David J Wheeler

Born February 9, 1927; Professor of computer science, University of Cambridge; fellow of Trinity College, Cambridge, who worked on the EDSAC in 1951 with Maurice Wilkes and Stanley Gill, and introduced the concept of the subroutine, invented the subroutine (or mark place and return) "jump," then called the "Wheeler jump."

Education: BA, mathematics, Cambridge University, 1948; PhD, mathematics, Cambridge University, 1951.

Professional Experience: Mathematical Laboratory (now Computer Laboratory), Cambridge University, 1948-present.

Honors and Awards: fellow, British Computing Society in 1970; fellow, Royal Society, 1981; IEEE Computer Society Pioneer Award, 1985; fellow, ACM, 1994.

David J. Wheeler is professor of computer science at Cambridge University, where he has spent most of his career. He started computer work as an undergraduate in 1947, and his PhD dissertation titled *Automatic Computing with the EDSAC* was accepted in 1951. During Wheeler's work at the Mathematical Laboratory on the development of the EDSAC, he invented the concept of "initial orders," which were the code sequence that initialized the machine and permitted additional programs to be introduced and executed directly. In 1951 he was elected as a fellow of Trinity College, Cambridge, but he spent the next two years at the University of Illinois, helping design the programming systems for the ORDVAC and the ILLIAC. Returning to Cambridge in 1953, he designed extensions to the EDSAC such as the index register and the programming system for EDSAC 2. Since then he has worked on the Cambridge Titan computer, extensions for online working, the CAP computer, and the Cambridge Ring.

He has spent time at the University of Illinois, the University of California, and the University of Sydney, Australia, and acted as consultant to various companies including Bell Telephone Laboratories at Murray Hill, and DEC at the Western Research Laboratory.

BIBLIOGRAPHY

Biographical

Wilkes, M.V., "Early Programming Developments in Cambridge," in Metropolis, N., J. Howlett, and Gian-Carlo Rota, *A History of Computing in the Twentieth Century,* Academic Press, New York, 1980, pp. 497-501.

Wheeler, David J., "Programmed Computing at the Universities of Cambridge and Illinois in the Early Fifties," in Nash, Stephen G., *A History of Scientific Computing,* ACM Press History Series, New York, 1990, pp. 269-279.

Wheeler, David J., "The EDSAC Programming Systems," *Ann. Hist. Comp.,* Vol. 14, No. 4,1992, pp. 34-40.

Significant Publications

Wheeler, D.J., "Program Organisation and Initial Orders for the EDSAC," Proc. *Royal* Soc., London, Vol. A, No. 202, Aug. 1950, pp. 573-589.

Wilkes, MV., DJ. Wheeler, and Stanley Gill, *The Preparation of Programs for an Electronic Digital Computer,* Addison-Wesley, New York, 195 1.

UPDATES

David Wheeler died from a heart attack that occurred just as he was arriving at the Computer Laboratory on his bicycle on December 13, 2004. (MRW, 2012)

Portrait added (MRW, 2013)