A personal memoir

Autar Paintal was one of the most distinguished physiologists to emerge from India, probably the most distinguished. The internet will give 236 references to him in <0.31 sec. There one may find detailed accounts of his work by a wide range of admirers.

Aside from his outstanding excellence and incisiveness as a physiologist, it was his grace and ever youthful sense of fun and mischief that endeared him to so many friends around the world. The well chosen photograph of him on the Vallabhbhai Patel Chest Institute web site where he worked from 1964 just about shows that twinkle in the eye, and his ‘love of fun and mischief’. It is reproduced here. There is the man so many of us admired. He would have been delighted to find himself on the internet and especially to find that he was available on e-Bay in a list that includes ‘new & used electronics, apparel, collectibles…autar paintal dsg accountants…holo holo…’ and so on. Especially ‘holo holo’ would have appealed, an item closely listed near to him for sale. Similarly he is often to be found as an ‘adobe acrobat’ which would have provoked more glee.

With the award of a Rockefeller Fellowship, Autar Paintal arrived in Edinburgh in 1951 to work for a PhD under David Whitteridge. He spent several months first building an electrophysiological rig with ex-army electrical parts (with circuits from CJ Dickinson's book and guidance from ‘Jock’ Austin – both brought by DW to Edinburgh from Oxford).

His research uncovered many aspects of innervation through the vagus nerve of the structures within the body cavity, especially perhaps through his work on the heart and lung receptors. Some would say his discovery in 1955 of the J receptor in the lungs was his most important contribution.

I am not so sure for it is arguable that the most far reaching and most widely applied discovery he made was in Edinburgh (1951–1953) where he showed that one could record from nerve fibres, and dissect them under liquid paraffin. This technique, so simple in conception, has been taken up and used by neurophysiologists around the world. It immediately superseded frequent irrigation of the nerve with saline as in the early work of Adrian or the steam-box in which tissues were kept to prevent drying of the nerves. With that original apparatus, dissection was very difficult. Paintal’s advance changed the way we all did experiments on nerve and made those experiments so very much easier. Furthermore, the method allowed much finer dissection than would otherwise be possible, for the nerve strands do not dry out. Thus smaller and smaller nerve fibres could be studied.

Another of Paintal's innovations was to short-circuit David Whitteridge's very elaborate indirect ways of localizing cardiac/pulmonary vagal afferent endings in the anaesthetised animal by fearlessly opening the chest and prodding about the heart and lungs with a glass rod. A fine example of direct observation and experiment.

With his PhD, he returned to India; but not, as expected, to Lucknow University – where he had obtained his MD (or MB). He would not go back to the Lucknow Medical College Physiology Department because he did not approve of their employment policies, but instead took a research position in Kanpur, at the Indian Army medical centre.

This failure to return to Lucknow got him into trouble with the Rockefeller Foundation: they had allowed him to take his electrophysiological equipment there but as a penalty for not returning to the parent institution, as required by the terms and conditions of his award, he was not allowed to take his rig to Kanpur. Some believe they were not going to be seen as supporting the Indian army. So he had to build everything again from scratch, in spite of the lack of parts and the absence of funds for importing anything from overseas: only someone with his fierce determination to get on with his research and sheer tenacity in overcoming endless bureaucratic hurdles throughout his career in India could have done it.

Maybe the association with a military institution had advantages for him, such was his skill, for he would have had access to military surplus apparatus. Think of those radar sets, amplifiers and power supplies, etc. In London at this time physiologists and other scientists scoured the army surplus and second hand stores in Lisle Street, Soho, in the same way.

I came to know Autar Paintal through The Physiological Society and we met often in the UK and from time to time in India. His distinction never obtruded in his interactions with colleagues old and new such was his openness.

He was politically incorrect as we would now term it, and in some ways politically incompetent, though he rose to the highest levels in Indian science, maybe because he was so straightforward. His sense of fun and his political incorrectness showed itself after a Physiological Society dinner in Magdalen College, Oxford where he gave the vote of thanks. He told how difficult it was to do science in India, and similar strictures apply throughout the world. Monday was the day after the weekend, Tuesday was a religious celebration day, Wednesday one played games in the afternoon, Thursday was a Saint’s day, and on Friday no self respecting Indian like himself could possibly do an experiment with the weekend imminent. Of course, it was not like that, and certainly not for him. He was devoted to science and pursued his subject with absolute integrity, he did...
not countenance dissembling and was always straightforward. This quality no doubt occasionally led to trouble for him.

Many years later, as head of the Indian MRC, he made the headlines when, aiming to prevent the spread of AIDS to the subcontinent, he strongly urged Indian women to avoid making love to foreigners. This view was not widely applauded.

In his role as an organiser my experience of Paintal in operation was in India particularly at the time of the Physiological Congress in Delhi when he organised a meeting in Srinagar. He knew how to make administrative systems work. Many of us arrived at the airport in Delhi but some were delayed in Mumbai (Bombay as it then was). Paintal moved up and down the line quietly instructing us to make our check-in as slow as possible by misplacing our tickets, fumbling with our identifications, searching for our luggage. In short we were to behave like more than usually incompetent academics. This combined with the need to have every paper stamped and approved by various officials delayed our take off to such an extent that the Mumbai group arrived to travel with us.

He had developed to a fine degree the use of the technique of anger to make progress on a problem. It is always the case that to become angry is to lose control. However, to perform as if angry is sometimes useful in administrative life, but the technique should be used sparingly and always be under control. Paintal was a master at this. My wife and I were once in his office, even when feeling intimidated as he addressed some unfortunate down the telephone. So soon as he had his way, he switched in a flash to his normal charming self, unruffled by the previous maestrom.

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Always he was, whatever the circumstances, an intensely serious scientist, interested in advancing knowledge, pursuing investigations with absolute integrity to the data, never fearing to criticise what he considered to be unworthy, and thus upholding the highest ethical standards.

Certainly he was widely admired and held in great affection by many physiologists and there are many who would have more stories to tell than me. Many knew him better, going back to the Edinburgh days, but perhaps no one enjoyed being with him more. We cannot imagine how much more than us his family must miss him.

I am grateful to Kres Krnjevic for his comments, especially on the Edinburgh days.

Tim Biscoe
Honorary Member

Deceased Members
The Society also reports, with regret, the deaths of D L Ingram and J A Bateman.

Doug Ingram was a Member from 1963–2001 and J A Bateman joined The Society in 1935, making him one of our longest serving Members.

We hope to carry obituaries in a future issue of Physiology News.