

January 1, 1942

Dear Whately Gerington,

I have done my best about your letter of the 22nd, and I really do not see any better expeditious method than that of the scores. Those for the cases you show seem to me eminently reasonable, and I cannot see that the use of a standard error can ever be very misleading when applied to the sum of a number of such scores. Of course the distribution will actually be skew, as is the nature of the binomial when p is not equal to q , but the allowances for skewness which can be made do, in my opinion, make very little difference for much labour, as appeared, for example, in that expended by J.B.S. Haldane in allowing for skewness in the scores used to detect linkage in man.

The variance of your total score will, I suppose, be $\sum npq(\log p)^2$, and the third moment about the mean will be theoretically $\sum npq(q-p)\log p)^3$.

This will, I suppose, be always positive, but I should not think, in general, large compared with the (variance)^{3/2}.

If you would like any particular cases looked at from the point of view of whether the test of significance is altered by allowance for skewness, I should be glad to look at them.

Yours sincerely,