April 27, 1939

Dear Bliss,

I am answering part of your letter before the rest, in order to get it done at all in reasonable time. I have just looked up W.R.Thompson's paper to which Wilson refers. I cannot think why Wilson should especially want to bring this to your attention, for the paper does no more than to give a very complicated approach to what I have called "The exact treatment of 2 x 2 tables", which has been Section 21.02 of Statistical Methods since the fifth edition.*

As you will yourself appreciate from the section in the Design of Experiments, I introduced the general procedure of tests of significance free from all assumptions of normality chiefly because I wanted to demonstrate how silly the academic criticisms of the common tests of significance on the ground that normality was an unproved assumption. The typical example, Sec. 21, shows, as I think very generally happens, that such tests give exactly equivalent results to those based on the normal curve, and are only at a disadvantage in being

excessively laborious. I had thought at one time that they were also / less precise, but I think now that they can be made as precise as any others. They seem to me nearly irrelevant to your actual work, and I think Wilson ought to know of the equivalence of Thompson's formula to that I had previously given

Yours sincerely,

Actually Norton has just pointed out to me that Thompson has gone wrong in the 2 x 2 table problem, calculating the same probability as I for the table actually observed, but, for cases "less favourable", failing to keep the marginal totals constant, but keeping the contents constant instead