

Obituary

Practice makes perfect: Sir Michael J. Berridge

Peter Lawrence

I first met Mike Berridge in Cambridge University's Zoology Department in 1962 where we were both graduate students of Sir Vincent Wigglesworth (known as VBW). We remained good friends for the next 58 years. He became a great scientist — but why was he so successful? There are many ways to achieve scientific greatness: he was certainly not born great, nor did he have greatness thrust upon him. I don't think he was unusually lucky, although he did certainly practise a great deal — I remember him going through his lectures again and again, timing, rehearsing — and we know that practice can bring what others call luck.

In those salad days we students were free to choose our own project and encouraged to research it independently; if we looked usefully occupied, we were left to get on as best we could. Mike chose to work on urine formation in the cotton stainer bug (*Dysdercus*), chosen because it was easy to rear and was a pest in his homeland Zimbabwe. Looking back, one can see what an important apprenticeship that was. Later he turned to secretion and used the salivary glands of the blowfly (*Calliphora*). His collaborator Robin Irvine describes how phenomenally adept he became; he would take 50 or 60 of these glands that he had microdissected so deftly, each undamaged and arrange them nicely in a ring in a petri dish under oil, with the precision of Lalique. Each gland was placed in a drop of bespoke medium, then one end pulled out and pierced so that it released a tiny and growing droplet under the oil. Mike then serially collected these droplets with a micropipette until he had enough saliva for biochemical assays.

Mike wasn't a show-off, nor did he expropriate the work of his students and postdocs. He didn't go in for any of the standard strategies that help one rise to the top, like hobnobbing with the powerful, or swapping and

trading authorships. By their clarity, simplicity and great significance in cellular physiology, two of his papers — in which he revealed and discussed the role of inositol trisphosphate as a second messenger — found themselves in the top five of the citation list for all biomedicine for a whole decade (the 80s). His personality just did not fit with politics: he had integrity, he was modest, diffident and honest, but there was a determination, a persistence and a disciplined perfectionism. I can see VBW in his character and I wonder if Mike consciously or subconsciously modelled himself on his supervisor. But I think Mike's similarity to VBW in his quiet professionalism and gentility lay in their natures; they were alike intrinsically, genetically if you wish.

Mike and I often discussed VBW and what he taught us through his example. VBW rarely had his name on his student's papers and indeed not on any of ours; his was a bygone era where scientific papers were authored by those who did the work, had the ideas and wrote them. We admired his scientific longevity, his independence and his quiet determination. We learnt from him to believe in the precedence of experiment over theory as well as the value of scholarship. Perhaps Mike did see him as a role model, but I think this whole concept can be dangerous. If one tries to model one's career on the style of another, or aim to achieve as another has done, then one has to check that characters and abilities match, as with Mike and VBW, or it can be a self-harming ambition. I think the benefit of role models has become oversold; we are all of us so very different.

Mike's career illustrates, as so often with those who make fundamental discoveries, how long in science it takes to learn things well and deep enough to find a way through the hype, fashion and the maze of sidetracks to ask the right questions. Of course it takes even longer to produce concrete impacts on society or medicine. Think how long it has taken for us to begin to benefit fully from the discovery of DNA, its function and its structure. For no good reason, this truth, so endlessly repeated by scientists, does not seem to come home to those who design scientific policy or even grant applications. As Mike and I met on the golf course once a fortnight or so for over 50 years, or



Golfing friends: An example of one of Mike's annual cartoons, this one summarising 2013's events on the golf course.

when we met in our homes, or when we went together on family holidays, many times to Africa, one issue came up again and again: how fortunate we both were to have had core support for most of our scientific lives and how vital it had been for his discoveries with their important long-term implications for cell physiology and medicine. Robin Irvine remembers this too: oftentimes when he and Mike were confronted by a baffling series of results, Mike would say "it's a good thing we don't have to write a grant to do this stuff". We all expected that Mike would be awarded the Nobel Prize, probably with Yasutomi Nishizuka: would we have viewed his career and achievements differently if he had been? Probably, but actually his achievements would have been the same, almost as well known and just as effective.

Mike was a sporting and competitive person, this came out in his fascination with games and his love of keeping records of everything. There was nearly always a twinkle, nearly always a funny side. Every Christmas we received a special compendium of statistics and stick drawings that summarised the year's events on the golf course (see cartoon). He had a wry sense of observation and a perceptive but friendly sense of humour. VBW must have been very proud of him.

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