

## John Spence Gillespie 1926-2009



John Spence Gillespie, who died on November 8th 2009, at the age of 83, was Professor of Pharmacology at Glasgow University from 1968 to 1992. He was the founding Head of the Department of Pharmacology from its inception in 1968 until 1988, and served as Vice-Principal of the University from 1983 to 1991 and Dean of Faculties from 1995 until 1998. He served as Chairman of MRC Grants Committees, the Committees of both the British Pharmacological Society (BPS) and the Physiological Society and, as BPS representative, on the Editorial Board of Pharmacological Reviews and on the Editorial Board for Monographs of the Physiological Society. He was Honorary Secretary of the Physiological Society from 1966 to 1972 and was a Fellow of the Royal Society of Edinburgh.

John spent his childhood in the industrial towns on the Clyde downstream from Glasgow, where his education was disrupted by illness and the effects of the Blitz. Nevertheless, he qualified in Medicine at Glasgow University in 1949 and, after National Service, entered a research career. This was initially intended as a temporary measure to aid his ability to practice Medicine, but he never escaped its allure. He gained his PhD working on the innervation of the colon under RC Garry in the Institute of Physiology in Glasgow then spent a productive period with GL Brown at University College London (UCL). Together these mentors kindled his interest in the known and, at that time, unknown, neurotransmitters in the peripheral autonomic nervous system. Like many of us, he constantly returned to the writings of Langley and his contemporaries when discussing these matters, as revealed in a recent interview in the Archives of the Physiological Society.

His research switched direction several times. After UCL, in 1959 he went to the Rockefeller Institute in New York to add electrophysiology to his armamentarium. He was to return to this in the 70s when Kate Creed spent a productive spell in Glasgow. However, on his return to Glasgow, he soon returned to his fascination with the fate of neurotransmitters after release, stimulated by his work with Brown. That led to an interest in the extraneuronal uptake of transmitters, which he pursued with the then new fluorescence microscopy technique of Falck & Hillarp that made noradrenaline fluorescent so that it could

be seen and measured in all cell types. He pursued this method with some zest, obtaining a large grant to purchase a microspectrograph, a huge machine that could carry out quantitative spectrographic analysis that could distinguish various fluorophores derived from chemically related substances, i.e. noradrenaline, adrenaline, dopamine, 5-hydroxytryptamine and so on. This was long before the development of modern techniques to visualize these differences down the microscope. However, his team suffered the usual early-adopter problem that the machine was forever breaking down and, as far as I am aware, no published result ever emerged. Nevertheless, while doing simple histochemistry with the same technique, circa 1970, he came across the rat anococcygeus muscle, largely because it was full of fluorescent noradrenergic nerves. This fascinated him of course because the previous person to mention the muscle was Langley.

This little preparation offered up a powerful non-adrenergic, non-cholinergic (NANC) nerve response, which took him back to some of the puzzles in his PhD project on the colon and, of course, Langley. The rest of his research career consisted of pursuing the nature and properties of the underlying transmitter. After a largely futile decade of hitting various assistants' heads (including mine) off the brick wall of "what was this transmitter?", progress was made with the successful production of a smooth muscle relaxant extract of anococcygeus or the conveniently associated but much larger bovine retractor penis, in collaboration mainly with Billy Martin and Ann Bowman. They went on to demonstrate that both the extract and NANC transmission were susceptible to haemoglobin. Of course, with the advent of EDRF and nitric oxide, the phenomenon was shown to be nitrenergic transmission and the explanation for the long and painful failure to bioassay a transmitter that was a gas, became clear.

Alongside this scientific career, John ran the gamut of the pressures that attend academic life, particularly if intelligent and thoughtful, as he was. He took on the job of creating a new Pharmacology Department in Glasgow just after taking up the post of Secretary of the Physiological Society. Both jobs went well. The

Physoc is still a going concern despite the efforts of some of his successors and he created a remarkably cohesive and successful Pharmacology Department with a loyal and devoted staff. His twenty year tenure is regarded as a golden period by his staff and by those who took their BSc or PhD degrees during that time. The BPS, in particular, has had a substantial cohort of members and former officers who are the product of that department. Invidious to name some names but a few I bumped into at the Winter Meeting were Graham Henderson, Alan Gibson, Mhairi MacRae, Alistair Mathie. Many others have followed distinguished careers in Universities and Pharmaceutical companies throughout the world. All have fond memories of the annual Christmas parties at his Bearsden home, which he and Mina splendidly hosted for staff and students alike. The picture shows two departmental photographs that cover most of the academic staff in the early Gillespie-era. This is provided mainly to embarrass them with the 70s haircuts and clothing styles. I have more, including class photographs, if any alumni or blackmailers are interested.

In 1984, along with David Pollock and John Kelly, John organized the London IUPHAR Meeting on behalf of BPS. This was partly a consequence of the Meeting originally being planned for Edinburgh but being transferred to the Barbican in London, ostensibly due to greater availability of hotel beds.

Towards the end of his career, John was sucked into senior university administration as Vice Principal (Pro-Vice Chancellor, for Sassenachs) for two terms, surely unnatural punishment. He said in his recent interview that he never enjoyed this, but he was extremely well respected and considered fair and even-handed, accounting for his second

term in the position. Actually this characteristic could be infuriating if you ever got into an argument with him. Even more than other academics, he could see six sides of an argument and once you wore them down, a seventh. This was an interesting time to be in Pharmacology in the City of Glasgow. Gillespie and Bill Bowman were simultaneously Vice-Principals of Glasgow and Strathclyde Universities as well as Heads of Pharmacology. They almost brought about the merger of the two departments, something that was 20 years ahead of its time, but, it is widely believed, this was stopped only when several other departments wanted to do the same, and the Principals (Vice-Chancellors) feared a merger of the Universities. At the time, it seemed like a good idea to me too. And would have been cheaper than the Manchester merger.

Unlike many, John Gillespie did not haunt his department after retiring. He took up his interests in painting and gardening, and delighting in his grandchildren. He advised subsequent Principals while holding the ceremonial post of Dean of Faculties. And he left the rest of us to get on with it. This is another lesson that many could learn from him.

He is survived by his wife, Mina, whom he married in 1956, sons David, Graeme, Adrian and Ian, daughter Ruth and seven grandchildren.

**Professor JC (Ian) McGrath**

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An obituary by Tom Muir and Billy Martin was published in the Glasgow Herald on 12th November 2009. <http://www.heraldscotland.com/comment/obituaries/john-spence-gillespie-professor-of-pharmacology-at-glasgow-university-1.991385>



**Pharmacology Department May 1977**

J Smith, J Younger, I Gibson, T Clarke, A Corbett, B King, A Ritchie, J Craig, D Nairn, E Morgan

T Cunnane, J Groves, E McNab, S Paterson, D MacKillop, L Alexander, S Halley, M Wright, N Ali, W Martin

H McCaffery, G Powis, D Pollock, T Muir, JS Gillespie, A Blakeley, W Wilson, F Boyle, N Johnston



**Pharmacology Department June 1974**

C Nicol J Thomson  
E Rafferty, J Younger,  
R Fitzsimmons, N Johnston,  
A Duncan, A Clark, H Sheridan,  
D Templeton, T Clarke, T Blair,  
H McCaffery

A Clanachan, A Gibson, K Creed,  
E McNab, J McGrath, A McKnight,  
R Stevenson, A Boobis,  
J Cameron, A Tilmisany, A Ritchie

G Powis, W Wilson, D Pollock,  
T Muir, JS Gillespie, A Blakeley,  
M Khoiyi, R Summers, F Boyle