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## 2. Were the Ancient Egyptians a Dual Race?

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This festival takes place immediately after the in-gathering of the crops, *i.e.*, biennially.

It is a rather remarkable fact that two Government punitive expeditions raided this district subsequently but never found one of these images, for, had one been found, it would certainly have been brought in by the black troops, who quite know the value of curios.

SCORESBY ROUTLEDGE.

### Egypt: Craniology.

Keith.

**Were the Ancient Egyptians a Dual Race?** By Arthur Keith, M.D.

My review of *The Ancient Races of the Thebaid*\* has been criticised by 2 Professor Arthur Thomson† and Professor Karl Pearson.‡ A closer reading and more intimate acquaintance with biometrical methods compel me to admit the justice of Professor Pearson's criticism; I certainly placed undue importance on the preliminary essay made by Miss Fawcett to test the homogeneity of the Naqada crania from an examination of their length and breadth measurements. But the main problem discussed in my review was the interpretation of certain characters of Egyptian crania, which, because they are present in the skulls of negroes, may be conveniently styled negroid. Miss Fawcett§ noted a number of these, amongst which were the height and breadth of the upper face, the upper face index, the height of the nose, and the cephalic index. The presence of these characters did not effect the homogeneity of the ancient Egyptian as a race when tested by biometrical methods and compared with other races which are usually regarded as pure. The authors of *The Ancient Races of the Thebaid* also noted these negroid characters, especially the upper face and nasal measurements, and, to explain their presence in one type of skull and their absence in another, formulated the theory that there were two races in ancient Egypt—a negroid and a non-negroid. When I wrote my review I had in mind the description which Sir Harry Johnston|| has given of the tribes in the Uganda protectorate, especially of the Bahima in which the negro and hamite characters are blended in varying degrees; it appeared to me that a more probable explanation of the negroid characters found in the crania of ancient Egyptians was to suppose that there had been a direct infusion of negro blood in the Egyptian stock. It may be, however, that the ancient Egyptians and negroes obtained these characters from a common stock or even independently. The main point at issue is this: were the ancient Egyptians a single or a dual race? Two methods are available for the solution of this question: the biometrical method, or the method of anatomical analysis; Professor Pearson uses the one, Professor Thomson the other. It seems to me a perfectly legitimate proceeding to test these methods on a collection of measurements drawn from two distinct races to see how far, or with what degree of accuracy, the mixture may be detected. I especially wished to see if they would detect an artificial addition of negro measurements to those of ancient Egyptians. The measurements used were those given by Thomson and MacIver for the male crania of ancient Egyptians, and those given by Shrubbsall for modern male negroes. Because of the labour entailed I only used six measurements; these are given in the accompanying table. I take this opportunity of expressing my indebtedness to Mr. P. I. Watkin, Lecturer on Physics at St. Thomas's Hospital Medical School, who worked out the table for me. The data represents a mixture of about one-eighth negro with seven-eighths ancient Egyptian. The negro infusion may be regarded as such a proportion as is represented by a race that successfully invades and conquers another. I propose to apply first what may be called the biometrical method, and then what may be named for convenience the Oxford method of analysis.

\* MAN, June, 1905, No. 55.

† MAN, July, 1905, No. 58.

‡ MAN, August, 1905, No. 65.

§ *Biometrika*, Vol. I., p. 436.

|| *The Uganda Protectorate*, Vol. II., p. 485, *et seq.*

TABLE OF MEANS (A), STANDARD DEVIATION (B), CO-EFFICIENT OF VARIATION (C), and PROBABLE ERRORS of—I. MALE ANCIENT EGYPTIANS ; II., MALE ANCIENT EGYPTIANS AND NEGROES.

*Head Lengths :—*

NUMBER.	A.	B.	C.
I.—791	184 ± .14	6.16 ± .10	3.35 ± .05
II.—791+	184 ± .14	6.35 ± .10	3.45 ± .05
112			

*Head Breadths :—*

I.—784	135 ± .12	5.36 ± .09	3.97 ± .06
II.—784+	135.4 ± .12	5.46 ± .09	4.03 ± .06
111			

*Cephalic Indices :—*

I.—772	73.5 ± .07	3.35 ± .05	4.6 ± .07
II.—772+	73.3 ± .07	3.33 ± .05	4.54 ± .07
107			

*Bizygomatic Diameter :—*

I.—506	126.8 ± .15	5.05 ± .10	4.008 ± .08
II.—506+	127.4 ± .15	5.50 ± .10	4.44 ± .08
78			

*Upper Face Height :—*

I.—682	70.4 ± .11	4.33 ± .08	6.15 ± .11
II.—682+	70.2 ± .10	4.41 ± .07	6.28 ± .10
103			

*Upper Facial Index :—*

I.—604	55.7 ± .09	3.42 ± .06	6.14 ± .11
II.—604+	55.3 ± .09	3.61 ± .06	6.5 ± .11
73			

As regards the length of head, the introduction of the negro measurements has not altered the mean ; it still remains 184 mm. ; the standard deviation has become greater by .19, nearly twice the probable error. The head breadth has increased .4 mm.—a small amount but representing three times the probable error. The standard deviation has increased, however, only .10, an amount approximately representing the probable error. The cephalic index has dropped .2, nearly three times the probable error, but the standard deviation is scarcely altered—it is somewhat decreased. The upper face length is diminished by the negro infusion by .2 mm.—twice the probable error, but the difference in the standard deviation is within the range of probable error.

The great bizygomatic diameter of the negro crania one would expect to effect a marked change on the mean facial breadth of the combined skulls ; the mean is raised .6 mm., and the standard deviation is raised to almost five times the probable error. As regards the upper facial index, the mean is lowered by .4, and the standard deviation raised to rather more than three times the probable error.

I must confess that the alterations in the means of these measurements, and in their standard deviations brought about by so large an infusion of a negro element, are surprisingly small : the greatest is the increase in the mean of the bizygomatic diameter, and that is only increased by about one-fortieth of an inch ; yet that amount is shown by the probable error to be four times more than it ought to be in pure ancient Egyptians. I must frankly admit, too, that the measurements used are not only too few in number, but they are also those in which the ancient Egyptians resemble the negroes, and are therefore the less useful for detecting such a mixture. It is probable that a more marked discrepancy

would have been found had data been available for nasal measurements. Yet allowing for all these circumstances, the results of the application of the biometrical method are less definite than I expected. But I do not think that such a comparative failure is due to any fault in the method; it is due rather to the data to which we apply the method. Every one of the measurements here used represents the expression of composite and unknown factors. What is most wanted in craniology is a more complete knowledge of the functions of the skull so that every measurement recorded is the exact representation of the extent to which a physiological quality has been developed. There is no doubt in my mind that modern biometricians have given us a scientific method of estimating the mean and measuring the amount of variation, but it still remains to be proved that we can detect mixture of human races by the application of these methods to the empirical quantities which, at present, we measure.

If now the method of analysis, employed by the authors of *The Ancient Races of the Thebaïd* to separate negroid from non-negroid crania, are applied to a mixed group of ancient Egyptian and modern negro crania, it will be found that, on their standard, approximately 70 per cent. of the negro and 20 per cent. of the ancient Egyptians are separated as negroid. The means employed are perfectly legitimate if the object is to ascertain the proportion of negroid skulls in any collection, that is, if it be admitted that a relatively broad nasal aperture and wide face are essentially negroid characters. It is to the inference drawn from the analysis, not to the analysis itself, that one must take exception, viz., that the presence of 20 per cent. of negroid skulls indicates the existence of a separate negroid race amongst the ancient Egyptians. In my review I showed that the Egyptian skulls distinguished by Professor Thomson and Mr. MacIver as negroid did possess, to a slightly greater degree than the non-negroid, two other characters which might be also called negroid, but I do not think my observations in any way support their contention that there were two races in ancient Egypt; to my mind the presence of these other characters simply shows that there is a slight degree of correlation between various cranial characters which we agree to call negroid. I do not think Professor Thomson estimates at its true value the fact that those Egyptian skulls which he has separated as negroid have an abnormally low facial height: the interpretation I place on that fact is that the analysis used by the authors of *The Ancient Races of the Thebaïd* is more artificial than they admit; the class of skulls they separate as negroid are negroid because of a markedly low upper face length. The authors of *The Ancient Races of the Thebaïd* have to demonstrate that the nasal and facial indices of the ancient Egyptians are so much more variable than those of other races that only the existence of a dual race can explain the range and frequency of the variation. Now from their own measurements and from the calculations made by Miss Fawcett, one may infer that variability, as measured by the standard deviation, is not abnormally great in the ancient Egyptians either as regards their facial or nasal index. It is dangerous in the present state of our knowledge to lay weight on a comparison of measurements made on the living head with those made on the dried skull, but from the observations of Dr. C. S. Myers\* on Egyptian soldiers one may infer that these indices are as variable in modern as in ancient Egyptians and still no one attempts to separate these moderns into two distinct races. The absolute measurements of the face show that the facial measurements of the negroid Egyptians are only spuriously negroid. I want to make clear that it is not the system of analysis employed by the Oxford authors which is open to objection, but the theory which they raise on the facts obtained by that system, viz., that there were two races living in the Thebaïd—a negroid and non-negroid.

ARTHUR KEITH.

\* *Journ. Anthr. Inst.*, Vol. XXXV., 1905, p. 80.