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BOOK REVIEW

BERT F. GREEN, JR. *Digital Computers in Research: An Introduction for Behavioral and Social Scientists.* New York: McGraw-Hill Book Co., Inc., 1963. Pp. v + 333. $10.75.

Although there are a number of excellent books introducing the uninitiated to programming digital computers and to the many computational uses of such machines, the behavioral scientist might find them unpalatable or difficult, if for no other reason than their mathematical or natural science orientation. As a means of fostering the use of computers by behavioral and social scientists (growing out of a 1957 APA assignment), Green has set for himself the dual tasks of: (i) providing the potential user with some of the basic skills of computer programming that have some generality across computers and computer systems, and (ii) stimulating interest in the fertile and exciting research areas peculiarly suited to the conception of a computer as a symbol manipulator rather than as a calculator only.

Green's book has been written at the level of the advanced undergraduate or beginning graduate student, requiring no more than high school mathematics, elementary statistics, and some psychological sophistication for comprehending and working through most of the numerous and well-thought-out problems appearing at the end of each chapter. This by no means implies that the subject matter is too elementary, nor does it gainsay the value of the book for the expert whose principal use of computers has been computational. Indeed, problems and exercises are posed to challenge the interest and competence of the most knowledgeable. Well-chosen examples illustrate some of the more difficult points and concepts covered.

The text is organized around four main topics. Part I deals with computer configurations, the elements of programming, and the various programming languages, including the often neglected list processing languages omitted from many texts. For those who would prefer not to be concerned with the molecular aspects of word structure and bit-by-bit processing (Part II) or with componentry and computer theory (Part IV), these sections can be bypassed, but not without some loss in programming versatility and computer understanding. Approximately one-half of the book (Part III) is devoted to behavioral science applications within Green's extensive purview. The subjects covered in this section are many and varied, e.g., data processing, Monte Carlo procedures, stimulus generation, simulation, pattern recognition, artificial intelligence, information retrieval, heuristics, and man-computer systems. While not all of these uses are discussed in equal detail, there is sufficient information to whet one's appetite, and bibliographic assistance is adequate for further exploration.

A minor caveat might be made in respect to the author's cursory treatment of scaling problems, by no means a small or simply automatically handled matter, especially in the data processing area. But perhaps in view of Green's emphasis upon noncomputational uses this issue may not be of great moment. A more important reservation, however, concerns the possible value of introducing a hypothetical computer (despite its recognizable and admitted similarity to the IBM 704/709/7090 series) as an aid to the reader in learning to program. Anyone willing to pay the exorbitant price of this book is likely to have access to a particular computer and would be able to take a course relevant to it, so Green's statement that "there is ··· no substitute for experience" is very appropriate in this context.

The problems for the first seven chapters could easily be translated and/or modified by an instructor to suit a specific machine.

This excellently written book fills a very real need and should have a wider appeal than for its intended audience of behavioral and social scientists.

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