ALAN MERCER (1931-2014)

GRAHAM RAND

Alan Mercer, Emeritus Professor at Lancaster University and Companion of Operational Research, died on 9 July, following a stroke.

He was born on 22 August, 1931 in Stocksbridge, Yorkshire. He won an open scholarship from Penistone Grammar School to study mathematics at Sidney Sussex, Cambridge, where he started in 1950. Alan went to the University Appointments Board in his first year in Cambridge and asked what a mathematician could do for a living. No answer was provided and he was told to return the next year, when he was asked what class of degree he had been awarded in Part1. Although that was a First, the only suggestions were Banking or Insurance. Disillusioned, but knowing what two Sidney Sussex students in the year ahead of him had done, he decided to stay on to take the Diploma in Mathematical Statistics. His supervisor was David Cox, who at the time was a young Assistant Lecturer. The first research Alan undertook was a statistical analysis of the counts on bull semen. The lengthy report contained a huge number of calculations performed with a hand-held Brunsviga calculator.

Alan's wife, Iris, also attended Penistone Grammar School, but they hadn't spoken until January 1950, when Iris congratulated him on winning his Cambridge Scholarship. The relationship flowered and they married in 1954. The same year, he joined the Field Investigation Group of the National Coal Board (NCB), and thus began his operational research career. As a result of his NCB experience, he published his first paper, in *Operational Research Quarterly*: 'Estimation of the Number of Holes and Charge per Round in Tunnel Drivage'.

In 1956, he had come to the conclusion that the NCB was wrong to undertake O.R. studies lasting several years. Iris's health was suffering from living in London, so he moved to the Atomic Weapons Research Establishment at Aldermaston. Based in the Theoretical Physics Division, he had two roles. One was to control a team developing Monte Carlo methods for weapon design, and thus he was one of a small team directly responsible for Britain's first hydrogen bomb. He did early pioneering work on the generation of pseudo-random numbers for high speed computers but the work was classified and he did not receive recognition for it. The other role was as operational research/statistical consultant to the whole Establishment. In this capacity he continued the stochastic processes work upon which Fuchs, the atom spy, had been working at the time of his arrest, and he was responsible for the statistical work on the detection of underground nuclear explosions. During his Aldermaston period, he wrote his Ph.D. thesis 'Some Stochastic Processes Analysed by the Method of Supplementary Variable' in his own time; his supervisor was again David Cox, then at Birkbeck College, University of London.

In 1962, he joined Armour & Co. Ltd as the senior manager responsible for operational research, statistics and data processing. Within eight months of joining the company, he had determined the company's data processing needs, ordered the computer and taken delivery of it, had a computer room built, recruited and trained systems analysts and programmers who in turn had programmed and implemented an ordering, inventory control and accounts receivable system.

In 1964, given the chance to start the Operational Research Department at Lancaster University with Pat Rivett and Mike Simpson, he could not resist the challenge of bridging the gap between industry and academia. As students needed to be taught about the application of O.R. to marketing and distribution problems he decided to work in these areas and by 1970 had been awarded three Social Science Research Council (SSRC) grants to support research assistants and pay expenses. Soon after arriving in Lancaster, he carried out his first private consultancy, when Allied Breweries asked him to install state-of -the-art quality control in its Burton-on-Trent brewery. After completing the work, he persuaded the company to start its own O.R. group with Lancaster's first PhD as its head.

In 1965 he began a long term relationship with Tilcon, the premix concrete supplier, visiting its Planning Director each month to discuss the company's problems and performing calculations between visits. He showed that large agitator trucks were not cost-effective, so that none were introduced to the UK. Another long term relationship started in 1976 with Burton's Biscuits, which only ended, after 23 years, with his retirement. Other companies with

which Alan was involved included Imperial Chemical Industries (ICI), Gallaher, Wilkinson Sword, Unilever, Mars, Anheuser-Busch, Serck Services, Edmundsen Electrical and International Computers (ICL).

For several years in the early 70s, he advised the Turkish government on the introduction of O.R. to that country. A Unit had been set up on the Middle East Technical University campus in Ankara, staffed by extremely bright young graduates. Alan made regular visits of a week or two, during which he worked on industrial projects, including days spent in companies. Several of the graduates subsequently studied in Lancaster.

After Mike Simpson died suddenly in July 1983, Alan was appointed as his successor, a role he undertook until 1992. In February 1984, the Science and Engineering Research Council (SERC) O.R. Panel expressed concern about the lack of research being undertaken in the Department. Whilst the research needed improving dramatically, the Department required rebuilding after the Thatcher cuts. At this time, the Department had 18 teaching staff, but few were publishing regularly in good, refereed journals. The deep cuts imposed by the government required Alan to reduce the number to 12. By 1992 everyone was publishing and 8 staff were receiving support from either SERC or ESRC, compared with none in 1983.

In 1982, Alan started a three-year term as Chairman of School of Management and Organisational Sciences and set about moving the School, against much opposition, from a grouping of self-centred, largely autonomous departments to the integrated Lancaster University Management School (LUMS). He became Associate Dean, responsible for research, in 1990, and was required to prepare for the 1992 Research Assessment Exercise (RAE). By convincing the School departments to present a single submission LUMS received a top rating of 5 which established its reputation, brought money to the School and greatly helped Lancaster's elevation into the top ten research rated UK universities.

Ever since joining the Development Committee in 1980, Alan had been a member of the University's Academic Planning Committee, and other key committees, and so had been at the heart of university decision making for fifteen, often difficult, years. He attended to several crises around the university. His biggest challenge, which he relished, came when he was asked in July 1995 to act as Head of the Department of Law, which was in some chaos. Two months later, he had resolved the immediate problems and laid strong foundations for the future.

After retirement in 1998, he went to the University every week until all his doctoral students had obtained their degrees, lectured to the MSc course for a decade and chaired almost all the PhD vivas until his wife became ill in 2010.

Alan joined the OR Society in 1954, and became a Council Member in 1969. They were turbulent times, with Stafford Beer's abortive attempt to create a professionally qualified society. Alan, Chairman of the Education and Research Committee, favoured one open to all and promoting the highest standards. In 1975, Alan became the editor of the *European Journal of Operational Research (EJOR),* jointly with Bernhard Tilanus and Hans Zimmermann, a post he held for over 20 years. In 1998 he chaired the Annual Conference which was held in Lancaster. The Society appointed him as a Companion of Operational Research in November, 2010.

Outside the University and O.R., Alan had many significant appointments. These included membership of the Social Science Research Council's Management and Industrial Relations Committee for four years from 1972, and again from 1980-82, when it became the Industry and Employment Committee of the ESRC, of which Alan was Vice Chairman, 1982-4, and then Chairman until 1987, and membership of the O.R. Panel of SERC from 1989 to 1994. In 1997, he was appointed to the government's Retail Logistics Task Force, which consisted almost entirely of senior distribution executives and was concerned with introducing new ideas.

He was appointed in 1971 to the Board of the Central Lancashire Development Corporation (CLDC), newly created under the New Towns Act, and remained a member until its end in 1985, when he became a member of the Warrington & Runcorn Development Corporation (WRDC) before being appointed its Chairman a year later by Margaret Thatcher. At the first CLDC Board meeting, he was appointed to be its representative on the Whitley Council for New Towns Staff, which negotiated pay and conditions of service. He became the vice-chairman, before being elected chairman in 1979 until the WRDC was dissolved in 1989. New Towns staff had better redundancy terms than any other public servants as a result of Alan's negotiations with Michael Heseltine.

He was a member of the North West Economic Planning Council from 1973 to its dissolution in 1979. From 1977 to 1980, he was the deputy chairman of Radio Fylde Limited, a consortium which made a failed bid for the local radio franchise. Other members included Tom Finney and Les Dawson.

Alan's last visit to the Department was in September 2013, to take part in a day of celebration of 50 years since Pat Rivett's appointment. He gave a typical, lengthy, speech, full of forthright opinions, which several alumni regarded as spellbinding. On Christmas Day I received an email from Alan. He had delayed opening his copy of *Inside O.R.* until then, and found a report of the celebrations. Alan wrote: 'Page 10 includes a photo of me, which is significant for two reasons. First, it includes the words Lancaster University, to which I devoted most of my life. Second, it is likely to be the last photo of me.'

Alan was highly innovative, with a wide range of interests. He had an abrasive style that many will remember. Nevertheless, he made a huge contribution to O.R. in the UK, through his development of the Lancaster O.R. Department, and in Europe, through his editorship of EJOR. He leaves a widow, Iris, two sons, Nicholas and Jonathan, and three grandchildren.

<OR>