

ROTHAMSTED EXPERIMENTAL STATION
HARPENDEN, HERTS*Director:*
SIR JOHN RUSSELL, D.Sc., F.R.S.STATISTICAL DEPT.
R. A. FISHER, Sc.D.,
J. WISHART, D.Sc.August
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Dear Major Darwin,

After reading through the marked passage in your letter to Whitney, and his explanation of his diagrams, I think there is one point which you have not taken into account. His black columns represent by their height the average score of the class concerned, and not the frequency of that class. Now if such a test was applied to all the children of a group of families it would be absolutely right without correction for the size of the family. Again if it were applied to all of the children whose innate ability exceeded a fixed minimum, it would still be right, (but of course a much less sensitive comparison,) for the chosen sample of the abler groups would still be better on the average than that of the less able groups, as well as being relatively more numerous. (I exclude great difference in variability between the groups).

But if the Yale students have been selected from the families in which they were born on account both of ability and of means the effect shown in the diagram is capable of an easy explanation. For parents of small families of lower ability will give their sons an education equal to parents of higher ability who have larger families; and the Yale group is selected not for equal ability of the parents, but for equal education of the children. It is ^{as} though you had a salon the hostess of which liked poets and politicians. Among those represented there will then be a negative correlation between poetic and political gifts, whether there is any such correlation

in the population at large or not.

Looking cursorily I think this effect will be found all through the book. If I read the table on p. 161 rightly those who rise socially, among the eminent, marry less, are more frequently childless when married, and leave fewer children if not childless. This points to children being an obstacle to the progress of the parent, in addition to its effect upon the prospects of the children. A point I had not sufficiently realised. The marriage rate is important, but I think it only gives about $\frac{1}{4}$ of the total difference.

Yes, I have Haldane's papers but they are very dull.

I must really find time to read Whitney, as it is full of stimulating material, and I have always felt that the effect of hereditary infertility could be made to appear from such studies; I want much some time to plan a decisive set of observations.

Yours sincerely,

R. A. Fisher

P.S.

I have sent off my letter to the "American Naturalist" having forgotten to wait for your opinion on the last paragraph. But I should still much like to know it.

What about getting Whitney to reconsider his Yale data in relation to income of parents, which are perhaps known there?