struct a symbolism for a comparable purpose, I find the choices made rather unwieldly for purposes of initial study and use. Using $\dot{x}$ for the *value* of a logical variable x obscures the fact that a function is involved. Similarly, the negation of x, written $\bar{x}$ has little to recommend it.

Instead of using the symbol "$\wedge$", which has already been introduced for logical conjunction, for the conjunction of two words of the same length, the symbol "$\cap$" is used. This change, while justifiable on grounds of rigor, is merely a nuisance here since "$\cap$" will be used for set intersection, also in the usual nonrigorous fashion. For the most part the choice of symbols does not originate with Bazilevskii of course. It is illuminating to see the inconsistencies that arise in notational usage, even in a logical presentation. Thus, $\dot{X}$ is used to indicate the value of a word X which should be a finite chain comprised of 0's and 1's; this is immediately interpreted as a integer expressed in binary form, but X is not an integer without some rather careful discussion since initial 0's then must be inserted. There is no logical reason for ignoring 0's at the beginning of a word.

Aside from these niceties, Bazilevskii makes a contribution in considering problems related to mathematical machines. His discussion of the solution of equations (section 6) sheds some light on the objectives and methods of analyzing a sequential function which describes the behavior of some discrete system and which is generally given in the form of a system of implicit equations. The relationship between periodic functions and stationary states is discussed.

In his second paper, Bazilevskii proceeds to apply some of the formalism developed in the first to the structure of memory systems. Here he introduces weight functions which may assign to a word X other numerical values than the binary number indicated above. He uses his derived Boolean expressions to obtain circuits of various types of accumulators.

The paper entitled "Some general questions on programming," by I. Ya. Akushskii, contains an important contribution to the orderly treatment of program operators. In his work during the preceding several years, Akushskii found that he could obtain general facts about programming additive machines by treating the machine operations as linear transformations in n-dimensional space. This changes these problems to a discussion of the matrices of program operators. I found his paper most interesting.

In the fourth paper, "Programming and recursive functions," Yu. A. Shreider discusses a systematic approach to forming programs that contain cycles. His method is illustrated for a three-address system. In particular, he records a set of instructions that calculates the Gauss-Seidel solution of a linear equation system. The objectives are similar to those of Algol and Fortran, both of which appeared after this paper was written.

The remaining papers are rather routine discussions of various topics. The efficiency of computers, a Monte Carlo method for solving linear equations, the efficient number of addresses per word, and multiregisters in arithmetical operations indicate the topics treated.

With respect to the translation itself, I encountered no particular difficulties. In one place, "not" seems to have been replaced by "to"—the statement reads as follows: "The field of application of such mathematical methods need *to* be confined solely to programming" (p. 86). On page 26, in Eq. 5.1, the first two expressions, linked by an identity symbol, are, as far as I can tell, completely identical.

The lag between the original publication and the publication of the translation (some 5 years) appreciably decreased the value of this book. In contrast, the book by R. C. Richards, *Arithmetical Operations in Digital Computers* appeared in Russian translation in 1957, 2 years after its original publication. Strangely, the contributors to this volume are identified by name only. Surely a little information about their locations and positions would be useful, but this is not provided in the editor's preface or in footnotes.

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Mathematical Information

How To Find Out in Mathematics. John E. Pemberton. Pergamon, London; Macmillan, New York, 1963. x + 158 pp. Paper, $2.45.

This is volume 2 in the "Libraries and Technical Information Division" series. It is "a guide to sources of mathematical information arranged according to the Dewey Decimal Classification." Besides being a valuable reference work, this carefully organized book affords an interesting insight into some of the extensive ramifications of mathematics in the modern world.

Chapter 1, "Careers for mathematicians," gives information of practical value on opportunities in teaching, research, statistics, operational research, and actuarial science.

The next six chapters are devoted to the organization of mathematical information, with the Dewey Decimal Classification used as a guiding principle. Specific mention is made of the most useful dictionaries, encyclopedias, periodicals, and journals devoted to abstracting or reviewing. Mathematical societies are listed and mathematical education discussed. Sources of further information are cited for mathematical tables.

Chapters 9 and 10 treat mathematical books—part 1, "Bibliographies," and part 2, "Evaluation and acquisition."

By way of specific subject matter, separate chapters are devoted to probability and statistics and to operational research. There are three appendices: (i) Sources of Russian Mathematical Information; (ii) Mathematics and the Government (United States and United Kingdom); and (iii) Actuarial Science.

The emphasis throughout is on practical applications, professional uses of mathematics, and utilization of library facilities. Much of the information is at a level appropriate to undergraduate students, and a few exercises are included.

The book, which is both thorough and as up-to-date as possible, includes a number of references to items which have appeared in the last 2 years.

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Organic Chemistry

Reactions of Organic Compounds. A textbook for the advanced student. Reynold C. Fuson. Wiley, New York, 1962. viii + 765 pp. Illus. $12.95.

The principal topic of this book is, as the title indicates, the reactions of organic compounds. Mechanisms receive frequent mention but are not of primary concern. The amount of in-