

21st August, 1958.

My dear Chester,

Thank you for your letter and enclosure. I shall be interested in your bulletin, and I hope you may be interested in the long talk on probability which I am giving to an International Pharmaceutical Congress in Brussels next month, because it appeared to me that life would not be safe if the standardization of drugs, and the control of epidemics and ballistic missiles, were in the hands of people who do not understand what probability means and cannot test the significance of the difference between two samples unless their variances are equal! In fact one must either prevent the mathematical departments from falling into fifty years of chaotic fallacy, as they did after 1812, or else protect the applied subjects from the incursions of young men trained in such departments.

The trouble with variance components seems only to have arisen through Tukey thinking that the matter involved simultaneous decision functions which in many cases would be exceedingly complex, as Duncan particularly has shown. If, without having heard of John Tukey, your own researches had given you measures of soporific power of seven different drugs showing significant differences, though of course every chosen pair would be significant at a different level, do you think that you would want to carry out a lot of further calculations on the seven

values before you? Of course, if the second on the list was very much cheaper than the first, you might well want supplementary information, perhaps using these two only, from a further experiment.

Sincerely yours,

Encs.