MY CONTACTS WITH TOM FERGUSON.

LLC

Tom and I met in the early fifties. I don't remember the exact date. May be Summer 1953. I had been assigned to teach a course on "Descriptive Statistics". The appellation 'data analysis' had not yet been invented.

My class was composed of very good students, but the material was not that great, full of moments, Pearson curves, regressions and the like. One of the students, Tom Ferguson, stood out, but he seemed to be bored by the material. I assigned him a special problem.

At that time it was quite current in Astronomy and in Economics to consider observable variables X and Y defined by linear relations

$X = \alpha U + V$

$Y = \beta U + W$

where U, V, W are assumed to be independent.

Reiersol had shown that if all three are Gaussian, the ratio α/β is not identifiable. Geary had shown, under some restrictions, that the regression of Y on X could rarely be linear.

I asked Tom to clear up the problem, which he did. The solution became part of his Ph.D. thesis. The other part was on a different subject: The behavior of Neyman's BAN estimates in the study of dilution series.

Later, when Neyman asked me to teach a course on Asymptotics, Tom and I collaborated on a set of Notes for the course. This collaboration was interrupted by Tom's departure for UCLA right after he received his Ph.D.. In addition, it had become clear that before writing a book-style set of Notes on the subject, both of us had to learn a lot more and figure out how the material could be arranged in a logically consistent manner. Still, our Notes of the mid-fifties were not bad. I wish they would still be in existence.

After Tom's departure to UCLA, our contacts became sporadic. We went our separate ways. Tom soon published a Graduate text: " Mathematical Statistics, a decision theoretic approach ". The book should be recommended for its clear presentation of a vast amount of material. By that time, Tom had turned his attention to game theory and optimal stopping times. He contributed major works on those subjects.

One other contribution that has received a lot of attention, but, I believe, is not well represented in the present collection of essays, is the introduction and study of the Dirichlet distributions as prior measures in non-parametric settings. Even though they are, as Tom showed, discrete measures, they

work well in purely non-parametric situations. The corresponding posterior distributions are also of the Dirichlet type and easily computed from the data and the postulated prior. Because of their tractability, they have given rise to a vast literature.

In summary, Tom's influence in our field has been very widespread and multiform. It is fitting to offer him a tribute as a token of appreciation.

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