A second problem with the statistics portion of the book is the uneven treatment of the various topics. One could question the choice of what was left out (e.g. statistical designs based on more than one independent variable, multiple regression) and what was included (several pages on rather obscure probability distributions). In addition, the book gives no indication of the availability of the computer and canned statistical packages used to carry out the more complicated analyses. Perhaps of more importance is the lack of consistency in the treatment of the subjects included. For example, there is some discussion of when the geometric mean would be useful as a measure of central tendency, but, in the very next section, nothing is given but a formula for the harmonic mean. Or, to give another example, there is explanatory material given for the Poisson distribution, but nothing beyond a formula for the logarithmic. Overall, this first portion of the book is more appropriate as a reference tool for those who already have some intermediate-level grounding in statistics and probability theory.

The final fifth of the book is devoted to bibliometrics. Here the book does a good job of pulling together the various distributions, formulae and studies reported in the literature. This section still contains many mathematical expressions which will be forbidding to many readers. But, there is more explanatory text and consequently it can be useful to many students and professionals, as well as to academic researchers.

The physical characteristics of the book are poor: the binding is suspect, the pages feel old, and the printing is uneven on many pages. The special features of the book include summaries and student exercises in each chapter. At the end of the book there is a bibliography with brief annotations, statistical tables, an index and a list of errata (though not all the errors present have been found).

The book is an ambitious attempt to bring together statistical tools and probabilistic models useful to our field. On those grounds it is to be commended. But it is better suited as a reference work for those already knowledgeable, rather than as a textbook for the beginning student or practicing professional.

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Education for Information Management, Directions for the Future: Record of a Conference co-sponsored by the Information Institute, International Academy at Santa Barbara and the Association of American Library Schools. E. H. BOEHM and M. K. BUCKLAND (Eds.). The International Academy, Santa Barbara, Calif., (1983) 125 pp., $18.38 (Pb), ISBN 0-9610590-0-1.

This record of a conference has two foci for this reviewer. Having been a participant in the conference, I can affirm that the volume evokes the conference itself—its intensity, camaraderie and intellectual stimulation, and, especially, its camp-meeting atmosphere, where the gospel of information management was preached. Now, several months later, reading the papers allows a more dispassionate view. The bias of the conference is remarkably well-preserved in the printed product. Ten of the 15 addresses are evenly divided between describing or forecasting the nature of the "information revolution" and describing what is needed in the way of information managers and their education. Information management is spoken of as the provision of services and applied systems that aid in making decisions, that, in the words of Fritz Machlup, deal with providing instrumental rather than intellectual or pastime knowledge. Information management is viewed, in other words, as the provision of management information or decision-support systems. In addition, information is treated decisively as an economic commodity necessary to the survival of the nation. That these themes should be the decided emphases of the conference is not strange insofar as each speaker represented either the information products industry directly, industries deeply involved in the use of management information, or educators directly responsive to supplying information that professionals of the kind viewed as necessary. The five other papers presented are in many ways discordant with respect to the main theme. Two (Robert Maloy, Smithsonian Institution, and Robert Warner, U.S. Archivist) speak to the need for information for the preservation of culture, clearly a non-instrumental, non-economic view of knowledge. One (Richard West, University of California at Berkeley) raises a singular call for information management education that stresses deeply humanistic and ethical values. Still another, the keynote address by Berkeley's Michael Buckland, stresses the unity that exists between present library school emphasis on document-access systems and the growing need for experts in data management, rather than simply emphasizing information management by itself. Finally, Brett Butler, speaking to the topic of "Emotion in Information", raises questions about the adequacy of the basic rational model of information transfer that lies beneath most information-systems talk.

By all measures this volume is provocative and well worth reading for those interested in current trends in educating information professionals. It could be especially profitable reading for both library school educators and students, not as an exercise in belief, but as a point of departure for serious discussion.

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On-Line Information Systems—Use and Operating Characteristics, Limitations and Design Alternatives. B. GERRIE. Information Resources Press, Arlington, Virginia (1983). xii + 189 pp., $24.50 plus $2.10 handling, ISBN 0-87815-047-1.

This is a well-written, small book (170 pages of text) by an experienced and widely read author who knows what she is talking about. The author states [p. 165] that the book represents an "analysis of the theoretical aspects of online interactive information retrieval systems . . . as a complex amalgam of interacting components". F. W. Lancaster, on the other hand, states in a foreword that the book is "an introduction to the design of information retrieval systems". This reader does not feel that either statement hits the mark. In fact, after reading this material, one is uncertain about just who the intended audience is.

To produce a book that would be really useful as a design manual, the author would have been forced to go into much greater detail about the nitty-gritty of the operations of retrieval systems: How does one in fact represent an inverted term index in a computer? What about the use of bit maps reflecting the term assignments to documents? How does one actually search an inverted index? Are there ways to eliminate the search for the long lists of postings corresponding to high-frequency terms? Or are there other ways to prune the inverted list searches? Such specific implementation questions are not discussed in this text at all.

Neither, one is happy to report, does the book represent yet another manual of how one performs on-line searches. Instead the book does try to get at the concepts that underlie the various retrieval operations: content analysis, file organization, query formulations and search operations, and an attempt is made to analyze the various system components and to indicate how each affects the operations of the system. But the treatment in many instances is very cursory indeed, and even some obvious trade-offs are not always mentioned. For example, one might have liked to know that a string search, which is a character-by-character comparison of the query and document texts, can be used as a replacement for an inverted file search; or that the use of string searching renders redundant the term-location information often included in inverted term indexes. In another area, term relevance weights are introduced [p. 161–162] but there is no indication of how they are usable in practice or how a relevance feedback system might serve to estimate the needed relevance parameters.

Because the treatment is so brief, the text on occasion reads more like a literature review than like a primary work, with the result that only informed readers who already know the field can go through some of the material with ease. This last remark takes on more seriousness when one considers that the back-of-the-book index is frankly quite inadequate, so that novice readers may be expected to encounter difficulties in finding important concepts. The idea of a citation search is repeatedly mentioned [pp. 113, 133, etc.] but there is no corresponding entry in the index; neither is there a reference to the relevance feedback process discussed on p. 159. It would surely have been worthwhile to double the size of the index (currently 4½ pages), even while keeping the text down to its currently attractive, small size.

This reader found the text easy to handle in a single sitting. It is not every day that one can find a literate exposition of some of the principal concepts in the retrieval field. The book is recommended to anyone who wants a brief, well-presented account of retrieval system operations.

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Automation in a Polytechnic Library: Fifteen Years' Development at Hatfield. (Case Studies in Library Automation). D. E. BAGLEY and E. OYSTON. Library Association, England; distributed in North American by Oryx Press (1983). iv + 77 pp., $21.00 (P.B.), ISBN 0-85365-964-8.

Automation in Derbyshire County Libraries. (Case Studies in Library Automation). P. D. GRATTON. Library Association, London; distributed in North American by Oryx Press (1983). 110 pp., $20.00, ISBN 0-85365-984-2.