Bertram Vivian Bowden

Born January 18, 1910, Chesterfield, UK, died July 28, 1989, Altrincham, UK, premiere, and possibly the first, computer salesman, and editor of the 1953 book Faster than Thought.

Education: BA, Cambridge, 1931, MA,[1] PhD, Cambridge, 1934, MSc (Tech).

Professional Experience: Cavendish Laboratory, Cambridge, 1931-1934; University of Amsterdam, 1934-1935; chief physics master, Collegiate School, Liverpool, UK, 1935-1937; chief physics master, Oundle School, 1937-1940; Telecommunications Research Establishment, UK, 1940-1946 (Radar research in UK, 1940-1943; in US, 1943-1946); UK Atomic Energy Authority, 1946-1947; Sir Robert Watson Watt & Partners, 1947-1950; Ferranti, Ltd. 1950-1953; dean of faculty of technology, Manchester University, and principal of the Manchester College of Science and Industry, 1953-1964; Minister of State, Department of Education and Science in 1964-1965 (on leave from Manchester College of Science and Technology).

Honors and Awards: Baron Bowden of Chesterfield, life peerage, 1963; fellow, Institute of Electrical Engineers (UK); fellow, Institute of Electrical and Electronics Engineers (US).

Bertram Vivian Bowden was born in Chesterfield, Staffordshire, England, son of a schoolmaster. After attending Chesterfield Grammar School, he went up to Emmanuel College, Cambridge, with an open scholarship and took successive firsts in the natural science Tripos. After graduating he joined the Cavendish Laboratory and worked with Rutherford from 1931 to 1934 on the measurement of radioactive levels, receiving a PhD in 1934. After Cambridge, Bowden took an ICI[2]26 fellowship at the University of Amsterdam, which he left after just 1 year in order to teach, first at the Collegiate School, Liverpool, and then at Oundle, where he was chief physics master.

During World War II, like many of the other British computer pioneers, he found employment at the Telecommunications Research Establishment (TRE) working on radar. At TRE he was appointed principal scientific officer and worked alongside other future computer pioneers including F.C. (Freddie) Williams, who was to figure prominently in Bowden's future career and in the development of the computer field.

---

[1] It is the right of a graduate of Cambridge, after two years of experience, to apply for the granting of a master's degree without examination.

[2] Imperial Chemical Industries, Ltd.

In 1943 Bowden led a British team that collaborated with American scientists at the Naval Research Laboratory in Washington, D.C., to assist in the development of new equipment. He remained in the US until late 1946, including a year at MIT.

On return to the United Kingdom, Bowden joined the Atomic Energy Authority for a period, before being recruited to join the Manchester-based electronics firm of Ferranti, Ltd. Here Bowden's wartime contacts, his electronics expertise, and his undoubted energy secured him a sales and marketing position in what was then an exotic field—computers. Ferranti was developing a commercial version of the Manchester University Mark I computer, which under William's direction had run the world's first stored program in June 1948. Bowden was charged with exploring the possibilities of selling these new machines, becoming, in effect, the sales manager, although as Bowden recalled, “it was all very informal,” with no formal title. However, based on this appointment Bowden claimed to have been the first computer salesman in the world.

The potential market for computers was unknown; in the postwar depression, the idea of paying tens of thousands of pounds on machines for calculations seemed to place computers in the realm of science fiction. Clearly there was to be a shortage of computer operators, who were assumed, at that time, to be qualified mathematicians. Operating (programming) procedures were not yet codified, and there was a serious question of reliability. Bowden observed “at one time it looked as if we were going to spend more time mending them than using them!” Bowden found the process of selling machines unrewarding and slow; the time to decide to purchase after the decision to acquire could extend to 2 years.

Although his work brought Bowden into contact with Alan Turing and Christopher Strachey, Bowden never claimed any detailed knowledge of programming, instead describing himself as a “systems engineer.” In 1952 his negotiations with the Royal Dutch Shell Laboratories (Amsterdam) led to the purchase of a machine in the face of competition from the US, Cambridge University, and the National Physical Laboratory (Teddington). That same year, the UK Ministry of Supply ordered two computers for “classified work.” As perhaps the result of a prior agreement in the commercialization of the “Manchester machine,” Ferranti provided a machine to the university for mathematical research.

Bowden regarded the sale of a Ferranti Mark I to the University of Toronto in 1951 as his greatest coup. The machine, codenamed FERUT, was used by the Canadian government in their part of the engineering design of the St. Lawrence Seaway.[1] The project served as a springboard for the programming talents of Christopher Strachey, who arrived in Canada in fall 1952 to develop a program for calculating the effects of the new seaway on the water flow past the Thousand Islands.[2] Bowden reported that the success of this work “gave the Americans the fright of their lives” and a “giant inferiority complex.” However, the success still did not convince US industry to buy British machines.

---

[1] See Williams, M. R., “History of Computing in Canada,” Special Issue, Ann. Hist. Comp. Vol. 16, No. 2, 1994.

[2] Located at the eastern end of Lake Ontario at the head of the river between Ontario and New York state.

Bowden left Ferranti in 1953 to become principal of the Manchester College of Science and Industry. Bowden drew the attention of industrialists and the public to the importance of science and technology to the needs of the country. Eventually his efforts were rewarded by a life peerage in 1963. The Labour government under prime minister Harold Wilson appointed Bowden as minister of state at the Department of Education and Science in 1964 through 1965. In 1968 Bowden agreed to chair an informal group of computer scientists, including Stanley Gill, for the discussion of data transmission networks. Subsequently known as the "Bowden Committee," it foresaw the need for adequate communications for the proper development of computing.

Bowden is perhaps best remembered for his 1953 book *Faster than Thought: A Symposium of Digital Computing Machines*, which initially began as a sales brochure and grew in scope as the work progressed with assistance from the British computing community. The result is a "Who's Who" of the industry at that time and gave a place of pride to Charles Babbage and Ada, Lady Lovelace, at a time when their achievements were not well known.

Bowden retired in 1976, and although troubled by increasing blindness, he remained active "listening to music, pottering about his home [Altrincham, Cheshire] and in the House of Lords."[1] He died at the age of 79 on 28 July 1989.[2]

QUOTATION

"It seems probable that we shall have a second Industrial Revolution on our hands before long."31

BIBLIOGRAPHY

Biographical

Swann, Bernard, *History of the Ferranti Computer Department*, unpublished manuscript, National Archive for the History of Computing, The University, Manchester, UK.

Tweedale, Geoffrey, "Bertram Vivian Bowden," *Ann. Hist. Comp.*, Vol. 12, No. 2, 1990, pp. 138-140.

Significant Publications

---

[1] Who's Who, 1987.

[2] Based on Tweedale 1990, with assistance by Geoffrey Tweedale.

Bowden, Bertram V., ed., *Faster than Thought: A Symposium of Digital Computing Machines*, Sir Isaac Pitman & Sons, London, 1953.

UPDATES

Portrait added, MRW, 2012