

REMEMBERING JOHN HAMMERSLEY

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(as ‘A Tribute from a Former Pupil’)

One of the nice things about becoming an academic is that one acquires two academic fathers – one’s doctoral supervisor and one’s undergraduate tutor. John Hammersley was my first academic father, and it is sad to lose him.

I first met John Hammersley back in 1962, when he was in his prime at forty-two and I was a 17-year old in the Upper Sixth. I remember him as a tall, imposing figure who carried himself with a ramrod-straight back, looking every inch the soldier he once was. I remember also having to half-trot to keep up with him when he strode across the front quad after collecting me for interview.

There were only two maths students in Trinity in 1963, soon reduced to one. Tutorials with John Hammersley, one to one, were strenuous experiences, which could be daunting but were often memorable. One has to say that John was difficult. But I was quite used to dealing with difficult male authority figures - my father, and some of the masters at school. He was witty, and I was always fascinated by his mannerisms. He smoked his pipe frequently in tutorials, and when stuck on a problem would reach for his pipe compulsively and suck on it furiously, forgetting to light it. I am sorry to say that I enjoyed watching this so much that on occasion – when I had got to know his teaching range in detail – I deliberately asked him hard questions so as to have the pleasure of watching this performance.

I noticed early on that John would often mention Scylla and Charybdis. I found by experience that if I ever wanted John to do something for me, I had only to work Scylla and Charybdis into conversation and it would be done. Life would be easier if everyone had such an ‘open sesame’.

I owe to John my introduction to my second academic father, David Kendall at Cambridge. The two men had been Oxford colleagues from the post-war years to the early sixties, and held each other in warm regard. Thanks to the excellent and rigorous grounding I got from John, I was able to handle the transition to research, and – being lucky enough to go through

the system during a period of university expansion – go on into academia myself. And of course their spectrum of interests – probability and statistics – has become mine. I bear my academic paternity in my profile as clearly as I bear my physical paternity in my father’s nose.

I didn’t realise till after leaving Oxford just how unusual John was, as a tutor and a man. I had thought that all Oxford dons were like John Hammersley, but began to realise that this was not so when people remarked on my having come through unscathed. Later I read Harold Macmillan’s account of his first battle, in the First World War. It had been a shambles, but he had thought all battles were like that. I immediately thought of John Hammersley.

What John loved, and the only thing he respected, was solving hard problems. When changes in the curriculum during the expansion of the sixties put more emphasis on theory, at the expense of reducing the severity of problems below what he thought a respectable level, John resorted to polemic. He wrote (*Bulletin of the Institute of Mathematics and its Applications*, 1968) a diatribe entitled ‘On the enfeeblement of mathematical skills by ‘Modern Mathematics’, and by similar soft intellectual trash in schools and universities’. This ‘Soft Intellectual Trash’ controversy caused much comment at the time. One knew what he meant, but by no means all of it was defensible. It drew a magisterial rebuttal from his Oxford colleague M. F. (now Sir Michael) Atiyah. I myself thought at the time that John had deliberately overstated the case, for dramatic emphasis and to draw the enemy’s fire. I said as much to him many years later; he replied firmly that he had meant every word of it.

John always welcomed scientists coming to him from outside mathematics with problems; much of his work was stimulated in this way, particularly from his links over many years with Harwell. Apart from his great mathematical skill, his most striking academic characteristic was his courage – in tackling hard problems, across the board, throughout his career. On the other hand, his preference for tackling problems with his bare hands meant that he was disinclined to keep himself abreast of theoretical developments by others, and this deprived him of some of the tools that became available. For example: John Hammersley’s greatest mathematical achievement was percolation theory, which he initiated and made numerous contributions to. His *Independent* obituarist Professor Geoffrey Grimmett of Cambridge – a Hammersley pupil as a research student, and a percolation specialist – remarks that some of the striking recent progress in the field has come about

precisely because of the development of relevant theory. But theory was never Hammersley's style.

John Hammersley's mathematical achievements will endure, and centre on three areas. The first, percolation, is tremendously active, and has practical applications in fields such as petroleum extraction and hydrology. The second, Monte Carlo methods, is the heart of computer simulation, and ubiquitous today. The third, subadditive ergodic theory, provides a powerful technical tool for use in proofs – for instance, in percolation. These are wonderful achievements, but one – or at least, I – can't help wondering how much more he might have achieved, had he been more open to progress by others and less of a mathematical solipsist. But natural as the thought may be, it's also an idle one. He wouldn't have been John Hammersley.

I was delighted to contribute to John's 1990 Festschrift – edited by two of his most distinguished doctoral students, Geoffrey Grimmett and Professor Dominic Welsh of Oxford – but rather sad to be the only Trinity maths graduate to do so. The only other academic mathematician I know who was a Trinity maths undergraduate is Ken Johnson, then an athletics blue and my College cross-country captain, now a Professor at Pennsylvania State University – in algebra, never John's cup of tea.

As someone else said of the loss of a father: he was a man, take him all in all, I shall not look upon his like again.

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