Gene M. Amdahl

Born: November 16, 1922, Flandreau, S.D.; A designer of the IBM System/360, and of the machines that bear his name.

Education: BSEP, South Dakota State University 1948; MS and PhD, theoretical physics, University of Wisconsin 1952.

Professional Experience: project engineer, IBM, 1952 to 1955; Ramo Wooldridge and Aeronutronic, Inc., 1955-1960; IBM, 1960-1970; IBM fellow, 1965; director, Advanced Computing Systems Laboratory, Menlo Park, Calif., IBM, 1965-1970; founded Amdahl Corporation,1970-1980; created Trilogy Systems Corporation, chairman, 1980-present.

Honors and Awards: IEEE Computer Society W. Wallace McDowell Award, 1976; Data Processing Management Association Computer Science Man of the Year, 1976; IEEE Computer Society Pioneer Award, 1980; AFIPS Harry Goode Award, 1983; ACM/IEEE Eckert-Mauchly Award, 1987; member, National Academy of Engineering; fellow, IEEE; distinguished fellow, British Computer Society; Information Processing Hall of Fame, Infomart, Dallas, Texas, 1985.

Although not a computer science graduate, Amdahl designed his first computer as part of his PhD dissertation. Eventually the machine, the Wisconsin Integrally Synchronized Computer (WISC), was built by successive generations of students. Amdahl first worked for IBM as a project engineer from 1952 to 1955. He became a leader in the design of the IBM 704 but resigned in 1955 after having lost the struggle for design control of the Stretch computer.[1]'0 After employment at Ramo Wooldridge and Aeronutronic, Inc., he returned to IBM in 1960 and was successively appointed as IBM fellow and laboratory director.

During his two terms at IBM (1952-1955, 1960-1970), Amdahl was a leader in the design of several computers, most notably the IBM System/360. Although he and project manager Fred Brooks clashed occasionally, they shared strict objectivity, broad knowledge, and persuasive skill. Amdahl's value to the project stemmed from his ability to represent and defend the emerging plan, as well as his technical contributions to it. In 1965 he was named an IBM fellow and was subsequently appointed director of IBM's Advanced Computing Systems Laboratory in Menlo Park, Calif. He founded the Amdahl Corporation in 1970 but lost control to Japanese investors in 1979. In 1980 he created Trilogy Systems Corporation to design, manufacture, and market large-scale, high-performance computer systems. In 1985 Trilogy acquired ELXSI, Ltd., for its principal computer system entry, and Amdahl became its chairman. Trilogy Systems Corporation was the world's largest start-up company, having raised $230 million before developing its first product. Dr. Amdahl was cited in 1987 by the Eckert-Mauchly Award Committee for his "outstanding innovations in computer architecture, including pipelining, instruction lookahead, and cache memory."

BIBLIOGRAPHY

Biographical

[1] From Pugh, Emerson W., Lyle R. Johnson, and John H. Palmer, IBM's 360 and early 370 Systems, MIT Press, Cambridge, Mass., 1991.

Amdahl, Gene M., "Recollections of the 701A," *Ann. Hist. Comp.,* Vol. 5, No. 2, Apr. 1983, pp. 213-217.

Slater, Robert, *Portraits in Silicon,* MIT Press, Cambridge, Mass., 1987.

Significant Publications

Amdahl, Gene M., *The Logical Design of an Intermediate Speed Digital Computer*, unpublished PhD dissertation, Univ. of Wisconsin, Madison, Wis., 1952.

UPDATES

Gene's middle name was Myron. (MRW, 2012)