Donald Michie

Born November 11, 1923, Rangoon, Burma; code breaker at Bletchley Park and a foremost British pioneer in artificial intelligence.

Education: MA, human anatomy and physiology, Oxford University, 1949; DPhil, mammalian genetics, Oxford University, 1953; DSc, biological sciences, Oxford University, 1971.

Professional Experience: Foreign Office, Bletchley Park, 1942-1945; research associate, University of London, 1952-1958; University of Edinburgh: senior lecturer in surgical science 1958; reader in surgical science, 1962; director, Experimental Programming Unit, 1965; chairman, Department of Machine Intelligence and Perception, 1967; director, Machine Intelligence Research Unit, 1974-1984; Personal Chair of Machine Intelligence 1967-1984; cofounder and first board chairman, University Centre for Industrial Consultancy and Liaison, 1969; chairman of the board of trustees, A.M. Turing Trust, 1975-1984; professor emeritus of machine intelligence, University of Edinburgh, 1984-present; Turing Institute: founder and first executive director, 1983, executive director, 1983-1984, director of research and advanced study, 1984-1986, chief scientist, 1986, senior fellow, 1992.

Honors and Awards: Open Classical Scholarship, Balliol College, Oxford, 1942; Balliol College War Memorial Studentship, 1949; scientific fellow, Zoological Society of London, 1953; fellow, Royal Society of Edinburgh, 1969; fellow, British Computer Society, 1971; Pioneer Award, International Embryo Transfer Society, 1988; fellow, American Association for Artificial Intelligence, 1990; DSc (Hon.), National Council for Academic Awards, UK, 1991; DSc (Hon.), University of Salford, 1992.

Even before he had attended college, Michie joined Britain's brilliant minds at the Government Code and Cipher School at Bletchley Park to work on the breaking of German High Command codes. His contact there with Alan Turing, who laid the basis for the breaking of the Enigma code, implanted an interest in AI and particularly in machine learning, which stayed with him throughout his subsequent career. He was recruited by Max Newman for a mechanized attack on the top-level family of strategic cyphers known as “Fish.” With Jack Good, he was to have a radical impact on the scope and powers of the new high-speed electronic machines engendered by the collaboration of Newman's group with the British Post Office research team headed by Tommy Flowers. The result of this work was the special-purpose computer known as Colossus.

Donald Michie completed his studies after the war in human anatomy and physiology, and earned a doctorate in mammalian genetics in 1953. Later he returned to the study of the interrelationships between human intelligence and computers, founded the center for Machine Intelligence at the University of Edinburgh, and later the Turing Institute in Glasgow, Scotland. Dr. Michie is perhaps best known for his farsighted work in artificial intelligence, and for his being on the losing side of a bet with David Levy, the chess master, regarding the date by which a computer program would beat a world master at the game. The rate of improvement of chess playing programs would have caused many of the field to join Michie in his conjecture; in fact, although he lost, he was off by only a few months.

Michie is currently working on the development of software “clones” of real-time human skills. In computer-based flight-simulator tests, the machine learning method employed delivers autopilots that are found to fly complete missions in a more fail-safe style than that of their trained human counterparts.

Michie's work with Alan Turing and his early contributions in artificial intelligence were recently highlighted in the joint BBC/PBS television series entitled “The Machine that Changed the World.”

QUOTATION

“Expert knowledge is intuitive; it is not necessarily accessible to the expert himself”

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UPDATES

Donald Michie and his wife died in a car accident, July 2007 (MRW, 2012)