

21 December 1944

Dear Mr Wood,

The test of significance for the difference between two means, where the variance of the observations is unknown by hypothesis, is given, at least for a useful range of cases, in Tables V.1 and V.2, added in the second edition of Statistical Tables. There is also an account of the logic of this test in the Introduction (page iii). I think these tables cover most of the ground practically, but I have given other tables providing material for making a more extensive test in all cases in the Annals of Eugenics (Volume XI, 144-172). Considering the amount of work which went into making these tables, I should like to think that they would be very often used, but I do really doubt whether they do supply very often the most appropriate approach. I think the point is that, if we doubt the existence of an effect at all, then we ought to test its significance with the ordinary t-test or perhaps a g-test on the variances, since if it has no effect the variances must be equal. The variances might be unequal if it is

sometimes beneficial and sometimes harmful, but if this is granted it would need rather a special experiment for the value of the mean effect to have any appreciable importance.

Yours sincerely,