



EDWARD IRVING – A TRUE PIONEER IN GEOPHYSICS

EDWARD IRVING WAS A PIONEER, WHO TOOK AN UNCONVENTIONAL PATH IN ACADEMIA AND WORK.

Born in the UK in 1927, Irving went on to complete his undergraduate training in geology at Cambridge. In June of 1951, he was recruited to assist British geophysicist, Keith Runcorn, whose pioneering studies of paleomagnetism provided early evidence in support of the theory of continental drift. They collected samples from the Torridonian Sandstone of Northwest Scotland for a

paleomagnetic study. This work was to become the start of Irving's PhD.

Irving was also instrumental in the early development of the magnetometer so that it could be adapted to measure rock magnetism. His 1954 PhD thesis included measurements from the Indian Deccan Traps which indicated that, since the early Tertiary, 'India had moved from the Southern Hemisphere

through 53° of latitude and had rotated counterclockwise by 28°, a motion required by (the then-controversial continental drift theory of) Wegener'.

In his last year as a PhD student at Cambridge, Irving applied to work in a research position at The Australian National University (ANU). He was offered a Research Fellowship in geophysics and arrived in Canberra in January 1955.



Ted Irving, circa 1955 at University House, Canberra, in what became known as the Fellows Garden.



Vancouver Island, 1980, photo by Ray Yole

Irving immersed himself in fieldwork to collect Australian samples, design and construction of the new paleomagnetic laboratory, and ongoing analysis of paleomagnetic and paleoclimatic data from Europe and North America. His research on the Precambrian poles, Palaeomagnetic and palaeoclimatological aspects of polar wandering and also the results of a detailed study of the Tasmanian dolerites were all published by 1956. By 1957, Irving and PhD student Ronald Green had enough information for an initial polar wander path for SE Australia, and the opportunity to demonstrate systematic differences between polar wander paths for different continents – unambiguously indicative of continental drift at speeds of order 10 cm/year.

Irving worked at ANU until 1964 before leaving to take up a position at the Dominion Observatory of the Department of Mines and Technical Surveys in Ottawa, Canada. After a brief interlude at the University of Leeds in the UK, he returned with his family to Canada. He worked in the Department of Energy, Mines, and Resources, and later in the Pacific Geoscience Center in Sidney, on Vancouver Island.

Irving's many awards include the Fellowship of the Royal Society of Canada (1973) and the Royal Society (London, 1979), the Bucher Medal of the American Geophysical Union (1979), the Tuzo Wilson Medal of the Canadian Geophysical Union (1984), and the Day Medal of the Geological Society of America (1997), Membership of the US National Academy of Sciences

(1998) and of the Order of Canada (2003).

Edward Irving was one of the true pioneers in geophysics. The Edward Irving Prize aims to inspire the next generation of leading geophysicists.

(This biography is adapted from an article written by Emeritus Professor Ian Jackson)