BOOK REVIEW – BUCHBESPRECHUNG

DORIS R. ENTWISLE:

Auto-Primer In Computer Programming

Blaisdell Publishing Company. A Division of Random House 1963 (335 pages)

The author's purpose is to introduce to the beginner, totally unfamiliar with computers and having had no mathematics beyond college algebra, computer programming.

Therefore, the author does not treat programming in general, but the IBM 1620 computer and the FORTAN code-language constitute the basis of the discussion, because only with such specificity can the important details of programming be made clear to the beginner.

The book may be regarded as a model for self-teaching programmed texts. Before the publishing, a preliminary version of this book was rather extensively tried out. Employing students' results (programs, answers to questions in the text, questions during consultations) a revision and additions to the book were made. The style of the text is clear, easily understandable, very well adaptable to the specific requirements. Similarly to tutoring important parts are repeated, maybe even several times, and some related topics, not strictly necessary to understanding but increasing students' appreciation are included. Also because of the specific requirements, the text requires the reader to write answers to questions into the book, then to turn to the next page, wherewith a clever technique of printing — the written answer appears opposite a correct answer. In some places several pages of discursive material may be given referring to a question. In other places, after a short discussion, several questions are given in sucession. In several places, if the student's answer is wrong, the book draws the reader's attention to the parts of the text to be recapitulated. In addition, at the beginning of the book, a Capsule Review helps the students to recapitulate the sections which had so far been learned before beginning on the new one. This method allows the student to write *complete* programs very early in the learning process.

Some words to give an idea about the contents: Arithmetic: addressing, compiling. Statements: *End*, *Stop*, *Punch*, *Go to*, *If*, *Read*, *Do*. *Loops*. *Dimension* and *Format* statements. Flow Charts. Checking and Debbugging. Internal Operations. Subprograms, library functions.

A. VARGA

W. B. BOAST: **Vector Fields**

Harper & Row, Publishers; New York, Evanston, and London, 1964. 620 pages.

The basic laws and the mathematically simple calculation methods of electric and magnetic fields are discussed in this book. Several books of this kind have already been published and the method of discussing the subject has been formed. From this respect the author did not bring many new solutions. Despite of this fact, the well-developed, understandable book, with abundant and perspicuous illustration is a valuable contribution to technical literature. The usefulness of the book is intensified by the solved examples and the raised problems, the absence of the solution of which in turn is open to criticism.

A remarkable feature of the book is that the application of digital computers for the numerical solution of the Laplace equation is discussed by the author. The expert selection of some more complicated problems indicates the application of more general methods. Some designations are not very fortunate (e.g. $\mu = \mu_0 \mu_r$, but $\varepsilon = \varepsilon_0 K$), nevertheless the essence of the matter is not influenced thereby.

The title of the book has not been a happy choice, since it makes one to expect a much more general subject at a higher level. The description of the measuring methods, the photographs and function schemes of the

instruments are very instructive, the well elaborated parts on the approximative calculation of capacities or on permanent magnets are very useful, but are hardly in place in a book entitled "Vector Fields".

The work is composed of four parts and of the Appendix. In Part I the electrostatic fields, while in Part II the calculation of stationary magnetic fields is discussed in details. The division according to the geometry of the arrangement is conspicuous. In Part III the interactions of the electric and magnetic fields are discussed relatively briefly, indicating rather the essence of the phenomenon and not the calculation technique. In Part IV practical methods and problems are discussed. Maybe an excessively large place has been devoted to the construction method. The part discussing the numerical methods is nicely elaborated, this is followed by the calculation of flux channels, the description of permanent magnets and of seven instruments.

The beautiful make-up of the book deserves special mentioning.

Summarizing, the book of Boast is a useful and beautiful piece of reading for all those who want to get or to give an introduction to the calculation of electric and magnetic fields, at university level.

GY. FODOR