

Interactions with Sir David R. Cox

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I was not formally taught by David, nor wrote any articles with him. But, in his gentle way, like so many, he changed me as a person and as a scholar. All for the much better.

When he was Warden (that is head) of Nuffield College Oxford, with his colleague Sir David F. Hendry he asked David Sainsbury (through his charity, the Gatsby Foundation) to fund a research fellowship (to work independently) in econometrics. I knew neither of the Davids personally, but was in awe of both -- I still am. I had been an assistant professor at the LSE since 1988, doing my PhD from 1987 to 1989, and felt I needed some time doing full time research. I left the LSE in 1991 for Oxford on leave to take up the research fellowship and never returned.

I would talk with David over lunch or afternoon tea most days we were not traveling (David worked very long hours in the office and at home, but was very social). He always gave the impression he had time for each person (despite being the Warden of a College, Editor of *Biometrika*, typically teaching courses in the Oxford Statistics Department and writing 10 papers a year!). He would come to econometrics seminars and I learnt from listening to his questions and asking him what he thought of the papers, and more broadly and usefully, his taste for problems. Many of his research breakthroughs came from his background in stochastic processes (often conversations ended up with a discussion of wool fibers from his time at the Wool Industries Research Association) which connected to some of my own research interests.

During my post-doc David was working with the great Danish mathematical statistician Ole Eiler Barndorff-Nielsen on the second volume of their books on asymptotics and statistical inference. I asked David if I could read the draft book. He was kind enough to let me and I worked through it, carefully (I thought I found an error, went to see David, he said "that's interesting, I think I proved that 3 different ways, but let us have a look..." I leave it to the reader to guess who was right). This worked well for the first 4 chapters, then there was a change and it was mighty hard (and very rewarding) work. I later learnt David mostly wrote the first four chapters and Ole mainly worked on the last pieces.

In 1993 David was kind enough to support my appointment to a permanent position at Nuffield College, Oxford, as an Official Fellow in Economics. This gave me space to mostly focus on research for the next 20 years. David organized a workshop at Nuffield College with Ole and they invited me to give a series of lectures on stochastic volatility.

During the workshop Ole got very interested in the way I thought about stochastic volatility (I later worked out it connected to his earlier probabilistic work on mixtures and infinite divisibility) and Ole and I started working together on problems in financial econometrics. Ole was so inspiring and extraordinarily intellectually brave, diving into original ways of thinking about problems knowing his clarity of thought and intellectual power would deliver something interesting. He taught me a totally different way of being a scholar. I got to work with him because of David. In all Ole and I wrote 30 papers together and I think it includes some of my best work so far.

David's leadership strategy seems simple to me. Provide as much intellectual space (and protection) as possible for young scholars, add encouragement, urge people to finish things, inspire by personal example (work hard, be modest, focus on the core ideas, formalizing early can be counterproductive, do work which can broadly impact applied research) and provide a stream of interesting visitors. I vividly recall his protection of the young and new. I had a friend who was a post-doc working with a very grand professor who thought she should work on his problems 24/7. My friend viewed her duties to him as her first 40 hours of the week, after that she could work on her own material. Much steam was generated. David, as Warden, sided with my friend. The grand professor left the College. In my view, David was right. He was nearly always right. I tried, the best I could, to use these lessons when I ran (no doubt imperfectly) the Oxford-Man Institute and later when I was Chair of Harvard's Department of Statistics.

Recently I have been teaching an introduction to statistics inference to hundreds of 1st and 2nd year Harvard undergraduates. David's ideas appear through logistic regression, non-interference in causal studies and the behavior of MLE for quasi-likelihoods.

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I have no disclosures to share for this manuscript.