

## William Whigham Fletcher

Professor Bill Fletcher was a well-known figure in the world of academia and beyond. He stood above most of his contemporaries in most things, as a larger-than-life character whose achievements, intellect and influence were quite simply outstanding, if not phenomenal, for his generation. Students at Strathclyde University, where he spent most of his career, recognised him as one of their own, always willing to listen to their grievances and to right them where appropriate.

Bill spent the formative years of his childhood and schooling in the Burgh of Airdrie, and freely acknowledged the value of his upbringing in an unprivileged family dedicated to education. His academic pedigree was to reach the heights.

From being school captain and dux at Airdrie Academy, he went on to Glasgow University in 1937 to read Botany, and joined the Territorial Army in the summer of 1939. He was then mobilised immediately for active service on the outbreak of war three months later. He served for six years as an officer in the RAOC and the RAMC, much of that time overseas in Egypt, Libya, Lebanon, Syria, Greece and Italy.

Resuming his studies in 1945, he was able to graduate two years later with First Class Honours in Botany. He then stayed on as assistant lecturer and lecturer in the Department of Bacteriology at Glasgow University to undertake research under the well-known authority Professor Carl Browning, and later graduated PhD. There followed a research study programme at Cornell University in the USA under the newly-inaugurated Glasgow Council Exchange Fellowship Scheme.

In 1952, he was appointed head of the Botany Department of the West of Scotland Agricultural College, and ten years later became a Senior Lecturer in Biology at Glasgow's Royal College of Science and Technology, soon to become the University of Strathclyde. His research interests lay in crop protection and weed science. He published prolifically, and, after much sterling work, he was appointed in 1966 to the newly-created Chair of Biology in the new Department of Biology. Two years later he became of the School of Biological Sciences.

Despite the weight of these administrative duties, he continued to contribute to the field of Botany. His studies focused on a group of herbicides known as the phenoxyalkanoic acids which were, and still are, widely used in agriculture. The phenoxybutyric acid compounds (e.g. 2, 4-DB) were inactive *per se*, but on  $\alpha$ -oxidation to the corresponding phenoxyacetic analogue (e.g. 2, 4-D) became active in plants which possessed the appropriate  $\alpha$ -oxidising enzymes. Legumes such as clovers were found to be tolerant since conversion of the butyric to active analogue appeared not to take place. Thus, cereal crops undersown with a grass/legume sward could be sprayed with a phenoxybutyric herbicide and the legumes would be unaffected.

A major manufacturer of these herbicidal compounds, May & Baker Ltd (later to become Rhône Poulenc Ltd), was very interested in these findings, and thus began the "May & Baker Studentship" which continued for the next three decades. A succession of postgraduate students studied the mode of action of herbicides in the Biology Department of Strathclyde University achieving the degree of Ph.D. with May & Baker sponsorship. Bill Fletcher's research and wider vision helped many young people to achieve a firm foothold in their chosen specialist field.

Other fields in his range of research interests included the impact of pesticides on soil microbial populations. In an extensive authoritative review presented at an International Symposium held in Oxford in 1960, he concluded that any pesticidal effect on soil microbial populations was transient. The microbial "vacuum" created was soon overcome by microbial invasion from adjacent unaffected zones. He saw little point in his continuing with these studies! Much more interesting to him was the possible effect of pesticide residues on developing embryos. He devised a simple, ingenious test system which involved drilling a minute hole in quail or hens' eggs, enabling the injection of a dose of test pesticide. Using this system, he examined the *in vitro* effect of pesticides on embryo development. It was work of this type which helped to demonstrate that teratogenic effects could result from exposure to certain pesticides.

Another field of research interest concerned the "Chemical Control of Bracken" which was, and still is, a pernicious poisonous perennial weed of upland pastures in Scotland and elsewhere. Bill commenced this work while Head of the Botany Department at the West of Scotland Agricultural College, and his interest continued at Strathclyde University. In association with a number of agrochemical companies he and his colleagues carried out field trials at representative sites in the West of Scotland. The performance of candidate systemic herbicides sprayed on trial plots was assessed the following year by growth analysis of the bracken canopy. The results of each day's work were written up in the evening in some convenient hostelry! These convivial sessions ensured lifelong friendships between 'Prof', his staff and their industrial collaborators.

Bill Fletcher published many research papers resulting from such studies, and he ensured that the findings reached the public domain by his writing of popular books such as *The Pest War*. He was also co-author of specialist volumes such as *Herbicides and Plant Growth Regulators* and editor of monographs such as *Bracken and its Control* (proceedings of RSE Symposium). He was greatly in demand as a speaker at conferences in the field of 'Weed Science', delivering his presentations with style, humour and punctuality. As a Session Chairman, he insisted on good presentational style and good time-keeping.

Professor Fletcher's shrewd perception of useful scientific effort and his ability to bridge the academic and practical worlds were recognised by several agrochemical companies, but perhaps particularly by May & Baker Ltd. From 1964-1988 he was firstly their Consultant and then Senior Consultant in the field of agrochemicals. As such, he served on their main scientific advisory committee in Lyon, France. In the 1980's he was chairman also of their Inter-Universities Committee on "Diflufenican"- a revolutionary new herbicide which acted as a leaf bleaching agent thus inhibiting photosynthetic activity of susceptible species. The Committee acted as a forum for the exchange of academic research findings on this herbicide and the implications for weed control in cereal crops in the field. Another example of his breadth of vision and keen perception of good ideas with practical application lay in his support for the formation of the subsidiary "May & Baker Diagnostics" which he was instrumental in having based in Glasgow. The Company was formed to exploit aspects of the monoclonal antibody studies carried out in the Immunology Department of Strathclyde University, and Professor Fletcher subsequently chaired the new company's Scientific Advisory Board.

In addition to being an outstanding teacher and researcher, Fletcher built up his Department and helped shape the School of Biological Science in which it was based. He steered his Department and School through stirring times of achievement and change - and sometimes difficulty. His immediate colleagues considered themselves fortunate in having someone so steadfast to work with and to guide them in these heady, formative days. His advice to colleagues was sparing but always crystal clear. It was never over-pressed and always fair. He also contributed widely as a prominent senior academic officer in developing both the academic and corporate life of the "young" Strathclyde, and did more than his share in shaping its future under his mentor, and later very close family friend, Sir Samuel Curran. He was a great supporter and he loved innovation in the broadest sense.

One of the greatest legacies which Bill bequeathed in his life was time; the time he gave to people; not only to his wife and family, but also to an ever-expansive network of students, universities, academic and research institutions, and societies. For example, the time taken to lecture regularly to American visitors on aspects of Scottish life, and then produce books relating to these lectures and on many other topics such as *Great Scots*; the time to take on the vice-presidency of the Royal Society of Edinburgh and participate in the education committee of its London counterpart; the time to lead the Botanical Society of Scotland and sit on so many other important national scientific and education Boards and review groups; the time to found his University's staff club [where his knowledge of wine was a particular asset] and to oversee the development of its beautiful gardens at Ross Priory on Loch Lomond; the time to promote and enjoy his many club connections (particularly the Glasgow Art Club, the XIII Club and the Town and Gown "Working Party").

And still he found time to be a scientific correspondent for several Scottish newspapers and journals, writing scripts for, and taking part in, many BBC radio programmes and STV. One could fill a book; and that may yet come.

His life was lived to the full, and the sheer depth and expansiveness of his work has had repercussions far and wide. He was, quite simply, an academic statesman of the first order - a great credit to his family, his native Scotland, his universities and his subject.

His friends will have many an anecdote that speaks of Bill. His warmth, his hospitality, his dry (almost arid sometimes) sense of humour, and his modesty all complemented his outstanding skill as a scientist. Essentially a Lanarkshire man in attitude and in speech, he always had his wits about him. One of the qualities that many people valued most was his openness and down-to-earth approach, even though, on occasion, he could be quite penetratingly assertive.

These governed matters temporal and spiritual. Who would have imagined that Bill would have been the one at Strathclyde to push for the great Scottish theologian, the late Rev. Professor William Barclay, to be appointed there to a Visiting Professorship in Biology and how their friendship and association in philosophical discussion would blossom into something phenomenal?

In odd conversations, Bill would speak wryly of his Presbyterian roots. For a scholar of the "structure of life", he was well aware that there was more to life than chemistry and the compounds that construct our humanity. This made him agnostic, but in a profoundly spiritual way. He was a genuine polymath, with his interests and expertise in art and literature, with the international bonds of research and friendship that he created and sustained, and in his dynamic skills as a leader.

Of particular note was his association over many years with Poland which led to a number of honours including the conferment of an Honorary Doctor of Science degree and the award of the Polish Order of Merit for services to science. His home provided hospitality over many years to dozens of Polish scientists and students who have never forgotten this kindness.

In academic life it is customary sometimes to speak of scholars as “those who stand on the shoulders of giants”. In this phrase, one is inferring that scholars are often not original thinkers, great men or women of learning, or figures of particular (historical) importance. Rather, the scholar may be simply an interpreter, and their perspective is gained by climbing on and above their subject. In Professor Bill Fletcher we did not just have a scholar, but a veritable tower of wisdom and strength. Yet more than that, he has given many people in all walks of life a “frame” on which they can climb and gain clearer insights, deeper perspectives and broader horizons. For the man devoted to studying “the structure of life”, he therefore truly emerges as a master, because his life-gifts enabled so many others.

The picture then that we shall always carry of Bill Fletcher is of an upright, self-effacing man of great experience in the world of men and science, and with a real personality within and without. He was a man of considerable integrity with an unswerving regard for the truth, pleasing or otherwise. He was not a “trimmer”, and had no room for bureaucracy. He sought neither power nor compliments, and in all his services to his University and other institutions, he was content that his reward would be their smooth and correct running .

He will be remembered as a man of dignity and integrity; indeed of the same highest standards that he wished for everything that he did. A ‘Great Scot’ himself he was, to quote Burns, “a social, friendly, honest man” of sharp wit and great courage; and he also had all the characteristics of Wordsworth’s *Happy Warrior*:

*Whose high endeavours were an inward light*

*That made the path before him always bright*

**Ralph Kirkwood and David Tedford**

***William Whigham Fletcher OM(Poland), BSc, PhD, ScD, FIBiol: born 11 August 1918; elected FRSE 6 March 1967; died 4 April 2001.***