Vernon Rycroft Pickles (1920 – 2012)

Vernon Pickles was Professor of Physiology at University College Cardiff from 1966 until 1981. He was a distinguished endocrinologist who made a significant discovery of the role of prostaglandins in uterine function. He died at the age of 91 in 2012.

He was born at West Bridgford, Nottinghamshire, in 1920 and was educated at The Holgate Grammar School, Barnsley and at Cambridge University. He qualified in medicine, MB BChir, took the Diploma in Child Health (DCH) and was later awarded an MD for his work on blood flow in the mammary gland. After a short time in General Practice in Leyburn, Yorkshire, he returned to physiology. His first appointment was in Newcastle and he moved to Sheffield University as Senior Lecturer and then Reader in Physiology. In 1966 he was appointed to the Chair of Physiology at Cardiff where he remained until his retirement in 1981.

Pickles’ early research focused on the control of blood flow and he developed plethysmographic techniques which allowed changes in forearm and mammary blood flow to be recorded with considerable accuracy. He also investigated the effects of 5-hydroxytryptamine on ionic fluxes across cell membranes. In the late 1950s he turned his attention to the reproductive system and in 1957 made a breakthrough. He showed that menstrual fluid contained an active factor, or factors, which induced smooth muscle to contract. This was the first time that such materials had been extracted from menstrual fluid and he reported his findings in a letter to Nature (1). He proposed the term “menstrual stimulant” (later subdivided into types A, B and C). This short report was followed by a short series of papers (2 – 4) and, in 1963, by a very important publication showing that the active factors included the prostaglandins PGE2 and PGF2α(5). The factor which Pickles had been examining and which produced strong contractions in smooth muscle was PGF2α. His position as a leader in the field of prostaglandin research was established. All this now seems rather long ago and it is difficult to recapture the excitement associated with the discovery of these new substances which seemed to have such a wide range of activities. They were linked with 3’,5’ cyclic AMP, the “second-messenger” molecule which was discovered at about the same time and which was
attracting great interest. Hormones were, of course, well known but substances that could be produced by many, perhaps, most cells and which had both local and distant effects were new. Von Euler had shown in the 1930s that semen contained factors that caused smooth muscle to contract and had named what he regarded as a single factor “prostaglandin”. The field expanded rapidly with interest being shown by the pharmaceutical industry. Readers will know that Bergström, Samuelson and Vane were, in 1982, awarded a Nobel Prize for work on prostaglandins and associated substances. Who were the leading figures in this area in the 1960s? There were four: Bergström, Horton, Pickles and Ambache. Their pre-eminence was reflected by them being asked to contribute authoritative reviews, published in Pharmacological Reviews, Physiological Reviews and Biological Reviews, respectively. Pickles produced the first of these, in 1967 (6). In 1969 Pickles produced a shorter but particularly important review in Nature (7). This review reads well today, indeed it reads very well indeed. The author’s grasp of his subject is obvious, his capacity to look forward and to suggest new lines of research is notable and the style of the writing is outstanding.

By the early 1970s work on prostaglandins had exploded, expanded is far too weak a word, into many countries and many laboratories. The need for generous funding was clear but this seemed to elude Pickles and his work, which had begun so well and which had taken him to the very front of his field, faltered. In part this was his own fault: he failed to embrace funding which might have been available from the pharmaceutical industry and, for some unexplained reason, he failed to attract grants from the Medical Research Council. His group was small, had few collaborators and his work was rapidly overtaken by larger, better organised and better funded groups. His position as a leader in the field slipped away and what might so easily have been his triumph passed to others.

But he had other interests. He was one of the first to introduce the concepts of control theory into the teaching of physiology (8). The now very familiar “box and arrow” diagrams could not be found in the textbooks of the 1950s and early 1960s and his insistence on this integrated approach to physiology was a breath of fresh air. He extended his thinking from diagrams to models: at first a splendid mechanical model which illustrated negative feedback and servo-follower functions, and then to computer programs that could be run on the rather primitive personal computers then available. He was an enthusiastic follower of Donald Riggs whose book “The mathematical approach to physiological problems” he recommended to his students. He again extended his thinking and developed the Mini-Math program that allowed users to explore control theory at an accessible, non-mathematical, level.

So much for his research, what of his teaching and his department? When Pickles arrived in Cardiff in 1966 he took over a rather old fashioned department. He inherited senior staff who included some distinguished figures with, however, a poor output of published work. The teaching was also old fashioned and it was clear that major changes were necessary. The changes were made but with difficulty and in the face of entrenched opposition. This was disappointing. What was needed was a tough leader willing to take his staff by the scruffs of their rather stiff necks and bend them to his will. Such leaders are rare and unfortunately Pickles was not amongst them. His honesty and belief that his colleagues would act in their own best interests and in the best interests of his department conspired against him: it was a debilitating and up-hill struggle. Times changed and eventually new staff were appointed. A new and exciting focus on neurophysiology was brought to the department by Malcolm Roberts and his colleagues and research was pushed forwards. Younger workers like Ron Eccles were also very active and enthusiastic. Pickles encouraged but did not engage with the
new lines of research: he tried in the field of neurophysiology but it was not his area of expertise and what might have been a new and productive period of research for him failed to appear. He retired, to take care of his increasingly ill wife, in 1981.

What of the man? Vernon Pickles was a cultured a man. He had long-standing and serious interests in music and the theatre. He and his wife, Constance, had been regular visitors to the Edinburgh Festival in their younger days. Vernon was an accomplished musician himself. His interests in music continued and until 2005 he was writing about the value of music in the management of patients suffering from Alzheimer’s disease. As in all his work his papers were thoughtful and beautifully written (9). He had four children, two of whom became members of the Society. Their success gave him great satisfaction.

How should Vernon Pickles be remembered? He was a distinguished physiologist who, by hard work and by the good fortune that attends the talented and hard-working, made a notable and permanent contribution to his subject. He was a leader in the field of prostaglandin research. His personal distinction was obvious to the present author who, as an undergraduate, met him in 1969 and who later served on his staff. He could be difficult, he was occasionally distant but beneath that lay honesty and charm. He was very close to being a great physiologist.

References


I wish to thank Dr J Pickles for his assistance in preparing this obituary.

R L Maynard CBE FRCP