

St John's College  
Cambridge.

1938 Sept. 20.

Dear Fisher,

Sorry, we seem to have got the lines crossed. The footnote I referred to in a previous letter was the one about K.P. not knowing that  $(nq)^{\frac{1}{2}}$  was exact, which you put into the Annals somewhere, and this is the one that has inspired Neyman's reply. I think he is right in supposing that K.P. was talking, not about the strict binomial, but about various things that may happen to ~~it~~ <sup>the observations</sup> before the moments are calculated.

The overstatement that I referred to is the implication in your reply to K.P. that the Pearson laws aren't any use anyhow. My experience of them is not great, but I had Type III in radioactivities of rocks and II and VII in errors of observation, and the departures from normal are liable to be quite serious in the estimation of the parameters. Curiously, Culme turned up from Greenwich this morning and informed me that the astronomers there are getting worried about the excess number of big errors in some types of observation, and asking me what to do about it.

I intended the letter for the Annals; I don't think Nature would accept it, as (1) they have really stretched a point in publishing  $\frac{2}{3}$  of a page from me this week, going for N. on an entirely different matter (2) as the passage dealt with in this one appeared in Biometrika the editor would probably say that it was not his business. I had thought of writing to Biometrika, but E.S.P. rejected a paper I sent him a month or two ago, without giving me a chance of commenting on the referee's

criticisms, and I don't feel inclined to bother him further. It wasn't a very good paper, but the referee's remarks were hopelessly stupid.

What is the reference to Gossett's discussion of a sample of 2? The median of the law has an important position in my theory, because with any law, <sup>symmetrical and,</sup> involving ~~xx unknown~~ parameters of location and scale that are unknown initially, I find that the <sup>o</sup>posterior probability, given the first two observations, that the median of the law lies between them, is always  $\frac{1}{2}$ . This is not true for any other parameter of location. *In any other it is  $< \frac{1}{2}$ .* (Camb. Phil.Soc. paper of 1936, 423-5). Student presumably got the analogous thing by his way of looking at it, which could be turned into mine by the argument I used in 'The relation between direct and inverse methods.'

Would you pass on the enclosed C.S. paper to Stevens? pp.441-5 concern a problem very much like his, though I should do it rather differently now. *The parts of the paper that are true are indicated in the Rev.Soc. one.*

Yours sincerely,

Harold Jeffreys.