My dear Payne,

I have just heard from Stanley that at Mrs. Wallace's request he asked you for the map distance formula. For myself, I usually get the map distances by differences from the appropriate formula connecting metrical distance from the centromere with map distance. This involves the length of the arm rather more simply. Thanks, however, for the screed, which I will leave with Mrs. Wallace.

At George Barnard's instigation I have recently looked at Table 11 of Pearson and Hartley's "Biometrika Tables", which is quite astonishing, since for the simple group cases in which $n_1 = n_2$ and Sukhatmé's θ is 45°, so that in my sense, though not in Pearson's, $s_1{}^2 = s_2{}^2$, the values tabulated are actually smaller than the corresponding values of $\underline{t}$ for $n_1 + n_2$ degrees of freedom. This would imply that we could make a more powerful test if we knew nothing about the variance ratio of the populations sampled, than if we know this ratio exactly.

I imagine the conscientious worker, desirous of reporting a significant result, saying "It is true I had thought that these

variances were equal, and there is nothing in the data to contra-
dict this view, but thank goodness I do not know it for certain
and so can use Welch's value".

Actually, for no possible value of the variance ratio of the
population sampled, can Welch's values fail to claim significance
in this class of cases with a frequency exceeding that of the
level of significance claimed.

Tell me what you are doing, and how your plans prosper.

Sincerely yours,