

Anthropology. — *The degree of the developmental changes in the length-breadth index of the head of Dutch Askenasim Jews.* By W. KLEIN, med. cand., Amsterdam (Communicated by Prof. Dr. C. U. ARIËNS KAPPERS.)

(Communicated at the meeting of October 26, 1935).

It more and more appears that the customary way of expressing the cephalic index, typical of a race or a group of people, by the average of all the indices, its standard deviation and spread, is less accurate than the use of frequency curves. No race whatever being pure, the latter method enables us to detect heterogeneous components.

Besides, this method may teach us a good deal about the natural division, the natural system of indices, i.e. which indices are the most frequent in man. —

Evidently the division of indices, hitherto used, into dolichocephalic (70—74,9), mesocephalic (75—79,9), brachycephalic (80—84,9), hyperbrachycephalic (85—89,9), and ultrabrachycephalic groups (90 and higher) is not based on the object itself, but on our decimal system. We should, however, not dictate nature its divisions, but nature has to dictate us its divisions, preferences, and standards, and evidently we can only understand its language in this matter by spelling its alphabet, i.e. by plotting all the data it gives us, without making averages of these data. —

Another advantage of this method for our purpose is that the changes in the indicial relations from childhood to the adult stage may be more precisely defined in various races and consequently better understood, — which again may cast some light on racial differentiations, as have occurred in the course of millennia, creating a large diversity from a probably less diverse original stock.

In order to contribute a little to the problem of indicial changes in the development of the head and its possible bearing on racial differentiation I examined those changes with the Askenasim population of Amsterdam.

From the researches of BONNIFAY¹⁾ and RANKE²⁾ we know that with the children of brachycephalic races up to 2 or 3 years an increase of the index occurs, followed from the 2nd—3rd year onwards by a decrease.

The latter fact may be also concluded from BOAS'³⁾ measurements. BOAS has shown that this decrease may be favoured by special environmental circumstances of the parents (and consequently of the children).

¹⁾ Thèse de Lyon. 1897.

²⁾ Arch. f. Anthrop. Bnd. 31. 1905.

³⁾ Columbia University Contributions to Anthropology, Vol. 6, 1928.

The influence of environment on the development of the head was confirmed by GUTHE ¹⁾ and HIRSCH ²⁾.

From the frequency curves of indices of Jews published by GUTHE, KAPPERS ³⁾ concluded that certain indices have a predilection, and that these predilections correspond with predilections occurring with the main stocks of the Asiatic population north the Himalaya and in Europe north of the 40th parallel approximately: the so-called paleo-Asiatic (79—81) and Central-Asiatic 83—86 index types. He concluded from this that these two main Eurasian groups, as far as the index is concerned, may be related at their roots, and furthermore showed the wide spread of these indicial types in North and South America. —

The aim of my investigation was to examine in the same way the developmental changes of the cephalic index with the so-called German Jewish, better Askenasim population of Amsterdam, in order to know if the index types prevailing with the main Eurasian stocks mentioned above are found also during the development from childhood to the adult stage in this Jewish population of Amsterdam.

As the decrease of the index (*vide supra*) starts about the 2nd or 3rd year, I measured 1030 Amsterdam Askenasim, ranging from the age of 3½ years on; 673 males and 357 females.

The results of these measurements are striking and fully confirm the deduction that the Central-Asiatic index type occurs as a transitional type in the development of these people who in the adult stage have a prevailing paleo-Asiatic index curve. —

In order to give a visual representation of my results, I divided my male material into three groups, the boys below 10 years, those of 10—14 years, and adults. With the females — less in number — only two divisions were made, *viz.* girls below 10 years and adults, the number of girls from 10—14 years measured being too small (37) to give a reliable curve. In figs. 1—4 each point stands for two, in fig. 5 for one individual.

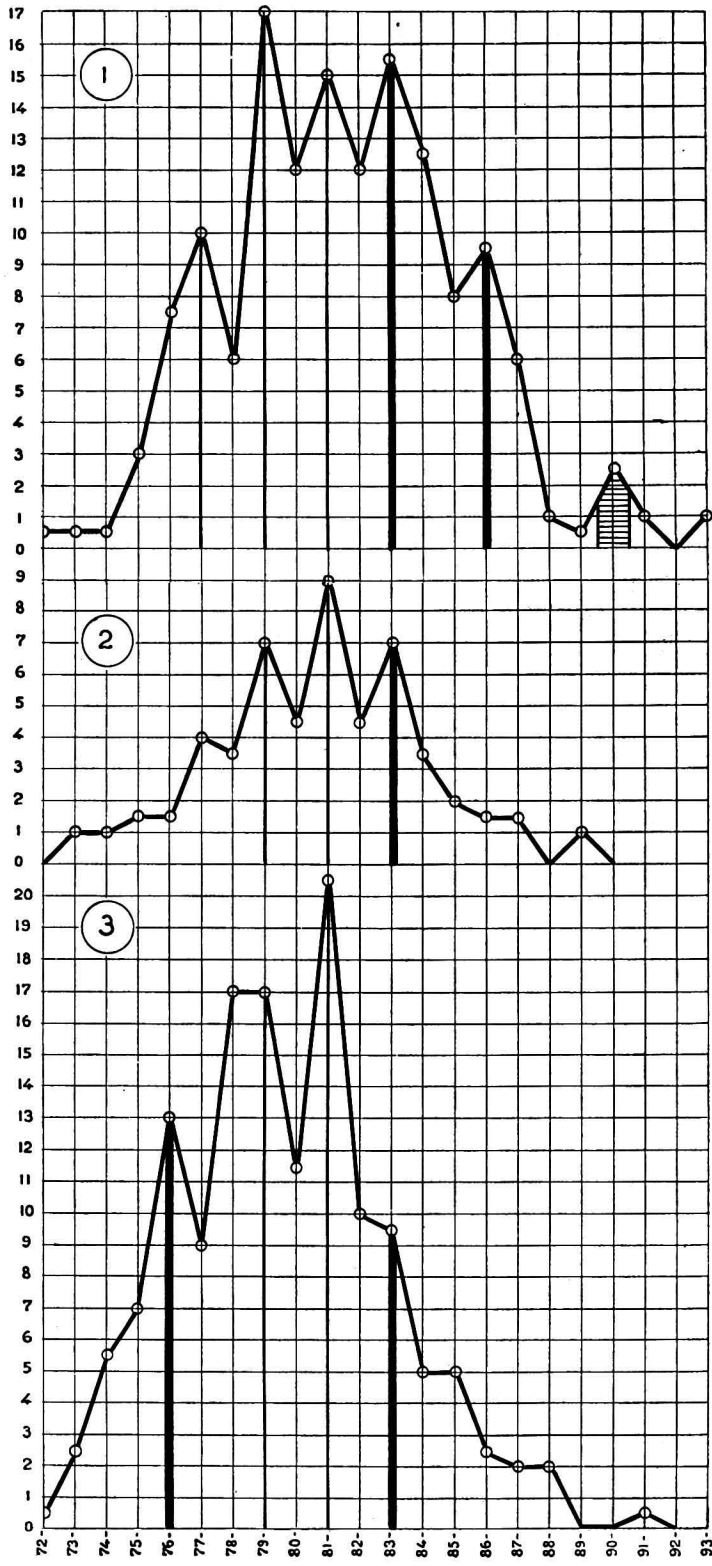
Studying the frequency curves of the males (figs. 1—3), we see that with the boys of 3½—10 years three outstanding peaks occur, the 79, 81 and 83 peak. In addition there is a distinct peak of 86 and a small ultrabrachycephalic elevation at 90 (for the mesocephalic 77 peak see below). The 83 and 86 peaks are typical of a so-called Central-Asiatic index curve, the 79 and 81 of a so-called paleo-Asiatic index curve.

With the boys of 10—14 years the ultrabrachycephalic peak (90) and the hyperbrachycephalic 86 peak have disappeared. Of the so-called Central-Asiatic peaks only the 83 peak remained, thus confirming KAPPERS' statement (*l.c. supra*) that of the Central-Asiatic peaks the 83 peak has a

1) American Journ. of physical Anthropology. Vol. I. 1918.

2) Ibidem. Vol. 10. 1927.

3) These Proceedings. Vol. 38. N^o. 7. 1935, p. 686.



greater constancy than the 86 one and that the 90 peak is still more recessive.

The chief index with the 10—14 years boys is the paleo-Asiatic 81 peak, not the 79 peak, which is represented by a slightly smaller elevation.¹⁾

Turning to fig. 3, the adult males, we see that with them also the 83 index has greatly decreased, some prevalence of this index being indicated only by a steep rise from 84 to 83. As with the 10—14 years boys the 81 peak is the highest. In reality, however, the greatest increase occurs with the mesocephalic paleo-Asiatic index. The 78 index being nothing but a variation of the 79 index, the number of the paleo-Asiatic 78—79 indices exceeds the 81 peak in this group far more than in the 3½—10 years of fig. 1 (for the 76 peak see below).

Studying our female material (cf. fig. 5 and 6), we find that the developmental changes are not nearly so striking as they are with the boys, a fact confirming that the female sex is much more apt to cling to its infantile characteristics.

Yet, although there is a great similarity between the curves of figs 5 and 6, some differences may be observed: 1^o. the 3½—10 years girls have a more pronounced 86 peak than the adult women and 2^o. the ultrabrachycephalic index (90), though small in each, is somewhat more pronounced with the children (1½ %) than with the adults (¾ %). Similarly the 83 index, though not forming a peak in either of the female curves, is more numerous in the 3½—10 years group (10 %) than in the adult group (6.6 %). The greatest contrast, however, is exhibited by the relative frequency of both paleo-Asiatic indices, the 78—79 and 81 indices. In both curves the 81 peak is the highest, but the additional 78—79 peak of the 3½—10 years girls has increased to a much higher elevation in the adults.

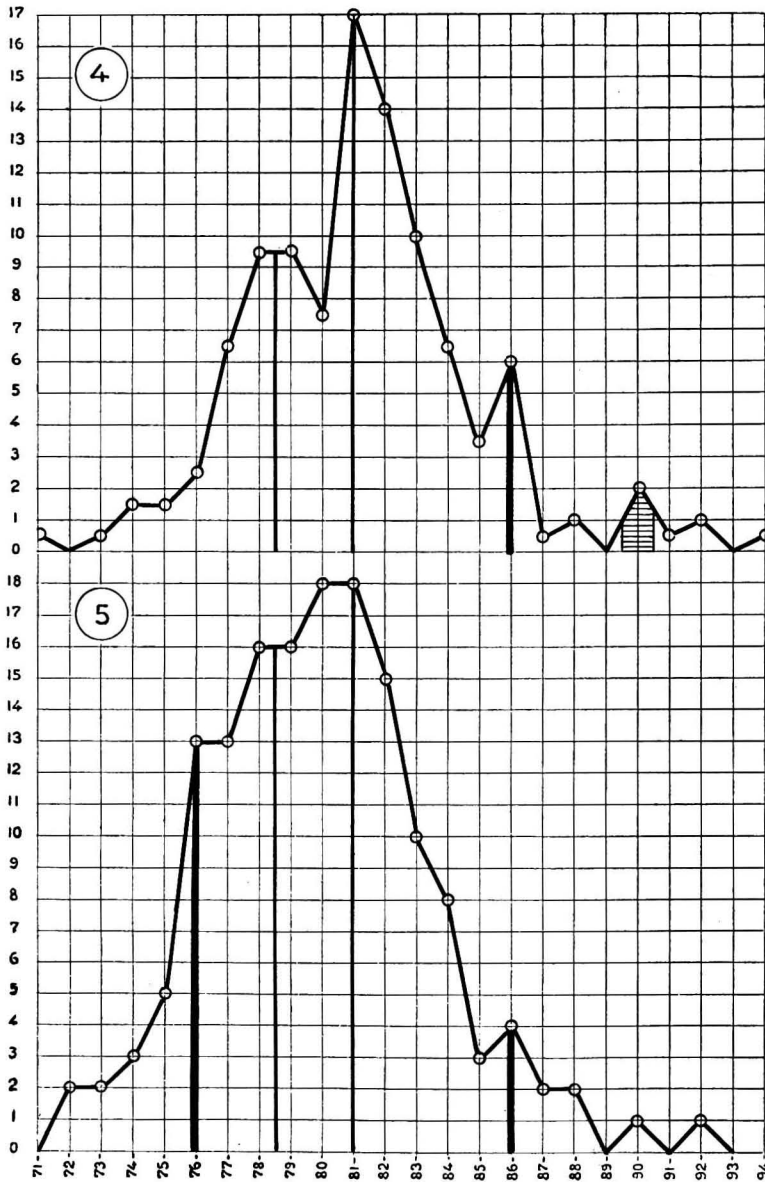
I may add a few words about the 76 index, not outstanding in the children of either sex, but represented by a distinct peak in the adult males and by a steep elevation in the adult females.

As pointed out by KAPPERS²⁾, this index has a pronounced Mediterranean character. Apart from the fact that it is a very regular occurrence with Hamitic and related African peoples, it also occurs with BOAS' Sicilian born Sicilians. With them, however, as well as with our material the 76 index becomes outstanding specially with the adults, and — as with BOAS' Sicilian women (see KAPPERS' paper in these Proceedings Table II fig. 16) — it is preceded by a higher index (77 usually). The same is seen in what may be a Mediterranean admixture to our Askenasim boys, where the 77 index of the male 3½—10 years and 10—14 years groups seems to be replaced by a 76 index in the adults. Similarly with the female Askenasim

1) That in this group the 81 peak prevails over the 79 peak is curious considering the height of the 79 peak with the younger boys.

2) These Proceedings. Vol. 38, N^o. 9, 1935.

the relation of the 76 to the 77 index shows an increase of the 76 index in the adults.



Résumé.

Resuming our results we may state that the developmental changes of the index with the Askenasim Jews of Amsterdam is such that the so-called Central-Asiatic indices (83 and 86), quite outstanding in the children, decrease in number and the so-called paleo-Asiatic indices (78—79 and 81), though also present in childhood, increase with age. This phenomenon,

especially evident with boys, may be also observed in the females, although the infantile indices show a greater tendency to persist in this sex.

It furthermore appears that the Mediterranean 76 index becomes pronounced only with adults, being also preceded in childhood by a higher index.

Zoology. — *Die Tornarien der Snelliusexpedition.* Von G. STIASNY. (Rijksmuseum van Natuurlijke Historie, Leiden.) (Communicated by Prof. H. F. NIERSTRASZ).

(Communicated at the meeting of October 26, 1935).

In den Planktonfängen der Snelliusexpedition fanden sich folgende Tornarien:

Stat. 300. Südl. von Mindanao, Straminpose, 200 m wire, 22. Juni 1930.

1 Ex. vom Typus I (*Balanoglossus/Glossobalanus*), nicht tentakulat, Krohn/Spengel-Stadium. Stark contrahiert, Details nicht erkennbar, 2½ mm hoch. In der Mitte stark eingeschnürt, Analfeld stark vorgewölbt, undurchsichtig. Nicht näher bestimmbar.

Stat. 199. Südl. von Saleyer, Straminpose, 200 m wire, 5. Maart 1930.

4 Ex. *Tornaria snelliusi*, ältere Krohnstadien; schlecht erhalten.

Stat. 275. Nordöstlich von Halmahera, Straminpose, 50 m wire, 25. Mei 1930. 21 uur.

2 Ex. *Tornaria snelliusi*, ältere Krohnstadien, stark geschrumpft.

Stat. 310. Straat v. Makassar, Straminpose, 200 m wire, 5. Juli 1930. 21,15—21,45 uur.

1 Ex. *T. snelliusi*, junges Krohnstadium, ± 2 mm hoch, gut erhalten. Nur Rumpfcoelom vorhanden. Analfeld flach. Laterallobus mit nur 8 Tentakeln, davon einige ziemlich lang.

Stat. 241. Bandasee, Nordöstlich von Timor, Straminpose, 200 m wire, 12. April 1930.

214 Ex. *T. Snelliusi*, davon:

10 Metschnikoff-Stadien,
25 junge Krohnstadien,
142 ältere Krohnstadien,
37 Spengelstadien,

meist stark deformiert, die jüngeren Stadien sehr durchsichtig.

Stat. 210. Südl. von Boeroe, Straminpose, 200 m wire, 14. Maart 1930.

17 Ex. *T. snelliusi*, davon:

9 jüngere Krohnstadien,
8 ältere Krohnstadien.