Thomas Summers West

Tom West was one of the most brilliant and prolific analytical chemists of his generation and enjoyed an outstanding international reputation for the many advances that he made in this field. Working first in the University of Birmingham he pioneered a wide range of innovative developments in chemical analysis using atomic and molecular spectroscopic techniques. Later in Imperial College he formed and led a team of young and enthusiastic analytical chemists, some of whom had come with him from Birmingham, creating a vibrant centre of excellence that was widely recognized as being at the leading edge in this area of science.

To mention only a few of Tom's achievements: he developed a spectrophotometric technique for the analysis of fluoride, which is still a method of choice; in the fields of flame and atomic absorption spectroscopy and atomic fluorescence spectroscopy he introduced innovative methodologies which massively reduced detection limits to sub-parts per billion levels; his research also led to notable developments concerning microwave-powered, electrode-less spectral lamps, atom trapping techniques and low luminosity flames. Tom's time at Birmingham and Imperial College was extraordinarily productive in terms of publications. By the time he left Imperial College in 1975 he had authored or co-authored no less than 350 publications, in addition to writing a highly regarded text book entitled "*Analytical Chemistry*". Indeed, in one particular issue of *The Analyst*, practically every paper bore T S West's name.

Tom West was born in Peterhead in 1927 but the family later moved further north to Portmahomack near Dornoch. He was educated at Tain Royal Academy and graduated from Aberdeen with a first class honours BSc in chemistry in 1949. On enquiring about the possibility of doing post-graduate research, Tom was asked by his professor about his particular area of interest and on being told that it was analytical chemistry was advised that "there was no future in it". This rather negative response prompted him to join Ronald Belcher's analytical chemistry group in Birmingham which had moved there from Aberdeen in 1948. He graduated PhD in Birmingham in 1952 and for the next three years held a DSIR Fellowship before being appointed to a lectureship in 1955. His high promise was emphasised by the award of the Meldola Medal from the Royal Institute of Chemistry for the year 1956. Tom was the first analytical chemist for many years to receive this coveted award for "British Chemists under the age of 32 who have conducted the most meritorious and promising original investigations in chemistry and published the results of these investigations". His Birmingham DSc followed in 1962 and his colleagues rejoiced with him in his appointment to a readership in Imperial College in 1963 and subsequent chair in 1965.

Tom's enthusiasm for analytical chemistry attracted a wide circle of equally enthusiastic research students and post docs. Without exception all regarded him as an inspirational and innovative leader, although with such a relaxed and quiet attitude that he was held not only in high esteem but with real affection. He was regarded as the perfect PhD supervisor, happy to let his students get on with things if they had ideas, but always ready to help if help was needed. Many of his former students went on to succeed in academia in their own right, not a few becoming Professors or even Vice Chancellors. In recognition of his scientific excellence, Tom was awarded the Gold Medal of the Society of Analytical Chemistry (SAC) when at Imperial College and went on to serve as President of the SAC from 1969-1971 and as the Hon Secretary of the Royal Society of Chemistry from 1971-1973. He also served as President of the Analytical Division of the International Union of Pure and Applied Chemistry (IUPAC) from 1979-1981 and became IUPAC Secretary General in 1983.

In 1975, Tom West was appointed to the post of Director of the Macaulay Institute for Soil Research in Aberdeen. These were the days when Directors were expected not only to direct the overall research programme but also to actively engage in their own research interests. Part of the attraction of this new post, in addition to that of returning to his native Scotland, must have been the high reputation held by the Institute's Department of Spectrochemistry for the analysis of trace elements in plants and soils. Tom entered this field with relish and in collaboration with colleagues applied new spectroscopic techniques for the quantitative analysis of essential and toxic trace elements present in the agro-ecosystem and in the wider environment. These were the days too when the heavy hand of bureaucracy was scarcely felt in the conduct of scientific research, which to a large extent was left to the discretion of the individual scientist. Thus, much of Tom's period of office at the Macaulay Institute was marked by a light and encouraging touch which made science so exciting and even fun to do. While supportive of the Institute's basic and applied research aimed at improving the fertility and productivity of Scottish soils, he was perceptive in realizing the growing importance of investigating the environmental impacts of agriculture and industry. In particular, he stimulated studies on the fate of heavy metals in soils, especially those to which sewage sludges had been applied, and on the impact of acid precipitation on terrestrial and aquatic ecosystems. Tom was instrumental in securing for the Institute a leading role in the Surface Water Acidification Programme sponsored by the Royal Society, which led directly to a change in Government policy in this respect. Tom was also keen to broaden the scope of the Institute's work on the international stage and was the first member of staff to visit China in the early 1980's. This resulted in the initiation of collaborative contacts with Chinese scientists which remain fruitful to the present day.

Times were changing, however, and with the advent of food mountains in the EU, as well as the need to cut back on public expenditure within the UK, the raison d'etre of many of the Institutes within the Agricultural Research Service was coming into question. For the Macaulay Institute, this culminated in the publication of a strategy document by the then Department of Agriculture and Fisheries for Scotland (DAFS) which recommended amalgamation of the Institute with the Hill Farming Research Organization in Edinburgh, as well as the closure of the Aberdeen site subject to the outcome of a feasibility study. This recommendation came as much of a bombshell to Tom as it did to the rest of his staff, but he immediately demonstrated true leadership qualities by organizing a campaign highlighting the advantages of the Aberdeen site. This was successful in that it persuaded DAFS to reverse its initial recommendation with regard to the location of the new institute. In all other respects, Tom was warmly supportive of the creation of the new institute, recognizing its necessity in the changed circumstances of the time, but at the same time determined to minimize the adverse effects on staff careers that might be entailed in the rather radical new programme of research. These were difficult times for all concerned and unfortunately significant staff redundancies and redeployments became inevitable. Throughout this period, however, Tom encouraged everyone to work for the success of the new institute and when he retired in 1987, some six months after the new Macaulay Land Use Research Institute (MLURI) was formally established, he must have felt pleased with the final outcome of all his efforts.

Tom West was appointed a CBE in 1987 and was elected a Fellow of the Royal Society of Edinburgh in 1979 and a Fellow of the Royal Society in 1989. He was active in retirement serving as President of IUPAC and as Emeritus Professor of Chemistry at the University of

Aberdeen. He was unfailingly helpful and supportive in the efforts of staff of MLURI to promote international research projects or to secure funding for visiting research workers from abroad.

Tom married Margaret Lawson, a fellow student of Aberdeen University, in 1952. He died on January 9, 2010 in Lincoln where he and Margaret had moved so as to be closer to their family. Margaret died the following day. They leave a son (Tom), two daughters (Ann and Ruth) and four grandchildren (Alexandre, Marianne, Sarah and Catherine). A memorial service to commemorate Tom's and Margaret's life and work was held in Portmahomack (August 6, 2010) where they are also laid to rest.

M J Wilson

I am greatly indebted to Professors Brian Gowenlock and Malcolm Cresser for providing information relating to Tom West's academic career.

Thomas Summers West CBE. BSc(Aberdeen), PhD, DSc(Birmingham). CChem, FRSC, FRS. Born 18 November 1927, elected FRSE 5 March 1979, Died 9 January 2010.