly lower are the data from Sinai (21-23). In Faiyum differ the two samples of Field, Tamiya (28) with its slightly higher mean than in Abusir and on the contrary Fidimin (29) with the significantly lower mean. This applies most probably also to the Harabi (30). The tendency towards higher values of the cephalic index appears again in the most southern part of the Upper Egypt (39-40) and continues in a more distinct expression in Nubia (42-44). Of the Bedja tribes the Ababda (46) do not differ from the Abusir mean, while among the Bisharin (47), due to their extremely short heads, the index increases to an unusually

high value (79.0!). The Rubatab (48) show a tendency towards a higher value.

It follows from the above that higher index values are characteristic for the Sharqia province and the southern parts of Egypt, less distinctly for the big towns. Lower values are found in Sinai and in some groups from Faiyum.

At the total morphological height of the face (diagram 7) considerably less data are available. The values range between 11.2 and

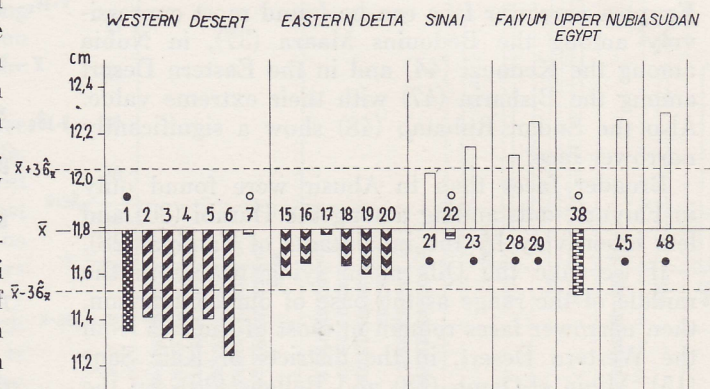


DIAGRAM 7

Total morphological height of the face among recent Egyptian men. — Marked as on diagram 1.

12.3 cm. The mean from Abusir tends rather to higher values, the Qift mean to lower values.

A distinctly lower face than in Abusir characterizes all the groups from the Western Desert

(1-6) except the Western Bedouins. The same is the truth with the sets from the Upper Egypt. The lower face in Luxor (50) was proved to be significantly different in comparison with the Abusir mean. This confirms also the yet bigger difference found by us in Qift (38) which insignificance is due only to the small number of investigated persons.

A significantly higher face was ascertained with all the groups measured by Field (empty columns). As the nasal height is also in all the

Field's sets higher than in other sets (see later on), we can suppose, that the author puts nasion a few millimeters higher than the other authors. Therefore, the Field's data can be compared only with each other. Then a somewhat lower face is shown by the Sinai Bedouins (21), a higher one by the inhabitants of Fidimin (29), the Mahasi (45) and the Rubatab (48).

At the maximum bizygomatic breadth (diagram 8) the values fluctuate mostly

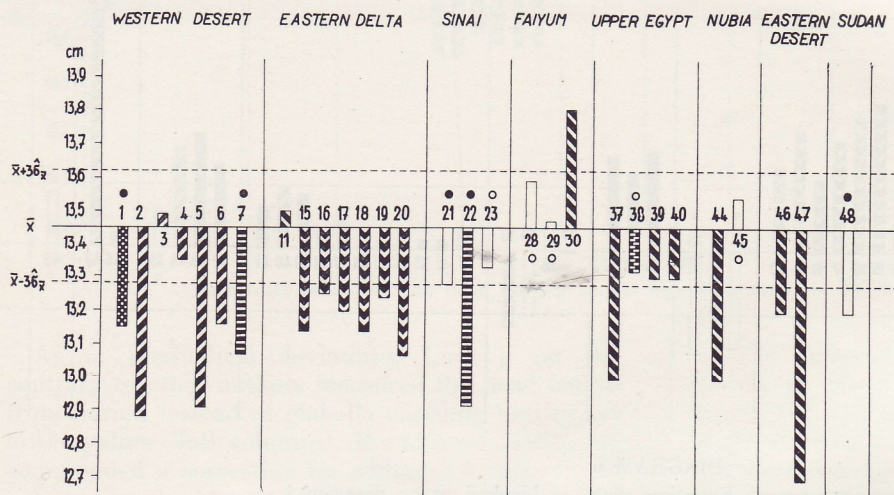


DIAGRAM 8
Maximum bizygomatic breadth
among recent Egyptian men. —
Marked as on diagram 1.

between 12.9 to 13.6 cm (with the exception of two extreme values). The average from Qift falls towards the middle of the limits, while it is distinctly higher in Abusir. Therefore, when comparing the different means with that from Abusir, we find in most of them a smaller facial breadth.

Significantly narrower faces than in Abusir are present in the sets from the Western Desert (1, 2, 5-7) except of Dakhla and Farafra, in the eastern Delta (15-20) except Bedouins Ayaida and also in Sinai (21-22) except the Jebelia. In Upper Egypt a narrower face can be found most expressively among the Bedouins Maaza (37), in Nubia among the Kenouzi (44) and in the Eastern Desert among the Bisharin (47) with their extreme value. Also the Sudan Rubatab (48) show a significantly narrower face.

Broader faces than in Abusir were found only in Faiyum, outstanding among the Harabi (30) and less intensively by the inhabitants of Tamiya (28).

If we take the Qift mean lying nearly in the middle of the range as the base of our comparison, then narrower faces remain in most of the sets from the Western Desert, in the districts of Kafr Saqr (15), Minia el-Qamh (18) and Belbeis (20), by the Sinai Towara (22), Bedouins Maaza (37), Kenouzi (44) and Bisharin (47).

On the contrary broader faces occur then in the set from Dakhla (3), with the Ayaida (11), in all the sets from Faiyum (28-30) and with the Mahasi (45).

Summarizing we may point out rather different tendencies in the bizygomatic breadth occurring first of all in sets with foreign elements or living

in isolation. The differences among the proper Egyptian sets are proved to be insignificant.

The total morphological index of the face (diagram 9) changes between 84 and 92 (mesoprosopy and leptoprosopy) except one set,

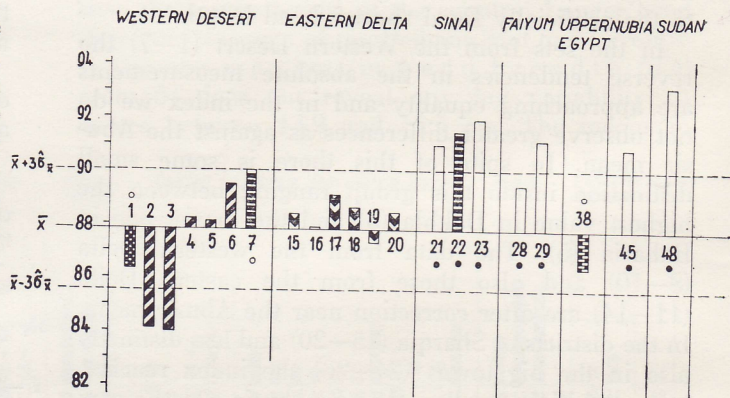


DIAGRAM 9
Total morphological index of the face among recent Egyptian men. — Marked as on diagram 1.

the Abusir mean being slightly, the Qift mean more lower.

It is interesting to find lower index values in comparison with Abusir in the sets from the southern oasis (1-3) and from the southern Egypt (38, 50), a part of them being, however, insignificant.

Higher facial index is presented with the Western Bedouins insignificantly (7) and with the Sinai Towara significantly (22). Also all Field's data

show significantly bigger values, but they are evidently influenced by the artificially fixed greater facial length. The lowest one is in Tamiya (28), the highest with the Jebelia (23) and still more with the Rubatab (48).

Summarizing and taking into account the differences of Field's data it seems to be a tendency towards lower faces in the south of the country

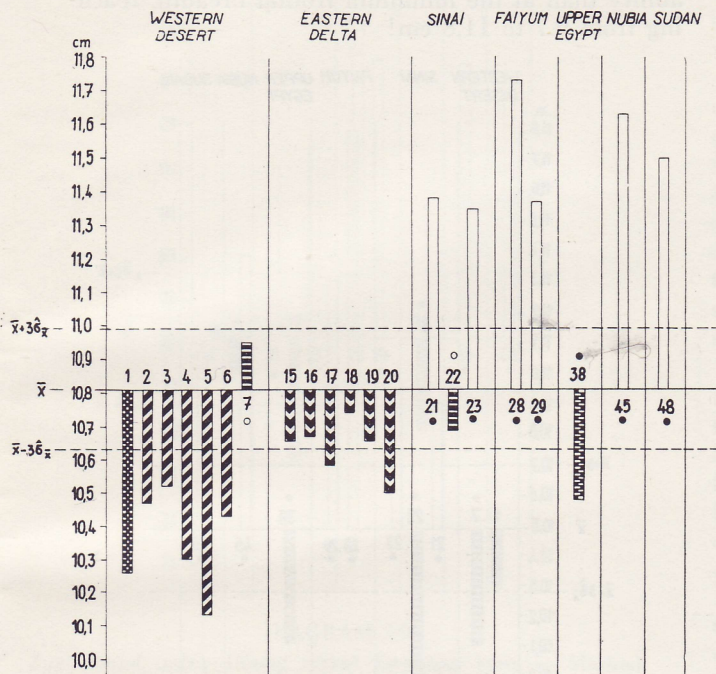


DIAGRAM 10

Minimum frontal breadth among recent Egyptian men. — Marked as on diagram 1.

(with the exception of Nubians Mahasi), while higher faces occur with some Arab groups, including the set of European origin.

The minimum frontal breadth (diagram 10) shows in comparison with the preceding measurements a higher variability ranging between 10.1 and 11.7 cm. But in reality this is not the case.

It is apparent that all the results of Field are considerably high with regard to the other data. There is moreover a distinct gap between the lowest value by Field (Towara 11.35 cm) and the highest value of the other measurements (Western Bedouins 10.95 cm), while the results of all the other authors represent a more or less fluent row. We may suppose that Field used a different method, which caused the value increase. The author himself is aware of this difference, commenting: "Since my four series are higher than all the others, it is possible, that the other observers pressed harder with the calipers on the external frontal crests." In another connection when mentioning the Field's data on the Arabs from Iraq, Henzel and Michalski (1955, pp. 595, 600, 635) quote repeatedly: "High values of the frontoparietal index ... are probably due to the different technics of forehead measurement."

The ascertained methodical difference decreases the significance of his high values in comparison with the Abusir mean. They can be compared only with each other. Then the narrow forehead can be stated with the Sinai Bedouins (21), with the Jebelia (23) and in Fidimin (29), while the second Faiyum locality, Tamiya (28), is distinguished by a broad forehead. The Mahasi (45) and Rubatab (48) stand roughly in the middle.

When excluding data of Field the range of the minimum frontal breadth contracts to 10.1—11.0 cm only. In this range the result from Abusir represents a higher value together with the data on the Western Bedouins (7), Towara (22) and the majority of sets from Sharqia (15, 16, 18, 19), differing all only insignificantly.

On the contrary in Upper Egypt — in Kuft (38) as well as in Luxor (50) with Szwajkowski's strikingly low value 10.0 — foreheads are significantly narrower. The same refers most probably to all the sets from the oases of the Western Desert (1—6) and perhaps also to Faqus (17) and Belbeis (20) sets.

Combining the results we may guess that broader forehead is characteristic for Middle Egypt and its neighbourhood, while narrower forehead occurs in the Upper Egypt, in oases of the Western Desert and in some groups from the eastern Delta and Sinai. In Nubia and Sudan we may suppose middle values.

The described situation is reproduced with small deviations also in the fronto-parietal horizontal index (diagram 11). The range reaching from 72 to 82 should be contracted to 72—77 excluding the high Field's data.

There is a change in the order of the Field's results in comparison with the preceding measure-

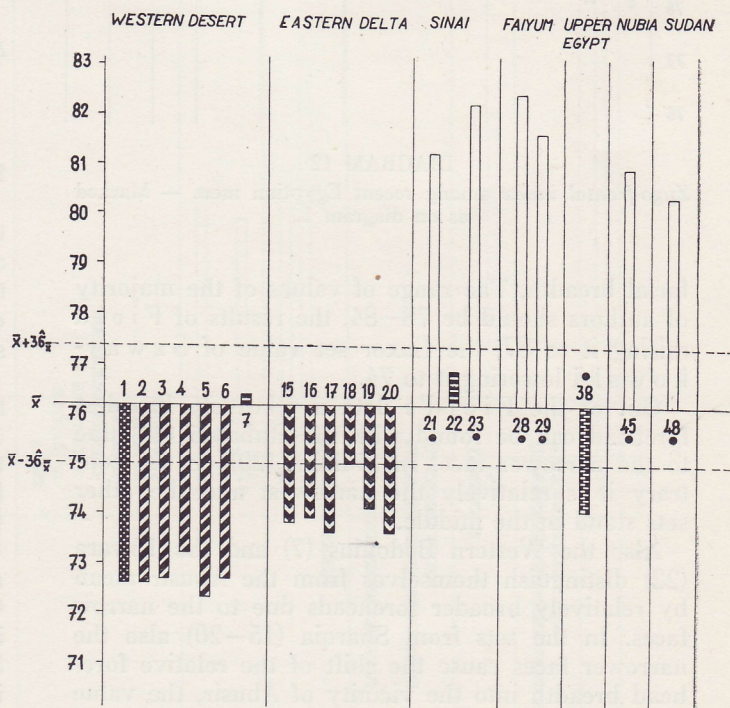


DIAGRAM 11

Fronto-parietal horizontal index among recent Egyptian men. — Marked as on diagram 1.

ment. Sets from Sinai (21, 23) and from Fidimin (29) reach a higher value of the index according to their narrow heads. The row of the other sets remains the same.

From the results of other authors only the Western Bedouins (7) and the Towara (22) do not differ significantly from the Abusir set. All further data including Qift are distinctly lower, the lowest value reached by the Luxor set (50) of Szwajkowski (70.0). The deepening of this differences is due to the broader head in some of the samples (2, 3, 15, 16).

The picture of the relative forehead breadth is much more modified in the zygo-frontal index (diagram 12) due to the differences in the

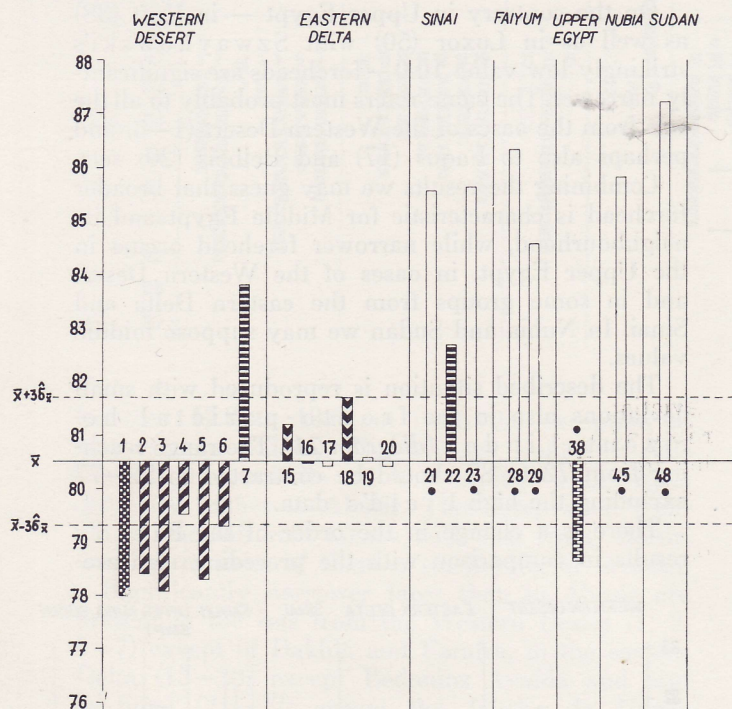


DIAGRAM 12

Zygo-frontal index among recent Egyptian men. — Marked as on diagram 1.

facial breadth. The range of values of the majority of authors should be 78—84, the results of Field raising it to 87, the Luxor set value of Szwajkowski lowering it to 74.

Out of the Field's data a relatively broadest forehead can be found with the Rubatab (48) due to the narrower face. In Fidimin (29) on the contrary it is relatively the narrowest and the other sets stand in the middle.

Also the Western Bedouins (7) and the Towara (22) distinguish themselves from the Abusir mean by relatively broader foreheads due to the narrow faces. In the sets from Sharqia (15—20) also the narrower faces cause the shift of the relative forehead breadth into the vicinity of Abusir, the value in Minia el-Qamh (18) being at the same time still higher than in Abusir. Absolutely narrow forehead of the sets from Qift (38), Luxor (50) and the oases

of the Western Desert (1—6) finds its expression also in this index. Szwajkowski's very low frontal breadth in combination with facial breadth close to the Abusir mean leads to an extremely low zygo-frontal index.

Very little of comparative material is available at the bigonial breadth (diagram 13). In this measurement we find, however, a still higher variability than at the minimum frontal breadth, reaching from 9.7 to 11.8 cm!

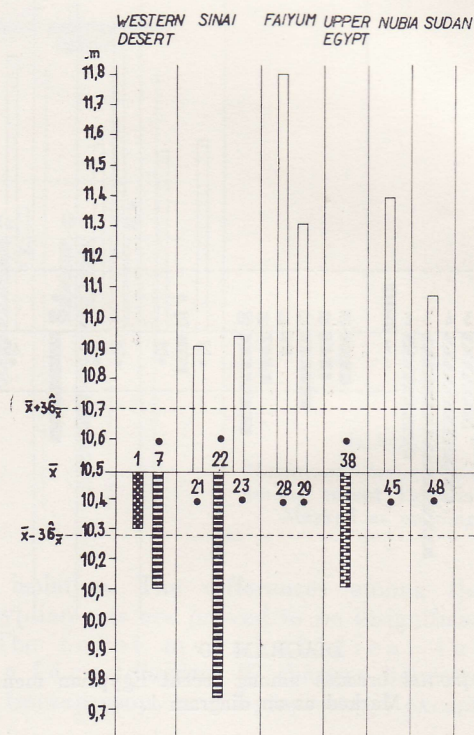


DIAGRAM 13

Bigonial breadth of the lower jaw among recent Egyptian men. — Marked as on diagram 1.

In reality the upper limit of the range seems to be somewhere above 10.5.

All the values of Field are expressively higher than the Abusir mean, the values of a few other authors being on the contrary lower. We suppose, that also in this respect the methodical difference of Field's measurement technics finds its expression.

In his sets the broadest lower jaw was found in the Tamiya set (28), a narrower with the Mahasi (45) followed by the Fidimin set (29), further by the Rubatab (48) and the narrowest lower jaw was fixed with the Sinai Bedouins (21) and the Jebelia (23).

From the other measurements significantly narrower jaws than in Abusir were ascertained with the Qifts (38), Western Bedouins (7) and especially strikingly with the Towara (22). Curiously enough, Szwajkowski's result from Luxor (50) is only insignificantly lower than in Abusir, and the same applies also to Kharga (1).

By combining the results we can suppose a tendency toward narrowing of the lower jaw from the

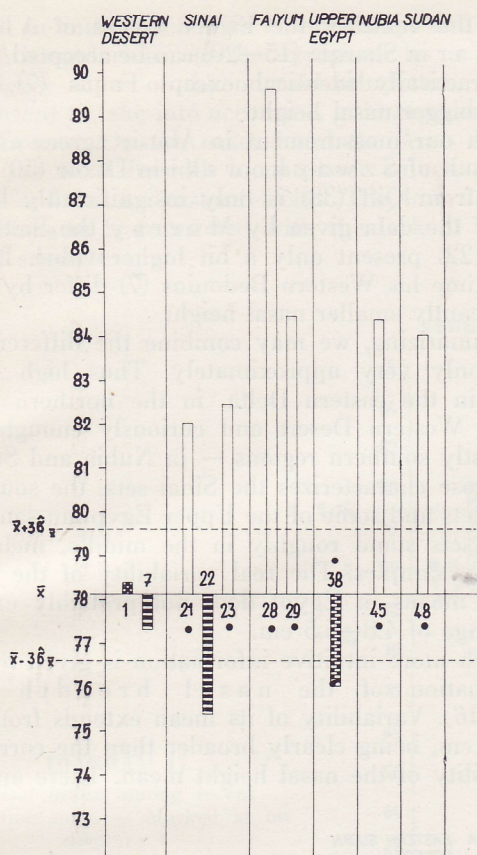


DIAGRAM 14

Zygo-gonial index among recent Egyptian men. — Marked as on diagram 1.

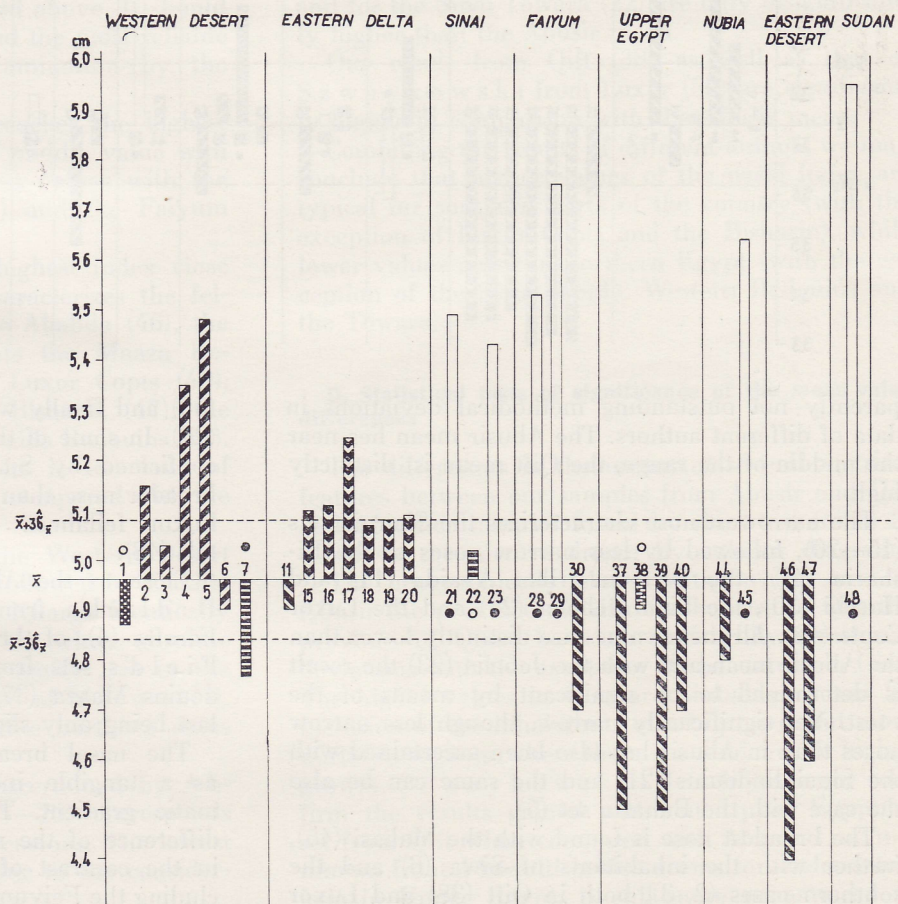


DIAGRAM 15

Nasal height among recent Egyptian men. — Marked as on diagram 1.

Middle Egypt including the Faiyum in all investigated directions (with one exception — the Mahasi).

In the zygo-gonial index (diagram 14) we find nearly an identical picture with the only exception that, due to the small face breadth, the indices with the Khargians (1) and the Western Bedouins (7) come near the Abusir mean. In this diagram the excessiveness of the Field's data is yet more clear, especially through the extreme value from Tamiya (28).

A rich comparative material is available at the nasal measurements. Unfortunately also the values of the nasal height (diagram 15) are influenced by methodical differences. When comparing the two diagrams, of the nasal height and of the nasal breadth respectively, we notice a strikingly more extended variability of the nasal height (4.4—6.0 cm). In reality this is not the case and we shall see that the relation is reverse, nasal height being slightly less variable than the nasal breadth.

The extension of the limits of variability of the nasal height is caused on the one hand by the extremely high values of Field, on the other hand by the clearly low values of Chantre. Correct fixation of nasion with living people is very difficult. Field put it evidently too high, Chantre on the contrary much lower, probably till the deepest concavity of the nasofrontal region. Already Hrdlička pointed out, that values as low as Chantre's have not been ascertained by any other observer in the non-negroid population of

the North Africa. We suppose further, that the results of some of the other authors could also be influenced by methodical differences, this being however less important. Taking this into consideration, we are of the opinion that the nasal height results have to be examined separately for each author.

From Field's sets the highest nose has been fixed with the Rubatab (48), middle values are reached by the Fidimins (29) and Mahasi (45), the lowest being noses of the two Sinai sets (21, 23) and that of Tamiya (28).

In the sets of Chantre the Bedouins Ayaida (11) followed by the Kenouzi (44) distinguish themselves by the biggest nasal height. Middle values can be found with the Bedouins Harabi (30), Luxor Copts (40) and the Bisharin (47). The lowest noses characterize the Bedouins Maaza (37), Luxor fellaheen (39) and especially the Ababda (46).

In the results of Mitwalli the highest values from the northern oases (4, 5) are followed by the lesser values from the southern oases (2, 3) and by the least value from Siwa (6). Hrdlička measured in Kharga (1) also in this measurement a distinctly lower value than Mitwalli (2). According to our results in Abusir it seems, however, that Mitwalli's results may be as whole slightly higher than in reality.

On the contrary the higher values of Abbas Ammar in Sharqia (15—20) can be accepted. They are practically identical except Faqus (7), with a still bigger nasal height.

With our measurement in Abusir agrees exactly the result of Szwaykowski in Luxor (50). Our result from Qift (38) is only insignificantly lower. Out of the data given by Murray the Sinai Towara (22) present only a bit higher value. In the same time his Western Bedouins (7) differ by their significantly smaller nasal height.

Summarizing, we may combine the different results only very approximately. Thus high noses occur in the eastern Delta, in the northern oases of the Western Desert and curiously enough also in mostly southern regions — in Nubia and Sudan. Low nose characterizes the Sinai sets, the southern oases sets and some of the Upper Egyptian samples. Other sets stand roughly in the middle, including our two samples. The real variability of the nasal height means in Egypt does not probably exceed the range of 4.8—5.5 cm.

Much more intuitive information is given by the examination of the nasal breadth (diagram 16). Variability of its mean extends from 3.3 to 4.1 cm, being clearly broader than the corrected variability of the nasal height mean. There are ap-

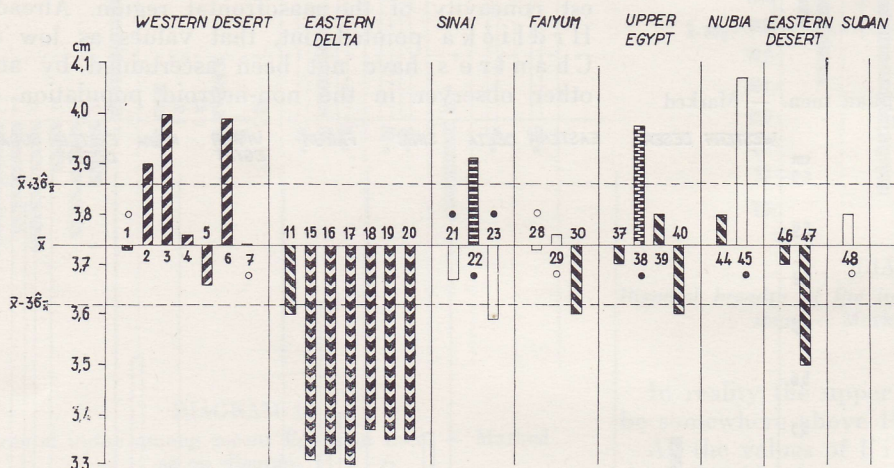


DIAGRAM 16
Nasal breadth among recent Egyptian men. — Marked as on diagram 1.

parently not outstanding methodical deviations in data of different authors. The Abusir mean lies near the middle of the range, the Qift mean is distinctly high.

The narrowest nose characterizes the Sharqia sets (15—20), followed by less narrow noses of the Bisharin (47), the Bedouin tribes Ayaida (11) and Harabi (30), the Sinai Jebelia (23) and the Luxor Copts (40). All these values are distinctly lower than the Abusir mean and with the Jebelia (23) the result is determined to be significant by means of the t-test. Yet significantly narrow, though less narrow noses than in Abusir has also been ascertained with the Sinai Bedouins (21) and the same can be also the case with the Baharia set (5).

The broadest nose is found with the Mahasi (45), further with the inhabitants of Siwa (6) and the southern oases (2, 3), both in Qift (38) and Luxor

(50) and finally with the south-Sinai tribes Towara (22). In some of these sets the significance could be confirmed by Student's test. Only a slightly broader nose than in Abusir can be found with the Luxor fellaheen (39), Kenouzi (44) and Rubatab (48).

Close to the Abusir mean comes the result of Hrdlička from Kharga (4), the values from Farafr (4), of the Western Bedouins (7), the both Field's sets from Faiyum (28, 29), of the Bedouins Maaza (37) and the Ababda (46), the two last being only slightly lower.

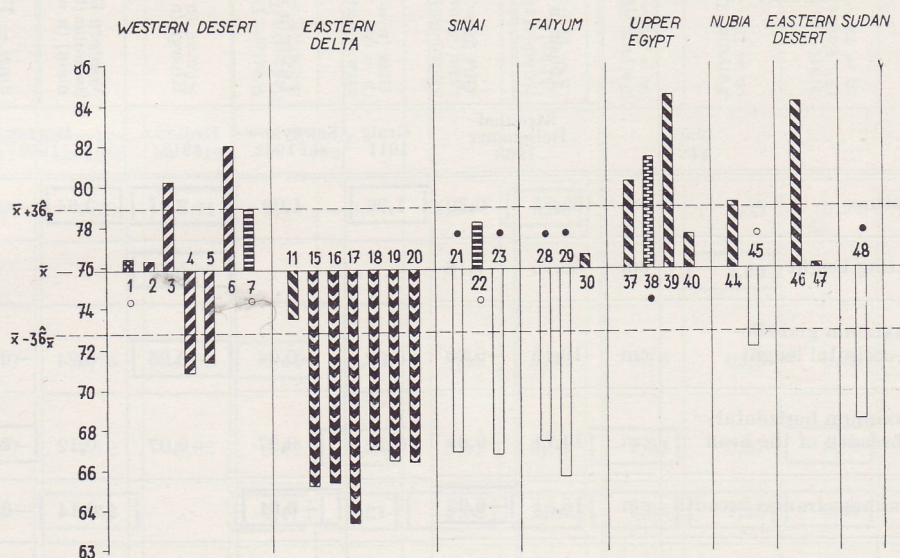
The nasal breadth can be considered at first as a tangible indicator of the north-south climatic gradient. This finds its expression in the difference of the northern and the southern oases, in the contrast of the Delta to Middle Egypt including the Faiyum and on the other hand of Middle

Egypt in comparison with Upper Egypt and Nubia. Some irregularities can be explained by a smaller or bigger share of the negroid admixture. This is important to take into account e. g. in Siwa and with the Towara. On the other hand the Arab element shift the nasal breadth to narrower values, e. g. in Sinai and in the eastern Delta. The low value of the Bisharin is connected with the lack of the negroid admixture.

The difference in the nasal breadth in the Luxor fellaheen (broader) and the Copts (narrower) is one of very few anthropological differences found between the adherents of those two religions. Szwajkowski's value is still higher than Chantre's mean for the fellaheen.

The picture of the nasal index (diagram 17) varying in the mesorrhin and slightly leptorrhin range (64—84) is to a considerable extent modified

DIAGRAM 17
Nasal index among recent Egyptian men. — Marked as on diagram 1.



in view of the methodical differences in the measurement of the nasal height discussed above. It should be examined very carefully, and the most reliable method would be separate examination by the authors.

In Field's sets the index reaches the highest value with the Mahasi (45), the middle value with the Rubatab (48) and the lowest values with the groups from the Sinai (21, 23) and the Faiyum (28, 29).

In Chantre's groups the highest index close to the chamaerrhin category characterizes the fellaheen from Luxor (39) and the Ababda (46), the middle value of the index suits the Maaza Bedouins (37), the Kenouzi (44), Luxor Copts (40), Bedouins Harabi (30) and the Bisharin (47), the lowest index is found with the Ayaida Bedouins (11).

The position of Field's sets is too low, of Chantre's sets again too high compared with the reality.

In Mitwalli's sets from the Western Desert the highest value is in Siwa (6) followed by Dakhla (3). The middle value occurs in Kharga identically in Mitwalli and in Hrdlička (whose absolute values of the two nasal measurements are in the same proportion lower than those of Mitwalli). The lowest index is present in the northern oases (4, 5).

Very expressive leptorrhiny ascertained by Abbas Ammar in Sharqia (15—20) corresponds with the respective absolute dimensions. The lowest index was fixed in Faqus (17) due to the considerable nasal height.

Murray's values for the Western Bedouins (7) and for the Sinai Towara (22) are only insignificantly higher than the Abusir mean.

Our result from Qift (38) as well as that of Szwajkowski from Luxor (50) are significantly higher in comparison with the Abusir mean.

Combining the results of different authors we may conclude that higher values of the nasal index are typical for southern parts of the country (with the exception of Luxor Copts and the Bisharin), while lower values occur in northern Egypt (with the exception of the Siwa people, Western Bedouins and the Towara).

D. Statistical tests of significance of the mean value differences

The differences in the means of several metrical features between our samples from Abusir and Qift and 11 other samples tested by the t-test (table 2) complete the picture drawn by column diagrams.

The geographically closest sets, in the case of Abusir the province of Giza, in the case of Qift the province of Qena, have no statistically significant deviations with the exception of the stature in Giza. The higher values in Giza are probably caused by inclusion of the inhabitants of a big town and more northern regions, where there is a tendency to higher growth. Szwajkowski's data from Luxor confirm the results gained with our Upper Egyptian set from Qift when compared with Abusir. Low minimum frontal breadth which seems to be characteristic in Upper Egypt, is still more pronounced in

TABLE 2
Differences in the Means of Several Metrical
of Contemporary
Tested by Means

Nr.	Character	Unit	Compa- rative sample	Compared sample									
			Abusir (n = 64)	1	2a	3	4	5	6	7	8	9	10
				Qift (n = 28)	Giza (n = 326)	Luxor (n = 200)	Kharga (n = 150)	Western Desert- Bedouins (El-Ala- mein) (n = 40)	Sinai — Towara (n = 63)	Sudan—Rubatab (Abu Hamed) (n = 36—38)	Nubia-Mahasi (Abka) (n = 25—26)	Faiyum (Fidimin) (n = 281—306)	Faiyum (Tamiya) (n = 137—186)
			Strouhal- Reisenauer 1963		Graig 1911	Szwaykow- ski 1962	Hrdlička 1912	Murray 1952				Field 1952	
2	Stature	cm	165,81	0,30	1,99	1,09	-2,01	3,04	-0,01	1,68	5,55	.	1,65
3	Sitting height	cm	85,75	-1,18	.	.	-1,75	.	.	.	.	.	1,62
4	Maximum glabello- occipital length	cm	19,15	-0,20	0,02	-0,04	-0,25	0,24	-0,02	-0,05	0,12	-0,02	-0,17
5	Maximum horizontal breadth of the head	cm	14,21	-0,05	0,11	0,07	-0,07	0,12	-0,30	0,06	0,00	-0,28	0,02
6	Minimum frontal breadth	cm	10,81	-0,33	.	-0,81	.	0,14	-0,12	0,69	0,82	0,56	0,92
7	Total morphological length of the face	cm	11,79	-0,28	.	-0,23	-0,44	-0,02	-0,05	0,50	0,47	0,46	0,32
8	Maximum bizygomatic breadth	cm	13,45	-0,13	.	0,02	-0,30	-0,38	-0,53	-0,25	0,09	0,02	0,14
9	Bigonial breadth of the lower jaw	cm	10,49	-0,38	.	-0,10	.	-0,39	-0,75	0,58	0,92	0,82	1,31
10	Nasal height	cm	4,96	-0,06	.	0,00	-0,09	-0,19	0,06	0,99	0,68	0,79	0,57
11	Nasal breadth	cm	3,74	0,22	.	0,15	-0,01	0,00	0,17	0,06	0,33	0,02	-0,01
14	Cormic index (Relative sitting height)	—	51,79	-0,79	.	.	-0,53	.	.	.	.	.	0,53
15	Cephalic index	—	74,31	0,35	0,44	0,59	0,52	-0,51	-1,36	1,10	0,69	-1,26	0,60
16	Frontoparietal horizontal index	—	76,17	-2,11	.	.	.	.	.	4,66	4,75	5,44	6,22
17	Total morphological index of the face	—	87,80	-1,39	.	-2,39	-1,50	2,20	3,72	5,40	3,05	3,35	1,65
18	Zygo-frontal index	—	80,50	-1,87	.	.	.	.	.	6,68	5,32	4,08	5,80
19	Zygo-gonial index	—	78,12	-2,06	.	.	.	.	.	5,92	6,31	6,31	11,50
20	Nasal index	—	75,83	5,50	.	3,58	0,76	3,07	2,37	-7,41	-3,85	-10,25	-8,53

In this table there are given absolute values of the differences.

The negative values of the differences indicate the mean of the compared sample being smaller than the mean of the comparative sample, which is given in the first column. Statistically significant values (t-test on $p = 0,05$) of the differences of the means are framed.

Features Between Our and Other Samples
Egyptians
of the t-test

		Compa- rative sample	Compared sample											
11	12		1	2b	3	4	5	6	7	8	9	10	11	12
Sinai—Jebelieh (St. Catherine) (n = 42—73)	Sinai-Bedouins (n = 67—150)	Qift (n = 28)	Abusir (n = 64)	Qena (n = 824)	Luxor (n = 200)	Kharga (n = 150)	Western Desert- Bedouins (El-Ak- mei) (n = 40)	Sinai-Towara (n = 63)	Sudan-Rubatab (Abu Hamed) (n = 36—38)	Nubia-Mahasi (Abka) (n = 25—26)	Faiyum (Fidimin) (n = 281—306)	Faiyum (Tamiya) (n = 137—186)	Sinai—Jebelieh (St. Catherine) (n = 42—73)	Sinai—Bedouins (n = 67—150)
Field 1952		Strouhal- Reisenauer 1963		Graig 1911	Szwaykow- ski 1962	Hrdlička 1912	Murray 1952					Field 1952		
1,20	-0,09	166,11	-0,30	1,69	0,79	-2,31	2,74	-0,31	1,38	5,25	.	1,35	0,90	-0,39
.	.	84,57	1,18	.	.	-0,57	.	.	.	.	.	2,80	.	.
0,06	0,22	18,95	0,20	0,17	0,16	-0,05	0,44	0,18	0,15	0,32	0,18	0,03	0,26	0,42
-0,35	-0,24	14,16	0,05	0,07	0,12	-0,02	0,17	-0,25	0,11	0,05	-0,23	0,07	-0,30	-0,19
0,54	0,57	10,48	0,33	.	-0,48	.	0,47	0,21	1,02	1,15	0,89	1,25	0,87	0,90
0,35	0,24	11,51	0,28	.	0,05	-0,16	0,26	0,23	0,78	0,75	0,74	0,60	0,63	0,52
-0,12	-0,17	13,32	0,13	.	0,15	-0,17	-0,25	-0,40	0,12	0,22	0,15	0,27	0,01	-0,04
0,45	0,42	10,11	0,38	.	0,28	.	-0,01	-0,37	0,96	1,30	1,20	1,69	0,83	0,80
0,47	0,53	4,90	0,06	.	0,06	-0,03	-0,13	0,12	1,05	0,74	0,85	0,63	0,53	0,59
-0,15	-0,07	3,96	-0,22	.	-0,07	-0,23	-0,22	-0,05	-0,16	0,11	-0,20	-0,23	-0,37	-0,29
.	.	51,00	0,79	.	.	0,26	.	.	.	.	.	1,32	.	.
-2,07	-1,96	74,66	-0,35	-0,18	0,24	0,17	-0,86	-1,71	0,75	0,34	-1,61	0,25	-2,42	-2,31
6,04	5,05	74,06	2,11	.	.	.	.	.	6,77	6,86	7,55	8,33	8,15	7,16
4,15	3,25	86,41	1,39	.	1,00	-0,11	3,59	5,11	6,79	4,44	4,74	3,04	5,54	4,64
5,16	5,08	78,63	1,87	.	.	.	.	.	8,55	7,19	5,95	7,67	7,03	6,95
4,33	3,94	76,06	2,06	.	.	.	.	.	7,98	8,37	8,37	13,56	6,39	6,00
-9,13	8,97	81,33	-5,50	.	-1,93	-4,74	-2,43	-3,13	-12,91	-9,35	-15,75	-14,03	-14,63	-14,47

Luxor than in Qift. On the other hand the bigonial breadth is less low in Luxor (insignificantly) than in Qift (significantly). The difference in the facial height, which is lesser in Upper Egypt, is in Luxor secured by its significance, the same being also reflected in the facial index.

The small differences of Kharga data in comparison with Qift support Hrdlička's thesis about the relationship of the Khargians with the inhabitants of Upper Egypt. The significantly lower growth in Kharga is possible to explain by worse local social-economic conditions. Narrower noses and consequently lower values of nasal index suggest less intensive negroid admixtures in Kharga. In respect to Abusir, the inhabitants of Kharga have shorter trunk length, shorter head and lesser face dimensions.

The Western Bedouins differ more from both our sets: by higher stature, narrower face, narrower jaw and lower nose in comparison with the Abusirians, and by longer head, broader forehead, lower nose and bigger leptoprosopia in comparison with the Qiftians.

More differences can be noticed at Towara from Sinai with narrower head, face and jaw, bigger dolichocephaly and leptoprosopy when compared with both our sets, and further, bigger nasal breadth than the Abusirians and bigger forehead breadth than the Qiftians.

In all Field's sets significantly different are the minimum frontal breadth, the bigonial breadth, the facial and the nasal height as well as the majority of indices derived from these dimensions. But they differ in their method as shown above. If we take therefore into account only the remaining features, then the Rubatab differ from the Abusirians by lesser face breadth, the Nubians Mahasi by higher stature and broader nose, the Tamiya inhabitants by longer trunk, the Fidimins, Sinai Jebelia and Bedouins by narrower and more dolichocephal head. With the Sinai Bedouins the head is also longer and the face narrower than with the Abusirians.

We have investigated also the significance of differences between the means of Craig's set from the ethnical border of the proper Egyptians and the Nubians, the Aswan region, and the means of some other region sets (table 3). Our attention is drawn at first to the stature which is significantly lower in Nubia and Aswan town than in the northern part of the Aswan province. The higher stature of this region is at the same time not distinctly different when compared with the Faiyum set, but is significantly higher when compared with the Sharqia set, as representative of the other sets from the eastern Delta. This confirms our conclusions drawn on the stature (see above).

Lesser head length in Nubia and in Aswan town significantly differs already in comparison with the set from the northern part of Aswan province.

The bigger head breadth of the Nubian set significantly differs from the Qena set and consequently even for all others Upper Egyptian groups, but not from the Aswan north region. In this feature there seems to be a more gradual transition. This con-

TABLE 3

Differences Between the Means of Region Aswan Samples and Some Other Egyptian Samples According to Craig (1911) Tested by Means of the t-test

Charakter	Sample 1	Sample 2	Difference
2. Stature	Aswan south (Nubia)	Aswan north	-3,27
	Aswan town	Aswan north	-4,69
	Aswan north	Faiyum	1,13
	Aswan north	Sharqia	2,79
4. Head length	Aswan south (Nubia)	Aswan north	-0,21
	Aswan town	Aswan north	-0,29
5. Head breadth	Aswan south (Nubia)	Aswan north	0,12
	Aswan south (Nubia)	Qena	0,29
	Aswan town	Qena	0,12
	Aswan north	Qena	0,17
15. Cephalic index	Aswan south (Nubia)	Aswan north	1,43
	Aswan south (Nubia)	Qena	2,09
	Aswan town	Aswan north	0,85
	Aswan town	Qena	1,51
	Aswan north	Qena	0,66

The negative values of the differences indicate the mean of sample 1 being smaller than the mean of sample 2.

Statistic significant values ($t_{0,05} = 1,96 - 1,97$) are framed.

firms also that there is no significant difference between Aswan town or Aswan north and Qena in this respect.

The higher head index in Nubia significantly differs from the set Aswan north as well as Qena, while the index value in Aswan town is significantly different only when compared with Qena. In this feature Aswan north belongs to Upper Egypt showing only an insignificant difference when compared with Qena.

The transitive position of the Aswan north and Aswan town regions is made quite clear by this comparison.

E. Summary of the non-regional anthropometrical differences

In analysing anthropometrical features we have pointed out that the proper regional differences are in many cases disguised by differences of another kind. We found remarkable *methodical* differences in Field's data on the facial height, minimum frontal breadth, bigonial breadth and the nasal

height, being generally too high, in Chantre's data on the nasal height, which are too low, and in Craig's slightly lower data of the head length.

Repeated measurements in the same region but in different periods could reveal some *chronological* differences. Thus the older results of Hrdlička from the Kharga oasis differ from the more recent results of Mitwalli by lower values of all the absolute dimensions with the exception of the stature and the facial height which are identical, and with the exception of the facial breadth being bigger in Hrdlička's set. Analogically we may find that Szwaykowski's data from Luxor exceed somewhat all craniological dimensions of both Chantre's groups of that place, only the stature roughly agrees. In all other cases we may accept no differences of such a systematic kind (Craig's and Ammar Abbas data for Sharqia, Craig's and our measurement in Middle and Upper Egypt, Craig's and Field's results from Faiyum). It must be, however, remembered, that in these cases we have only four comparable features. The differences between the results of repeated measurement in Kharga and Luxor show generally an increase of dimensions. Thus we may suppose that also a timespan of about 30–60 years could be sufficient for changes in anthropometrical values, reflecting the gradual improvement of the social-economic conditions of the population. Whether this hypothesis is right, will be shown only by further investigations. Lack of the standard deviations in some publications makes it impossible to test these differences statistically in order to show if they are not only accidental.

There are also deviations coming from the *different composition* of two samples from the same region that can be clearly seen in Field's results from the two localities in Faiyum. At Fidimin compared with Tamiya can be noticed a remarkably narrower head, forehead and jaw, and in the same time a higher and narrower nose. Methodical differences are in the case of the one and the same observer improbable. The results are secured also by a sufficient number of examined individuals (189 and 304). The set from Fidimin seems to be in our opinion a somewhat morphologically different group, approaching the anthropometrical characteristics of the Sinai groups. However, this does not apply to Sinai genealogic relations with certainty. It would be necessary to re-examine whether the difference is due to the origin or to a sort of isolation.

A slightly different variant of the case is offered by the confrontation of the two samples by Chantre from Luxor. Fellaheen differ from the Copts by a higher stature, lower and broader nose. On this occasion we quote Myers who found lower nasal index, fairer eye and skin colour, straighter hair and thinner lips among the Copts in comparison with the Moslems. In this case we can consider the religion as a cause of the social isolation of a population group. We suppose that this can be explained sooner by negroid admixtures with the fellaheen than by differences in living conditions of these two groups. Fellaheen as Moslems could easily intermarry with the Negroes being of the same religion,

while Copts as Christians were prevented from negroid admixtures in the last two millennia. Negroid influences in Upper Egypt have been shown repeatedly by different authors anthropologically as well as serologically.

F. Summary of the regional variability of anthropometrical features

The analysis of different features has shown, that on the territory of Egypt regional variability of anthropometrical features is convincing even if we consider all the reserves mentioned in the preceding paragraphs. They show a high degree of complexity, which reflects the interaction of the influences from the environment (climatic and social-economical conditions) and the genetic factors in which again either the different origin or a sort of isolation can assert itself. Our analysis of anthropological means and their differences is rather superficial. It can indicate some regional anthropometrical characteristics but without the possibility of explaining their nature in every special case. For this purpose a structural analysis of the population together with a complex study of its living conditions and origin is badly needed.

As to the position of both our examined sets we may conclude that they completely fall into the range of values introduced by literature. The results from Abusir are often roughly in the middle of the range or in the upper part of it, the results from Qift are more often in the lower part. Hereby the central position of the Abusir set could be stated also in several anthropological features.

In the *Western Desert* the sets from the smaller oases show a lower stature in comparison with the taller inhabitants of the big oasis Siwa and the tall grown Western Bedouins. Besides that, we find higher noses in the smaller oases. In some further features the southern smaller oases differ from those in the north, e. g. in broader heads, lower and broader noses. A broader nose can be found also in Siwa as the result of negroid admixtures. Except Dakhla and Farafra for all groups of the Western Desert the narrow faces are characteristic, being, with the exception of the Western Bedouins, also low. Strikingly long head is present in Siwa and a broader forehead with the Western Bedouins. The southern oases are in some features close to Upper Egypt, which reveals the similarity of our measurement in Qift to that by Hrdlička in Kharga oasis. Several particularities of the Western Desert groups can be explained by geographical isolation reflecting also climatic conditions, others by genealogical differences (see above sub B).

The *Western Delta* is characterized only in some basic data of stature and head measurements by identical features, which do not differ considerably from Abusir, with the exception of a slight tendency towards a taller stature.

On the contrary in the *Eastern Delta* certain differences can be found, especially the shorter head length in the Sharqia province and the general tendency towards the bigger breadth of the head

which results in the higher values of the cephalic index. The face in Sharqia is narrow and slightly lower, the breadth of the forehead is slightly smaller than in Abusir. On the other hand the noses are characteristically high and narrow, the nasal index being apparently low. The stature does not differ from Abusir except in some groups with a tendency to somewhat taller growth of the body. In some other groups again the relative length of the trunk is shorter than in Abusir. The Bedouins Ayaida have broader face and nose if compared with the Sharqia sets. In most of eastern Delta differences the influence of Arab elements can be seen.

The Sinai samples differ from Abusir very distinctly: the Bedouins by longer and all groups by narrower heads with a low cephalic index. Also all the facial breadth measurements are distinctly narrower with the exception of the nasal breadth of the Towara. These differences prove non-Egyptian genealogic relations of the Sinai groups. The group of Jebelia in spite of being of an old European origin does not differ substantially from the Arab groups. Field however asserted their physiological distinction and small intensity of intermingling with the Bedouins.

The inhabitants of the cosmopolitan town centres are generally characterized by the tendency towards a bigger breadth of the head, which results in a slightly higher cephalic index. In this connection we would like to recall the brachycephalisation process in Middle European countries in connection with urbanisation. This cannot, however, be estimated as the only cause in the Egyptian metropolises, exposed to a strong influence of foreign immigration.

Geographically and anthropometrically Faiyum is not too far from Abusir. In the former area stature is slightly taller and the trunk longer. In Fidimin the head is distinctly narrower and the nose higher than in Abusir, the Tamiya set was found closer to the Abusir set. There are some more differences between these two localities (discussed above). The Harabi Bedouins differ very distinctly from other groups by very high stature and a longer and slightly broader face. At the same time they have a narrower and perhaps also rather lower nose.

Passing from *Middle Egypt* toward *Upper Egypt* a moderate increase of stature appears and the difference between Qift and Abusir determined by us shows the possibility of a decreasing of the relative trunk length. Further we can observe an insignificant shortening and broadening of the head which reflects the slightly increasing head index. Further southwards the face becomes lower, the minimum frontal breadth and perhaps also the bigonial breadth of the lower jaw are decreasing. The nose is getting very distinctly broader with one exception — the Luxor Copts (discussed above). A number of other interesting north-south gradients were indicated by Myers and Craig. Some of these differences can be explained by adaptation. Thus e. g. shorter trunk and longer extremities are an advantage in a hot climate, enlarging the body surface. The same applies for the broader nose. In addition to this also negroid admixture seems to

have contributed to this differences, but more recently, as reveal the distinction of the fellaheen and the Copts (see above). The Bedouins Maaza seem to remain within the Upper Egyptian tendencies, having, however, a very narrow face and a narrower nose. They differ from the other Bedouin groups by their lower stature.

In *Nubia* we enter into ethnically distinct territory, but interestingly enough some of the mentioned tendencies continue further southwards. In contradistinction to this the lower stature found by Craig is rather curious and may be of a social-economic origin. Mahasi have a longer and narrower head and a lower cephalic index in comparison with the other sets from Nubia, in which the head is rather shorter and broader than in Abusir. Also the face of the Mahasi is broader and perhaps also a bit higher. The nose is less distinctly broader with the Kenouzi and more distinctly with the Mahasi. All this seems to indicate local differences in the Nubian population reflecting its heterogen origin.

Both samples of the Bedja tribes from the *Eastern Desert* show stature corresponding not to the Upper Egyptian, but to the Abusir mean. Ababda have a shorter but also narrower head and a narrower face. Their nose is very low but of the same breadth as in Abusir. On the contrary to this the Bisharin have an excessively short but broader head with an unusually high index. Their face is extremely narrow and the roughly middle high nose exhibits a small breadth. The differences between the two groups can be explained by their isolation and perhaps by some negroid admixtures with the Ababda.

The Rubatab Arab group from the *Northern Sudan* differs from the geographically nearest set of Nubian Mahasi by a slightly lower stature, a distinctly narrower face, forehead and lower jaw, and by a considerably higher and narrower nose. These characteristics prove sufficiently that this population preserved its morphological distinction against the inhabitants of Nubia.

Summarizing we may state that the most distinctive deviations from the Abusir means can be found in the ethnically different regions such as Nubia, Sinai, Eastern Desert, or in the regions influenced by other ethnics e. g. in the eastern Delta, in the oases of the Western Desert etc. The Bedouins of Egypt do not represent a homogeneous group neither by their origin nor by living conditions and therefore their mutual differences are not surprising. In all cases, however, they show certain morphological differences if compared with their settled neighbours.

II. DESCRIPTIVE MORPHOLOGICAL FEATURES

When analysing the anthropological data we met some difficulties because of the methodological differences. Still more trouble arose when comparing the descriptive features. The categories were often expressed by words without using standard scales and so the limits of the different authors need not correspond. Thus the comparison of the data can be only a general one.

Out of descriptive features studied in Abusir and Qift only 8 could be compared in a total of 10 sets. These sets were ranked from the north to the south without considering their geographical position in the Nile valley or outside of it. We wanted to show the north-south gradients which appear in some of them (*table 4*).

Thus the skin colour in the direction from north to south is obviously getting darker. This observation of the older authors (Makrizi, Chantre, Myers) is expressed clearly in the percentage of the dark hues (*diagram 18*). In the

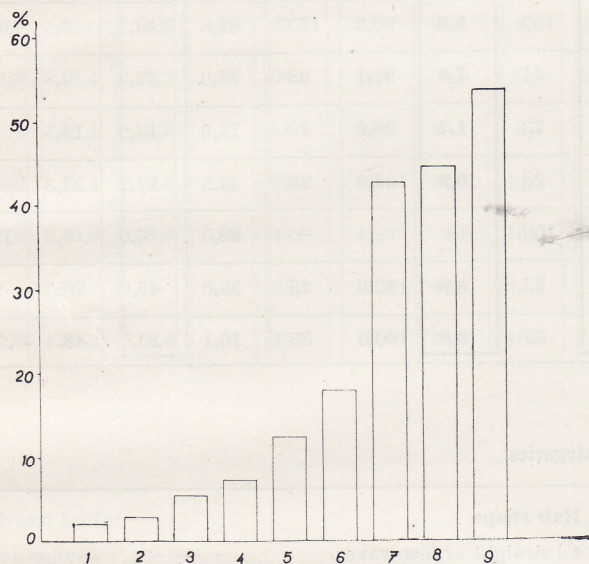


DIAGRAM 18

Procentual shares of dark hues of the skin colour among recent Egyptian men.

1. Sinai: Bedouins (Field), 2. Sinai: Jebelia (Field), 3. Faiyum: Tamiya (Field), 4. Faiyum: Fidimin (Field), 5. Middle Egypt: Abusir (Strouhal-Reisenauer), 6. Eastern Delta: Sharqia (Abbas Ammar), 7. Upper Egypt: Qift (Strouhal-Reisenauer), 8. Nubia: Mahasi (Field), 9. Sudan: Rubatab (Field).

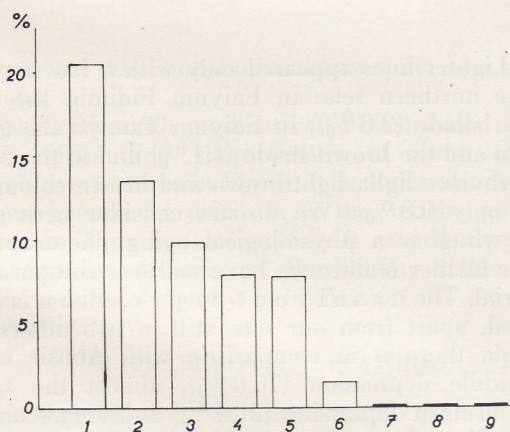


DIAGRAM 19

Procentual shares of middle and light shades of the eye colour among recent Egyptian men.

1. Eastern Delta: Sharqia (Abbas Ammar), 2. Sinai: Bedouins (Field), 3. Faiyum: Tamiya (Field), 4. Faiyum: Fidimin (Field), 5. Middle Egypt: Abusir (Strouhal-Reisenauer), 6. Sinai: Jebelia (Field), 7. Upper Egypt: Qift (Strouhal-Reisenauer), 8. Nubia: Mahasi (Field), 9. Sudan: Rubatab (Field).

northern groups (1-6) there is a lower percentage (2.1-18.1 %), in the southern groups (7-10) a great one (42.8-53.8 %). The exclusive position is held by Hrdlička's values from Kharga, perhaps as the result of methodological differences.

Still more profoundly is the north-south gradient shown in the eye colour, obviously the result of the more unanimous definition of the colour shades by different authors. Light and middle shades are coherently decreasing (*diagram 19*), the dark shades are increasing. From Qift southwards the dark hues reach 100 per cent.

The hair shape proves the best gradient in the category of the curly and frizzly hair, which is increasing from north to south. In the northern groups it reaches 2.2 to 12.5 per cent, in the southern groups from 20.0 to 48.4 per cent. The exception is again obvious in Kharga.

On the contrary the beard density is decreasing in the same direction. It is most clearly shown in the category of the dense beard reaching in the northern groups 9.4 to 18.6 per cent, in the southern groups 0.0 to 8.0 per cent (*diagram 20*).

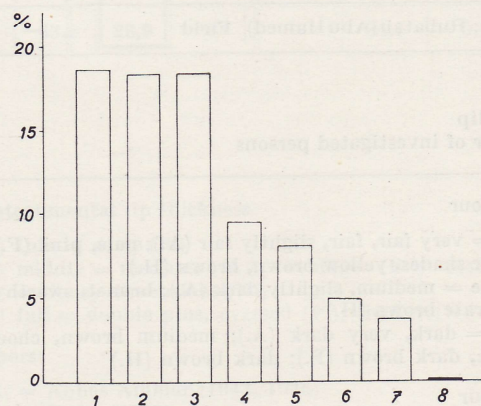


DIAGRAM 20

Procentual shares of the dense beard category among recent Egyptian men.

1. Sinai: Bedouins (Field), 2. Sinai: Jebelia (Field), 3. Faiyum: Fidimin (Field), 4. Middle Egypt: Abusir (Strouhal-Reisenauer), 5. Western Desert: Kharga (Hrdlička), 6. Faiyum: Tamiya (Field), 7. Upper Egypt: Qift (Strouhal-Reisenauer), 8. Sudan: Rubatab (Field).

Only Tamiya where the presence of dense beard is surprisingly low is not well placed in this row.

The nasal bridge shape is not proved in the north-south gradient. The straight, convex and concave shapes prevail over the wavy shape. Very interesting is the relation between the convex and the concave noses. In six sets the convex noses are prevailing over the concave ones. It is shown especially strongly in Kharga, Fidimin and with the Sinai Bedouins, further by the Jebelia, Qiftians and Sharqia inhabitants. Both forms are in equilibrium in Abusir and Tamiya. The prevalency of concave noses shows the set of Nubians Mahasi and still more clearly it is, very curiously, shown by the Rubatabs from the Northern Sudan.

The north-south relationship shows again the nasal wing shape. The most clearly it is

TABLE 4
Comparison of Some Descriptive Features

Locality	Author	1 Skin colour				2 Eye colour			3 Hair shape			
		fair	middle	dark	n	light or middle	dark	n	straight or low waves	deep waves	curly or frizzly	n
1 Sharqia	Abbas Ammar	7,5	74,3	18,1	844	20,5	79,5	855	—	—	—	—
2 Sinai: Bedouins	Field	1,4	96,4	2,1	138	13,6	86,4	140	74,4	23,4	2,2	137
3 Abusir	Strouhal-Reisenauer	20,3	67,2	12,5	64	7,8	92,2	64	32,7	61,2	6,1	48
4 Faiyum: Tamiya	Field	6,3	88,4	5,3	189	9,8	90,2	173	82,8	10,7	6,5	186
5 Faiyum: Fidimin	Field	21,9	70,7	7,3	41	7,9	92,1	38	75,0	22,2	2,8	36
6 Sinai: Jebelia (St. Catherine)	Field	—	97,2	2,7	73	1,4	98,6	70	73,6	13,9	12,5	72
7 Qift	Strouhal-Reisenauer	3,6	53,6	42,8	28	0,0	100,0	28	44,5	22,2	33,3	9
8 Kharga	Hrdlička	18,0	81,0	1,0	150	—	—	—	89,0	6,0	5,0	150
9 Nubia: Mahasi (Abka)	Field	—	55,6	44,4	27	0,0	100,0	26	35,0	45,0	20,0	20
10 Sudan: Rubatab (Abu Hamed)	Field	—	46,2	53,8	39	0,0	100,0	38	16,1	35,5	48,4	31

Notes:

* = upper lip

n = number of investigated persons

Categories:

1. Skin colour

- a) fair = very fair, fair, slightly fair (A.); pale, pink (F.); lighter shades, yellow brown, brown (H.)
- b) middle = medium, slightly dark (A.); brunet, swarthy (F.); moderate brown (H.)
- c) dark = dark, very dark (A.); medium brown, chocolate brown, dark brown (F.); dark brown (H.)

2. Eye colour

- a) light or middle = light blue, blue, dark blue, grey, green (A.); blue-gray, gray-brown, blue-brown, green-brown (F.)
- b) dark = light brown, brown, dark brown (A., F.)

3. Hair shape

- a) straight or low waves
- b) deep waves = wavy (H.)
- c) curly or frizzly

4. Beard density

- a) scanty = (very) slight (F.)
- b) moderate = some, plus (F.)
- c) dense = double plus, triple plus (F.); fair (H.)

shown in the category of flaring wings which is increasing in the given direction suppressing the compressed and middle broad forms. In the northern sets we find 2.4 to 17.2 per cent of flaring wings, in the southern sets 25.0 to 28.9 per cent (*diagram 21*). In this feature we can promote the descriptive observation by a richer metrical material. On the *diagram 22* the shares of noses of the breadth of 3.6 (resp. 3.7 cm) were compiled. Even here we can find the increase in the direction from north to south.

Less clearly but roughly also the north-south gradient proves the lip thickness. It is better shown at the decreasing appearance tendency of the thin forms than at the increase of full or middle forms.

From further features (not included in *table 4*) we can compare hair colour. With some exceptions the dark-brown and black shades of hair colour (U to Y of Fisher-Saller scale) are quite characteristic for all of the 10 compared Egyptian

sets. Lighter hues appeared only with a few persons of the northern sets: in Faiyum Fidimin the red-brown shade (2.6 %), in Faiyum Tamiya the gold-brown and the brown shade (1.1 %) and in the Sharqia province light, light-brown and brown colour (in total only 0.8 %). We do not consider here gray hair, which is a physiological aging phenomenon.

For further feature we have still less comparative material. The nasal root depression is considered, apart from our sets, still in two others. In Sharqia there is in comparison with Abusir more of middle depression (76.0 %), almost the same share of deep depression (21.4 %) and very scarcely the shallow depression (2.6 %). In Kharga we can find in comparison with Qift also more of middle (86.0 %), less of shallow (12.0 %) and least of deep depressions (2.0 %).

Summarizing, the results in descriptive features achieved in Abusir and Qift fully rank with the other Egyptian sets of which they are a suitable supplement. Some further results, introduced in

of Contemporary Egyptian Men (percents)

4 Beard density				5 Nasal bridge					6 Nasal wings				7 Integumental lip thickness			
scanty	moderate	fair	n	convex	straight	concave	wavy	n	compressed	middle	flaring	n	thin	middle	full	n
—	—	—	—	30,1	48,5	18,4	3,0	764	14,3	83,3	2,4	833	27,1	69,0	3,9	830
39,3	42,1	18,6	140	58,2	27,7	12,0	2,1	141	14,2	74,0	11,8	127	3,0	96,0	1,0	100*
48,4	42,2	9,4	64	31,3	31,3	31,2	6,2	64	7,8	75,0	17,2	64	17,2	64,1	18,7	64
31,5	63,6	4,8	187	25,8	44,6	23,1	6,5	186	13,9	71,7	14,4	187	7,4	92,6	—	27*
33,3	48,4	18,3	33	54,6	31,2	8,9	5,3	304	28,9	55,3	15,8	38	—	54,3	45,7	35
36,6	45,1	18,3	71	58,3	20,8	18,1	2,8	72	21,1	67,6	11,3	71	—	100,0	—	56*
50,0	46,4	3,6	28	39,3	32,1	14,3	14,3	28	—	75,0	25,0	28	3,6	82,1	14,3	28
43,0	49,0	8,0	150	44,0	42,0	4,0	10,0	150	—	—	—	—	83,0		17,0	150
—	—	—	—	23,1	15,4	46,1	15,4	26	15,4	57,7	26,9	26	3,8	88,5	7,7	26
15,8	84,2	0,0	38	15,8	18,4	55,3	10,5	38	7,9	63,2	28,9	38	—	94,7	5,3	38

5. Nasal bridge

- a) convex
- b) straight
- c) concave
- d) wavy = concave-convex (A., H.)

6. Nasal wings

- a) compressed = high (A.)
- b) middle = medium (A., F.)
- c) flaring = broad (A.)

7. Integumental lip thickness

- a) thin = some (F.)
- b) middle = medium (A.); average (F.); medium or of ordinary dimensions (H.)
- c) full = double plus, eversed (F.); thicker (H.)

Authors:

- A. = Abbas Ammar (1943, 1946)
- F. = Field (1952)
- H. = Hrdlička (1912)

part one of this Contribution, show quite new observations.

The north-south gradient can be estimated as the most outstanding characteristic of some of the descriptive features in Egypt. It includes also heterogeneous groups by origin e. g. the Jebelia and the Rubatab. Thus we can explain it as adaptive phenomenon by influence of the climate rather than as the results of merely hybridisation.

III. PHYSIOLOGICAL FEATURES

In the existing anthropological literature on recent Egyptian population features of physiological and medical importance were remarkably neglected. This is in the meantime improving, e. g. during the Arab-Polish anthropological expeditions. But for comparison we have only a few suitable values.

Maximum pressure force of the hand investigated also Hrdlička in Kharga. He found out the mean value 33.8 kg in the right

hand and 31.1 kg in the left hand i. e. values about 2.5 to 3.1 kg lower than the Abusir and Qift means. The difference is relatively small, the range of Hrdlička's and our sets is almost the same.

The frequency of pulse was found by Hrdlička 76 per minute in Kharga in accordance with our results (Abusir 74, Qift cca 77 per minute) and with the same range as in Abusir. Field counted the pulse-rate in Faiyum Tamiya and reached the same result 76.35 per minute with the range as in Qift. W. Szwajkowski (1962 B) found during his investigation in Luxor the strikingly high pulse-rate 85.5 per minute ($\sigma \pm 9.1$). We assume that the results perfectly agree in proving somewhat higher pulse frequency in Egypt in comparison with Central Europe. We may guess first of all at the climatic influence. But until the better sorting of quite healthy people from the latent courses of endemic diseases we cannot exclude also the possible influence of pathological factors.

The blood pressure values were measured

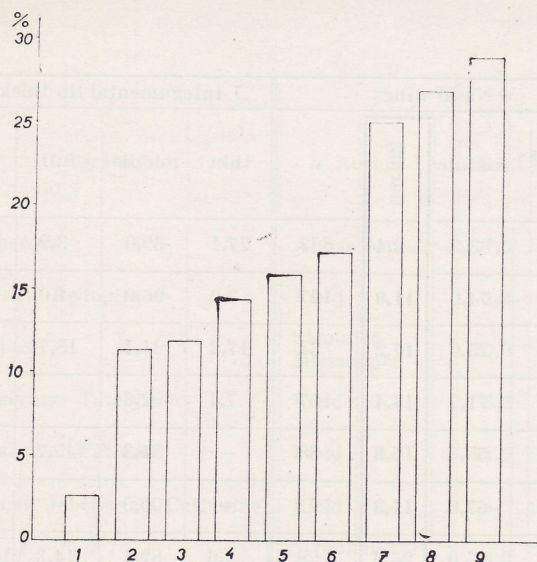


DIAGRAM 21

Procentual shares of the *flaring wings* among recent Egyptian men.

1. Eastern Delta: Sharqia (Abbas Ammar), 2. Sinai: Jebelia (Field), 3. Sinai: Bedouins (Field), 4. Faiyum: Tamiya (Field), 5. Faiyum: Fidimin (Field), 6. Middle Egypt: Qift (Strouhal-Reisenauer), 7. Upper Egypt: Qift (Strouhal-Reisenauer), 8. Nubia: Mahasi (Field), 9. Sudan: Rubatab (Field).

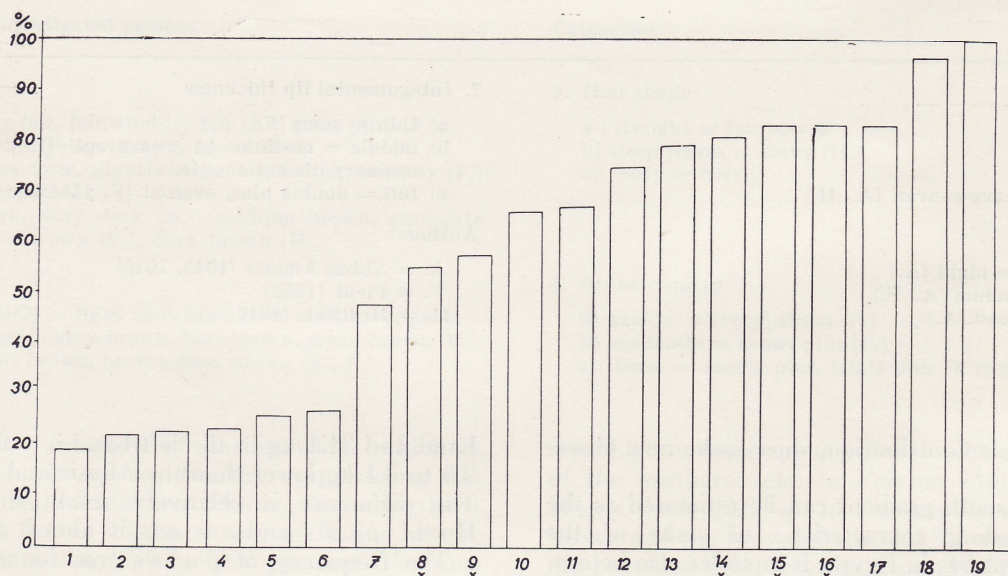


DIAGRAM 22

Procentual shares of the *broad noses* among recent Egyptian men. In most of the sets are included noses with the breadth 3.6 cm and more, in a few sets (marked by x) noses with the breadth 3.7 cm and more. Eastern Delta (Abbas Ammar): 1. Hihya, 2. Faqus, 3. Belbeis, 4. Kafr Saqr, 5. Zagazig, 6. Minia El-Qamh; 7. Sinai: Jebelia (Field), 8. Western Desert: Farafra (Mitwalli) x, 9. Western Desert: Baharia (Mitwalli) x, 10. Sinai: Bedouins (Field), 11. Faiyum: Tamiya (Field), 12. Middle Egypt: Abusir (Strouhal-Reisenauer), 13. Faiyum: Fidimin (Field); Western Desert (Mitwalli) x: 14. Dakhla, 15. Kharga, 16. Siwa; 17. Sudan: Rubatab (Field), 18. Upper Egypt: Qift (Strouhal-Reisenauer), 19. Nubia: Mahasi (Field).

Summarizing the physiological features investigated in Egypt during the anthropological researches we may point out a somewhat higher pulse-rate and in the same time rather lower values of the blood pressure. The results show a good adaptation of the circulatory apparatus under the hot climate conditions.

during the Arab-Polish anthropological expedition in Siwa and in the localities of the western coast of the Mediterranean in Egypt in 1958/59. Szwajkowski (1962 A) reported preliminarily on the results at the Africanistic anthropological symposium in Bialystok, Poland. The material includes 340 cases from Siwa, Sidi Barani, Sollum and Marsa Matruh. The biggest variability of blood pressure was found by the adolescents and old persons, while the values were mostly stabilized among the adult persons from 20 to 49 years. With systolic pressure the values moved from 116 to 135 mm Hg which is near to our results (121.9 and 121.8 mm Hg), with diastolic pressure the range from 69 to 80 mm Hg was ascertained, which seems to be slightly lower than our means from Abusir (78.9 mm Hg) and particularly from Qift (82.7 mm Hg). Szwajkowski's data from Luxor (1962 B) compared with our results combined in Abusir and Qift are shown on table 5. There is a rough accordance in the systolic pressure, the diastolic pressure of our set being again higher. Whether this corresponds with the differences found in the pulse-rate or is rather of an accidental or methodical origin cannot be determined.

For the skinfold thickness we have not yet comparative data from Egypt.

IV. DERMATOGLYPHS

(Elaborated and written by M. F. Pospíšil)

For the comparison of the results of studies on dermatoglyphs of the right hand fingers collected by E. Strouhal in Abusir we have taken a few

TABLE 5

Comparison of the Blood Pressure Values Found by Szwaykowski in Luxor and Our Results at the Joint Samples From Abusir and Qift

Age group	Systolic pressure				Diastolic pressure			
	Luxor		Abusir+Qift		Luxor		Abusir + Qift	
	\bar{x}	σ	\bar{x}	R	\bar{x}	σ	\bar{x}	R
14—19	117,2	11,0	110,0	95—125	66,6	12,7	75,8	60—95
20—29	120,5	11,5	122,3	85—155	71,4	10,5	77,7	50—105
30—39	121,8	12,7	117,9	100—135	73,5	9,8	80,0	60—95
40—49	124,7	16,6	124,0	110—145	78,0	10,5	84,5	70—95
50—59	126,9	18,6	127,9	105—145	80,5	10,7	85,0	70—100
60 and more	137,4	21,1	—	—	80,6	12,3	—	—

groups outside the borders of Egypt, but ethnically and geographically related.

The extent of frequencies of patterns on individual fingers corresponds with the general rules with the exception of relatively lower frequency of ulnar loop on the thumb.

The Abusir men do not differ from other groups in the frequency of pattern types (table 6). At all

TABLE 6

Frequency of Pattern Types of the Dermatoglyphs in Middle East and North Africa Sets

Group	Author	W	L	A
Libya, Fezzan	Pons	42,3	56,7	1,0
Armenians	Abel	43,6	54,0	2,4
Armenians	Jungwirth	41,8	55,5	2,7
Jews	Cummins and Midlo	42,1	53,3	4,6
Jews	Kirchmair	42,0	54,7	3,3
Lebanon	Cummins and Shanklin	45,4	52,2	2,5
Arabs Rwala	Shanklin	39,1	57,2	3,8
Egypt, Abusir	Pospíšil and Strouhal	42,73	55,91	1,36
Berbers	Pons	43,2	54,3	2,5

of these sets we can observe the higher number of whorls and the lower number of arches.

This tendency is reflected even in Volocky's index of the pattern intensity (table 7) showing very outstanding relationship of the compared groups. Our material is placed in the middle of

TABLE 7

Volocky's Index of the Pattern Intensity in Middle East and North Africa Sets

Group	Author	Index value
Arabs Rwala	Shanklin and Cummins	13,54
Yemen Arabs	Fleischhacker	13,73
Armenians	Abel	14,12
Armenians	Jungwirth	13,91
Lebanon, Beyrout	Shanklin and Cummins	14,30
Lebanon, Mitwali	Cummins and Shanklin	13,95
Syria	Lariche	14,55
Berbers	Pons	14,59
Lybia, Fezzan	Pons	14,36
Egypt, Abusir	Pospíšil and Strouhal	14,10

the mentioned row. By all these groups we find a distinctly higher Volocky's index when compared with the European population and even with the negroid population except Pygmies. On the other hand the index is lower than by the members of the Mongoloid race.

Further we have the possibility of comparing Dankmeijer's index (table 8). Though we

TABLE 8

The Denkmeijer's Index in Middle East and North Africa Sets

Group	Author	Index value
Lebanon, Mitwali	Cummins and Shanklin	5,51
Lybia, Fezzan	Pons	0,91
Berbers	Pons	4,96
Arabs Rwala	Shanklin and Cummins	9,72
Jews	Cummins and Midlo	10,92
Jews	Kirchmair	7,86
Armenians	Abel	5,50
Armenians	Jungwirth	6,46
Egypt, Abusir	Pospíšil and Strouhal	3,18

observe in the value of this index sufficiently significant oscillations all the mentioned values are moving in the lower part of the range of variability of the index. It proves again that neither Dankmeijer's nor Furuhashi's index is suitable for investigation of the relationship of populations.

Quantitative values of finger prints are relatively little known in the research region and thus we can compare our results only with the Armenians, who have the mean line number 15.8 (Jungwirth) and with the Arabs from Yemen who have the mean line number 15.6 (Fleischhacker). In both these groups the number of lines is considerably higher than in our material, where we have found the mean line number only 13.24.

We can conclude that the set of adult male inhabitants from the Middle Egyptian village Abusir does not considerably differ in any of the investigated features from the related groups.

CONCLUSIONAL COMMENT

The examination of the sample including 100 persons from Abusir and Qift and fixing the results gained into a picture of the regional variability of some anthropological features in Egypt we consider as our first step in the systematical study of Egyptian anthropology. The Egyptian population has the key position not only in the cultural history of mankind, but also in the politics and economics of the Middle East and the whole of Africa at the present time. This country is quickly developing its economics and improving the social conditions of the population. With the construction of the High Dam near Aswan a process of resettlement of the Nubian population is involved. All these changes influence deeply the physical state of the Egyptian

population. Further anthropological researches including nutrition survey, medical, genetic and climatic components are actually very much needed.

The Polish share in anthropological research in Egypt is wellknown. It would be useful if Czechoslovakia too could take part in the joint research together with the Egyptian scientists, with the aim of investigating further unknown or less known regions of this friendly country. Such research will solve not only many of interesting theoretical or historical problems, but will also bring a lot of practical knowledge to the Egyptian health service.

SUMMARY

In the outlined history of the research the recent Egyptian population we have stressed the significance of the work of Chantre as the founder. Hrdlička's excellently set out monography about the inhabitants of the Kharga oasis, and the substantial contribution of the Egyptian and recently of the Polish scientists.

The results gained by our own research in Abusir and Qift in 1961 were put into the frame of the available data of other sets of recent Egyptian population.

Metrical morphological features were compared with the help of column diagrams in a total of 50 sets and this analysis was completed by the tests of statistical significance of the differences between the means of our two samples and 11 other sets. This methods enabled us to recognize with several features important methodological differences of some authors, the possibility of some chronological differences and the deviations coming from the different composition of two samples from the same region. In addition to that we could discern a regional variability of anthropometrical values which is convincing. The most significant differences when compared with the Middle Egyptian set from Abusir were found in ethnically different regions, as Nubia, Sinai, Eastern Desert, or in the regions influenced by other ethnics, e. g. in the eastern Delta, in the oases of the Western Desert etc. The Bedouin groups differ with one another as to their different origin and living conditions. The results from Abusir and Qift quite fit into the existing picture, being close to the geographically related sets.

With a number of descriptive morphological features more or less distinctive north-south gradient appears. It finds its expression in skin colour, eye colour, hair shape, beard density, nasal wings shape and lip thickness. In view of the nearly exclusive appearance of the dark hair this tendency cannot be traced in the hair colour. Further the data on nasal bridge shape and on nasal root depression were compared.

Physiological features have been hitherto rarely investigated. Our data on maximal pressure-force of the hand, pulse frequency and blood pressure roughly correspond with few other data.

The results of studying the dermatoglyphs were compared with other sets related ethnically or geographically. No considerable differences were found.

Translated by H. Kučerová, A. Posádková and E. Strouhal.

SOUHRN

V přehledu historie dosavadního výzkumu recentního obyvatelstva Egypta jsme podtrhli zakládající význam Chantreova díla, příkladně zpracování monografie o obyvatelích oázy Chárgy Hrdličkou a podstatný přínos egyptských a v poslední době také polských badatelů.

Výsledky získané vlastním výzkumem v Abusíru a Kuftu v roce 1961 byly zasazeny do rámce dostupných údajů o jiných souborech recentního obyvatelstva Egypta.

Metrické morfologické znaky byly srovnávány pomocí sloupkových diagramů u celkového počtu 50 souborů a tuto analýzu jsme doplnili testy statistické významnosti rozdílů mezi průměry obou našich souborů a 11 dalších souborů. Tento postup dovolil rozpoznat u několika znaků závažné metodické odchylky některých autorů, možnost chronologických rozdílů a odchylky vyplývající z různého složení dvou souborů z téže oblasti. Nadto bylo možno rozpoznat přesvědčivou regionální variabilitu antropometrických hodnot. Nejvýraznější rozdíly při srovnání se střeoegyptským souborem z Abusíru jsme našli v etnicky odlišných oblastech, jako v Núbii, na Sinaji a v Arabské poušti, nebo v krajích, ovlivněných jinými etniky, např. ve východní Deltě nebo v oázách Libyjské pouště apod. Skupiny Beduinů se navzájem liší, což odpovídá rozdílům jejich původu a životních podmínek. Výsledky z Abusíru a Kuftu plně zapadají do dosavadního obrazu a podobají se nejvíce geograficky blízkým souborům.

U řady deskriptivních morfologických znaků se projevuje více nebo méně výrazný severojižní gradient. Nalezli jsme jej v barvě kůže, barvě očí, tvaru vlasů, hustotě vousu, tvaru nosních křídel a tloušťce rtů. Vzhledem k téměř výhradnímu výskytu temných vlasů nemohla být podobná tendence sledována v barvě vlasů. Dále byly srovnány údaje o tvaru nosního hřbetu a vsazení nosního kořene.

Fyziologické znaky byly dosud sledovány zřídka. V síle stisku ruky, pulsové frekvenci a hodnotách krevního tlaku se projevuje zásadní shoda našich údajů s několika jinými.

Výsledky studia dermatoglyfů byly porovnány se soubory blízkými etnicky nebo geograficky. Nebyly nalezeny žádné podstatné rozdíly.

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ADDENDUM

After submitting this paper into press we have found out data of further sample of population from the Kharga oasis ($n = 52$), measured by Nyéssen and published by Twiesselmann (1951). We compared these values with ours (from Abusir and Qift) and Hrdlička's ones from the Kharga oasis by means of t-tests.

Twiesselmann's Kharga oasis set stands closer to Qift than to Abusir, from which it differs significantly with narrower forehead and lower jaw. Further there is a significant difference between Twiesselmann's sample and both our sets in the cormic index. In comparison with Qift the Twiesselmann's sample has narrower nose and accordingly lower nasal index. Thus the Twiesselmann's results from the Kharga oasis range to the Upper Egypt values, but they reflect perhaps less pronounced negroid admixture.

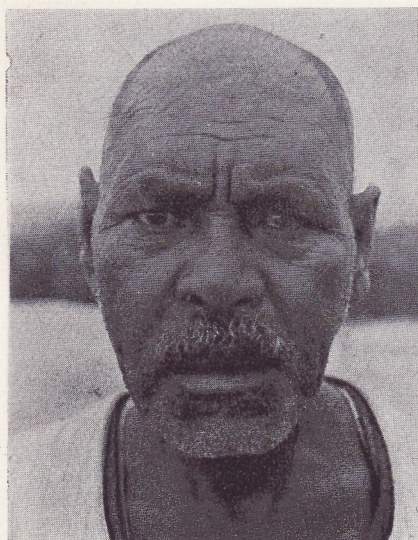
Comparing the two Kharga oasis samples, Twiesselmann's data differ significantly from Hrdlička's ones with bigger values of all absolute dimensions (except head dimensions and the nasal breadth, in which the differences are not significant). By this, however, values of indices are not influenced, showing only small insignificant differences (with the exception of the cormic index). This proves that responsible for this increase of values is a chronological factor, which we have discussed already comparing the Kharga oasis data of Hrdlička and of Mitwalli (see p. 23).

PLATES 1-12

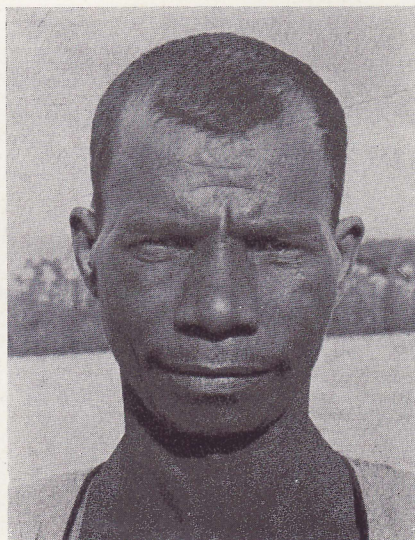
represent the material from QIFT and demonstration of some other findings in ABUSIR and QIFT samples. These illustrations belong to the first part of this paper which appeared in ANTHROPOLOGIE 1963, No 3, pp. 3-33.

Photographed by J. Novotný and E. Strouhal.

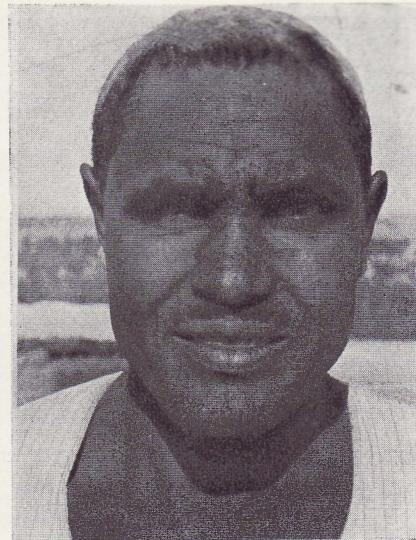
PLATE 1



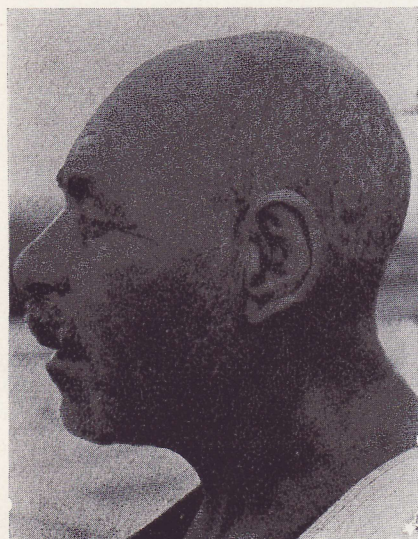
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Qift No 66



Qift No 67



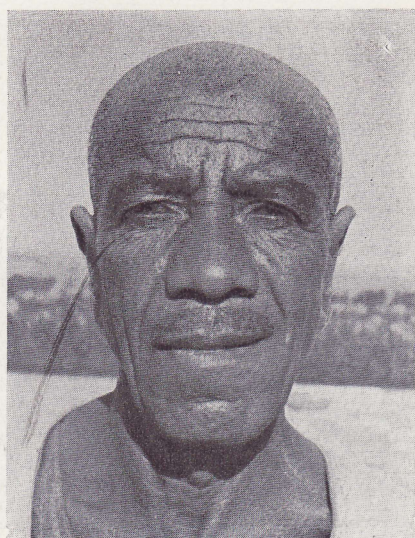
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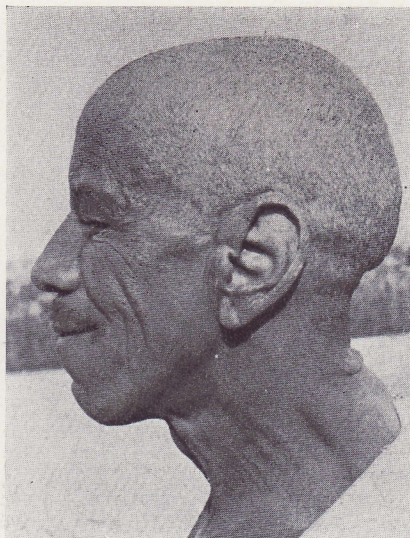
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Qift No 67



Qift No 68

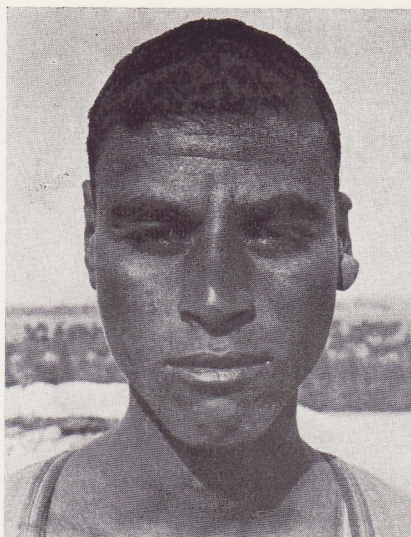


Qift No 68

PLATE 2



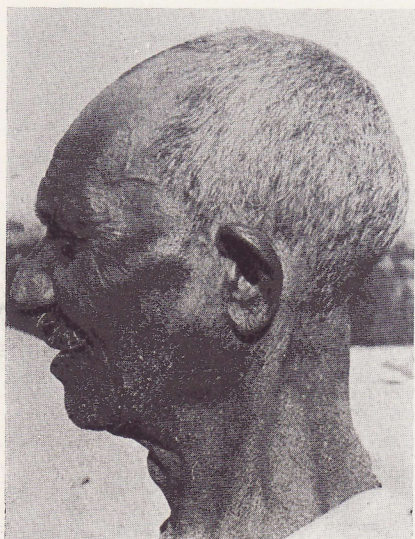
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Qift No 70



Qift No 71



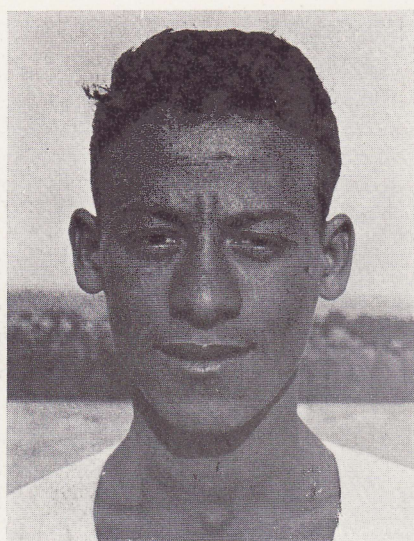
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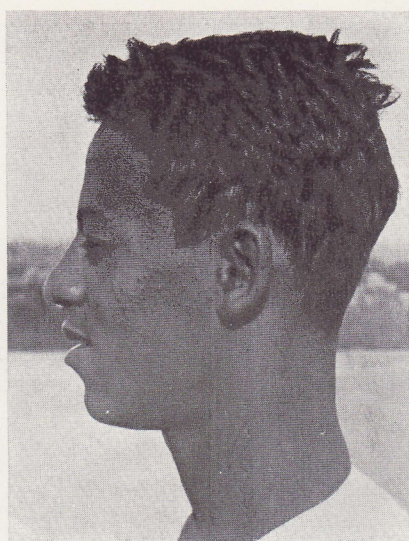
Qift No 70



Qift No 71



Qift No 72



Qift No 72

PLATE 3



Qift No 73



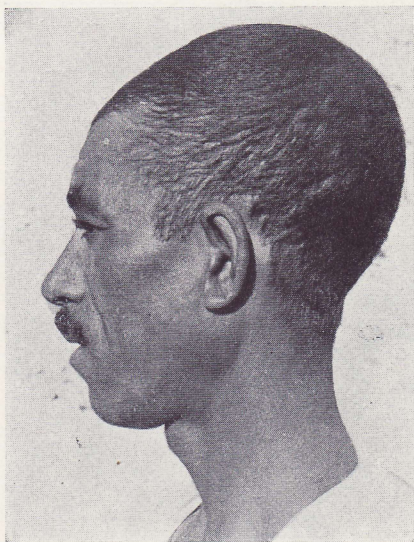
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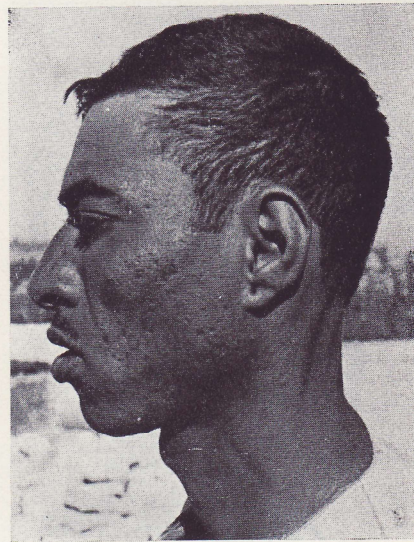
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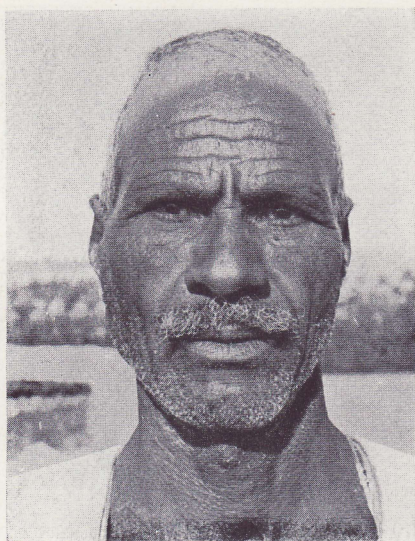
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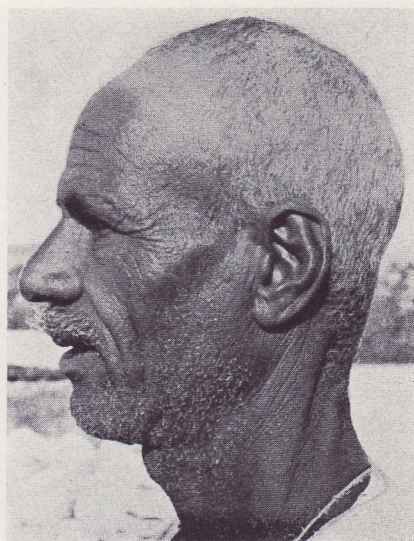
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Qift No 75

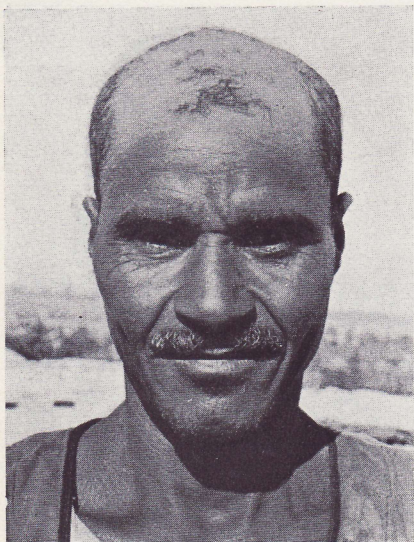


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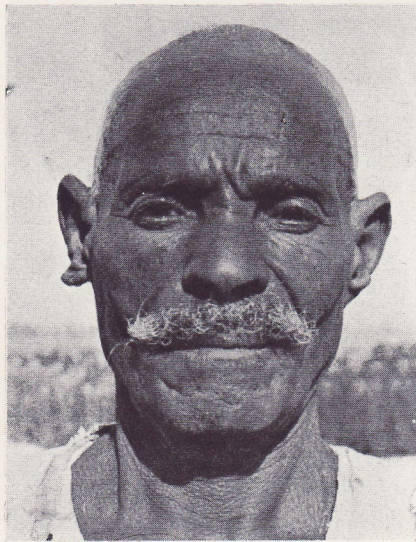


Qift No 76

PLATE 4



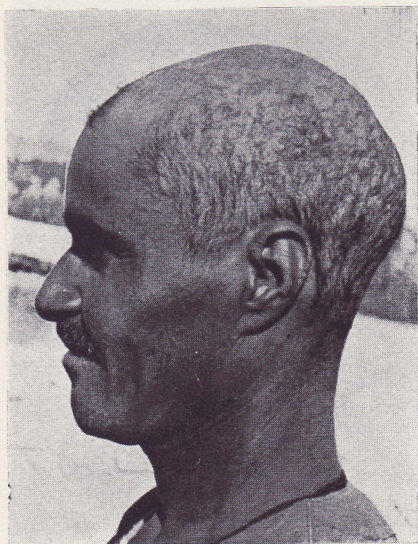
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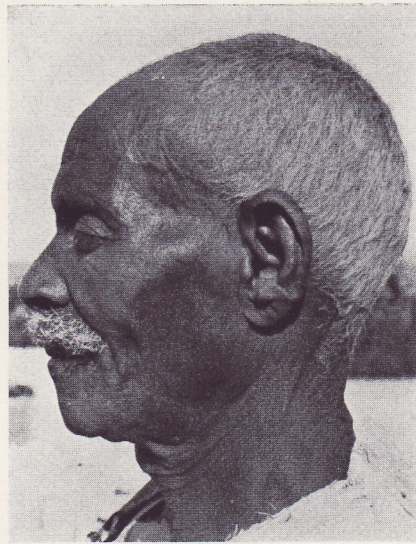
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Qift No 79



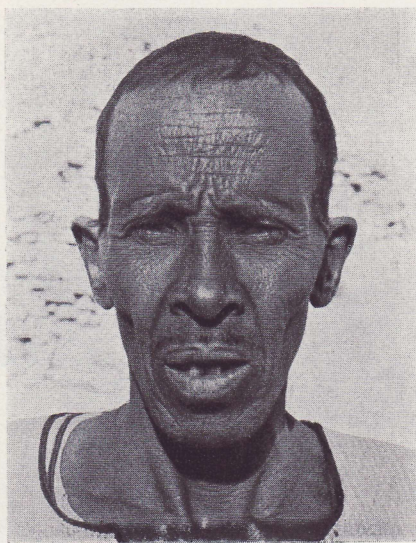
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Qift No 78



Qift No 79



Qift No 80



Qift No 80

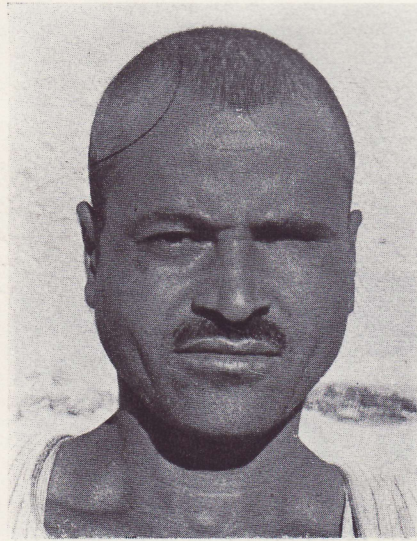
PLATE 5



Qift No 81



Qift No 82



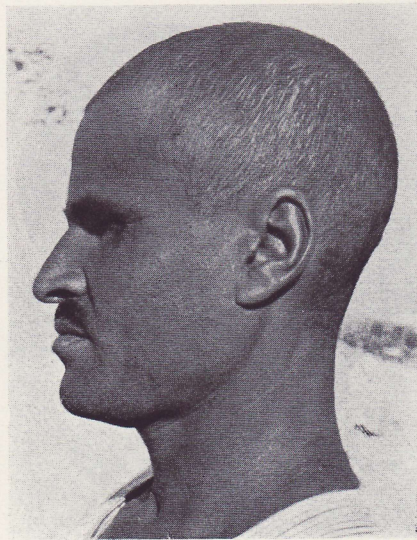
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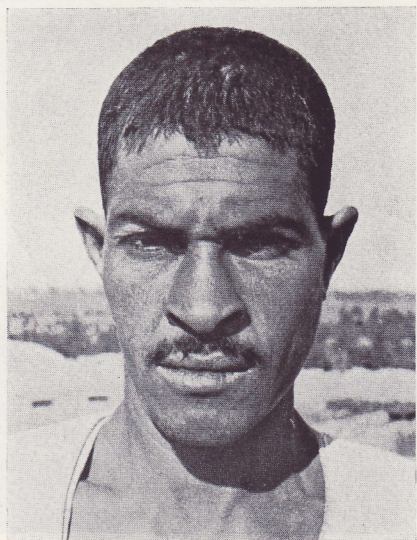
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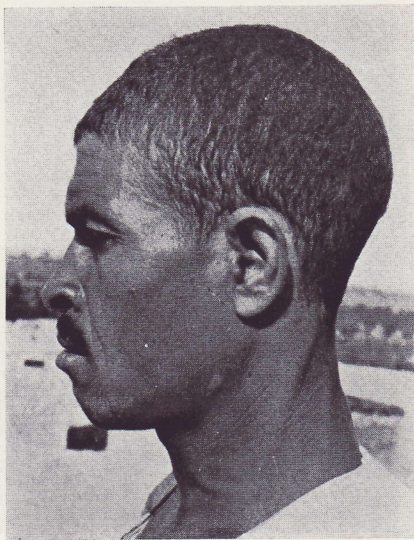
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Qift No 83



Qift No 84



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PLATE 6



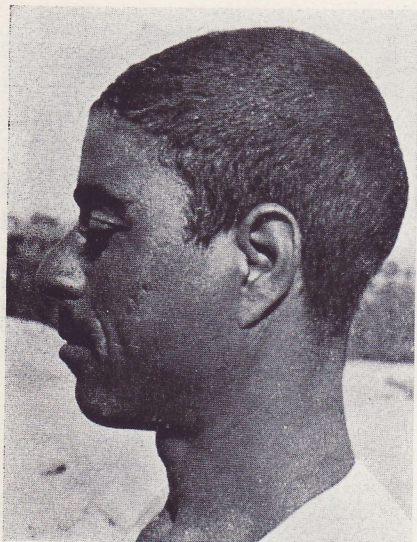
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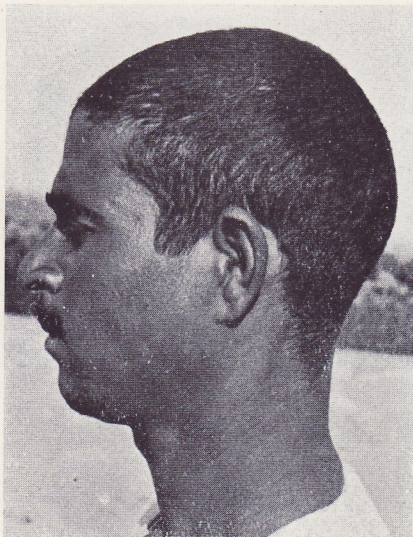
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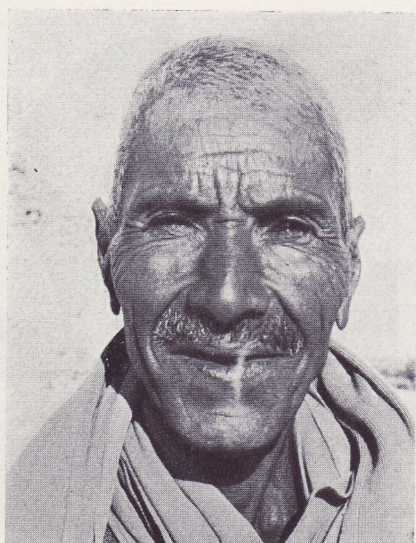
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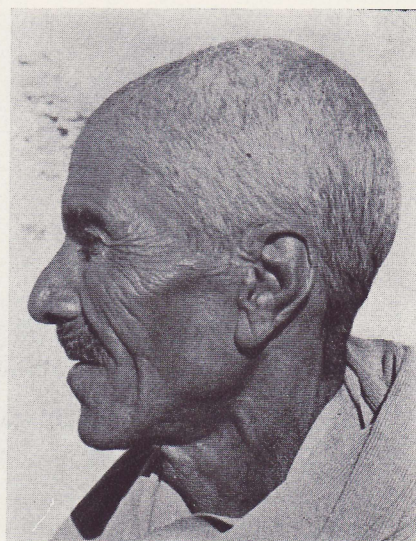
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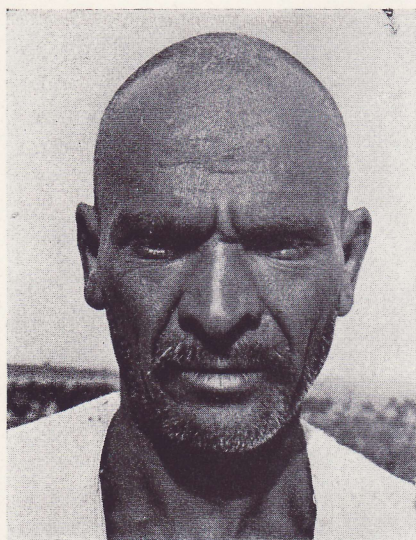


Qift No 88



Qift No 88

PLATE 7



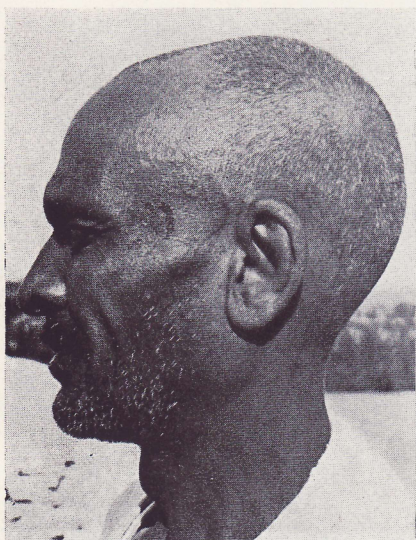
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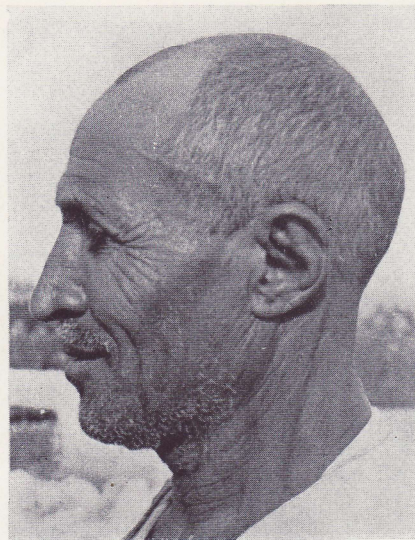
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Qift No 91



Qift No 89



Qift No 90



Qift No 91



Qift No 92

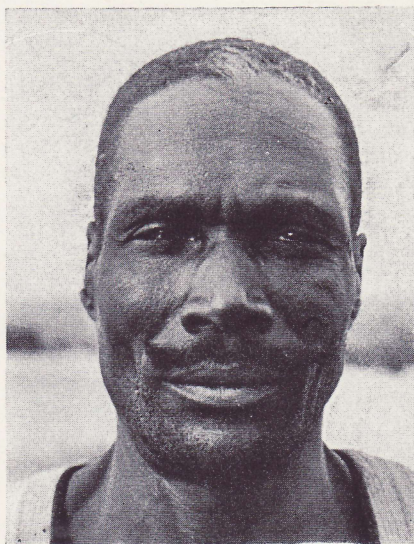


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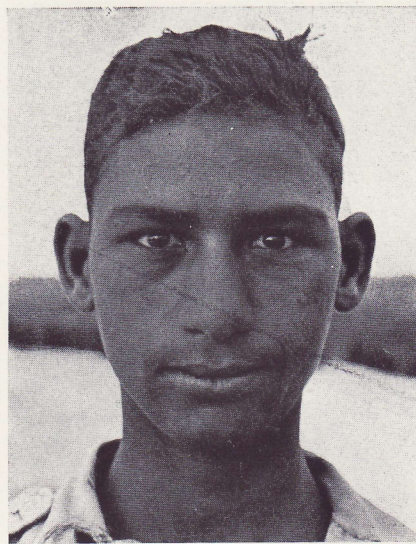
PLATE 8



Abusir-Sudanese origin No 93



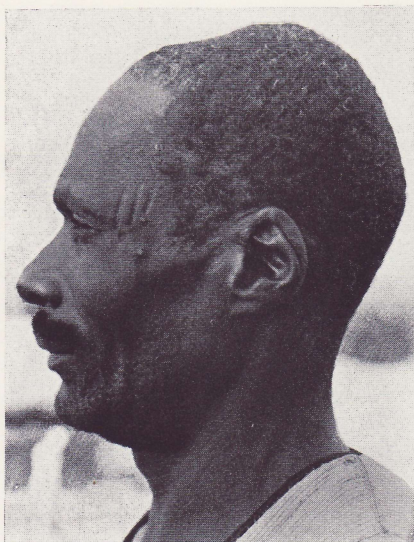
Abusir-Sudanese origin No 94



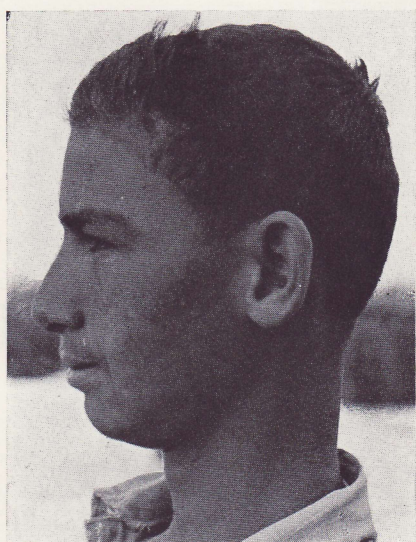
Abusir-juvenile No 95



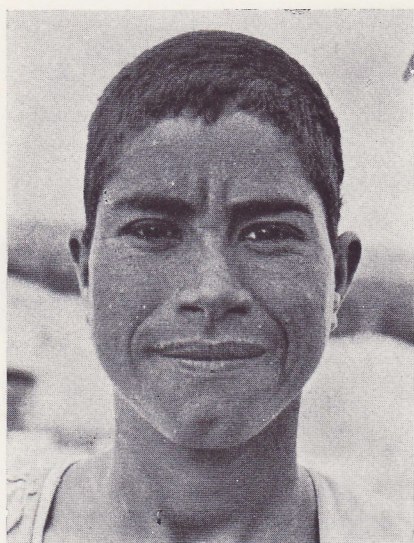
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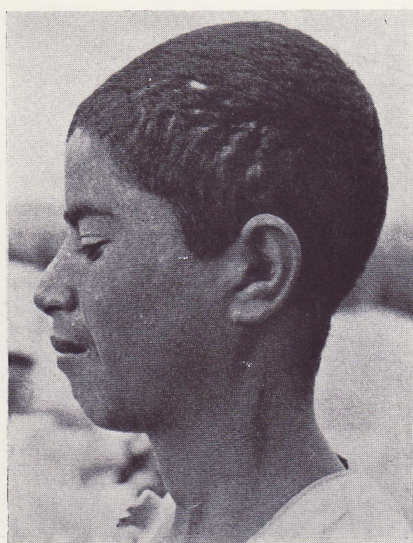
Abusir-Sudanese origin No 94



Abusir-juvenile No 95

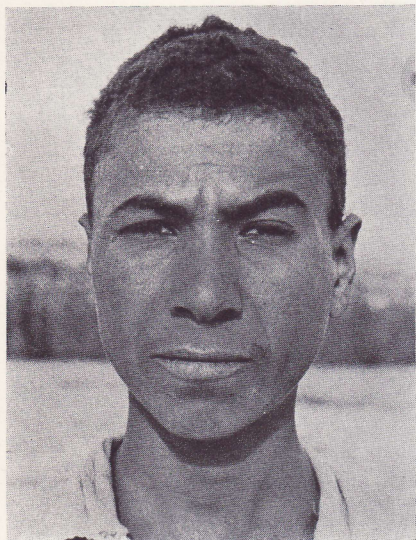


Abusir-juvenile No 96

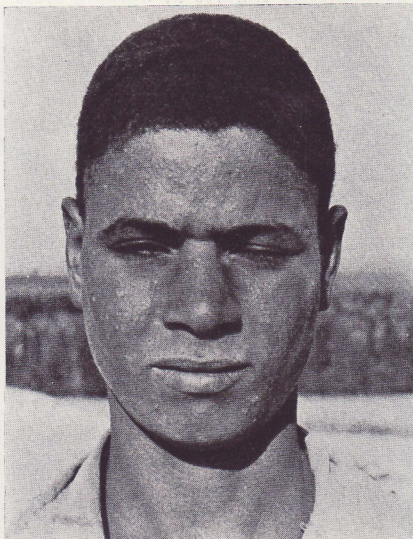


Abusir-juvenile No 96

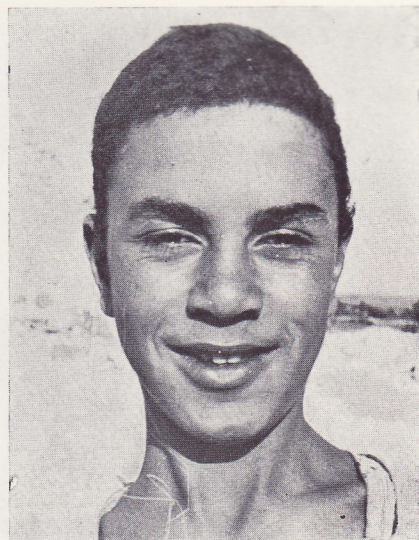
PLATE 9



Abusir-juvenile No 97



Abusir-juvenile No 98



Abusir-juvenile No 99



Abusir-juvenile No 97



Abusir-juvenile No 98



Abusir-juvenile No 99



Qift-juvenile No 100



Qift-juvenile No 100

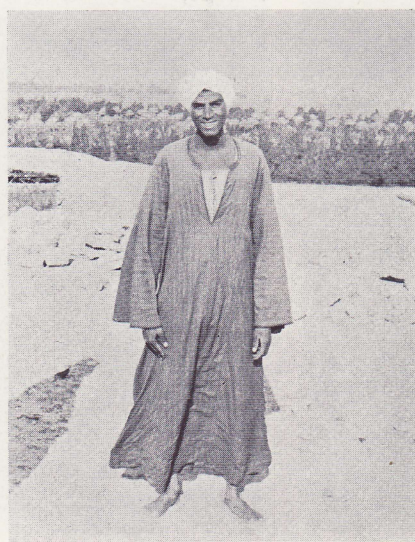
PLATE 10
Examples of statures in working dress



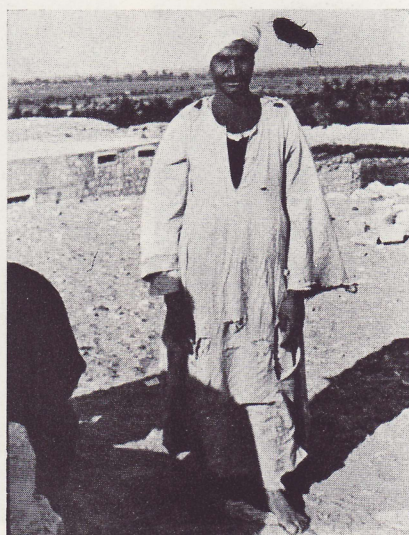
Abusir No 31



Abusir No 43



Qift No 70



Qift No 71



Qift No 78



Qift No 80



Qift No 81

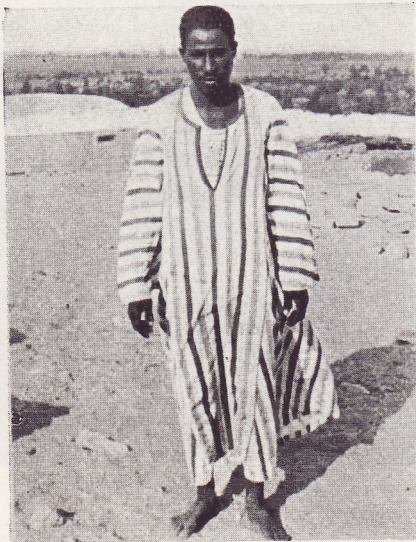
PLATE 11
Examples of statures in working dress



Qift No 84

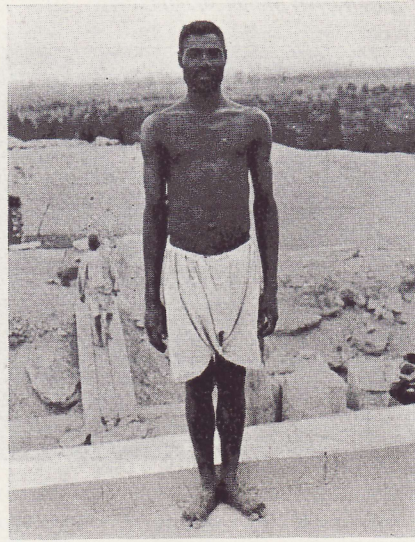


Qift No 85



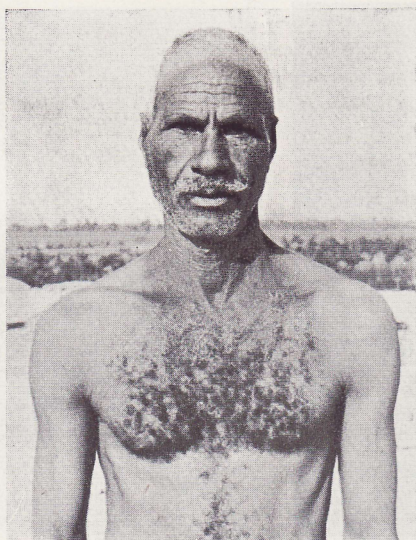
Qift No 87

Pepper corn hair on the front of thorax

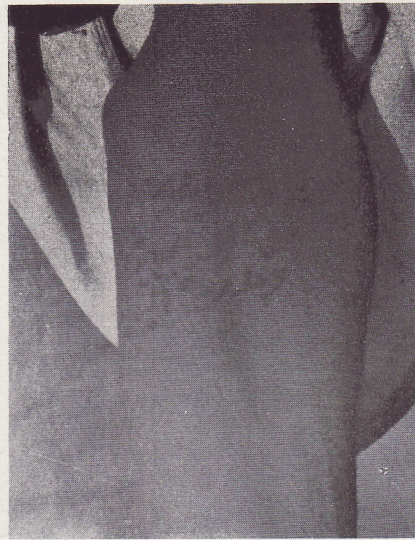


Abusir-Sudanese origin No 93

Tattooed inscription on the forearm

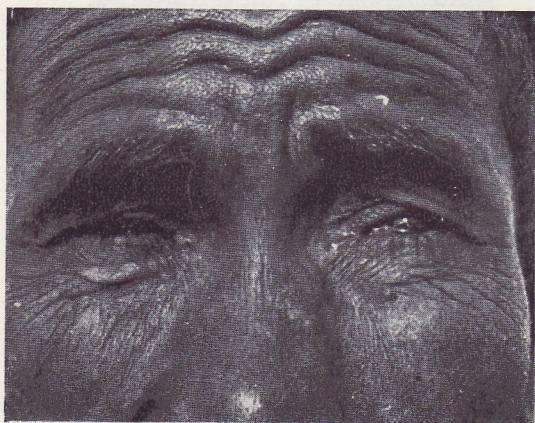


Qift No 76



Abusir No 36

PLATE 12
Findings on the conjunctiva



Abusir No 24

Unusual shape of eye-lids



Abusir No 45

Depigmentation on hands



Abusir No 45



Abusir No 1

Unusual shape of the auricle

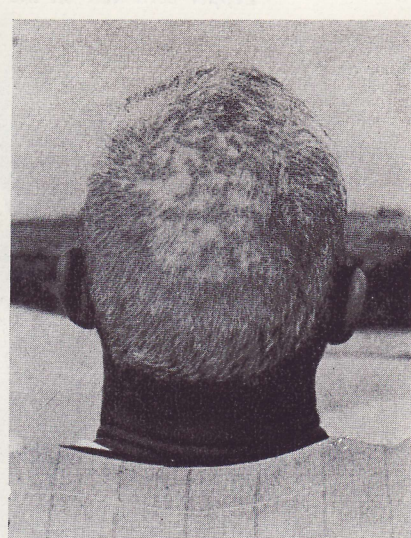
Depigmented spots in hair



Abusir-Sudanese origin No 94



Gift No 70



Abusir No 30