

November 6, 1940

My dear Riddell,

Thanks for sending me your paper on Cataract Extractions, which I have read with the greatest interest. I do think the whole thing is extremely valuable, both from the point of view and of method/of results.

I have taken the liberty, as I think you wished, of writing in an alternative wording on p.8, to allow for the fact that, if you say a thing cannot be done, someone is bound to claim that he has done it, and you do not want to turn aside to discuss, or contest, such claims.

With respect to Table 5, I believe your conclusions could have been stronger, and I have inserted a longer note to make this point. I mean the three lines of p.13 to come first and then what I have written on the back of p.12.

There are really two points here, (1) it fairly often happens when a χ^2 value is not quite conclusive - or indeed when it is - that one suspects only a single cause of disturbance, e.g., in this case age, so that, ideally, the whole disturbance might be represented as due to a single degree of freedom. In this case I proceed by leaving out four classes provided by the two less

informative age groups and find χ^2 nearly as great for one degree of freedom instead of three, i.e., a clearly significant contrast. In doing this sort of thing one's mathematics must be mitigated by honesty. For example, if the numbers had been O and A blood groups in four different towns showing a sub-significant difference with three degrees of freedom, I should have gained nothing by choosing the two towns with highest and lowest ratio and contrasting them; but as you really are concerned with age, it is entirely appropriate to choose the youngest and oldest age groups, which have in fact the highest and lowest ratio of good and bad sight. . There is, in fact, a great variety of ways in which this sort of thing can be done, some of which are illustrated in my chapter on χ^2 , the general aim being to increase the sensitiveness of the test by discarding irrelevant or relatively uninformative degrees of freedom.

Congratulations on the paper, which I am returning. I think you have illustrated the tests excellently.

Yours sincerely,