Leslie Fox

Born September 30, 1918, Dewsbury, Yorkshire, England,- died August 1, 1992, Oxford, England,- British Post-World War II numerical analyst who established the clear needs for a careful balance between the academic rigor of the field and its practical utility.

Education: BA (first-class), Oxford University; DPhil, Numerical Techniques in Engineering (under R. V. Southwell).

Professional Experience: Nautical Almanac Office, 1943-1945; mathematics division, National Physical Laboratory, Teddington, Middlesex, 1945-1957; director of the Computing Laboratory, Oxford University, 1957-1990.

Leslie Fox exerted a profound influence on the development of numerical mathematics in Great Britain in the post-World War II period, bringing discipline to an increasingly vigorous but initially disordered field of research.

During and after World War II, the demand for the numerical solution of mathematical problems grew explosively, accelerated by wartime advances in physics and engineering. The end of the war also heralded the rapid development of the electronic computer. The situation was potentially chaotic, with well-tried methods of computation being ousted in favor of new techniques designed to exploit the speed of the new machines. Fox argued consistently for adherence to basic principles; in particular he argued that all computed results should be assumed wrong until proved otherwise.

From this time the emerging discipline of numerical analysis became dominated in Britain by two men, Leslie Fox and his close friend Jim Wilkinson, FRS, with whom he shared many interests, including a love of music and cricket. Wilkinson was the brilliant academic, eager to exploit the potential of the computer. Fox was the intuitive mathematician with a vision of his goal and an unerring sense of direction. Together they inspired two generations of numerical analysts.

The most eminent of a remarkable set of mathematicians to emerge from the Wheelwright Grammar School in Dewsbury, Yorkshire, Fox took a first-class degree at Oxford University before studying numerical techniques in engineering (under R. V. Southwell) for his DPhil. There followed an influential spell of two years (1943-1945) at the Nautical Almanac Office under D. H. Sadler (also from the Wheelwright Grammar School).

At the end of the war, Fox joined the newly formed Mathematics Division of the National Physical Laboratory (NPL), Teddington, Middlesex, in a section led by E. T. Goodwin. The division also recruited Wilkinson and, for two years, Alan M. Turing. Dealing with the flow of problems into the division did much to convince Fox that numerical analysis had to maintain a careful balance between academic rigor and practical utility.

After returning to Oxford in 1957 as the first director of the computing laboratory, Fox introduced numerical analysis there as a branch of university mathematics. He also gave his active support to the forging of links between academics and industrial mathematicians, to ensure that his subject remained close to its roots. Equally importantly, he and his colleagues passed on his philosophy to a stream of research students, many of whom now occupy influential positions in British universities. Above all, Fox was a great communicator. The lucid simplicity is evident in eight books and 86 papers, while the easy elegance of his public speaking entertained and informed audiences in Great Britain and overseas. In later years academic honors rained upon him.

Fox was a keen and able all-round sportsman. He played soccer for Oxford against Cambridge during the war, and later for Oxford City. At NPL he played soccer, became a champion in tennis, represented the laboratory in the Civil Service Athletics Championships as a sprinter, and was captain of the cricket team. He graduated from the seam bowling of his youth into the subtle craft of spin bowling before his return to Oxford, and there he played regularly for the Barnacles Cricket Club. He later took up golf and inevitably became proficient.

While achieving so much in diverse spheres of activity, Leslie Fox retained his innate modesty with quiet dignity. He was a private man of equable temperament, strong-minded and fair. With his wide interests, his wit, and his erudition, he was always worth listening to, and always ready to listen.[1]

BIBLIOGRAPHY

Biographical

Clenshaw, Charles, "Professor Leslie Fox," *The Independent*, Aug. 11, 1992, p. 25.

Fox, L., "Early Numerical Analysis in the United Kingdom," in Nash, Stephen *G.*, *A History of Scientific Computing*, ACM Press History Series, New York, 1990, pp. 280-300.

UPDATES

[1] Drawn from Clenshaw 1992.