14 December 1932.

H.J. Buchanan Wollaston,
Fisheries Laboratory,
LOWESTOFT.

Dear Wollaston:

Thanks for letting me see the herring race paper, which I am returning herewith; I do not think you included the figures. I think it should prove a fundamentally useful piece of work for anyone later approaching the problem, and I hope it will be appreciated. As some of the central discussion is a bit heavy I wonder if it would be possible to hold the reader's interest by putting in things like a small table of means of the different local and maturity classes, so that one could see the order of magnitude the significance of which you are discussing. I may have overlooked such a table, but if not I should think it would be the kind of thing to help.

Although I gathered that the data are far from ideal on maturity, it would be of special interest if the vertebra number, which does not change with age, in the individual, were distributed differently at different ages,
for this would indicate selection affecting the variate. Presumably, of course, such selections must be nearly balanced at other stages of life, but they might conceivably be detectable.

I think you are greatly to be congratulated on the whole thing. The appendices are a valuable addition. I only wish parts of it could be made easier reading for the public you want to influence.

I see not what you mean by sloping the lines in each year. I do not see how to do it simply so it might be rather laborious, if I have it right it would absorb only 1 degree of freedom, as if the end parts meet, the first slope determines all the others, if the yearly means are fixed.

Yes, I think the components of a vector could be treated easily as normal variates, each with its own mean and variance, and each two with their own covariance. I believe some of the astronomers have used the idea for stellar motions.

Yours sincerely,