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A Tribute to Professor Donald Richard Stranks, A.O.

With the untimely death of Don Stranks in his 57th year, Australia lost one of her foremost chemists, and the chemical and academic communities lost an innovative colleague and a fine friend. Don was born and educated in Melbourne, and his chemical career commenced at the University of Melbourne where, under the supervision of Gordon Harris, he completed his Ph.D. in 1954 having garnered a range of awards for academic achievement on the way. At this time Don was very interested in the use of radioisotopes and radiation in chemistry, and he must have been delighted to be appointed to a lectureship in chemistry at the University of Leeds in Professor Fred Dainton's (now Lord Dainton) department in 1954. Leeds was a major centre for radioisotope and radiation chemistry, and possessed an intellectual atmosphere in which Don's research flourished. This research was recognized in 1955 through the award of the Rennie Memorial Medal of the Royal Australian Chemical Institute. Don was an enthusiastic RACI member throughout his life.

The 1950s and 1960s were exciting years for the rapidly emerging field of coordination chemistry, and Don participated to the full in this emergence. This is perhaps most aptly illustrated by the chapter entitled "The Reaction Rates of Transitional Metal Complexes" which he contributed to the seminal text "Modern Coordination Chemistry" (J. Lewis and R. G. Wilkins, Eds; Interscience, 1960). The names of the chapter contributors to this book (F. J. C. Rossotti, D. R. Stranks, R. G. Wilkins, M. J. G. Williams, T. M. Dunn, F. A. Cotton, B. N. Figgis and J. Lewis), together with that of J. Chatt who wrote the foreword, read like a "Who's Who of Coordination Chemistry" at that time.

In 1960 Don returned to the University of Melbourne as a senior lecturer in physical chemistry, and soon thereafter was promoted to reader. These were the days in which nuclear energy enjoyed a high esteem, and Australia was looking to a nuclear future based on the Australian Atomic Energy Commission's research centre at Lucas Heights. This centre offered access to a range of radiation and isotope facilities through the Australian Institute for Nuclear Science and Engineering (as it still does), and Don used these facilities in studies ranging from gas-phase kinetics to electron transfer and ligand substitution in solution. His enthusiasm and reputation were such that in Melbourne he rapidly assembled a large research group which included students from Canada, Britain and Pakistan.

Don was an enthusiastic and lucid teacher at all levels, and he always stressed the important link between the teaching of chemistry in high school and its teaching at university. Accordingly he was very ready to assist high school teachers, and in due course this led to the publication of the high school text "Chemistry. A

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Structural View" (D. R. Stranks, M. L. Heffernan, K. C. Lee Dow, P. C. McTigue and G. R. A. Withers; 1st Edn 1965, 2nd Edn 1970, Melbourne University Press), which was used extensively in Australia. This book was subsequently taken up by Cambridge University Press, and was widely used in the United Kingdom, Spain, Sweden, Yugoslavia and other countries.

In 1964 Don was appointed to the foundation Chair of Inorganic Chemistry in the Department of Physical and Inorganic Chemistry at the University of Adelaide. There he developed further research interests, the foremost of which were the application of nuclear magnetic resonance spectroscopic methods to inorganic reaction mechanisms, and the determination of volumes of activation and through them the elucidation of inorganic reaction mechanisms. However, the University of Melbourne was to beckon yet again, and Don returned there to the Chair of Inorganic Chemistry in 1973. By this time Don's high pressure research was gaining international recognitition, and he was invited to present a plenary lecture "The Elucidation of Inorganic Mechanisms by High Pressure Studies" at the 15th International Conference on Coordination Chemistry in Moscow in 1973. Since that time the volume of activation has become recognized as a major parameter indicative of the mechanism of solvent exchange and ligand substitution processes. It was no surprise that in recognition of his substantial contributions to inorganic chemistry Don was the recipient of the Inorganic Award of the Coordination and Metal Organic Division of the RACI in 1977.

At Melbourne Don consolidated and developed his studies of reaction mechanisms, and inevitably his flair for teaching at all levels persisted and another innovative high school textbook entitled "Chemical Science" (R. J. Hunter, P. G. Simpson and D. R. Stranks; Science Press, Sydney, 1976) appeared. Now, however, it was Adelaide's turn to beckon again, and Don was appointed Vice-Chancellor of the University of Adelaide in 1977. As a Vice-Chancellor Don remained approachable and friendly, and, as ever, took on at least twice the amount of work that seemed humanly achievable. For his scientific, academic, and other wider ranging contributions to the community Don was made an Officer in the Order of Australia in 1984. He was subsequently elected Chairman of the Australian Vice-Chancellors Committee, and was about to embark on a third term as Vice-Chancellor when he died in 1986.

Many postgraduate students and postdoctoral fellows passed through Don's research group and gained greatly from his wide knowledge and infectious enthusiasm for chemistry. A few of these accepted university academic positions; amongst them were: Frank Cattell (Macquarie), Ronald Cooper (Melbourne), George Baldwin (Manitoba), Gerald Laurence (Adelaide), Geoffrey Lawrance (Newcastle), Stephen Lincoln (Adelaide), Robin Murray (Hull) and John Yandell (Monash). Many more hold important positions in government instrumentalities and industry in Australia and in other countries. A vast number of undergraduates shared Don's authoritative and entertaining lectures; a very broad spectrum of students, academics, and members of the community at large benefitted from his time as a Vice-Chancellor. In the Third World there must be many whose lives have significantly improved as a consequence of Don's energetic participation in fund raising for Community Aid Abroad. Probably the most enduring memory of Don Stranks will be that of a tall friendly man with a ready smile, whose enthusiasm for chemistry and life was boundless.

Adelaide 1988 *Stephen F. Lincoln*