Dear Fisher,

Thanks for your letter. The gravity thing has more or less fizzled out. Assuming as the most optimistic thing that seemed reasonably possible, that neglected harmonics contributed at random th the estimates of the components I was after, I got a χ^2 just on the 5 per cent point, which I took as a warning not to risk going any further. There are plain departures from a simple ellipticity formula, but there is no material to separate, say, third harmonics from fifth until two more highly uncomfortable submarine expeditions have been done.

Now I want to know whether you have ever done, or seen done, a problem like the one Rule suggested once about a pendulum kept going by small boys peashooting at it and hitting it at irregular intervals. The problem is, given the displacements at various times, to estimate the free period and the damping. Rule found out a few things about correlations between displacements at various intervals, but I don't think it has been shown how to get the best estimate. It turns up in the corrections to the period of a pendulum for irregular sway on the support, and also, with a complication from gyroscopic effects, in the estimation of the free (14-monthly) variation of latitude. I am trying this now, nobody having ever given an estimate of uncertainty for it.

I have had the advance copy of my book, and have instructed the publishers to send you a review copy. It should be along in about a fortnight.

Yours

Harold Jeffreys