

### PROFESSOR TED THOMPSON (1925–2012)



Ted Thompson was one of the pioneers of molecular biology and, during a distinguished academic career at the University of New South Wales, did much to encourage teaching and research in biological science.

Ted, named Edward Owen Paul, hence often referred to around UNSW as 'EOPT', was born on 18 January 1925, the second of three sons of Elma (née Durham) and Czar Thompson, a Gallipoli veteran. The boys, all three of whom later studied chemistry, grew up in Granville and attended Parramatta High School.

Ted enrolled in Science at the University of Sydney, graduating in 1945 with First Class Honours in organic chemistry. One member of that class was the future politician and judge, Lionel Murphy, and another was Adrienne White, whom Ted married in 1947. Both were keen bushwalkers, as well as fine scientists, and later, when they returned to Sydney, they systematically explored the harbour foreshores by kayak.

After gaining a Diploma of Education and following a stint of high school teaching, Ted was awarded a CSIRO Studentship that enabled him and Adrienne to travel to Cambridge, in the UK, where Ted undertook a PhD degree in Fred Sanger's laboratory. Sanger had set out to determine the amino acid sequence of the protein hormone insulin. A portion of the sequence had already been determined when Ted arrived in Cambridge, so his task was to determine the remaining sequence which, because of its solubility properties, was technically demanding. Ted succeeded and insulin became the first protein for which the amino acid sequence was known. Sanger, who was awarded a Nobel Prize for this work, has written in glowing terms of Ted's experimental skill and ability to get things done.

It is hard to exaggerate the significance of this achievement. Until the work on insulin, many people doubted that proteins consisted of specific sequences of amino acids. The insulin sequence was published in March 1953. In April that year, Watson and Crick, also at Cambridge, published the double helix structure of DNA while, next door, Perutz and Kendrew were perfecting the X-ray diffraction techniques that would reveal the three-dimensional structure of proteins. That year, 1953, was indeed *annus mirabilis* and witnesses who were there have spoken of being 'present at the creation'. Ted was present and he certainly had a hand in the creation. What was created, of course, was molecular

biology and it was born because it was only then that it became possible to frame questions such as: how is the nucleotide sequence of DNA translated into the amino acid sequence of proteins? How does the amino acid sequence dictate the 3D structure of a protein? And how does the 3D structure determine function? The molecular revolution in biology that ensued as these questions were addressed is still going on, with widespread ramifications, particularly in medicine.

Following their time in Cambridge, Ted and Adrienne went to Salt Lake City in Utah, which must have been quite a change. There, Ted had a postdoctoral position with Emil Smith, a prominent biochemist who was eager to learn the protein chemistry techniques that had been developed for use in the insulin work. After that, it was back to Australia in 1954 and a position at CSIRO Division of Wool Research in Melbourne where, again, there was ample opportunity for Ted to apply his expertise in protein chemistry.

In 1966, Ted was appointed Professor of Biochemistry at the University of New South Wales. At the time of his appointment, Biochemistry was part of the Faculty of Science, but in 1968, a separate Faculty of Biological Science was created. Ted was involved in this change, which he endorsed because it enabled an expansion in teaching and research in all areas of biological science at UNSW.

Ted built up a strong School of Biochemistry as well as a thriving research group of his own, which over the years determined the amino acid sequence of the blood protein haemoglobin from a range of native Australian animals in addition to work on a variety of other proteins. When it became possible to isolate genes and sequence their DNA in the early 1980s, he lost no time in establishing these techniques in his lab. As well as providing information on gene structure, this approach served as a complementary method for determining protein sequences. On the basis of the research work he carried out at UNSW, he was awarded the degree of Doctor of Science by Cambridge University. In spite of considerable administrative responsibilities, which included being Dean of the Faculty for several years, and a term as a member of the Australian Research Grants Committee, Ted always maintained a close familiarity with the lab bench and the progress of his postgraduate students. He was a strong supporter of the Sydney Protein Group, which each year awards a prize in his honour, the Thompson Prize, for the most outstanding research contribution by a graduate student from a university in the Sydney area.

He retired from UNSW in 1990 but retained links with the university. He was a Director of International House 1991–2001 and Chairman of its Board 1995–2001, as well as being one of the Mace Bearers at university graduations. In recognition of his long and distinguished service to the university, he was made Professor Emeritus upon his retirement and awarded the degree of Doctor of the University (*honoris causa*) in 2007. He will be remembered with affection by staff and students alike as the easygoing, approachable person that he was.

He is survived by Adrienne and children Lynn, Sandra and Owen and their families.

*Tony Mackinlay (University of New South Wales)*

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