

Muller, Associate Director at Michigan, and Mr. Burkhalter may soon also reveal to us some costs of the physical side of processing. The statement above certainly indicates, albeit indirectly, that they have been contemplating this area.

In conclusion, this short volume could be the start of a management literature that will meet an unfilled and obvious need of library administrative staffs and library science professors and their students. It is also right now a useful book to show to those important laymen (presidents, trustees, foundation directors, government officials, legislators, etc.) who so often tell us they cannot understand why libraries cost so much. This volume shows in a convincing and somewhat frightening way where and how fast the library money goes.—*John H. Moriarty, Purdue University.*

Organization and Handling of Bibliographic Records by Computer. Ed. by Nigel S. M. Cox and Michael W. Grose. Hamden, Conn.: Archon Books, 1967. xvi, 192p. \$12.00 (67-30792).

Because of scarce resources and their typical astuteness, the British are straightforwardly laying their own preconditions for successful computerization. This volume is a report of activities associated with a leading "center of excellence." It extends on a less abstract plane the instructive primer by Cox, Dews, and Dolby of 1966. It is also a summary of several U.K. advances since the plans announced at the Brasenose Conference at Oxford the same year. In contrast to our own relative abundance, the biggest danger to the British effort appears to be a waning of financial momentum. As Professor E. S. Page remarks in a keynote address, "it must be understood by those with the resources to sponsor research that full scale operation of a computer system on bibliographic problems is necessary for further advance and may demand their support however routine the operation may appear at a casual glance." In technical quality of design work, the British are at pains to avoid a major illness to which their American opposite numbers have frequently been subject: half-bakedness.

This collection of papers was presented at a seminar held at the University of Newcastle upon Tyne in July 1967. The proceedings comprise seven sections organized around four themes.

Half of the sixteen contributions deal with the Newcastle computer file handling system and a number of projects to which it is being applied. A remarkable thing about the Newcastle group is that they are both researchers and developers, compared to most similar U.S. activities. As Cox and Dews point out in the lead paper, they wished to create an experimental, flexible string manipulation and analysis system, comprised of generalized routines and applicable to a wide class of data forms, large files, and highly-structured non-numeric information handling problems. As have American workers, they found that manufacturer supplied software was inadequate, and so they undertook to write their own. The panoply of character-handling and list processing problems to which their system is addressed is a model summary of requirements for computer specialists new to the library application.

A second paper by Dews describes the computer editing and printing of a union list of periodicals which was the first tested use of the Newcastle package. Duncan discusses the upgrading of the output presentation capability of the computer in processing language data. He suggests that graphic arts quality intermediate output products will be the wave of the future, derived ultimately from wholly digital stores. Reviewing hardware capabilities and economics, he concludes that computer-produced book catalogs will be similar to newspaper production when volume justifies it.

In other applications, Hunt outlines one of the first uses this reviewer has seen of machine records for the preparation of catalogs of older books as a true "bibliographer's tool" complete with an augmented descriptive format. Russell presents results on a documentation and dissemination system for literature of interest to the staff of the Newcastle group itself. Of wider interest is the work reported by

Grose and Jones on an acquisition system in the Newcastle University Library, although no mention is made of extension of the system to automated bibliographic checking other than of receipts not item-requested through the order subsystem. A paper by Coates and Nicholson on automation in the production of the *British Technology Index* is very germane, in particular the progress on an inversion algorithm for auto-generation of cross references to composite subject entries. Lastly, a report by Millar gives an example of use of the Newcastle system in statistical analysis of data collected in a maternity survey, with implications in terms of techniques for library management.

The second theme revolves around general issues of the library as an environment for computer innovation. Vickery stresses perspectives on economic realities vs. user satisfaction and the functions of machine records. Jolliffe, Line, and Robinson discuss standardization of library systems and bibliographic records, concluding that numerous constraints militate against exchange of library program packages above a limited subroutine level. They assert that "compatibility without rigidity" in records is necessary to a carefully planned library data interchange concept. Hawgood completes the section with a prospectus for a quantitative study intended to derive a "single benefit index" to guide allocation of hypothetical added funds for library resource development.

A section on the MARC idea in Great Britain yields what may be the best thinking yet in print on the nature of national and local catalog services based on centralized machine record distribution. Coward outlines the U.K. MARC Project status at the British National Bibliography, emphasizing requirements beyond those of detailed format of the machine record. Bregzis relates patterns of experience and future extensions of MARC data in perhaps the most advanced local pilot project among the sixteen North American libraries participating in the LC MARC experiment. The remarks by Brown in a further seminar session reveal some thoughtful

consideration of the organization and use of national machine-readable data banks of bibliographic information. The melding of developments in national union catalogs, shared cataloging, and automation recurring in these discussions give the impression of vastly more synergism occurring in this group than in comparable American technical meetings.

Two separate contributions by Barraclough on file structures for experimental MEDLARS tape searching and by Lannon on the IBM System/360 version of the Document Processing System developed for generalized textual searching at the U.S. Food and Drug Administration were included as a counterpoint to the more traditionally-oriented presentations. Both papers are food for thought for librarians who have been able to accept MARC but are skeptical about so-called information retrieval applications.

This is, in sum, a remarkable and level-headed survey of some current British work in library automation, well organized into a body of materials whose factual and pertinent observations are a valuable addition to the handful of titles on the "must" list. The publishers are to be commended for making it available on this side of the "Atlantic river."—*Jay L. Cunningham, University of California, Berkeley.*

Telefacsimile in Libraries. By William D. Schieber and Ralph M. Shoffner. Berkeley: Institute of Library Research, 1968. 137p.

Recent months have seen considerable pioneering in new media by libraries. Computer use and instantaneous transmission of library materials are at hand. Several experiments in facsimile transmission have taken place in various states. Among these have been projects by M.I.T., New York State Library, Houston Research Institute, University of Nevada, and University of California. The last one mentioned is the subject of this review.

The California experiment, carefully monitored, proposed: (1) to develop a set of procedures; (2) to analyze three elements,