more illustrations are given.

The third and fourth chapters are devoted to certain aspects of graph theory. The main emphasis is on describing methods for generating subgraphs of a graph that enjoy various properties; many of these methods involve properties of matrix multiplication. Some of the material is similar to that presented in Chapter 4 of the author's earlier book, Graphs, Dynamic Programming, and Finite Games, [Academic Press, New York, 1967].

The fifth chapter is devoted to optimization problems. Dynamic programming, scheduling problems, the travelling salesman problem, flows in networks, and other topics pertaining to operations research are mentioned. The text concludes with two appendices; the first is on algebra and the second, written by Georges Cullman, is on codes.

At the end of the book the author has listed a number of criticisms that could be made of the book together with his replies. For example, he excuses the omission of various topics and the absence of physical, biological, or sociological applications on the grounds that it would require another book to include these things also. To the complaint that there are no exercises of a theoretical nature to supplement the text, he comments that one can find such exercises in Riordan's book. There is no shortage of exercises in the book, but they "sont généralement trop simples ou constituant une pure et directe application de ce qui est traité dans chaque paragraphe". His reply: "Cet ouvrage est destiné à des utilisateurs et non pas à des condidats à des diplômes de mathématiciens." There are some books listed at the back for collateral reading, but there are only a handful of references to journal articles. This lack of references, which might detract somewhat from the usefulness of the book, is not included in the author's list of criticisms, but the explanation probably lies in the fact that the book, as he states elsewhere, "n'est pas un traité mais une introduction élémentaire" intended primarily, or so it would appear from the preface, for "l'ingénieur et le chercheur opérationnel".

J. W. Moon, University of Alberta

Digitalrechner in technischen Prozessen, by Dr. -Ing. Helmut Hotes. Walter de Gruyter and Co., Berlin, 1967. 313 pages.

After a brief introduction to the field, the author describes very thoroughly in the second chapter the organization of a digital computer. In the following chapter a good introduction to programming is given. Since the reader is not assumed to be familiar with the programming of a digital computer, this chapter is rather extensive and contains fourteen examples which are solved in detail.

The next three chapters lead to questions whose answers are the basis of the final chapters of the book: they discuss topics such as programming of input and output, translation of programs and parallel programming.

The three remaining chapters (Chapters 7, 8, 9) deal with important practical questions: control of technical processes, control of unsteady processes, and regulation processes. The book ends with an extensive bibliography (66 titles) and a good index.

In the opinion of the reviewer, this book gives an excellent and thorough introduction to the application of digital computers in technical processes (though it is, as mentioned in the Foreword, designed above all for readers having a basic knowledge in the field). The book is well organized and, also from the pedagogical point of view, very carefully written. If examples are given, they are chosen such that they form an important part of the text. Furthermore the book contains some 90 diagrams and flow diagrams which are helpful for an easy understanding of the text.

Hermann Brunner, Dalhousie University, Halifax

Handbuch der mathematik, by L. Kuipers and R. Timman. Walter de Gruyter Co., Berlin, 1967. 830 pages. DM. 48.

The book originates from lectures given by various authors at the Technical University of Delft (Netherlands). It is intended to be a general source of information about mathematics for scientists and engineers. In fact all the standard courses taught at a Technical University are treated in considerable extent so that the book may also prove to be very useful for mathematicians working in applied fields. It is clear from the concept of the volume that a more general view of the theories is preferred to a detailed discussion of every proof. There is only a short paragraph about computer programming.

Contents: 1. C.H. van Os : History of Mathematics, (18 pages); 2. F. Loonstra : Number Systems (15 pages); 3. F. Loonstra : Linear Algebra (26 pages); 4. F. Loonstra : Analytic Geometry (37 pages); 5. B. Meulenbeld : Calculus of One and Several Variables (106 pages); 6. L. Kuipers : Sequences and Series (36 pages); 7. H. J. A. Duparc : Theory of Functions (70 pages); 8. S. C. van Veen : Ordinary Differential Equations (46 pages); 9. S. C. van Veen : Special Functions (65 pages); 10. R. Timman : Vector Analysis (52 pages); 11. R. Timman : Partial Differential Equations (58 pages); 12. L. Kosten : Numerical Analysis (119 pages); 13. J.W. Cohen : Laplace Transforms (65 pages); 14. J. Hemelrijk : Probability and Statistics (84 pages).

B. Artmann, Mathematisches Institut, Giessen, Germany

Differential and integral calculus, by F. Erwe. Translation by B. Fishel of the 1964 German edition. Hafner Publishing Co., New York, 1967. x + 494 pages. U.S. $9.25.

This book rather naturally invites comparison with the well-known two-volume work by Courant : it is more compact; contains a number of ingenious and elegant treatments; has few problems and no exercises; and does not go so deeply into some of the applications.

The weakest point is the introduction, which gives the impression that the author has heard of the modern definition of a function but does not in his heart believe it. No harm will be done to the student who starts with Chapter I or Chapter II and realizes that when $f(x)$ occurs f is often meant.

The book starts by treating sequences (using upper and lower limits) and makes effective use of them later, particularly in the treatment of integrals. This section goes as far as uniform convergence, and it may well be that, although it is unusual to find this topic so early in a text, this is the right place for it. The essential topological properties (the Heine-Borel Theorem, etc.) are also dealt with early.

The treatment of continuous functions follows the same plan: uniform