The only complete category of our thinking, our professors of philosophy tell us, is the category of personality, every other category being one of the abstract elements of that. And this systematic denial, on Science's part, of personality as a condition of events, this rigorous belief that in its own essential and innermost nature our world is a strictly impersonal world, may, conceivably, as the whirligig of time goes round, prove to be the very defect that our descendants will be most surprised at in our own boasted Science, the omission that, to their eyes, will most tend to make *it* look perspectiveless and short.

But these things lie upon the knees of the gods. I must leave them there, and close now this discourse, which I regret that *I* could not make more short. If it has made you feel that (however it turn out with modern Science) our own Society, at any rate, is not 'perspectiveless,' it will have amply served its purpose; and the next President's address may have more definite conquests to record.

William James.

THE FORM OF THE HEAD AS INFLUENCED BY GROWTH.

The change in the shape of the head which accompanies growth has been but very slightly investigated either in this country or abroad. The meagreness of results may be indicated by the fact that Topinard's Élements d' Anthropologie contains only a note upon the subject, with no data.* A recent investigation upon the students of the Massachusetts Institute of Technology may be of interest as bearing upon this question. The measurements covered 485 students, grouped as follows: 215 in the first-year class; 69 in the second; 66 in the third, and 136 in the graduating class.

From the comparison of the measurements of the length and breadth of the heads of these students so divided into classes, it appears that between the period of entrance and of graduation, that is to say from the ages of 18–19 to 23–24 years, the development of the head is almost entirely in respect of its length. The average breadth of the head remaining constant at or near 152 mm., the length varies from an average of 195.13 mm. in the first-year to 196.35 in the fourth-year class. The intermediate classes occupy a position midway between the two, indicating that this is not a result of chance. If this tendency be a general one, it means that the cephalic index in our American population of this class tends to decrease at this particular time of life. The cephalic index, for example, of the first-year students averages 78.6 and that of the fourth-year averages 77.2, the second and third years being 77.7. This is rendered specially significant by the fact that Drs. West and Porter have shown a slight decrease of cephalic index in American school children between the ages of 5 and 18; at Worcester, for example, the average index falling between 79 and 78.* If we assume that in both cases we are dealing with similar populations the hypothesis of a progressive decrease of cephalic index, with growth, of our American people would seem to be well founded.

In Europe, Zuckerhandl, comparing the index of 156 children and 197 adults of the same (Austrian) race, found that the children were narrower-headed than adults as a rule; and Holl confirms this result.† Dr. Meis declares that from his experience the children among the Germans are more dolicho-cephalic than the adults.‡ Schaafhausen finds that in many cases the length

* Page 374.

* Archiv für Anthropologie, XXII., pp. 19 and 34; and Report of Anthropological Congress at Chicago, p. 57.

† Mitt. der Anth. Gesell. in Wien. XIV., 1884., p. 127; and *Ibid* XVIII., p. 4.

‡ *Ibid*, XX., 1890, p. 39 *seq.*

of the head is attained before the full breadth.* In Italy, Dr. Livi has brought together the results of a number of observers from both northern and southern Europe, but all of them from the broad-headed races.† The difference of cephalic index on the average among 447 cases here amounts to one unit in favor of broad-headedness of the adult, the contrary tendency to that noted for the Americans. That age brings a relative increase in the breadth of the head was also apparently indicated by the few measurements made by Welcker.‡ For Bohemia, Dr. Matiegka, from measurements on 400 children, asserted that there is no tendency toward a change in the relative length and breadth in the cases observed by him.§ Dr. Boas finds that in the North American Indians age is characterized by a relative increase in the length.||

On the whole, summarizing the results and opinions of these various writers, whose conclusions are, on the whole, contrary to our American ones, it appears that no universal rule can be established with respect to the effect of age upon the proportions of the head. The only hypothesis which seems to be confirmed by all this evidence is that development brings an approximation to the racial type most clearly marked in the adult. In other words, in the narrow-headed races, like our own, the children are broader-headed than the adults. Among the brachy-cephalic races, such as those instanced by Dr. Livi and most of the others cited, the children exhibit the race peculiarity in a less marked degree, that is, they are relatively narrower headed than at maturity. Finally the change from childhood to maturity becomes *nil* where the adults themselves belong to a group with a cephalic index near the mean for the entire European race. No relation can be established between the intelligence and the proportions of the head so far as the experience of European study goes, although Krause and Virchow declare in favor of the broad-headed type. If this hypothesis be true that age brings the fuller development of the race type, it may be possible in the future to apply a correction to the comparative results obtained by students of anthropology whose results are drawn from the study of children. But until that time the inferences to be drawn from such study are as likely to be erroneous as are conclusions drawn from the study of the color of the hair and eyes of school children, since in both cases maturity brings a change which has not as yet been statistically measured. It is earnestly hoped that further study along this line may be undertaken. The testimony of expert psychologists would be also of interest as bearing upon this point. In the hope of stimulating some such investigations, the modest results obtained from this study at the Institute of Technology are submitted.

W. Z. RIPLEY.

* Uber die Urform des Menschlichen Schädels, in report of Congres Int. d'Anth. et d'Archæologie, Paris, 1867.

† 'L 'Indice Cefalico degli Italiani,' Florence, 1886, p. 15.

‡ Archiv. für Anthropologie, I., p. 151.

§ Mitt. der Anth. Gesell. in Wien, XXII., 1892, Sitzungsberichten, p. 81.

|| Verh. der Berliner Gesell. fur Anth., Sitz ber. May 18, 1895, p. 392.

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*IS THE PUMPKIN AN AMERICAN PLANT?**

IN the Index Kewensis seventeen species of the genus Cucurbita are recognized and their distribution given as follows:

C. bononiensis.	Hab.?	*C. maxima.*	As. trop. Orb. trop. cult.
C. californica.	Am. bor. occ		
C. ciceraria.	Chili.	*C. medullaris.*	Hab.
C. digitata.	N. Mexic.	*C. melanæformis.*	Japon.
C. ficifolia.	As. or.	*C. moschata.*	As. trop.
C. fœtidissima.	Mexic.	*C. palmata.*	Calif.
C. Galeottii.	Mexic.	*C. Pepo.*	Oriens. Afr. trop.
C. hieroglyphica.	Hab.?	*C. purpurea.*	Java.
C. lignosa.	Am. autr.	*C. radicans.*	Mexic.

* Substance of a lecture before University Archeological Association, Feb. 19, 1896.