July 7 22

Dear Fisher

We kept up the
debate till 7·0 pm, so all
went well on Tuesday — or
as well as these things
usually go.

I hope your head did
not get very bad.

I send you here with
a note on the point we
were discussing at lunch.
It may not be intelligible.
If you find time to glance

at it, I should like to know—
if you think it correct.

I always wish I could
point to some book of yours
where the solution of such
problems is to be found, &
to which reference could be
made. My ideas are too
hazy.

Yours sincerely

C. Darwin

Do <u>not</u> answer unless the
spirit moves you.
What I have written
may be all bosh!

Transfers of individuals between Classes, and their racial effects.

When considering the transfers of individuals between classes distinguished by any measurable quality, we may begin by taking the case of a transfer between two classes equally distant from and on opposite sides of the mean. Then considering the numbers in each of these two classes, and the distance of each from the mean, it can be shown that the maximum effective flow for racial effects will be when the classes in question centre round the point of standard deviation; that is the point when one sixth of the population will be beyond that point in the measurement of the quality in question.

Other points have, however, to be considered. In the first place, the nearer any two classes are to each other, the greater will be the flow between them. If we assume that the flow between any two classes varies inversely as the difference between them in regard to the quality under consideration — that is, in this case, the qualities which facilitate wage earning — the maximum effective flow will be a calculable amount nearer the mean than is the point of standard deviation, Again the greater the difference in the

rate of multiplication between two classes, the more important becomes the flow between them. If we may assume that that the difference in the rate of multiplication between two classes varies directly as the difference between their power of wage earning, then the point of maximum flow, taking this point into consideration, will be further from the mean than the standard deviation.

Here then we have two causes tending to move the point of maximum effective flow in opposite directions; and with small classes and, as a first rough approximation to the truth, we may assume that they cancel each other. Hence the point of standard deviation remains the point of maximum effective flow when the numbers in the class, its value in the series, the amount of flow between classes, and the differences in the rate of multiplication are all taken into account.

But we have no right, only to take the transfers as between two similar classes, and the transfers from one class to every other class ought to be considered. Now the mean of the distance between any class and all other classes is the distance from that

clan to the mean. From this I judge by the impressionist method that, under the supposition of the exchanges between all classes varying in quantity inversely and in importance directly with the distance between an the scale, the standard deviation will still remain as the point of maximum effective flow —

L. Darwin

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