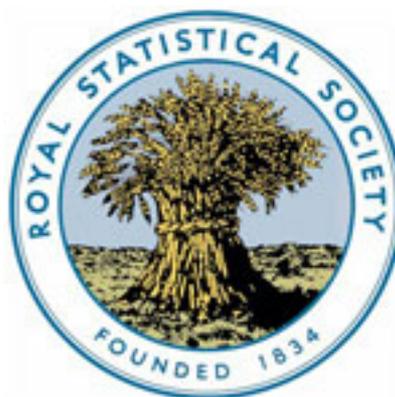


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Changes in Bodily form of Descendants of Immigrants by Franz Boas

Review by: G. U. Y.

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## REVIEWS OF STATISTICAL AND ECONOMIC BOOKS.

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1.—*Changes in bodily form of descendants of immigrants*. By Franz Boas, Ph.D. Reprinted from the reports of the United States Immigration Commission. xii + 573 pp., 8vo. New York: Columbia University Press; and London: Henry Frowde, 1912. Price 7s. 6d. net.

The Preliminary Report of the Commission for which the data forming the basis of this volume were collected, was briefly reviewed in a Current Note in the *Journal* for January, 1911 (pp. 231—35). As then pointed out, the results and conclusions at which Dr. Boas has arrived are distinctly remarkable, and are here illustrated by additional data and further discussed. The greater part of the volume (pp. 167 to end) consists, it should be said, of an appendix, giving the tables of anthropometric data.

As may be remembered, the result of the investigation is this: that the children born to immigrants after their arrival in the States differ (in most cases) significantly from the children born abroad before the immigration of the parents, and these differences, in the opinion of Dr. Boas, are the result of the direct action of the environment and cannot be ascribed to selection—nor perhaps it should be added to illegitimacy. Such differences exist in stature, weight, head length, head width, head index and width of face, but hardly as regards hair colour. In the present volume data are given for Bohemians, Hungarians and Slovaks, Neapolitans, Sicilians and East European Jews, the two latter (for whom data were given in the Preliminary Report) affording a remarkable contrast. The American-born Hebrew children show an increase in stature, in weight and in head length, but a decrease in head width and a consequent decrease in cephalic index. American-born children of Sicilian parents show on the whole a slight decrease of stature and of weight (though the changes are small), a decrease in head length, little change but on the whole a slight increase in head width, and consequently an increase in cephalic index. If the children are classified into two groups according as they were born within ten years of the arrival of the mother or later, the latter seem to show a slightly increased change. For the foreign-born Sicilian children the mean head index is 79·5, for the children born in the States within ten years of the arrival of the mother 80·9, for those born

later 81.8. For the corresponding groups of children of Hebrew parents the averages are 84.6, 82.4, 82.3. The figures thus give some suggestion of a convergence towards a common mean.

The theory that the differences observed might be due to a change in the type of immigrant is eliminated by comparing the differences between parents and their foreign-born and American-born children respectively. This procedure leads to precisely similar results. The theory that they might be due to illegitimacy is confuted by the fact that, when the data are treated by the method last described, the comparison of mothers and children leads to much the same results as the comparison of fathers and children; further, using a somewhat indirect procedure to get over the difficulty of age, the correlation between fathers and American-born sons is practically the same as that between fathers and foreign-born sons.

"Earnest advocates of the theory of selection," Dr. Boas admits (p. 75), "might claim that all these changes are due to the effects of changes in death-rate among foreign-born and American-born," but it seems to him that the burden of proof lies with those who claim that the required correlation between death-rate and head index, width of face, &c., exists. "I grant the desirability," he adds, "of settling the question by actual observations, but until these are available we may point out that the very suddenness of the changes after immigration, and the absence of changes due to selection by mortality among the adult foreign-born, would require such a complicated adjustment of cause and effect in regard to the correlation of mortality and bodily form that the theory would become improbable on account of its complexity." The apparent suddenness of the change on immigration of the parent is a difficulty also for the usual form of the environmental theory; the influence exerted by the environment seems to act not directly on the child, but *via* the parents of the child, as appears also to be the case if the increased change for longer residence of the mother may be accepted as real. If the influence were exerted directly on the child, those born before the immigration of the parents should show some effect, and the change should be gradual, as it is in fact in the case of width of face (Fig. 40, p. 73), not sudden as it apparently is in the case of head index (Fig. 35, p. 62). But the data are, perhaps, hardly sufficient to enable one to speak with confidence of these changes as "sudden" or as "gradual." The greatest difficulty for the selection theory, it seems to the present writer, lies in the almost impossibly high selective death-rates that would be implied. It is to be hoped that the Commission will continue the collection of data, as the points raised are of the very highest scientific importance.

The nature of the data—the fact that they refer for the most part to children—creates, it may be noted, some difficulty in their treatment. Dr. Boas has to resort in some cases to a not very satisfactory reduction of the measures to their equivalent for adults, and the correlation between parent and offspring is estimated by an indirect method. It does not seem to us, however, that any doubts as to such processes affect the essential conclusions. G.U.Y.