

EDITORIAL

JAMES WHYTE BLACK

14 June 1924 – 22 March 2010

Greatness is earned not just through what we achieve, but by how we handle the recognition of our achievements and how we behave thereafter. James Black was a truly great man.

In the modern era of communication the world has mourned his passing and marvelled in his achievements with the sheer density of coverage rightly reflecting the significance of his life and contribution. The headlines are well known.

Born into a mining family in Lanarkshire in 1924, schooled in Fife, prior to University at St Andrews, Jim was a proud Scotsman and, with Alexander Fleming, one of only two Scottish Nobel Laureates – a source of huge pride to his native land.

Trained as a physician at St Andrew's and qualifying as such in 1946; he turned his back on medicine because of its perceived "lack of humanity" and in his own words "pursued his love affair with knowledge" first as a cardiovascular physiologist and thence, with the help of medicinal chemists, as an analytical pharmacologist. Never having done a PhD he described himself as "one untrained in experimental science who picked it up along the way".

His career spanned academe and industry – the universities of Singapore, Glasgow, University College London and King's College London, interspersed with the pharmaceutical companies ICI, Smith Kline French and the Wellcome Foundation. His relationships with these organisations were driven by the desire to pursue his personal scientific ideas and goals. Universities offered independence and freedom but inadequate resource and expertise for his science – industry offered huge resource but often scepticism and impatience at his approach and corporate commercial expectations which were of less interest to him.

The story of the science that emerged is legendary but worth telling.

Working in Glasgow in the early 1950s on mechanisms to increase oxygen supply to the ischemic heart he proposed, based on Raymond Ahlquist's adrenergic receptor hypothesis of 1948, that an alter-

native approach would be to reduce the heart's need for oxygen by reducing its rate and force of contraction. His hypothesis, that a compound that blocked the cardiac beta-adrenergic receptor could achieve this, was imminently testable. A move to ICI followed in 1958 and in 1964 propranolol was launched and the hypothesis confirmed.

He defined his drug discovery pathway as such

1. Identify the clinical problem.
2. Characterise the underlying biological processes.
3. Establishing the regulatory molecules and receptors involved.
4. Design compounds which antagonise this process by acting through the same receptor pathway.

Keen to test this pathway in a different system and unkeen to get involved in the subsequent commercial development and delivery of propranolol into the marketplace; he moved in 1964 from ICI to Smith Kline French. Focussing now on the ability of histamine to stimulate gastric acid secretion and contribute to peptic ulcer disease – the result, in 1975, was the launch of cimetidine, the first selective histamine H₂ antagonist. The rest, as they say, is history!

Both propranolol and cimetidine were unique and "first-in-class" – i.e. first approved drugs acting through novel mechanisms of action – no "me too's" for Jim Black! Both became the biggest selling compounds of their generation. Both contributed massively to improving human health. The compounds themselves and the thinking and processes needed to develop them changed the face of medicine and perhaps as an afterthought – but certainly as a result; "no single man on earth has ever earned more income for the international pharmaceutical industry"!

Recognition and honours have followed;

- Elected an FRS in 1976,
- Knighted in 1981,
- Awarded the Nobel Prize with Gertrude Elion and George Hitchings in 1988,

- He was Chancellor of Dundee University from 1992 until 2006,
- Appointed to the Order of Merit by HM the Queen in 2000 and
- Talked of now in the same league as William Harvey who discovered the circulation of the blood.
- With none of it ever changing the man who often wondered "what all the fuss was about?"

I had the honour of knowing Jim for 24 years – first as a colleague, then as a friend and finally as a physician. Humble, charming, kind and generous, passionate to the end about life, music and science – that of both the young in encouraging and securing their futures and of course his own – right to the end he remained active and he was still publishing in 2010 on gastrin antagonists in gastric and pancreatic cancer. A great scientist and a very great man. Claude Bernard characterised the likes of Jim beautifully – "innovators see what everyone else has seen BUT think what nobody else has thought".

And what of his personal life? Devastated by the death of his first wife Hilary in 1986, and sustained by their loving daughter Stephanie; he found real

happiness again with Rona, whose loving care and attention revitalised his life and ensured continuing independence and quality of life right to the very end.

James Black's achievements are the stuff of legends. In closing I am reminded of his fellow Nobel Laureate and my other hero Nelson Mandela's comments on death; "In eulogies to the departed the words of the living sometimes bear little relation to reality and in reality the names of only very few people are remembered beyond their lives". James Black will never be forgotten.

Tribute by Alan McGregor at the Funeral
Service and Thanksgiving for his Life
Monday 29 March 2010

Alan McGregor
Professor of Medicine, King's College London
London, UK

Conflicts of interest

AM has declared no potential conflicts.