BOOK REVIEWS

Networks and Disciplines; Proceedings of the EDUCOM Fall Conference, October 11–13, 1972, Ann Arbor, Michigan. Princeton: EDUCOM, 1973. 209p. $6.00.

As with so many conferences, the principal beneficiaries of this one are those who attended the sessions, and not those who will read the proceedings. Except for a few prepared papers, the text is the somewhat edited version of verbatim, ad lib summaries of a number of workshop sessions and two panels that purport to summarize common themes and consensus. Since few people are profound in ad lib commentaries, the result is shallow and repetitive. The forest of themes is completely lost among a bewildering array of trees.

The conference was, I am sure, exciting and thought-provoking for the participants. It was simply organized, starting with statements of networking activities in a number of disciplines, i.e., chemistry, language studies, economics, libraries, museums, and social research. The paper on economics is by far the best organized presentation of the problems and potential of computers in any of the fields considered, and perhaps the best short presentation yet published for economics. The paper on libraries was short, that on chemistry lacking in analytical quality, that on language provocative, that on social research highly personal, and that on museums a neat mixture of reporting and interpreting. Much of the information is conditional, that is, it described what might or could be in the realm of the application of computers to the various subjects. The speakers all directed their papers to the concept of networks, interpreted chiefly as widespread remote access to computational facilities.

The papers are followed by very brief transcripts of the summaries of workshops in which the application of computers to each of the disciplines was presumably discussed in detail. Much of each summary is indicative and not really informative about the discussions. The concluding text again is the transcript of two final panels on themes and relationships among computer centers. The only description for this portion of the text is turgid. In the midst of all this is the banquet paper presented by Ed Parker, who as usual was thoughtful and insightful, and several presentations by National Science Foundation officials that must have been useful at the time to guide those relying on federal funding for computer networks in developing proposals.

I can't think of another reference that touches on the potential of computers in so many different disciplines, but it is apparent from the breadth of ideas and the range of suggested or tested applications that a coherent and analytical review should be done. This volume isn't it.

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The Analysis of Information Systems, by Charles T. Meadow. Second Edition. Los Angeles: Melville Publishing Co., 1973. A Wiley-Becker & Hayes Series Book.

This is a revised edition of a book first published in 1967. The earlier edition was written from the viewpoint of the programmer interested in the application of computers to information retrieval and related problems. The second edition claims to be "more of a textbook for information science graduate students and users" (although it is not clear who these "users" are). Elsewhere the author indicates that his emphasis is on "software technology of information systems" and that the book is intended "to bridge the communications gap among information users, librarians and data processors."

The book is divided into four parts: Language and Communication (dealing largely with indexing techniques and the properties of index languages), Retrieval of Information (including retrieval strategies and the evaluation of system performance), The Organization of Information (organization of records, of files, file sets), Computer Processing of Information (basic file processes, data access systems, interactive information retrieval, programming languages, generalized data management systems). The second two sections

are, I feel, *much* better than the first. These are the areas in which the author has had the most direct experience, and the topics covered, at least in their information retrieval applications, are not discussed particularly well or particularly fully elsewhere. It is these sections of the book that make it of most value to the student of information science. I am less happy about Meadow's discussion of indexing and index languages, which I find unclear, incomplete, and inaccurate in places.

The distinction drawn between pre-coordinate and post-coordinate systems is inaccurate; Meadow tends to refer to such systems simply as *keyword* systems, although it is perfectly possible to have a post-coordinate system based on, say, class numbers, which can hardly be considered keywords, while it is also possible to have keyword systems that are essentially precoordinate. In fact, Meadow relates the characteristic of being post-coordinate to the number of terms an indexer may use (". . . permit their users to select several descriptors for an index, as many as are needed to describe a particular document"), but this is *not* an accurate distinction between the two types of system. The real difference is related to *how* the terms are used (not how many are used), including how they are used at the time of searching. The references to faceted classification are also confusing and a number of statements are made throughout the discussion on index languages that are completely untrue. For example, Meadow states (p. 51) that "a hierarchical classification language has no syntax to combine descriptors into terms." This is not at all accurate since several hierarchical classification schemes, including UDC, do have synthetic elements which allow combination of descriptors, and some of these are highly synthetic. In fact, Meadow himself gives an example (p. 38–39) of this synthetic feature in the UDC.

It is also perhaps unfortunate that the student could read all through Meadow's discussion of index languages without getting any clear idea of the structure of a thesaurus for information retrieval and how this thesaurus is applied in practice.

Moreover, Meadow used *Medical Subject Headings* as his example of a thesaurus (p. 33–34), although this is not at all a conventional thesaurus and does not follow the usual thesaurus structure.

My other criticism is that the book is too selective in its discussion of various aspects of information retrieval. For example, the discussion on automatic indexing is by no means a complete review of techniques that have been used in this field. Likewise, the discussion of interactive systems is very limited, because it is based solely on NASA's system, RECON. The student who relied only on Meadow's coverage of these topics would get a very incomplete and one-sided view of what exists and what has been done in the way of research.

In short, I would recommend this book for those sections (p. 183–412) that deal with the organization of records and files and with related programming considerations. The author has handled these topics well and perhaps more completely, in the information retrieval context, than anyone else. Indexing and index languages, on the other hand, are subjects that have been covered more completely, clearly, and accurately by various other writers. I would not recommend the discussion on index languages to a student unless read in conjunction with other texts.

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Application of Computer Technology to Library Processes, A Syllabus, by Joseph Becker and Josephine S. Pulsifer. Metuchen, N.J.: Scarecrow Press, 1973. 173p. $5.00.

Despite the large number of institutions offering courses related to library automation, including just about every library school in North America, accredited or not, there is a remarkable shortage of published material to assist in this instruction. With the publication of this small volume a light has been kindled; let us hope it will be only the first of many, for larger numbers of better educated librarians must surely result in higher standards in the field.

This syllabus covers eight topics related

to the use of computers in libraries, titled as follows: Bridging the Gap (librarians and automation); Computer Technology; Systems Analysis and Implementation; MARC Program; Library Clerical Processes (which encompasses acquisitions, cataloging, serials, circulation, and management information); Reference Services; Related Technologies; and Library Networks. Each topic is treated as a unit of instruction, and each receives the identical treatment as follows.

The units each start with an introductory paragraph, explaining what the field encompasses, and indicating the purpose of teaching that topic. The purpose of systems analysis, for example, is "To develop the sequence of steps essential to the introduction of automated systems into the library." A series of behavioral objectives are then listed, to show what the student will be able to do (after he has learned the material) that he presumably was unable to do before. For example, there are seven behavioral objectives in the unit on Computer Technology, of which the first four are: "1) the student will be able to discuss the two-fold requirement to represent data by codes and data structures for purposes of machine manipulation, 2) the student will be able to identify the basic components of computer systems and describe their purposes, 3) the student will be able to differentiate hardware and software and describe briefly the part that programming plays in the overall computer processing operation, 4) the student will be able to define the various modes of computer operation and indicate the utility of each in library operations." The remaining three objectives refer to the student's ability to enumerate and compare types of input, output, and storage devices. Then an outline of the instructional material is presented, followed by the detailed and well-organized material for instruction.

In no case can the material presented here be considered all that an instructor would need to know about the field, but a surprising amount of specific detail is included, along with a carefully organized framework within which to place other knowledge. The end result is to present

to the instructor a series of outlines that would encompass much of the material included in a basic introductory course in library automation. Every instructor would, presumably, want to add other topics of his own in addition to adding other material to the topics treated in this volume, but he has here an extremely helpful guide to a basic course, and the only work of its kind to be published to date.

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The Larc Reports, Vol. 6, Issue 1. *On-Line Cataloging and Circulation at Western Kentucky University: An Approach to Automated Instructional Resources Management.* 1973. 78p.

This is a detailed account of the design, development, and implementation of on-line cataloging and circulation which have been in operation at Western Kentucky University for several years. The library's reasons for using computers are similar to those of many college and university libraries that experienced rapid growth during the 1960s.

The faculty of the Division of Library Services first prepared a detailed proposal with appropriate feasibility studies and cost analyses to reclassify the collection from Dewey Decimal to Library of Congress classification. The proposal was approved by the administration of the university, and the decision was made to utilize campus computer facilities via on-line input techniques for reclassification, cataloging, and circulation. "Project Reclass" was accomplished during 1970-71 using IBM 2741 ATS/360 terminals. A circulation file was subsequently generated from the master record file.

The main library is housed in a new building and has excellent computer facilities within the library that are connected to the University Computer Center. Cataloging information is input directly into the system via ATS terminals; IBM 2260 visual display terminals are used for inquiry into the status of books and patrons; and IBM 1031/1033 data collection terminals are used to charge out and

check in books. Catalog cards and book catalogs in upper/lower case are produced in batch mode on regular schedule. The on-line circulation book record file is used in conjunction with the on-line student master record and payroll master record files for preparation of overdue and fine notices.

Apparently the communication between library staff and computer personnel has been well above average, and cooperation of the administration and other interested parties has been outstanding. The attention given to planning, scheduling, training, and implementation is impressive. What has been accomplished to date is considered very successful, and plans are underway to develop on-line acquisitions ordering and receiving procedures.

The report has some annoying shortcomings such as referring to the Library of Congress as "National Library"; frequent use of the word "xeroxing," which the Xerox Corporation is attempting to correct; "inputing" for "inputting"; and several other misspelled words. Some parts are poorly organized and unclear, but the report does provide many useful details for those considering a similar undertaking.

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