COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORGANISATION
DIVISION OF MATHEMATICAL STATISTICS
University of Adelaide
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6th October, 1959

Dr. Oscar Irwin,
London School of Hygiene & Tropical Medicine,
Keppel Street (Gower Street),
LONDON, W.C.1.

Dear Oscar,

I am in some doubt at this distance as to how much notice it is necessary to take of that confident young man, Dr. Lindley, but as he informs his readers that some results in my book are false and without any logical basis, but refrains from letting me know which results he is anxious to challenge, I suppose I ought to write something to show that I am at least aware of what the chap has been saying. It would however be a labour of Hercules to try to winkle out all of the misapprehensions on which his rash remarks are based. If I mistake not, he started with the full Neymanian notion that no fiducial reasoning is valid and is now making a flap about having established a proof that it is only valid in very restricted circumstances. However it is for him to make his meaning clear.

Sincerely yours,

R. A. Fisher

In spite of the insistence that I have rather frequently reiterated
in various parts of the book, I have evidently not made it clear to
Dr Lindley that uncertain inference is fully valid only if based upon
the whole of the data. Dr Lindley criticises the fiducial inference drawn from
a single sample by showing it to be inconsistent with the inference which
would be proper if a second sample also had been observed. In particular
in developing the fiducial argument I point out that ~~it would be~~ such an
argument would be precluded if the data had included a frequency ~~[illegible]~~ distribution
known *a priori*. Of course, it would equally be precluded, if observational
material other than that used in the inference had been also available. The
second sample makes recognisable subsets of possibilities not previously distinguishable. ~~[illegible]~~ exhibits, as a
The fruits of this misunderstanding of Dr Lindley's ~~the~~ ... "an error has been made"
"criticism which is mathematical, and demonstrates that
and notes that it "makes some results in the book false or without any logical
basis". He does, however, seem to perceive that when estimation is sufficient the
information supplied by the two samples could be combined to yield a true fiducial
distribution of the parameter; and this would seem to be the proper course. I may
have been mistaken in thinking that Bayes' process could be applied to combine
data capable of yielding a probability statement with other data capable of yielding
only statements in terms of likelihood. The very distinction, however, which I draw
between observational material of these different kinds seems from his comments not
to be clear to the ~~[illegible]~~. He expresses surprise that consequences of logical
importance should flow from the distinction between continuity and discontinuity of
the observations. The penultimate ~~last~~ sentence of Chapter V may have escaped him.
"It is particularly to be noted in this example problem