23rd January 1936.

Dear Dr. Rosa,

I do not think you need bother about the early paper on Maximum Likelihood, as I was at that time only exploring the apparent discrepancies between the methods developed by Pearson and those traditional from Gauss in the books on ~~Least~~ Squares. Indeed I thought at that time that Pearson had the right of the matter, and had developed no objective criteria for judging a good method of estimation from a bad one.

The first extensive discussion is the 1921 paper, Phil. Trans. A. ccxxii. 309-368, which is, of course, too long, as is usual with a young author, and full of long excursuses, e.g. those on the inefficiency of fitting Pearsonian curves by moments.

The very useful notion of sufficiency had been developed in a previous paper in the Monthly Notices 1920, lxxx, 758-770, where, as the result of an argument with Eddington, in which that man might have,

but did not, suggest the publication of my views, I sent in to the Royal Astronomical Society a comparison of the mean error with the mean square error, most of the points of which, as I found later, had been picked up either by Gauss or by Helmert, though the overriding functional significance of sufficiency had not been noticed by either.

If you are reading the subject seriously I should try the Royal Society for the Mathematical Foundation paper, for they certainly put aside a stock of all Trancactions. The mathematical theory is much more compactly treated in the Theory of Statistical Estimation (1935) Proceedings Camb. Phil. Soc. xxii, 700-725, which carries the theory a good deal further for the real case of finite samples. Some people find the approach helpful as developed in the Logic of Inductive Inference, 1935, J. Royal Stat. Soc. xcviii. 39-82. This, of course, was considerably later than the Camb. Phil. Soc. paper of 1930, Journal Roy. Stat. Soc. xxvi. 528-535. and deliberately leaves out this development, which had been discussed at a separate meeting of the society. Some aspects of this work are carried further in the paper entitled Two New Properties of Mathematical Likelihood, (1934) Proc. Royal Soc. A, cxliv. 285-307. I am sending you one A Phil. Trans. Roy. Soc.