

St Johns College
Cambridge

Oct. 19.

1937

Dear Fisher,

If you approve would you stick this into my paper just after the passage about the exponential of a quartic - as far as I remember that is the most natural place? I am not quite clear what will happen if the method is used in this case. I suppose that a few observations keep turning up further and further out, and that the ratio σ_{μ_4}/μ_2^2 keeps on increasing, so that if there are enough observations n will tend to 2.5.

I have been testing a lot of alleged periodicities in earthquakes lately. They have usually been found to satisfy the Schuster test for genuineness; but it looks very much as if the amplitudes don't mean periodicity but only that earthquakes in the same phase occur in batches and push up the random error. In a single series of aftershocks I got a quite simple formula to fit by m.l. (a nasty job as there were no sufficient statistics and I had to work out L numerically from scratch) and all periods superposed on this gave χ^2 under 4 or so. Apparently as between aftershocks of the same earthquake independence holds, except so far as any two are related to the main one. But if all the Japanese earthquakes for $\frac{1}{2}$ years are analysed you get spurious amplitudes because a main shock is followed by hundreds of others within a month or two, and a test assuming the whole independent goes wrong.

Yours sincerely,

Harold Jefferys