

4th July, 1950.

My dear Beese,

Thanks for your nice long letter of June 14th. I was exceedingly glad to get your paper on 'Application of Statistical Methods to Research and Development in Engineering.' For the variety of your repertoire of Statistical Methods made a great impression on the I.S.I., (or on those of them capable of receiving impressions at all,) and in any case, it is a paper which it is always a pleasure to look at. Thanks also for Leonard Seder's paper, which struck me as being exceedingly good. I am sure his effort to classify fallacies must help people greatly, at least to begin with.

indeed it would be a pleasure to meet him
Thanks for telling me about him, even apart from the nice things things you say.

I had a reply to-day from Blise acknowledging a paper I had sent in to Heredity on Geographical gradients or "clines" in gene ratios, and their practical observations. It involves a transformation half way between the probit and the logit, and I thought it might as well be put on record at once, especially because what those following Berkson have called the logit had rather a sad history.

As Yates and I were publishing some of the tables for Biological Assays we thought it worth while to have a few paragraphs in the

introduction to the tables on similar transformations, and I worked these we published for the angular transformation, and gave in the editorial note the formulae, which are comparatively simple, of the logit transformation:-

$$2x = \log p - \log q.$$

This however, was all too inconspicuous, at least neither Chester nor Berkson know of its existence. In time Berkson duly 'invented' the logit transformation and thought it was a grand new toy to show he could do much better than Chester was doing by using probits. I do not think the kind of data under discussion gave the hint of a significant indication that one of these methods was not as good as the other; but I fancy, that Chester was a little irritated with Berkson's claims, and not really as pleased as he ought to have been, to find that by including the transformation as 'a third transformation of some interest', we had both confirmed that it was a reasonable thing to do, and, of course, anticipated the invention, for what that was worth, of the method.

Actually, I have been using logits recently on some entertaining data from Oxford, where a man has been collecting the shells of snails eaten by thrushes, and conveniently available in the neighbourhood of the "anvils" or thrush-stones on which the bird breaks the shells. In two different woods the proportion of yellow shells has diminished continuously during April and May this year showing a daily change in x in both cases of about $2\frac{1}{2}\%$, due, presumably to the change in background colour of the woodland ground cover, as the leaves come out. Anyway, though they strongly prefer yellow

shells in April, they are equally partial to pink or brown shells in May, and I think the logit transformation most suitable for the job.

Before hearing from him I heard that Bliss had made a complete recovery from his illness, though I suppose he will have to be more than ordinarily careful.

I shall be exceedingly interested to hear how you get on at Point Hope, if you make the journey. I think I told you that I was a bit puzzled by the manager asking for my advice and then being so slow in taking it.

It is grand to hear how you are bringing your engineers along, I do not think that it could have been done without the kind of patient, tactful and unselfish approach, of which you have something all too like a monopoly, though maybe others will pick up something of that too.

No, I cannot in conscience return to visit the States in September, though the Statistical Sub-commission would pay for it all, and Chicago is offering me an Honorary Degree, and infinite kindness, in connection with the Quarter Centenary of Statistical Methods.

However, I really do mean to visit Chicago again sometime, which will give me something to look forward to, especially if you can think up an excuse for me to visit Washington also.

Sincerely yours,

P.S. Do you know 'This Sinean World' by a well known writer called

Day?. I read it last Spring and have been trying to get a copy for a daughter. The booksellers over here seem, however, to be forbidden to buy books which cost dollars. I believe it is almost equally hard to get sterling books in the States, but perhaps not quite so bad. Anyway, I left a few dollars in Chester's hands to pay for such contingencies, and wonder whether you would see if the book is available still in the States. I thought it was exceedingly good.