PREDICTION OF ADULT BODY MEASUREMENT FROM MEASUREMENTS TAKEN EACH YEAR FROM BIRTH TO FIVE YEARS

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Forty-two men and thirty-eight women, previously measured at birth and every year up to five, have been remeasured as adults aged 25-30. The degree to which adult measurements of supine length, weight, forearm and foot lengths, head length and breadth, and shoulder and hip widths can be predicted from measurements in the first five years, has been examined by computing the following statistics:

- (a) correlation coefficients between adult measurements and measurements at birth, 1, 2, 3, 4 and 5. Figures for supine length are respectively 0.27, 0.67, 0.77, 0.79, 0.81, 0.79.
- (b) the percentage of the adult variance of a measurement accounted for cumulatively by regression on the measurement at birth, then birth and one year combined; 0, 1, 2 years, and so on. For supine length the figures are: at birth, 5%, by 1 year 45%, and subsequently 59%, 64%, 66%, 66%.

The conclusions are (i) size at birth is only very slightly related to adult size, or even size at 2, (ii) prediction of adult size is as good by age 3 as by age 5, (iii) rate of growth and adult size are independent.

Discussion:

F. Keiter (Hamburg): In Germany, a great deal of practical experience has been collected in predicting the future development of children by anthropologists in Paternity Testing. The conclusion has been drawn, that prediction may already be carried out with most certainty in children of 3 years, in this manner. The proof given by Mr. Tanner is of great importance.

1 The paper has appeared in the Archives of Diseases in Childhood 31, 372-381, 1956 in an extended form, with the title "Aberdeen Growth Study: I. The Prediction of Adult Body Measurements from measurements taken each year from Birth to Five Years", by J. M. Tanner, M. J. R. Healy, R. D. Lockhart, J. MacKenzie and R. H. Whitehouse.