

## Guy George Dodson (1937–2012)

### A distinguished scientist and his distinguished family

Professor Guy George Dodson died in York, England, last Christmas Eve after a brief illness. His death has robbed the world of an internationally recognised scientist, renowned as an x-ray crystallographer and noted for his research on the three-dimensional structure of biologically important proteins, particularly insulin. His ground-breaking work was rewarded when he was elected a Fellow of the Royal Society in 1993, an honour conferred on just a handful of New Zealanders, including Lord Rutherford. His links to Auckland were reaffirmed when he was appointed Visiting Professor at Auckland University in 2007.

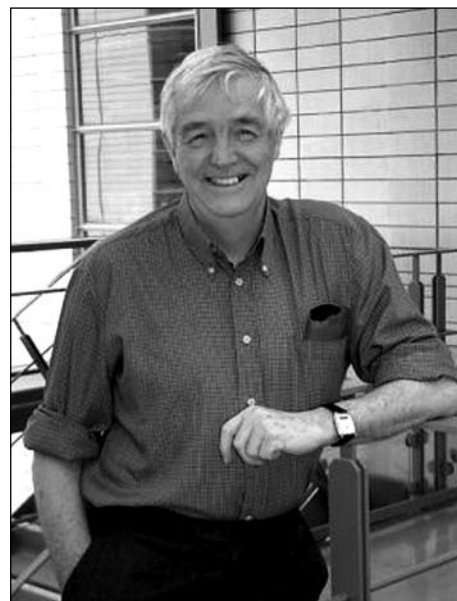
#### Identical twins

Guy and his identical twin brother, Maurice, were born in Palmerston North in 1937. Their parents had emigrated to New Zealand from London in 1926, seeking a better life as beekeepers, but they were hit hard by the depression in the early 1930s and the onset of the Second World War, in which their father served as an army chaplain. In 1945 the family moved to Auckland, where they were challenged by an acute housing shortage and unemployment for returned servicemen. In 1946 a partial solution was found when the boys won places at Dilworth School. Here Guy and Maurice acquired a love of debating, cricket, history and science, together with a healthy disregard for authority (this, in spite of being school prefects). They particularly admired their senior mathematics and sciences teacher, Donald Gray, who encouraged lateral thinking, logical reasoning and intelligent questioning, rather than the simple memorisation of facts. They were also admirers of Mrs Eve Russell (Bush) who instilled in them a love of history and an appreciation of world interaction and political matters. In their final year at Dilworth the twins won all the senior academic prizes and Guy was Dux. Their classmate, Murray Wilton, later returned to Dilworth as Headmaster from 1979 to 1997.

During their time at Dilworth their older sisters, Anne and Deirdre, married and provided the twins with two surrogate older brothers, Bob Gudex, a junior doctor, and Ranginui Walker, a teacher. Both brothers-in-law later became distinguished members of their professions. The whole family was then, and has remained, very close. The 16-year old twins were even taken on one sister's honeymoon!

Guy and Maurice enrolled at Auckland University College in 1955. Guy chose to study chemistry where, in particular, he enjoyed the courses on crystallography taught by the eminent scientists David Hall and Neil Waters. Maurice chose mathematics and completed his doctorate in number theory at Cambridge University in England. When he graduated in 1957, Guy toyed with the idea of studying law, but quickly realised it was not

**Professor Guy Dodson at the University of York.**



for him. Professor Hall agreed to accept him as a PhD student to undertake the X-ray analysis of a plant alkaloid found in the New Zealand bush. He remained eternally grateful to his tolerant supervisor, who gave guidance, support and crystallographic training while turning a blind eye to the impromptu wild episodes which punctuated lab activities.

#### At Dorothy Hodgkin's laboratory, Oxford

After completing his PhD in 1961, Guy chose to go overseas to widen his experience. Dorothy Hodgkin, later a Nobel Prize winner in Chemistry, accepted him as a postdoctoral fellow at Oxford University, a move which transformed his life. The revolution in the development of protein crystallography was gathering pace, and he became Professor Hodgkin's partner in the successful solution of the structure of insulin in 1969. At Oxford Guy met and married Eleanor MacPherson, an Australian researcher. The laboratory was an exciting place for young scientists, as advances were made in the biology of insulin and its role in medicine. Guy's research has been richly vindicated by the development, in collaboration with the Danish drug company Novo Nordisk, of several billion-dollar insulin derivative drugs.

#### The Dodson family at the University of York

In 1976 Guy and Eleanor moved to the University of York to set up a new laboratory where their respective talents reached maturity. Guy's enthusiasm and openness, his generosity of spirit, and his willingness to devote his time to assisting and advising others, attracted many researchers to York, making it a powerhouse in structural biology. The move also re-united the Dodson twins and their families. Maurice was already a lecturer in the Mathematics Department at York and eventually became a full professor and Head of Department. Although they were by

\* An obituary for Guy Dodson in the "Guardian" newspaper can be found at this link: <http://www.guardian.co.uk/science/2013/jan/28/guy-dodson>



***Guy Dodson at work with Professor Dorothy Hodgkin at Oxford University in the 1960s.***

now well settled into UK academic life, they remained close to their antipodean roots, helped by the fact that York became the centre for visits by family, friends and old schoolmates.

In 1993, Guy Dodson agreed to help establish a structural research division at Britain's National Institute of Medical Research, adding strength to their biomedical research on malaria,

tuberculosis and the structure of prions, the active agent in Mad Cow Disease. He was internationally sought after as a reviewer, a doctoral examiner and visiting speaker. He never abandoned his high standards, worked hard on community projects and remained true to his sympathetic understanding of human fallibilities. Today researchers around the world carry the benefits of their association with Guy, dubbed the 'crystal gazer', and an abiding affection for him.

Guy is survived by Eleanor and their four children and three grandchildren.

Guy's widow, Eleanor, holds a chair in chemistry at York and was elected a Fellow of the Royal Society for her research in macromolecular crystallography. Maurice's Iranian wife, a former professor, now Baroness Haleh Afshar, serves as a Crossbencher in the House of Lords.

**Sources: Eleanor Dodson, Maurice Dodson, and Murray Wilton**