

**Anthropology.** — *The Anthropology of Mesopotamia and Persia. A.: Armenians, Khaldeans, Suriani (or Aissori), and Christian "Arabs" from Irak.* By Dr. HARALD KRISCHNER and Mrs. M. KRISCHNER. (American University of Beirut, Syria) <sup>1)</sup>. (Communicated by Prof. C. U. ARIËNS KAPPERS.)

(Communicated at the meeting of February 27, 1932.)

In this part of our report on the anthropology of Mesopotamia and Persia we shall deal with the l.w. indices of the above mentioned groups, as they are best considered together.

For this study we measured 363 Armenians, 197 Khaldeans (or Haldians), 84 Suriani (or Aissori) and 182 Christian "Arabs" from Irak, 826 individuals, altogether.

Although the Armenians referred to in this paper were measured in North and Middle Persia largely, whereas the other groups mentioned in the title were studied in Northern Mesopotamia, we consider these groups together on account of their racial relation and because the spread and mutual relation of interesting elements in the population of the Near-East is best demonstrated in this way.

From former publications on the anthropology of the Armenians it appeared that this people chiefly contains two cephalic groups, intimately mixed. CHANTRE's curve <sup>2)</sup> of 341 Armenians (297 males and 44 females <sup>3)</sup>) shows two peaks — one at 84 and one at 86. Similarly KAPPERS' curve <sup>4)</sup> of 136 Armenians (97 males and 39 females) shows a peak at 83—83.9 and another at 86—86.9 <sup>5)</sup>. BUNAK's skull index

<sup>1)</sup> This paper and the following ones are an account of the anthropological investigations made by Dr. HARALD KRISCHNER and Mrs. M. KRISCHNER of the American University of Beirut in the summer of 1931. Soon after their return in Beirut, September 1931, Prof. HARALD KRISCHNER died. That his death is not only a great loss to the pathological department of the University but also to anthropology appears from the enormous amount of carefully registered and exactly calculated data he and Mrs. KRISCHNER gathered. It was his and his wife's wish that I should work out the result of their investigations. So whatever mistakes there may be in the conclusions, they are my fault. — KAPPERS.

<sup>2)</sup> E. CHANTRE. Recherches anthropologiques dans l'Asie occidentale. Arch. du museum d'histoire naturelle de Lyon, Tome VI, 1895.

<sup>3)</sup> We call the attention of the reader of CHANTRE's excellent work to a misprint on p. 65, where five Armenians from Cesarea are registered as women, while it appears from their position as well as from CHANTRE's text (p. 49) that they are men.

<sup>4)</sup> C. U. ARIËNS KAPPERS. Contributions to the anthropology of the Near-East. N<sup>o</sup>. 1. The Armenian skull and brain. These Proceedings Vol. 33, 1930. — and N<sup>o</sup>. VI Greeks and Turks. These Proceedings Vol. 34, 1931, p. 1088.

<sup>5)</sup> Even the only 21 Armenians measured by VON ERCKERT, when arranged in a curve, show two peaks, one at 84 and one at 87; c.f. his paper: *Kopfmessungen Kaukasischer Völker*. Arch. f. Anthropologie, Bnd. 19, 1891, p. 242.

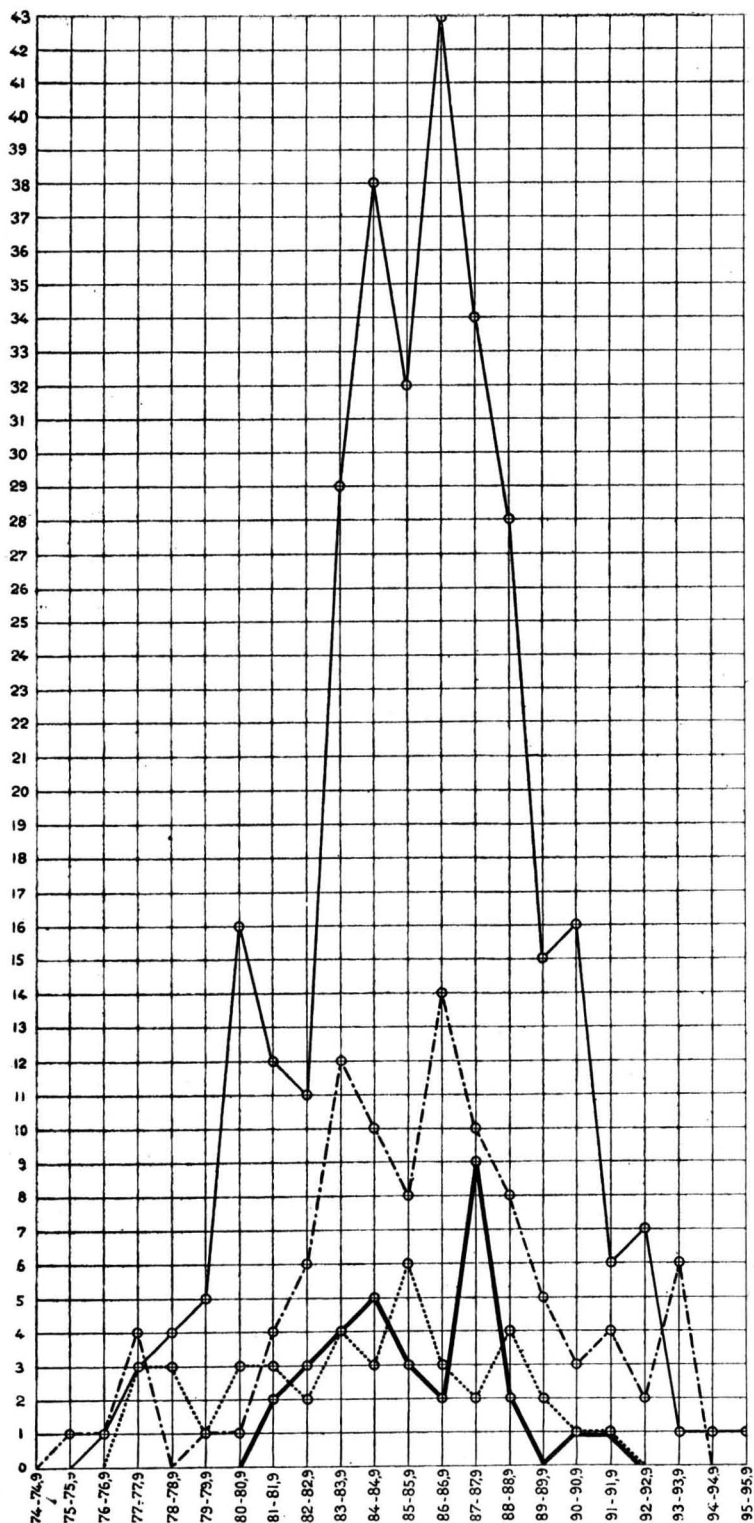


Fig. 1. The strong continuous line shows the indices of our male Armenians from Tabriz, the dotted line those of other male Armenians in North Persia. The — — line gives the indices of the male Armenians measured by KAPPERS, the highest curve those measured by CHANTRE.

curve<sup>1)</sup> (cf. 7, p. 86, l.c. infra) shows peaks at 82 and 85, which correspond with a head index of about 83 and 86.

In fig. 1 we reproduce CHANTRE's and KAPPERS curves leaving out the females. From this it appears that among the males in both curves there are two peaks, a subbrachycephalic peak at 83—84 and a hyperbrachycephalic peak at 86, and that the latter peak is the most outstanding one.

We found similar relations in Tabriz, near Lake Urmiah, the very centre of old Armenia (major).

In the same figure we reproduce in a strong line the indices of our 34 male Armenians from Tabriz<sup>2)</sup>. In this curve again a subbrachycephalic (84) and a hyperbrachycephalic peak occur of which the hyperbrachycephalic one (in this case the 87 index) is again most outstanding and most sharply defined.

This seems to show that with the male Armenians the 86—87 index is the most typical one, while the next typical one is the 84 index.

With the Armenian women matters are different (c.f. fig. 2). Only with the 23 women we measured at Tabriz hyperbrachycephalic indices prevail. With 20 Armenian women we measured at some other places the subbrachycephalic indices (especially 82) are more conspicuous, and if we consider the combined curves of all our women (43) and those examined by CHANTRE (44) and KAPPERS (35) we again find the 82—84 peak prevailing.

How to explain the difference between the male and female curves?

The fact that the numerical relation between the subbrachycephalics and hyperbrachycephalics thus differs in males and females, makes it probable that the two peaks are of a different origin. CHANTRE already emphasised that with his 44 women the average index was less than with his men and the same is mentioned by KAPPERS. The former author was inclined to accept that this might be due to a different degree of compression of the occiput by the Armenian cradle<sup>3)</sup>, which compression according to CHANTRE is more efficiently practised with boys than with girls. The evidence for this does not seem to have been sufficiently proved<sup>4)</sup>. Besides it would be strange that — if the 86—87 index, prevailing with men, were caused by such an artificial compression — this compression should so

<sup>1)</sup> V. BUNAK. *Crania armenica*. Untersuchungen zur Anthropologie Vorder-Asiens. Moscow 1927. In his curve no distinction between males and females is made.

<sup>2)</sup> Forty other male Armenians from various places in North-Persia are registered in the dotted curve. They are apparently more mixed with the Western Caucasian type (*Homo georgianus* of HADDON).

<sup>3)</sup> For a description of an Armenian cradle and its use see H. VIRCHOW. *Zeitschr. f. Ethnologie*, Jahrg. 56, 1924, p. 208.

<sup>4)</sup> We have to add here that CHANTRE found a much greater difference between the average female and male Armenian index than we or KAPPERS did. This is apparently due to the fact that among CHANTRE's female "Armenians" there were some probably Kurdish women, with a 79 index (see his curve in fig. 2), — which lowers the average considerably.

constantly result in an index of 86—87. Such a result — if artificial — might be explained only if 86—87 index indicated a fairly constant limit in the possibility of compression (its maximum), an assumption for which there is no reason.

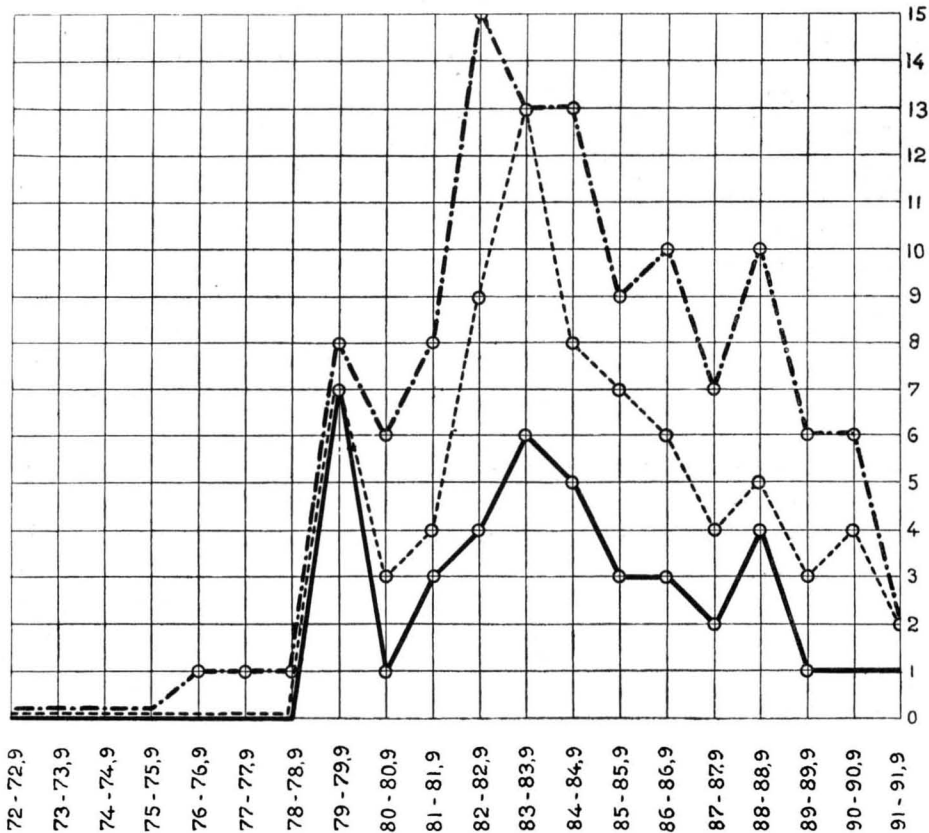


Fig. 2. — 43 female Armenians measured by CHANTRE. — — — 35 female Armenians measured by KAPPERS. — . — . — our 65 female Armenians.

Besides BOAS<sup>1)</sup> who examined Armenians, born in America with whom the Armenian cradle was not used says (l.c. p. 81) about these children: "doch findet sich dabei auch eine beträchtliche Zahl planokzipitaler Individuen, deren Köpfe nicht *künstlich* abgeplattet sind; m.a.W.: die Behandlung des Kindes verstärkt planokzipitalen Charakter, der aber auch ohne diese Ursache ziemlich oft in Erscheinung tritt".

The fact demonstrated by VON LUSCHAN<sup>2)</sup> and confirmed by KAPPERS<sup>3)</sup> that with the Anatolian male as well as female Turks the 86—87 index predominates, furthermore its striking constancy next to the 83 index peak with the Armenian males pleads for a natural i.e. hereditary

<sup>1)</sup> BOAS. Bemerkungen zur Anthropometrie der Armenier. Zeitschrift für Ethnologie Jahrg. 56 1924, p. 74.

<sup>2)</sup> VON LUSCHAN. Völker, Rassen u. Sprachen, Berlin 1922.

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cause of both indices and makes it possible that the subbrachycephalic index occurring with both male and female Armenians is due to an admixture with another race, of which more females than males are taken up in the Armenian complex.

This is the more probable since the Armenians are a Caucasian people and with several other groups in the Caucasus the 82—84 index prevails, especially with the Kartvelian (Georgian—Circassian) race (c.f. VON ERCKERT l.c. supra). Similarly, as the women of this race are greatly appreciated in Turkey, it would not be strange if they also had given a racial component to the Armenians, the heredity of which may appear more in the female line than in the male<sup>1</sup>).

Another possible explanation not involving an admixture with another race would be given by the assumption that the average female index within this same race is a good deal lower than the average male index. Although in most races the female index is larger than the male, there are not so few races with which the female index is smaller, as appears from the list of indices published by R. MARTIN in his "Anthropologie" Bnd. II, p. 774—778 1928. In connection with our case it is interesting that this seems to occur especially with brachycephalic races. Among the 9 *dolichocephalic* groups of which the index of both sexes is mentioned by MARTIN only in one group the female index is smaller, while in eight groups it is larger than the male index. Besides in the first case the deficit of the female is only 0.2, while the average excess in favour of the female in the eight other groups is much more considerable. (1.25).

With 28 *mesocephalic* groups (75.9—81) of which the index of both sexes is mentioned the sexual relation is different. In 16 groups the female index is smaller, (average 0.88), in twelve only it is larger<sup>2</sup>) on (average of 1.19). Although with the 31 *brachycephalic* groups of which MARTIN mentions the index of both sexes the number of the groups (13, excluding the Armenians) in which the female index is smaller, is not as large as with the mesocephalics, the average of their index deficit is larger, viz. 1.51, thus being larger than the average excess of the male index in the other 18 brachycephalic groups (0.85 only). With some groups (the Kirghese) the female index deficit is even 3.1.

As for these cases MARTIN does not suspect another racial admixture as a cause of this phenomenon it should make us careful in doing so with the Armenians. A reason why we nevertheless have to consider the possibility of various racial admixtures lies in the fact that with Armeno-Khaldean males both peaks, the 83.5 and the 87.5, occur and besides with some groups (the Anatolian Turks) the subbrachycephalic 83 peak disappears and with others the hyperbrachycephalic index disappears also with the males, as will be shown in our next paper. — MARTIN's statement that on the whole the variability of the index is greater with males than with females is no sufficient explanation (l.c. p. 785). —

That the Armenians have mixed with neighbouring races also appears from the mesocephalic (index 79) apparently Kurdish admixture among CHANTRE's female Armenians (fig. 2). The occurrence of this mesocephalic index among the Armenians is no reason to accept an original mesocephalic

<sup>1</sup>) Not always though, as with our Armenian women from Tabriz the majority was hyperbrachycephalic.

<sup>2</sup>) This varies a good deal though with the Dutch FRETs found an excess of the female index = 1. See Genetica Vol. IV, p. 481—534 and the cephalic index and its heredity by the same author (NIJHOFF, The Hague, 1925).

stock among the Armenians (as GIUFFRIDA RUGGERI<sup>1)</sup> assumes). Also BUNAK<sup>2)</sup> states (l.c. p. 230) that RUGGERI's dolichokran type is hardly present (fast nicht vertreten) amongst his material.

The influence of an alien mesocephalic admixture on the Armenians is still more obvious if we examine our Armenians of middle Persia, especially those living near Isphahan.

More than three centuries ago *Abbas the Great* (1586—1628) established an Armenian colony near his capital Isphahan. As most of these Armenians came from old Julfa, the exquisite Armenian centre near Tabriz, this colony was called New-Julfa. In this place we measured 174 male and 62 female Armenians, measuring in addition 6 male and 3 female Armenians living in Isphahan proper. Fig. 3a shows the curve of the 180 men. Here again the two Armenian peaks are striking, the 83—84 peak as well as the 87 peak but also here the latter is the most outstanding one.

In contradistinction, however, to the male Armenians measured by KAPPERS and our Armenians from Tabriz there is a very outstanding 78—79, especially 78 peak among the New Julfa Armenians.

This peak is apparently due to Persian admixture, the 78 index being the most frequent one with the Persian males in Isphahan, as will be proved in a following paper dealing with the indices of more than a thousand Persians.

In his first contribution to the anthropology of the Near-East (l.c. p. 795) KAPPERS already alluded to this on account of the measurements of 5 Armenians from Isphahan, 4 of which had the same average index as his Persians from Isphahan, only one having kept a hyperbrachycephalic index.

With 62 Armenian females from New-Julfa and 3 from Isphahan (fig. 3b) we again find the Armenian peak at 83 and a hyperbrachycephalic one at 87—89, but also here in addition to these peaks there are a good many lower indices, especially a 80 peak. This also indicates local admixture, since, as will be shown in a following paper, also with the Persian women from Isphahan an 80 peak is quite obvious.

An interesting fact, however, is that among the brachycephalic female New-Julfa Armenians the subbrachycephalic (83) peak is again more outstanding than the hyperbrachycephalic<sup>3)</sup> one, as was also found with

<sup>1)</sup> GIUFFRIDA RUGGERI. Contributo all' antropologia fisica delle regioni dinariche e danubiane e dell' Asia anteriore. Arch. per la Antropologia e la Etnologia Vol. 38, 1908. p. 127. As remarked by KAPPERS, RUGGERI's statement is based on skulls collected by WEISBACH round the sea of Marmara, which is not at all an Armenian territory.

<sup>2)</sup> V. BUNAK. Crania Armenica. Untersuchungen zur Anthropologie Vorder-Asiens. Moscow 1927 (Russian with German résumé).

<sup>3)</sup> This is not so convincing in New-Julfa though, since with the Armenian women in New-Julfa the hyperbrachycephalics are more spread. So we find a broader peak with the New-Julfa Armenian women (between 87 and 89). — Taking all these hyperbrachycephalic Armenian women together they are more numerous than the subbrachycephalic women (83 index), as also occurs in Tabriz.

the female Armenians measured by CHANTRE and KAPPERS, while with the brachycephalic men the 87 index is outstanding.

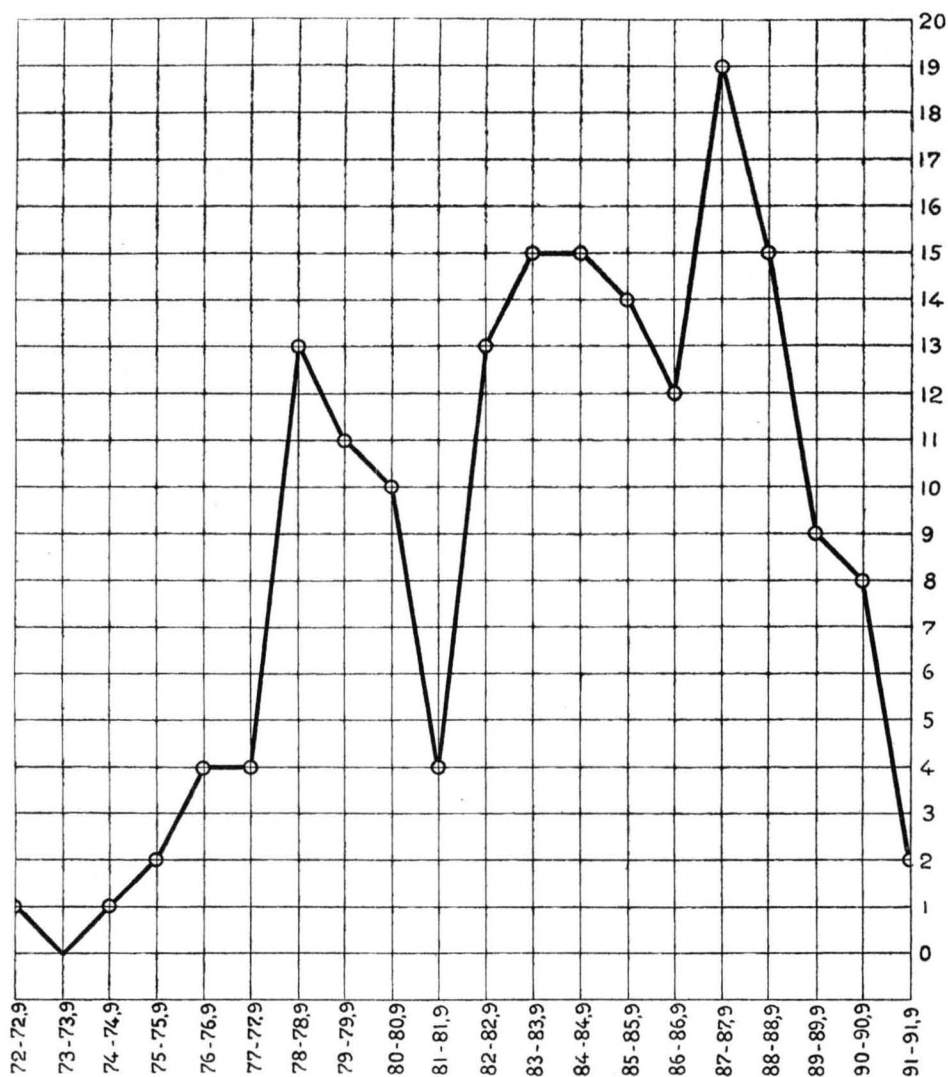


Fig. 3 A. The cephalic indices of 174 male Armenians from New-Julfa and 6 from Isphahan.

Before proceeding to the other groups mentioned in the title we want to emphasize that also KOSSOVITCH<sup>1)</sup> on account of the bloodgrouping, arrived at the conclusion that there are two races among the Armenians. KOSSOVITCH (together with PAPILLAULT) studied the Armenians from a serological and anthropometrical standpoint. They found the following figures for the bloodtype: *A*: 40.3; *B*: 16.6; *AB*: 6.8; *O*: 36.3

<sup>1)</sup> KOSSOVITCH. Les groupes sanguins. *Revue anthropologique*. Année 41, N<sup>o</sup>. 4—6 avril—juin 1931, p. 131.

giving a Hirschfeld index of 2.01<sup>1</sup>). According to BERNSTEIN the races of these groups are: *A*: 0.282; *B*: 0.116; *R*: 0.603; *p. q. r.*: 1.001.

Examining the relation of these bloodgroups in connection with their bodysize

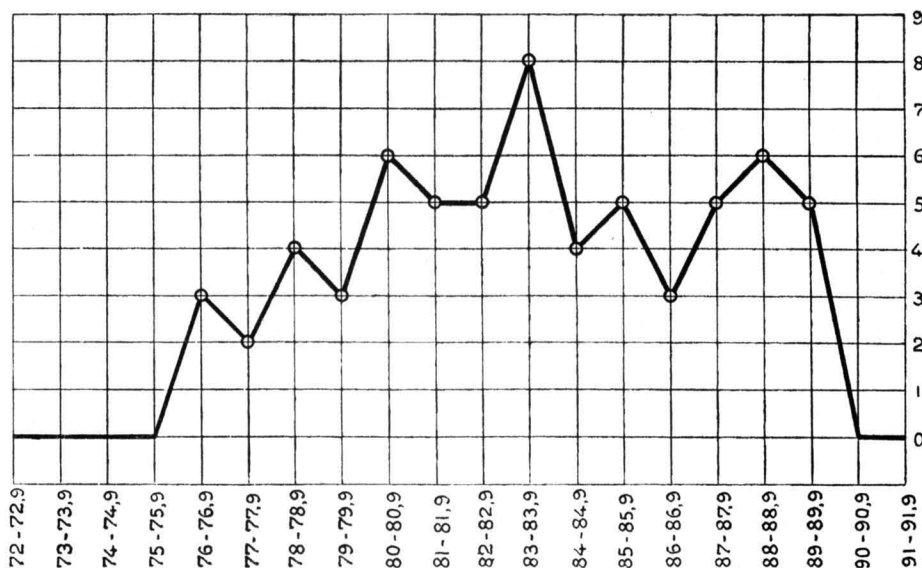


Fig. 3 B. The cephalic indices of 62 female Armenians from New-Julfa and 3 from Isphahan.

KOSSOVITCH found that with the individuals with whom group *A* is dominant, the size is under the average, whereas with the individuals of group *O* the size is above the average. Similarly comparing the bloodgroups with the antero-posterior diameter of the head (there being no obvious difference for the transverse diameter) with group *A* the antero-posterior diameter is smaller, with group *O* larger. The cephalic index is larger for group *B*, smaller for *O*.

From this he concludes that groups *A* and *B* correspond to a smaller bodysize and more pronounced brachycephaly while group *O* corresponds to a larger bodysize and less pronounced brachycephaly<sup>2</sup>). He thus confirms that the Armenians do not form a homogeneous race, a fact to which also PARR<sup>3</sup>) alludes.

We now come to the *Khaldeans*, whom we measured at Tel Kaif (or Tel Kef; North of Mosul) and at Mosul itself.

Historically the *Khaldeans* are closely related to the Armenians.

<sup>1</sup>) These figures differ slightly from PARR's *A*: 46, 7; *B*: 12; *AB*: 12, 4; *O*: 28, 3 (index 2, 42) and ALTOUNYAN's figures: *A*. 53 %, *B*. 14 %, *AB*. 6 %, 0.27 % (index 2.95). As PARR examined 1536 individuals, ALTOUNYAN 653 and KOSSOVITCH 380, PARR's probably are the most reliable, including the greatest number of individuals.

<sup>2</sup>) KOSSOVITCH. Also refers to the researches made, by MYDLARSKY (Les problèmes sérologiques en anthropologie. Congrès de la Société d'anthropologie, Amsterdam 1928, p. 437) who found that the *A* group corresponds with meso- and brachycephaly, narrow noses and faces of the Nordic type while *O* (*R*) corresponds to the dolichocephalic mediterraneans with still narrower faces and narrower noses. This, however, does not concern us here.

<sup>3</sup>) L. W. PARR. Bloodstudies on peoples of Western Asia and North Africa. Am. J. phys. Anthropol. Vol. 16, 1931.



According to the *Encyclopedia of the Islam*<sup>1)</sup>, Khaldea was an old name for the Armenian territory.

SPEISER<sup>2)</sup> calls the Khaldeans (or Haldians) Urartians or proto-Armenians (l.c. p. 114) and states that the ancient Khaldean language is related to the present Armenian as the Proto-Hittite to the Hittite language and forms part of the ancient Hurrian language group. Besides Armenian family names (names ending in "ian") are frequently found among the Khaldeans.

The number of Khaldeans hitherto measured is very small. Besides CHANTRE took them together with the Suriani (Aissori or Assyrians) and so did KAPPERS<sup>3)</sup>. The former measured 27 (males and females) the latter 22 (males and females) of the combined groups. Both only calculated the average indices and found them to be hyperbrachycephalic and hypsi-cephalic, similarly as the Armenians, even slightly more so.

Here we shall deal with the Khaldeans and Suriani (Aissori or Assyrians) separately. Of the former we measured 178 males (120 from Tel-Kaif, 58 from Mosul) and 18 females from Mosul (1 from Teheran).

Fig. 4 gives the curve of the male indices. It immediately strikes one that the two Armenian peaks return here, the (82—) 83 peak and the 86—87 peak, the latter again being the most outstanding one, as with the male Armenians.

There is, however, a small additional 78 peak distinctly separated from the main group.

Again we are not inclined to consider this additional mesocephalic peak as an indication of an originally mesocephalic Khaldeo-Armenian component, but rather hold that, as with our Armenians from New-Julfa and with CHANTRE's female Armenians (cf. fig. 2), there is an admixture to the Khaldeans in Mosul and Tel Kaif, most likely a Kurdish one or one of those other 78—79 index tribes, so frequent — especially in Persia<sup>4)</sup> — and racially related to the mesocephalic Kurds.

The number of our female Khaldeans (19) is too small to give a distinct curve but nearly all of them (except only three) are brachycephalic and 7 of them hyperbrachycephalic (about 85). About the same holds good for the female Khaldeo-Suriani group, measured by CHANTRE and KAPPERS. If we add the female Khaldeans measured by these authors to our own, the average index of the females is slightly smaller than the average index of the male, as is also found with the Armenians proper. This is another confirmation of the statement that both the Armenians and Khaldeans belong to the

<sup>1)</sup> *Encyclopedia of the Islam*, Brill, Leiden. Vol. 1, 1913. A still older name may have been the country of Khai or Hai(g). The Armenian national hymn still calls their old country Hajastan, the land of Hai(g) or Khai (the Kh in these transcriptions is pronounced as our H).

<sup>2)</sup> SPEISER. *Mesopotamian origins. The basic population of the Near East*. Univ. of Pennsylvania Press, Philadelphia, and Oxford University Press, London, 1930.

<sup>3)</sup> *Contributions to the Anthropology of the Near East*, N<sup>o</sup>. II: The spread of the brachycephalic races. *These Proceedings*, Vol. 33, 1930.

<sup>4)</sup> See our later paper (C) on this subject (to appear in these *Proceedings*).

same stock of 83 and 86 people referred to, both being locally mixed with smaller groups of neighbouring stocks.

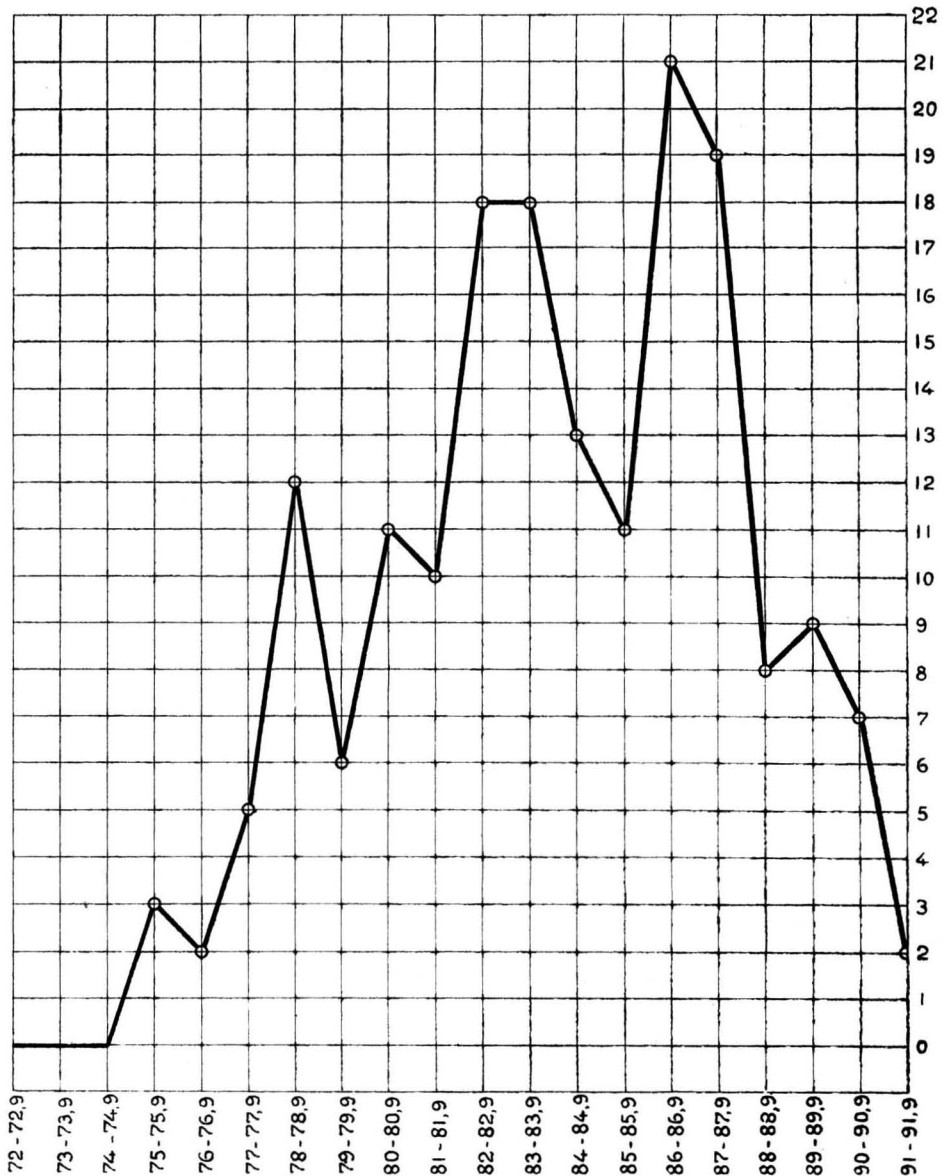


Fig. 4. The cephalic indices of 120 male Khaldeans from Tel Kaif and 58 from Mosul.

The number of SURIANI (Aissori or Assyrians) we measured is only small: 39 males (34 from Mosul, 3 from Persia, 1 from Turkestan and 1 from Bahshieka) and 45 females (43 from Mosul and 2 from Bahshieka).

Notwithstanding this small number of individuals their curves (fig. 5A and 5B) are also characteristic of the Armeno-Khaldean group, as among

the men the greatest number is hyperbrachycephalic (87), among the women subbrachycephalic (84).

The Suriani or Aissori consider themselves as the direct descendants of the ancient Assyrians, or, as we should rather say, as the descendants

Fig. 5 B. The cephalic indices of 43 female Suriani or Aissori from Mosul and 2 from Bahshieka.

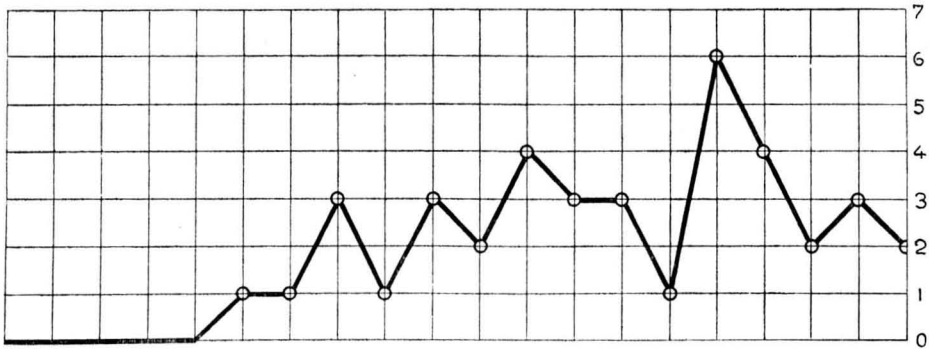
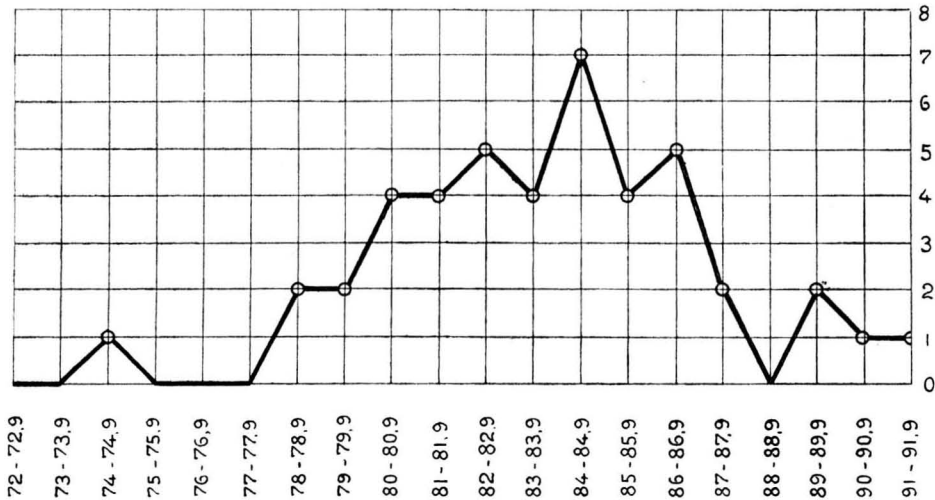


Fig. 5 A. The cephalic indices of 34 male Suriani or Aissori from Mosul, 3 from Persia, 4 from Turkestan and 1 from Bahshieka.

of the chief group of the ancient Assyrian population. Linguistically the Assyrians were a Semitic people (like the Jews). But as SPEISER remarks (l.c. 155) the ancient Assyrian was far from being a typical "Semite" in the same sense as the Arab is assumed to be. (SPEISER apparently refers here to the Adnan Arab.) The sculptured representations reveal features that are usually associated with Armenoids.

Our results quite agree with SPEISER's that although in contrary to the Caucasian speaking Armenians, Semitic speech is superimposed on the Assyrians, the physical features of the people have largely remained those of the older (Hurrian) inhabitants.

The same relations as with the Suriani are found with the Christian "Arabs" of Mosul.

Unfortunately the number of male Christian Arabs (60) we measured gives no distinct curve. Although the most outstanding peak amongst them is the 83 peak, nevertheless it appears that the number of hyperbrachycephalics is larger than that of the subbrachycephalics but they are spread over more peaks: one at 85—86, another at 88 and a third one at 90.

The number of female Christian "Arabs" we measured is 122, all from Mosul.

Arranged in a curve (fig. 6) they show two peaks, one at 87 and one at 84, so that with them the same constituents occur as with the Armenians, Khaldeans and Suriani (the vast majority if not all of whom are also Christians).



Fig. 6. The cephalic indices of 122 female Christian "Arabs" from Mosul.

And again, as with the Armenian and Suriani females, among the female Christian "Arabs" the 83—84 group, is also more pronounced than the 87 group, although the hyperbrachycephalic peak is more developed here than with the females of the other groups mentioned above.

The fact that these people may be called Christian "Arabs", on account of their speaking Arabic while their physical characteristics point to a relation with the Aryan or Caucasian speaking Armeno-Khaldean group shows that in such a case little value can be attached to the linguistic distinction.

As far as concerns the origin of the additional 79—81 (average 80) group among the Christian female Irakkians (also occurring with the males) we hesitate to make a statement. We may recall that KAPPERS<sup>1)</sup> also found an 80 index group with his Irakkians and further with the population of Damascus and Palestine. He gave this group the special name of "desert border population". He discussed its possible relations with the Hebrews and Amorites and the less likely origin of this index peak from mixture.

In our next paper it will be shown that the relation in the cephalic index with the Moslim Arabs in Irak (as with those in Oman and Yemen) is different from those of the so-called Christian "Arabs" mentioned in this contribution.

That the Christian "Arabs" from Mosul show a much greater affinity to the other groups mentioned here is probably due to the fact that those other groups are likewise mostly Christians and religious communities in the Near East (as already emphasized by PARR) often have a deep racial root, a consequence also of the different matrimonial conditions with Christians and Moslims.

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<sup>1)</sup> Contributions to the Anthropology of the Near-East N<sup>o</sup>. II: The spread of the brachycephalic races, and N<sup>o</sup>. IV: The Semitic races. These Proceedings Vol. 33, 1930, and Vol. 34, 1931.