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# *CENTREFOLD*

## Professor Derek Lawden
## Professor of Mathematics, University of Aston, Birmingham

Many readers of this magazine will be interested to hear news of Derek Lawden, sometime Head of the Mathematics Department, University of Canterbury, contentious talker over (New Zealand) radio, and space futurist. Well, judging from the correspondence columns of "The Times", the appearance of a new edition of his "General Relativity and Cosmology" and his editorship of the "Journal of Psychophysical Systems", it can be reported that his profile in England is high.

It is now 15 years since he returned to his native Birmingham so a bio-graphical sketch is in order. Derek went to Cambridge in 1937 and volunteered for the Army at the outbreak of war. He was quickly commissioned into the Royal Artillery and assigned to radar, as instructor in techniques and later as officer controlling the radar stations in Gibraltar. Finally he became a lecturer at the Military College of Science.

Released from the Army in 1946, he returned to the Cambridge Tripos and qualified in 1947 as a Wrangler. Then back to the Military College, Shrivenham, as a mathematics lecturer, where he commenced research into the theory of control systems. His contributions to sampling systems gained an award from the Institute of Electrical Engineers in 1952.

On to the College of Advanced Technology, Birmingham (now the University of Aston) as senior lecturer in mathematics and the beginning of research into optimization of rocket

trajectories. (He had evinced early interest in the possibility of space travel, and had been a "member" of the British Interplanetary Society since 1937.) Having established the foundations of the theory (and solved some major problems in the calculus of variations), the results were collected together in a book "Optimal Trajectories for Space Navigation", published in 1963.

Derek had come to New Zealand in 1957 and had presided over the move of the Mathematics Department to the Ilam campus and the beginning of the growth of its establishment. With the successful launching of the first sputnik in 1958, the tempo of research in rocket dynamics accelerated and he was in demand as a consultant to such companies as Boeing and Lockheed. This led to a number of visits to the U.S.A., thus greatly stimulating his research in this new field. Unfortunately, his opposition to the U.S. involvement in Vietnam ultimately resulted in the withdrawal of his visa and so put a stop to this useful traffic in ideas. Nevertheless, the research developed and led to the award of the Sc.D. degree by Cambridge University in 1962 (now taking space travel seriously!), election to a Fellowship of the Royal Society of New Zealand (1962), award of the Society's Hector Medal (1964) and the Mechanics and Control of Flight Award of the American Institute of Aeronautics and Astronautics (received by proxy, 1967).

In 1967 he returned to Birmingham to a Chair of Mathematics at Aston. His work for a book "Mathematical Principles of Quantum Mechanics" aroused an interest in the conceptual foundations of the subject, particularly the role of the conscious observer. There followed a close study of the scientific status of the mind and the results accummulated by parapsychologists and psychical researchers (even spoon-bending!). In 1980 he became editor of a journal whose object is to encourage research into the interaction between mind and matter on both the theoretical and experimental levels.

Professor Lawden is within a few years of retirement and is currently concerned with the cut-back of university funds. His wife, Mary, is heavily involved with the amateur stage. Their family thrives: the twins as practising mathematicians (Gregor at Sussex University, Michael as an astronomical computer man at Reading) and Mark as a researcher into physiology at Cambridge, soon to go to Oxford to finish his medical degree.

*W.B. Wilson*