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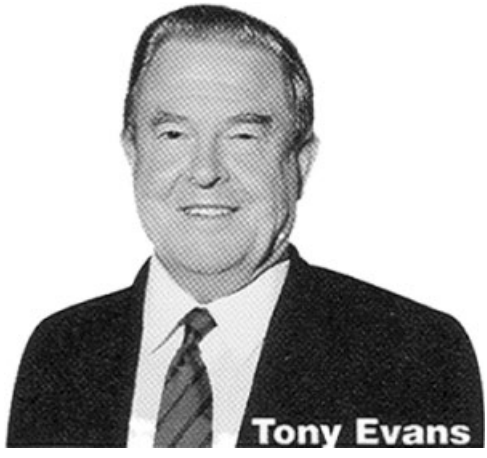
Appreciation



Tony was born in Cardiff and grew up in the Newport area of South Wales. He was only eight years old when the Second World War broke out and his father, who had been called up for military service, was taken prisoner by the Japanese in the fall of the Singapore peninsula. It was this that led Tony to a life-long love of gardening – the necessary fruit and vegetables for him and his mother were grown in the family garden and these were supplemented in the summer by a supply of wild mushrooms, a product of the long walks which he and his favourite dog would undertake at weekends.

Tony was a pupil at Newport High School (1942–1949) before going up to London to study chemistry at Imperial College (1949–1955). In due course he graduated with a 1st class honours degree and decided to stay on for a PhD, working with Professor E. A. Braude on organo-lithium compounds. Whilst at Imperial he won both the Hofman and Edmund White prizes in organic chemistry, thereby joining a list of very distinguished chemists. Nevertheless he still found time to represent the college at rugby, tennis and chess (he had already represented Wales at the latter sport whilst at school) as well as doing some part-time teaching at Regent Street Polytechnic.

Tony's first post (1955–1958) was as an AERE research fellow at Amersham, working on the synthesis of radioactive polycyclic aromatic

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hydrocarbons and this was followed by an appointment to the Organic Department of The Radiochemical Centre (TRC). Up until then the department had concentrated, nearly exclusively, on the synthesis of carbon-14 labelled compounds but, with Tony's arrival, a major project designed to synthesise a whole range of tritiated compounds, was initiated. This turned out to be extremely successful and of great commercial importance to the company at that formative stage of its development. 1958 was an important year in other respects as it was then that he married Heather who was already a member of the TRC staff.

The present author was educated at the University College of Wales, Aberystwyth (1955–1961) where Soddy was once a student. For the last three years he studied for a PhD under the supervision of Dr C.B. Monk, who at that time was anxious to explore the potential of radioactive tracers in electrochemistry and associated areas. My task was to explore the potential of tritium and tritium labelled compounds and a start was made on what was to become a lifelong interest in carbon acids. An academic post at Battersea College of Technology, the precursor of the University of Surrey, followed and in 1966–1967 a sabbatical was spent at the University of British Columbia working with Professor Ross Stewart on highly basic media. Rates of hydrogen isotope exchange could be dramatically increased when using such conditions and on returning to the UK an approach to the AERE, Harwell was made. This letter was passed on to Dr J.R. Catch who was Head of the Organic Department at TRC at that time. In his reply Dr Catch said that his colleague Dr Evans was away but that on his return he would contact me and this indeed he did thereby initiating a scientific collaboration, and a friendship, that only came to an end with his untimely death last September.

On my first visit to Amersham it became clear that although they were interested in my kinetic work there was an even greater need to develop an analytical technique that would identify the position(s) that had been tritiated when the new catalytic procedures that were being developed by Tony and his colleagues, had been used. He had already visited several well known universities to try and elicit interest but without success.

Whilst the author was in Vancouver John Elvidge had been appointed Professor of Organic Chemistry at Battersea. Previously he had been on the staff at Imperial College and had taught Tony as an undergraduate. The 'Imperial link' was even stronger than that as John Catch and John Elvidge had been contemporaries there during 1943–1944.

The combination of a radiochemist and an nmr spectroscopist was therefore in place and with funding from TRC the attempt to establish 3-H nmr as the necessary analytical tool was initiated. Previously (1947) Bloch, Packard and coworkers had reported on the spin and magnetic moment of tritium and in 1964, Tiers *et al.* published the first 'high resolution' tritium nmr spectrum

using 10 Ci of labelled ethylbenzene. John Elvidge and the then Head of the Chemistry Department, John Salmon, had managed to obtain funding for a Perkin-Elmer R10 spectrometer operating at 60 MHz and when the oscillator frequency was changed to 64.0 MHz satisfactory tritium nmr spectra were obtained; the radioactivity in each sample was usually in the 20–50 mCi range. The first of a series of papers from the collaborative venture appeared in 1971 and this was followed 14 years later by the definitive text.

Although Tony was away in the USA for two periods, firstly in 1967, as technical adviser to Nuclear Chicago (distributors of TRC products) and secondly, as technical director for all the labelled compounds being distributed by the newly formed Amersham/Searle Group he continued to oversee the tritium nmr project by involving colleagues such as Vic Chambers and David Warrell. In 1972, he was appointed manager of the Organic Department at Amersham, a post he held until the department moved to Cardiff in 1980. He himself became Business Manager Research Products before taking over (in 1987) responsibility for Group Patents and licensing matters. Even then he still continued to travel widely and lecture extensively. He was a Visiting Professor in the chemistry department at the University of Surrey from 1985 to 1993 and served for long periods as Editor of the current journal as well as its precursor (Journal of Labelled Compounds) and also the International Journal of Applied Radiation and Isotopes. The first edition of Tritium and its Compounds appeared in 1966 but by the time the second edition was published (in 1974) it had virtually doubled in size, reflecting the growth that had taken place in the use of tritiated compounds. Tony edited a further two books and was author/co-author of some 100 research publications in leading journals.

Tony was also involved at an early stage in the formation of the International Isotope Society (IIS). The catalyst for this was Alex Susan at the Midwest Research Institute (MRI) who had attended several of the Euratom sponsored isotope conferences in the 1960s and when these elapsed recognised the need for a replacement. Two conferences were held in Kansas City (1982, 1985) and speaking at the first of these Tony said 'perhaps the time has arrived to think about the formation of an International Isotope Society to continue this kind of Symposium on an independent basis'. The rest is history – the IIS is now a flourishing organisation with chapters in many countries and last year held its 8th international meeting in Boston. Tony served as its first President and his many important contributions to tritium chemistry were recognised by the presentation of the Melvin Calvin award at the IIS meeting in Toronto (1991).

Apart from one bout of ill-health 12 years ago which necessitated open heart surgery, Tony lived a full and active life and when retirement came in 1994 he made the transition easily – he merely increased his gardening interests! Soon

there were some 150 different types of roses to be nurtured and fed and he could recall their names without any apparent difficulty. Scientifically he was of the highest standard and as a colleague/coworker he was modest, easy to get on with and very generous. He will be greatly missed by the world-wide range of friends in the IIS community.

Acknowledgements

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John R. Jones
10.6.2004

