August 16, 1937

Dear Jeffreys,

I had to be rather down on Pearson, as for a time it seemed likely that his attack would wreck Koshal's statistical career, and I particularly wanted to make clear to our Indian brethern that unfair attacks on foreigners were as much resented in this country as they must be by their victims.

Like you, I have fairly often run into $x^p e^{-ax} dx$, but with the terminus at zero, and not at an arbitrary point as in the Pearson form. This makes the curve altogether more manageable.

I have long thought it a pity that the form with a quartic exponent had not been more fully studied. One or two attempts have been made, as by O'Toole in America, but it involves a transcendental function as interesting, I should think, as the hypergeometric which seems never to have been sorted out. I have very often found translation, i.e., functional transformation of the variate, extremely useful to make a distribution sufficiently, or indeed nearly ~~actually~~ normal. I think, myself, it would be unreasonable to expect cases from all sources to conform to a single family.

The question you raise of removing a known amount of variance from a distribution is really a most intricate and intriguing one. I suppose the logical approach is by correcting the cumulants, but that, of course, only gives a finite series of the first few cumulants of the corrected curve, and to infer the true distribution from these not only sometimes involves approximations that fail to converge ultimately, but too often have a bad practical convergence of the terms available.

Yours sincerely,

Do not hesitate to send along anything you would like to publish, but do not be offended if I think it unsuitable for the journal