ANTHROPOLOGY

Measurements Show Changes in Faces of Growing Children

Physical Anthropologists Learn That All Newborn Babies Are "Unfinished"; Glands Determine Body Build

CHILDREN'S faces and heads change a great deal as they grow. Measurements that reduce casual observations of these changes to definite scientific record were the basis of discussion at the meeting of the American Association of Physical Anthropologists in New Haven, Conn.

Dr. Charles B. Davenport of the Carnegie Institution of Washington told of measurements made on the changes in noses and chins of children between the ages of six and eighteen. Taking the total distance from the top of the nose to the point of the chin as the basis of his measurements, Dr. Davenport found that nose height, in white children, takes up between 40 and 50 per cent of this. Chin length varies from less than 35 per cent to more than 50, while the height of the upper lip accounts for the remaining 15 per cent.

During development the nose length tends, in most cases, to occupy a progressively larger proportion of the face. Sometimes, however, it does not grow as fast as the rest of the face, while the chin increases in length.

Lower Face Last

Other face measurements on young people were reported by Drs. M. S. Goldstein and F. L. Stanton of New York University Dental College. They narrowed their subjects down to a single racial group, measuring only Jewish children. Among these, they found, faces grew most rapidly in length, next in width, and least rapidly in depth. The upper face ceases growing apparently after the fifteenth year, whereas the lower face continues to grow.

The same two researchers also made a study of the movements of teeth in the growing jaws of children. Between two and seven years, teeth tend to migrate backward; after that they move forward again. The first permanent molars, especially the lower ones, show a special tendency toward forward movement.

Double-exposure photography, usually a comic accident with most amateur snapshotters, is used deliberately for scientific purposes by Dr. H. M. Halverson of Yale University. He first photographs the profile of a sleeping baby, then at the same focus photographs an accurately ruled-off grid. By repeating this at intervals on the same child, he can make a continuous record of its facial growth, with all its changes, and the squares photographed onto the same negatives give a ready and rapid means of detecting and measuring changes.

All Babies Premature

"Man is born prematurely as well as immaturely," in comparison with his nearest of kin among the animals, Dr. Adolph H. Schultz of the Johns Hopkins University told the meeting.

Although man is born 266 days after his life-development begins, as compared with 236 days for the chimpanzee and 166 days for the macaque monkey, he still comes into the world most precociously, as compared with these, when consideration is taken of the much shorter lives of apes and monkeys, and the far more rapid rate of reaching maturity in these animals.

Newborn monkeys have their bones much more "bony" than those of newborn babies, and the "soft spot" on the top of the newborn human infant's head is not found on the top of a brand-new ape or monkey; it is closed up before birth. Newborn macaque monkeys cut their first teeth within five weeks at most, whereas human babies do not usually produce a tooth before they are six months old. In general, the human infant is born still very much in need of a lot of "finishing" that has already been accomplished for its jungle cousins.

Glands Make Quixotes

Long, lean, active, imaginative individuals have more gland secretions circulating in them than have their short, fat, easy-going, physiological opposites, Prof. Raymond Pearl of the Johns Hopkins University told the meeting.

A single exception to this rule is found in the case of the thymus gland, an organ in the upper part of the chest that is very large in infants but diminishes in most adults. All other glands of internal secretion—sex glands, thyroid, adrenals, pituitary, pineal and parathyroids—are larger in what Prof. Pearl designated as the asthenic type, "the tall, spare, lean, Don Quixote sort of folk." Bigger thymuses and smaller other glands were the possession of the "pyknic" type—"the short, rotund, stocky, Sancho Panza folk." The intermediate physical type, called "athletic," have intermediate conditions in their gland development.

"These results," Prof. Pearl added, "are equally apparent in both sexes, and in both whites and Negroes."

Toeprints and Fingerprints

Toeprint patterns are just as indiyidually characteristic as are fingerprints, Dr. Marshall T. Newman of Western Reserve University reported. Dr. Newman studied 100 European-American men, and supplemented his findings with others made on 100 Japanese and 1,000 Chinese.

Among other points brought out by the study was the odd fact that the toeprints of a given individual are similar to his fingerprints, but mirror images of them. That is, if the whorls or loops swing to the right on the fingers, they swing to the left on the toes of the corresponding foot. This might indicate, Dr. Newman suggested, that right-handed persons are somewhat left-footed.

Toeprints, he continued, show racial differences as clearly as do patterns of the fingers, palms, and soles. Here the differences between the two Asiatic groups and the European-Americans are considerable; between the two Asiatic groups the differences are slight.

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Finding a recently-dead basking shark 28 feet long on a beach near Prince Rupert, British Columbia, appears to solve a "sea serpent" mystery in that region.