

Brian Bernard Newbould BPharm, FPS, PhD, MCPP, HonFPhS



28.01.1934 – 25.11.2016

Dr Brian Newbould was, in turn, a Pharmacologist, Research Manager, Research Director and Research Affairs Director during a 34-year career with ICI Pharmaceuticals. The experimental regime he published as a pharmacologist more than 50 years ago is still (2017) in use around the world; his contributions to medicine are substantial. He served on numerous national committees concerned with issues of science, industry, education and ethics and the development of UK-Japanese relations. He was elected an Honorary Fellow of the Royal Pharmaceutical Society in 1978 and was elected an Honorary Fellow of the British Pharmacological Society in 1996.

Brian was born on January 28, 1934 in Sheffield. His father was an accountant and expected him to follow his profession, but Brian's interest was science and, on leaving grammar school he started an apprenticeship in pharmacy with Boots in Sheffield in 1952. After two years he enrolled at the School of Pharmacy, Leicester College of Technology, on a London external degree course, which he completed in 1957, collecting 9 awards for academic prowess along the way and a College prize for Progress and Public Spirit - the character of the man already clearly in evidence! He also passed the qualifying exam for the Pharmaceutical Society of Great Britain in 1967, but chose to pursue research and obtained a Ciba Research Scholarship in the Department of Pharmacology and Therapeutics at Sheffield. There, under Prof. G M Wilson and Dr R Kilpatrick, he investigated the marked discrepancy in antibacterial activity of some new Ciba sulphonamides between *in vitro* and clinical conditions and explained it in terms of their serum albumin binding and effective 'free' plasma concentrations. One of Brian's principle maxims in life (both work and play) was 'never waste a moment'. He certainly demonstrated this with his PhD, completing the experiments and submitting his thesis after only 2 years, a rare feat.

Presumably from papers on his research that he read at meetings of the British Pharmacological Society in January and June of 1969, Brian had become 'noticed'

by ICI Pharmaceuticals, and was invited to join their new and expanding research department at Alderley Park in Cheshire. Professor Wilson was, in Brian's words, "uneasy" about the idea of his joining industry and took the unusual step of suggesting to ICI that he should accompany Brian on his visit to Alderley Park! In the event, Professor Wilson was impressed with the research and facilities at Alderley and in Brian's words again... "I was given permission to join them, with an invitation to return to Sheffield if I changed my mind!"

At ICI Brian was given a free choice of therapeutic area and selected rheumatoid arthritis, which was a formidably difficult topic at that time and one in which Brian had no immediate experience. With the determination, vision and meticulous experimental skills which characterized all Brian's work, he took a rat adjuvant arthritis 'model', recently described by Carl Pearson's group, and developed it into a reproducible, quantifiable test. It was, however, considerably more demanding on the lab staff, took longer to perform and required substantially more of the chemical being tested than other tests. Despite these issues, Brian persuaded all his colleagues that this was the right approach and gained their complete support. His publication, *Chemotherapy of arthritis induced in rats by mycobacterial adjuvant. British Journal of Pharmacology and Chemotherapy*, **21**, 127-136, 1963, is widely regarded as providing the definitive test procedure and the test continues to be used in labs around the world (see *J Clin & Cell Immunol*, **6**, 327, 2015).

During the next two years Brian discovered three series of compounds with distinct patterns of activity. Toxicity issues precluded two from development but an example of the third series, ICI 54450 (Myalex®; fenclozic acid) was progressed to clinical trials and delivered good efficacy in line with Brian's predictions from the rat adjuvant arthritis test. It was projected to have substantial clinical and commercial potential, but as trials continued, it caused occasional cases of jaundice and disappointingly its development was abandoned.

As well as generating chemical leads and supporting the large medicinal chemistry programmes that ensued, Brian was also prolific in his exploratory science into the adjuvant arthritis test and other potential models of autoimmune conditions and generated 17 publications (written and oral) during his first 9 years at ICI, a remarkable output from an industrial lab.

In 1968 Brian was granted a two-year sabbatical to work at UCLA with Professor Pearson, at the latter's invitation, to work on the production and passive transfer of a variety of immunological disease in laboratory animals. However, the move only lasted one year as Brian was asked to return to the role of Biology Manager in 1969.

This marked the end of his hands-on, active research and the start of a steadily escalating role in research management: 5 years as Biology Manager, a 2 year secondment to the Senior Management Group of the ICI Corporate Lab in Runcorn, and then 11 years as Research Director back at Alderley Park. Throughout this period, he continued to have detailed contact with the science across the whole spectrum of existing, or potential new, therapeutic targets and new enabling technologies as well as dealing with broader policy, strategic and operational issues. His success in this is demonstrated by the fact that more than a dozen projects were either initiated, identified new drug prospects or introduced new products during the period of Brian's stewardship. It was probably the most fertile period in the company's history.

Brian would doubtless give all the credit to the scientists, but his vision, initiative, optimism, support and wise counsel at project and board level undoubtedly played a very significant part. Indeed, three products of great value to the company and to medicine almost certainly would never have reached medical practice without Brian's contribution:

The injectable anaesthetic Diprivan® (propofol) faced two problems; these were finding an acceptable formulation and establishing its market potential. Initially it was judged by the commercial team as usable only for induction of anaesthesia and not for maintenance.

The majority of the Directors felt development should be stopped. Brian disagreed, supported further formulation work which proved successful and then presented the Board with reasons why the commercial assessment was wrong, including a video of patient testimonials extolling its superiority over other anaesthetics they had experienced. Brian won the argument, Diprivan® was launched and soon became one of the most used anaesthetics of all time and is especially valuable for sustained anaesthesia (induced coma) in critical care.

One of Brian's first actions on becoming Research Director was to set up a research formulations group located geographically within the research area. He also brought in polymer expertise from ICI Corporate Lab to stretch conventional thinking. Were it not for some brilliant, innovative and meticulous work by members of this group, the prostate cancer treatment Zoladex® (goserelin) and the breast cancer treatment Faslodex® (fulvestrant) would never have succeeded, and the company is still deriving benefit: Because of their highly complex formulations and manufacturing demands these medicines are still the exclusive property of AstraZeneca some 30 to 40 years after the drug substances were patented and still have combined annual sales well in excess of a billion dollars.

In 1986, Brian relinquished his responsibilities for project science and devoted his energies to certain aspects of corporate science, principally biotechnology. He became increasingly focused on external issues, such as coordinating and funding academic collaborations (around 80 projects UK and internationally), and external relations with business, academic and government bodies. For example, he was appointed a member of the Home Office's Advisory Committee on Animal Experiments in 1985 (thereby achieving a mention in Hansard) and reappointed to the Animal Procedures Committee in 1987, established by the Animals (Scientific Procedures) Act 1986. He served on the Biological Science Panel and the Bio Science Education & Training Panel of SERC; he chaired the Science Advisory Board at the Centre for Genome Research; he was a Council Member in the Nuffield Council for Bioethics from its inception in 1991, for 9 years, during which several controversial issues were examined. In 1985 he was a founder member, and then Chairman for 18 years, of the UK Japan High Technology Industry Forum that organized annually a major conference to foster closer relations and exchanges of ideas and developments between UK and Japanese businesses and other bodies. Brian was much impressed by his earlier interactions with Japanese pharmaceutical companies and had established good personal rapport with many of their managers and was keen to extend his experience to others. The success of this organization can be gauged by its mention in a document, *Action Agenda 21: The UK and Japan in the 21st Century*, issued by the Japanese Embassy in 1999. This stated "...Both Governments will also continue to support the "UK Japan High Technology Forum" whose 14th meeting was held in 1999".

In all, Brian contributed as a committee member, chairman or director to at least 19 organizations; to ten of them during ten years of his retirement.

The one probably closest to his heart was the Bollin Leisure Centre Charity, for which he was Chairman of Trustees for an incredible 40 years! It well illustrates his deep community spirit and boundless energy. In the early 1970s, at probably the busiest and most challenging time for him at work in his new role as Biology Manager (when he routinely took a suitcase full of papers home each night and weekend) and having to deal with additional demands posed by the miners' strike and Health & Safety legislation, Brian also became a prime-mover in two community projects in his home town. The first, Bollington Trees and Landscapes Group organized working parties to clear up and replant derelict and unkempt parts of the town. The second, more ambitious project, was to build an indoor swimming pool and leisure centre since the local authority would not. Brian was a very prominent and active fund-raiser, collecting waste paper for resale to a paper-recycling mill in the town, running dances etc. He became Chairman of the Trustees of Bollington Leisure Centre in 1974, and it was typical of him that the project was accomplished in 3 years. The Centre opened in 1977. Many work colleagues who lived in and around Bollington were amused to observe when Brian took his turn to man the ticket desk at fundraising events and at the Centre after its opening, he always had, discretely at his side, ICI reports and other papers to be read during slack periods!

But foremost in all Brian's commitments and concerns were his wife Sheila, daughters Carol and Janet and sons Robert and Steven and, over time, their partners and ten grandchildren, who have been nurtured into an extremely close-knit extended family. That none of his children followed him into pharmacology did not disappoint Brian; he, after all, had not wanted to be an accountant! What gave him great satisfaction was that he successfully imbued in them all a love of simple outdoor activities and of Anglesey. Despite all his overseas travels, Brian was never persuaded there is any finer place than Anglesey for a family holiday and it was the location of theirs for 40 years.

By any standards, his contributions to science and medicine, to the fortunes of his former employer (and indirectly to the UK economy), to society and his community, make Brian Newbould an extraordinarily high achiever. Yet he was ever one of the most modest, unassuming, and genial of men, utterly without affectation and fun to be with. He was also a surprisingly practical man, engaging in all manner of car maintenance in earlier times, boat repairs, and tomato, cucumber and courgette cultivation on a grand scale with the aid of a homemade irrigation system. His capacity for work in all contexts was prodigious, but he never made play of it – he simply never wasted a moment.