

Ralph Anthony (Tony) Brooker

Born: September 22, 1925; developer of “Autocode” an early formula-like code for the Ferranti Mark I and the Manchester Mercury.¹

Education: BSc, first class honors, Imperial College, London, 1946.

Professional Experience: assistant lecturer, engineering mathematics, Imperial College, London, 1947-1949; assistant in research, University Mathematical Laboratory, Cambridge University, 1949-1951; staff, Computing Machine Laboratory, Electrical Engineering Department, Manchester University, 1951-1967; consultant, Mathematical Sciences Department, IBM Research Laboratories, Yorktown Heights, N.Y., 1962-1963; Essex University, UK: professor, computing science, 1967-1988, chairman, Computer Science Department, 1967-1973, dean, School of Mathematical Studies, 1969-1972 and 1985-1988, pro-vice-chancellor (services), 1976-1980, professor emeritus, 1989-present; visiting scientist, Informatics Division, European Economic Community joint Research Center, EURATOM, Ispra (Varese), Italy, 1984.

Honors and Awards: MA (Hon.), Cambridge University, 1951; doctor of the University of Essex, 1990; fellow, British Computer Society.

Brooker was responsible for the “Autocode” compilers written for the Manchester University computers (marketed as the Ferranti Mark I and Mercury). The autocode languages provided for arithmetic expressions and the use of two-level storage but did not allow the creation of functions and procedures with formal parameters. Nevertheless, these languages inspired similar developments for the Ferranti Pegasus and other British computers in the late 1950s and early 1960s.

Later Brooker, with Derrick Morris, was responsible for the concept of the “Compiler Compiler,” one of the first programs in the early 1960s that could take the syntactic and semantic descriptions of a language and output a compiler for that language.

More recently Brooker has been developing a programming language named DATAFIX, which will integrate the procedures for database description, integrity constraints, data manipulation, updates, and queries. DATAFIX has its intellectual origin in SIMULA, but goes further in the use of type hierarchies; the language incorporates a hierarchical locking protocol based on that used in System R.

¹There is some confusion between the contributions of Brooker and the work of A. E. Glennie, but they never were collaborators. About the same time as Brooker's papers on Autocode, Glennie gave a talk at Carnegie Institute of Technology on “meta-compilers.” Brooker suggests that it is possible, however, that Glennie coined the word “autocode.”

BIBLIOGRAPHY

Significant Publications

Brooker, R.A., "The Autocode Program Developed for the Manchester University Computers," *Computer Journal*, Vol. 1, 1958, pp. 15-21.

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UPDATES