3rd December, 1956.

Dear Mr. Nelder,

Of course I have known for some time how poor an opportunity of mastering mathematical statistics is offered by this University. I suppose your misapprehension as to what Cochran and Cox said about my formula $(n+1)/(n+3)$ was due either to your misunderstanding one of the teachers here, or to his own misapprehension on this point. Of course a cautious student would have checked the original as a safeguard against setting out through life trailing clouds of ignorance.

In the superfluous little table provided by Cochran and Cox on page 28, they say "equal amounts of information", and perhaps you have read into this the more elaborate concept of equivalence. In the table on the previous page, the author, perhaps Welch, has fallen between two stools by calculating the <u>average</u> limits of error at various levels of significance, whereas "Student" had given the actual limits at each level, and this is what the experimenter needs.

If I understand your letter aright, Federer is to be scolded for quoting my formula not because the latter has been shown to be inexact, and not because any effective alternative has been offered, but because you hope at some future time to offer such an alternative, not being yourself satisfied with the matter as I have left it.

With respect to the calculation of the amount of information, this has been the same and examples of it have been available every year, at least of the last 35; and again it must be the peculiarities of your teaching at Cambridge which lead you to think that some other method is more authentic.

$$\sum \frac{1}{m}\left(\frac{\partial m}{\partial \theta}\right)^2 \qquad\qquad \int \frac{1}{f}\left(\frac{\partial f}{\partial \theta}\right)^2 dx$$

Probably, however, you were not taught to regard the fiducial distribution of μ as a frequency distribution at all.

Sincerely yours,