

Dr R B (Dick) Barlow

It would be difficult to underestimate the practical contribution made by Dick Barlow in the early development of current drug – receptor theory. The combination of his background as a chemistry graduate and his interest in pharmacology, gained from learning from HO Schild and HR Ing at Oxford, made for a distinctive approach to the study of how drugs interact with receptors. It was the quaternary ammonium salts that he later made available as tools for RP (Steve) Stephenson at Edinburgh that enabled him to develop his theory of drug efficacy in 1956. This led to the concept of partial agonists and, eventually, our current ideas on intrinsic efficacy.

As an undergraduate, entering Dick Barlow's laboratory during his time at Edinburgh you would be confronted by a towering Heath-Robinson device powered by numerous government surplus telephone solenoids. It was a clumsy but effective means of automating the routine bio-assay procedure; essential in an era before radio-labelled ligands for drug binding research became available or affordable.

In addition to his seminal textbook '*Introduction to Chemical Pharmacology*' published in 1964, Dick was also instrumental in producing the first practical manual for *in vitro* pharmacology in 1968. With its classic green cover and ring binding (so it could open flat on the bench) it became the very bible for undergraduate course organisers. The Edinburgh undergraduates were also guinea-pigs in the development of the reliable, reproducible and student-proof methods laid out in the book. Dick's meticulous attention to detail in his research and teaching was always tempered by an enormous patience and kindness towards those who did not share his mathematical skills.

Throughout his career in pharmacology Dick's rare modesty shone through his dealings with both staff and students; he never sought nor expected excessive recognition or advancement. He had a lot less time for the administrative roles that come with seniority in academia, in contrast to teaching or research and he always wanted to remain 'hands on' at the bench. This was probably a major factor leading to his move from a senior position in Pharmacology at Edinburgh to the post of Lecturer in Chemical Pharmacology at Bristol. To us in the department at the time it was like gaining a star footballer on a free transfer!

Dick's keenness on being able to measure drug effects accurately and analyse them in a mathematically sound manner is exemplified in his '*Quantitative Aspects of Chemical Pharmacology*' published in 1980. The previously laborious business of fitting data to Langmuir isotherm dose response curves by the method of least squares with a pencil and paper was being made easier by the advent of small computers. Dick was the proud owner of a PDP 8L machine with all of its 4k core memory (the first in the department) and he proceeded to create simple iterative programs to undertake the curve-fitting process. It still took a whole coffee break to do the job, but it worked. We were soon applying these programs to our primitive Commodore 64s and Apple Macs. Pharmacologists today have it all too easy with the huge amounts of memory available.

Having said that Dick Barlow was less keen on the administrative side of academia, he was still prepared to step forward to be an acting head of the Bristol department for a year during the inter-regnum between Professorial Chairs occasioned by the funding cuts in the 1980's. During the Barlow year staff meetings were significantly shorter and less frequent than before – or after. Professor Mitchell recalls an earlier occasion when Dick came to the rescue of the departmental office when we were

hosting a joint BPS meeting with the Italian society. The complex list of participants, attendees, accommodation etc. had been typed out by the department secretary, but in a totally random order. An organisational catastrophe loomed. Dick took the lists back to his office and within 30 minutes returned with his trusty computer and produced an alphabetically arranged compilation. The revolution of word-processing had finally arrived at the office!

Dick began his undergraduate career reading Chemistry at Oxford in a 4 year degree course with a relatively small class which included a certain Margaret Roberts. He later admitted, somewhat shame-facedly, that he had no real recollection of her. The future Margaret Thatcher was clearly less memorable as a contemporary undergraduate than as a politician. But then politics, and academic politics in particular, were something for which Dick had little time or interest. He was always straightforward and his was a laboratory in which commitment to research and teaching was everything.

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