

Donald Hume Steven

1933 – 2005



Donald Steven MA Vet MB FRCVS, and Fellow of Churchill College Cambridge, died on 4 May after a courageous 40-year battle against multiple sclerosis. He was born in Plymouth where his father worked at the Laboratory of the Marine Biological Association. At the beginning of the War Donald and his brother were evacuated to the Scottish Borders where they were beaten up at school on account of their English accents; their Scottish accents earned them the same fate on their return home.

Donald developed an interest in the history of biology and medicine after reading communications by Robert Hook and Leuwenhoek (and many others) in a facsimile edition of the *Philosophical Transactions of the Royal Society* in the science library at his Bristol school, Clifton College. This interest was strengthened by the wealth of early scientific writing he found in the Anatomy and Zoology libraries when he went up to King's College, Cambridge to read Zoology. In his Editor's Preface to *Comparative placentation: essays in structure and function* (1975) Donald wrote that he was prompted to read veterinary medicine by an illustration in Thompson's *Elementary Veterinary Science*, reminiscent of the work of Ruini

[1530–1598, an Italian anatomist]. While seeing practice as a veterinary student he was introduced to fundamental problems of placental structure and function. On his appointment in January 1961 to a Demonstratorship in Veterinary Anatomy in Cambridge he put this interest aside, but later, under the guidance of Robert Comline in the Physiological Laboratory, he began to investigate the vascular anatomy of the placenta in the sheep and mare. Donald was a superb artist; this meant that his papers and abstracts were beautifully illustrated, as was his teaching material. But he brought more to his teaching than knowledge and draughtsmanship – he brought imagination and memorable humour. In the dog, sweat glands are largely confined to the footpads: who could ever forget this after seeing Donald draw paw prints across three black boards to illustrate a dog walking on lino on a hot day? The life-sized cardboard cut-out of a model in a Playtex Living Bra, which enhanced his demonstration on the cow's udder, is still used by the Department of Anatomy. In Donald's day, though, the vets were taught in the Sub-department of Veterinary Anatomy, of which he was Director from 1984 until ill-health and deteriorating eyesight forced his early retirement in 1989.

Donald's early interest in scientific history made him the ideal choice as the Physiological Society's first Archivist when, in the 1970s, it was decided to establish an Archive in Cambridge at the Churchill College Archives Centre. He held this position until the Archive was moved in 1990 to the Contemporary Medical Archives Centre at the Wellcome Foundation in London. In his role as Archivist (marked on his retirement by the presentation of a bronze replica of the Society Dog), Donald served as a Designated Member of the Society

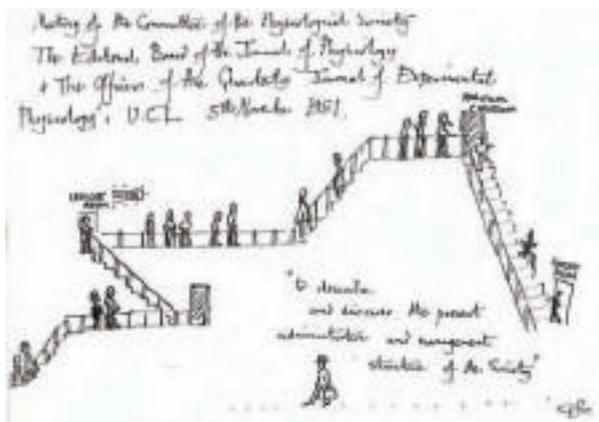


Figure 1 (below left). Members of the Society's Committee and *The Journal of Physiology* and *Quarterly Journal of Experimental Physiology* Editorial Boards search for a space for a discussion. **Figure 2** (above). Jim Pascoe 'hoist with his own petard'.

Committee from 1980 to 1982. Once again his sense of humour and artistic talents came to the fore, enlivening (or defusing) many a Meeting. The two figures show typical examples of Donald's vignettes. Figure 1 dates from November 1981: it commemorates one of the occasions when the relationship between the Committee and the Editorial Boards of *The Journal of Physiology* and the (then) *Quarterly Journal of Experimental Physiology* was not all sweetness and light. The Boards took the view that they did the work while the Committee spent the money. Tim Biscoe, as Society Secretary, was keen to improve the situation by bringing all parties together for a soothing discussion in the Physiology Theatre at University College London. Unfortunately, he didn't know the Theatre was in use by another department, the Department of English no less. This meant we had to trail up to the large old practical classroom where, perched on hard stools, Board Members and Committee Members confronted each other across the laboratory benches. Geoffrey Burnstock, realising that this arrangement was inherently uncomfortable, and not conducive to intelligent discussion, offered us space in the old Anatomy Lecture Theatre – and, as Donald captured so accurately, off we trailed again. Figure 2 records the Committee Meeting in Bristol in February 1982. Jim Pascoe, in excellent form, was generating considerable heat. It was a very warm room so he leapt up to open the window but unfortunately caught his foot in the window cord – another moment that was faithfully recorded. Donald was also renowned for relieving the tedium of Examiners' Meetings by providing cartoons of some

of the more bizarre information in the exam scripts. The statement that ‘cows should not be fed on turnips in case they came out in the milk’ inspired a picture of turnips plopping from the udder into the bucket, to the surprise of both cow and milker. To illustrate the claim that without a special layer, horses’ hoofs would come off in the rain, Donald drew a hoof flying off the leg of a wet, and completely hoofless, horse that was saying ‘Damn, there goes my last one.’

Donald will long be remembered for his contribution to the Physiological Society, his inspirational teaching and artistic abilities, and his kindness, stoicism and humour. It was fitting that a family dog attended his funeral: many of the large congregation recalled their vision of Donald, pipe in hand, his bow tie at an angle, and his current beagle beside him. Our sympathy goes to his wife, Sue, and to his children and grandchildren.

Ann Silver

John Sirs

1926 – 2005



John Sirs, Professor of Biophysics at the University of London from 1979-1991, died of a heart attack on 27 April while walking in the Chilterns, an area close to his home and one that he loved. Between 1960 and 1991, he worked at St Mary’s Hospital Medical School and was successively lecturer in physics and senior lecturer, reader and professor of biophysics.

Born and bred in the North East of England, John read physics at Durham University and after a short spell in industry, he moved to Cambridge where he became a research student in the small Department of Colloid Science working under the supervision of FJW Roughton. Roughton was a physiologist who had pioneered investigations into

the kinetics of the reactions of haemoglobin with oxygen, CO₂, CO and NO. He had discovered carbonic anhydrase and the carbamino compounds of haemoglobin and was one of the first biologists to analyse theoretically and experimentally processes where the overall rate is dependent on both chemical reaction rates and the rates of diffusion of reactants and products to and from the reaction site. John Sirs quickly mastered the physico-chemical techniques of Roughton’s laboratory and enjoyed the atmosphere of the small department and also of 1950s Cambridge. After gaining his PhD, he continued his work in Cambridge for a brief post-doctoral period becoming more interested in the physiology of blood gas transport.

In September 1960, John moved to London to take up the position of Lecturer in Physics at St Mary’s Hospital Medical School. The main function of the small Physics Department was to provide a first MB course in physics for those 10-15 students who were admitted each year without A-level qualifications in the subject. While teaching was the reason for the department’s existence, the head of the department, SG Rowlands, also ran the isotope unit for the medical school, had an active research programme himself, and encouraged his assistants to develop their own research interests. So, as well as teaching elementary physics, John Sirs continued to work on the reactions of gases with the blood and also developed research projects with Rowlands and other members of the department.

An important result of one of these collaborations was first presented as a communication to the Society at the UCL meeting in 1969. This drew attention to the potential importance of Taylor diffusion (the diffusion of a solute between laminae of a fluid flowing at different velocities) in limiting the interpretation of single passage techniques for assessing blood flow and microvascular exchange. The single passage techniques were becoming very popular in the late 1960s, and both the communication

and the subsequent paper had real impact. The dispersion of indicators during flow through physical models of complex networks of curved and branching tubes was a topic that John returned to with his research students over the next few years.

Over the next 20 years, John became more and more interested in the physical properties of red cells, particularly the way in which their flexibility influences the flow properties of blood *in vivo*. He developed an original method for assessing red cell flexibility based on centrifugation and published many papers on the rheological properties of blood. He also collaborated with clinicians at St Mary’s and elsewhere in London, advising on perfusion systems, blood gas measurements, and investigating altered blood rheology in disease.

In the late 1960s and early 1970s it was thought there was less need for a physics course for medical students, but there was now a requirement to offer a course in statistics. So as the teaching of physics ended, John, assisted by Mike Rampling, developed and ran the statistics course at the medical school until he retired 20 years later. He also became increasingly involved in the teaching of physiology, lecturing on a range of subjects from blood gas transport to membrane potentials.

Former St Mary’s students will also remember John Sirs as a very active President of both the Swimming and the Mountaineering Clubs. Not only was he a most enthusiastic coach of the water polo team but, every day that it was possible, he would also find a free half hour for a swim in the medical school swimming pool. As President of the Mountaineering Club he would regularly spend weekends with club members in North Wales, and he led more ambitious expeditions abroad. He remained active both mentally and physically in his retirement. He is sadly missed by his family, former colleagues and friends, and will be remembered with affection by many generations of St Mary’s medical students.

C Charles Michel