

These chapters are preceded by chapters entitled "Binary Arithmetic Operations" and "Floating Point Arithmetic Operations," in which the discussion of round-off is entirely omitted. In fact, this topic is not listed in the index, and, although the instructions "Round" and "Multiply and Round" are listed (cf. p. 94), they are never discussed. The reviewer agrees with the authors when they say, "The competent programmer knows how his computer system operates and the best computer designers know programming." He would like to add that both programmers and designers must know of the necessity of introducing round-off procedures in computers and the implications of a particular procedure on the accuracy of various computations. These topics are not even mentioned in the book. The reviewer feels that the book suffers greatly as a result of this omission.

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**106[Z].**—PETER WEGNER, Editor, *Introduction to System Programming*, A.P.I.C. Studies in Data Processing, No. 4, Academic Press, Inc., (London) Ltd., London, England, 1964, x + 316 pp., 23 cm. Price \$11.50.

This is the fourth volume in a series published for the Automatic Programming Information Centre, Brighton College of Technology, England. It contains the papers presented at a one-week symposium on programming held at the London School of Economics in July 1962.

The papers are generally well written and mark some sort of departure in style from the usual jargon which mars so many papers on programming. There are three expository papers on Fortran and Algol, which serve to introduce two papers on Fortran-like compilers and four papers on Algol-like compilers. The other papers cover commercial languages and their compilers (Cobol and Fact), aspects of programming systems (time-sharing, Atlas Supervisor) and advanced programming techniques. Subtopics in the last category include "syntactic analysis in compilers," "addressing," "list programming," "stacks" and "continuous evaluation." As in all previous publications of this sort, there is no attempt to formulate a theory or to define the problem. As the editor states in his preface, this volume is "experimental, seeking to develop a nucleus of material which might in the future become the basis of a science of programming."

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