

ABSTRACTS

(Abstracts given below are selected from those prepared for publication in *Research in Education by the ERIC Clearinghouse for Library and Information Sciences at the University of Minnesota*. Unless otherwise noted, copies of the following documents are available, by purchase, in microfiche or hard copy format, from the ERIC Document Reproduction Service, National Cash Register Co., 4936 Fairmont Avenue, Bethesda, Maryland 20014. Orders must include ED or LI number.)

Academic Librarianship in the International Milieu, Proceedings of a Conference for Academic Librarians . . . , October 14, 1967. Manhattan: Kansas State University, 1968. 84p. (ED 022 515, MF—\$0.50 HC—\$3.44).

This collection of papers provides a kind of handbook for academic librarians who are preparing to serve as library consultants in foreign countries. The papers describe challenges facing the American librarian working with and adjusting to foreign cultures. The papers include (1) "On Getting Ready for an Overseas Library Assignment" by Thomas R. Buckman; (2) "Afghanistan: Libraries and Librarianship" by Neva L. White; (3) "The Literary Tradition" by James A. McCain; (4) "Land-grant College Libraries in the Moslem World" by Wayne R. Collings; (5) "Pressures on the Consultant" by G. A. Rudolph; and (6) "International Dimensions of Librarianship Influencing Libraries in the United States" by Marietta Daniels Shepard. A list of participants in the conference is provided.

An Analytical Approach to Duplication and Availability. By M. K. Buckland and I. Woodburn. Lancaster: Lancaster University, 1968. 26p. (University of Lancaster Library Occasional Papers, No. 2; ED 022 560, MF—\$0.25 HC—\$1.12).

As part of a project designed to construct a mathematical model of the operation of an academic library, a research team determined the usefulness of a quantitative approach to making decisions about

the number of copies of each item that a university library should provide. Using the reserve collection of the University of Lancaster Library as a basis, a mathematical relationship was established between the number of requests, the length of the loan period, the number of copies, and a standard of service (defined as "immediate availability"). It was found that the Poisson distribution could justifiably be used to relate the average request rate to the number of copies and the degree of availability likely to be achieved. A table was produced which can be used in a predictive manner insofar as the request rate itself can be predicted. A method of estimating the average request rate from incomplete data was also devised. It was concluded that a mathematical relationship between the factors concerned can be established. The chief difficulty lies in predicting the level of demand for library services and, more generally, in understanding the factors which determine it.

Some Implications for Library Management of Scattering and Obsolescence. By M. K. Buckland and I. Woodburn. Lancaster: Lancaster University, 1968. 28p. (University of Lancaster Library Occasional Papers, No. 1; ED 022 502, MF—\$0.25 HC—\$1.20).

A research project is being conducted to construct a mathematical model of the operations of an academic library to be used in making managerial decisions. As part of this project, this report examines Bradford's Law of Scattering and the fall-off of use of documents as they age. A series of mathematical analyses indicates

how these two laws can be used together to indicate optimal decisions in the management of collections of journals. These decisions include the number of titles to be taken, the length of time retained, and the choice of binding policies. Imaginary petroleum libraries in various circumstances are used to illustrate the conclusions.

An Evaluation of the Utility and Cost of Computerized Library Catalogs. Final Report. By J. L. Dolby and others. Los Altos, Calif.: R and D Consultants Co., 1968. 214p. (ED 022 517, MF—\$1.00 HC—\$8.64).

This study analyzes the basic cost factors in the automation of library catalogs, with a separate examination of the influence of typography on the cost of printed catalogs and the use of efficient automatic error detection procedures in processing bibliographic records. The utility of automated catalogs is also studied, based on data from a random sample of the shelflist of a medium-sized university library. An investigation of several large university and public libraries shows that the collections of mature libraries grow at a rate close to the rate of growth of the Gross National Product, and the significance of this relationship as a library management tool is discussed. Numerical methods for determining useful ratios of the size of library files and the number of entry fields in the structure of the record are given and applied to the use of machine-readable catalog data in the production of bibliographies. It is concluded that mechanization of the cataloging function is necessary and inevitable, and it is recommended that the machine-readable catalog data be used to produce printed book catalogs and special purpose bibliographies. Appended is a description of the selection of a random sample from the shelflist of the Fondren Library at Rice University.

Feasibility of School and College Library Processing through Public Library Systems in New York State. New York: Nelson Associates, 1966. 60p. (ED 021 571, MF—\$0.50 HC—\$2.48).

This document examines the feasibility

of including school and college libraries in a public library centralized processing system proposed in LI 000 343, "Centralized Processing for the Public Libraries of New York State" (Nelson Associates for the New York State Library, 1966). It is concluded that school and college libraries should not be included in the proposed system at first since their inclusion would result in delays in service to all libraries involved. However, there is no reason why a joint program for processing school, college, and public library materials might not be established in the long run. Analysis of the school and college library reaction to a questionnaire on centralized processing is appended.

Cataloguing and Classification in British University Libraries. A Survey of Practices and Procedures. By Joan Friedman and Alan Jeffreys. Sheffield: Sheffield University, Postgraduate School of Librarianship, 1967. 37p. (ED 021 565, available from the publisher for 10 shillings).

This comparative survey of current practices in classification and cataloging of printed materials was concerned with six questions: (1) What procedures are involved in cataloging and classification? (2) Could some of this work be done by a centralized cataloging service? (3) Who is doing the work of cataloging now and what are his qualifications? (4) What proportion of library time and money is being spent on cataloging? (5) Is there any degree of uniformity in the cataloging practices of the various university libraries? (6) Are the resultant catalogs being used? The questionnaire used as a basis for the survey was distributed to sixty-nine British college and university libraries with a return rate of 74 per cent. The information given relates to the situation as of the end of 1965 and for the purposes of the analysis the replies were categorized according to type and size of library. The major part of the document presents the analysis of each question in the questionnaire and also the relationships found among some of the questions. It was concluded that more study of classification schemes and the kinds of information desirable in a catalog

entry is needed. The effective use of mechanized techniques in the future will demand more standardization of practices among librarians than exists at the present.

Development of an Integrated, Computer-Based, Bibliographical Data System for a Large University Library. Annual Report to the NSF. By Herman H. Fussler and Charles T. Payne. Chicago: University of Chicago Library, 1968. 66p. (LI 000 984, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 179-426, MF—\$0.65 HC—\$3.00).

The project's second year (1967/68) was devoted to upgrading the computer operating software and programs to increase versatility and reliability. General conclusions about the program after twenty-four months of operation are that the project's objectives are sound and that effective utilization of computer-aided bibliographic data processing is essential to the objectives. The difficulty in debugging an integrated on-line system of programs, problems with transitions from non-automated to automated systems, and the lack of some necessary peripheral equipment for library operations have resulted in some delays. In 1967/68 the project involved the following tasks: (A) development of bibliographic data processing system; (B) implementation in library operations; (C) character sets; (D) Project MARC; (E) circulation; (F) processing operations studies; and (G) cooperative library systems development. Appendix A is a diagram of the University of Chicago computer network. Appendix B presents production samples from high-speed printer with library print train. Appendix C is a brief listing (28 pages) of the University of Chicago Library processing programs.

University of Minnesota Bio-Medical Library Serials Control System. Comprehensive Report. By Audrey N. Grosch. Minneapolis: University of Minnesota Libraries, 1968. 91p. (ED 021 577, MF—\$0.50 HC—\$3.72).

A batch-mode, computer-based, serials system was developed for the bio-medical library, a departmental library at the Uni-

versity of Minnesota. Patterned after the "arrival card" system now in use in several libraries, it is designed so that serial check-in is done by marking off the issue on a printed list of serial issues expected during the month, based upon predictions made by the computer. Any gifts or unexpected issues or supplements (about 20 per cent of the total) which do not appear on the check-in list are handled by use of a serial check-in form. This information is added to the master file and at the end of the month corrections to the prediction codes, if necessary, are made. Other monthly printouts are: (1) a serials master list which contains all the information collected about each serial title (7,800 in all); (2) a patron holdings list, a list to be used by patrons containing less information than the previous list; and (3) bindery list of items for which volumes are completed. The first two lists are supplemented by daily cumulative supplements prepared from the daily input cards made when a serial issue arrives. A cost analysis made in connection with the project shows that the average cost per transaction is \$0.71 in the new system.

Mechanized Information Services in the University Library—Introduction and Summary. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part I. By R. M. Hayes. Los Angeles: UCLA, Institute of Library Research, 1967. 25p. (LI 000 494, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

Under funding from the National Science Foundation, the Institute of Library Research of the University of California (Los Angeles) has carried out a study of mechanized information services in the university library. The basic premise of the study is that magnetic tape data bases are becoming available from a variety of national sources and that they are a form of data which university libraries will begin to acquire. The purpose of the study was to explore the validity of the premise and define some of its consequences. The results of the study have been prepared as a

final report, consisting of thirteen parts (LI 000 494-LI 000 506). The first part is the "Introduction and Summary." It presents, as the context within which to view the study, a projection of the role which mechanization will play in the university library and the pace at which it will develop over the next ten to fifteen years. Within that context it then discusses the issues—policy as well as technical—raised by mechanized information services in the university library. For each issue, the approach taken to study it is described and the results (as reported in other parts of the report) are summarized.

Colorado Academic Libraries Book Processing Center. Final Report. Phase I and Phase II. By Lawrence E. Leonard and others. Boulder: University of Colorado Libraries, 1968. 388p. (LI 000 827, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-421, MF—\$0.65 HC—\$3.00).

This report summarizes the results of a fourteen-month study to (1) examine the feasibility of establishing a book processing center to serve the nine state-supported college and university libraries in Colorado; and (2) conduct a simulation study of the proposed center. The report covers: background, operational characteristics of participating libraries, cost analysis, business office procedures, proposed operating specifications for the book processing center, approval plan utilization, a generalized stochastic model for simulating the operation of a book processing center, and results of a library user attitude survey. It is concluded that a centralized book processing center is feasible, with benefits for participating academic institutions in the cost savings, personnel specialization, and library automation. Recommendations emphasize establishment of a processing charge, processing both English language and foreign language materials, an automated bookkeeping system, automated processing procedures, development of current awareness bibliographies, and a central depository of standard times for performing technical services activities to be established by the ALA Resources and

Technical Services Division. Appendices include a sixty-eight item bibliography, detailed numerical data from the study, and the questionnaires and research tools used.

Equipment for Facsimile Transmission between Libraries; a Description and Comparative Evaluation of Three Systems. By H. G. Morehouse. Reno: University of Nevada Library, 1967. 30p. (ED 021 566, available from the publisher, \$1.00).

Three makes of telefacsimile equipment are described and compared: (1) Xerox Magnavox Telecopier; (2) Datafax 1824 and Dial/Datafax; and (3) Alden II Docufax. The models described are thought to be potentially useful to libraries, specifically for the purpose of transferring copies of printed pages from one library to another. Each system is capable of operating at minimum cost by using a single voice-grade telephone line. In this report the operating principles and characteristics of each model are described and the reliability and copy quality assessed. Costs are compared and tabulated for equipment, supplies, and telephone line service in two hypothetical library systems, one comprising two libraries and the other, ten libraries. It is concluded that all three of these makes of equipment perform with sufficient reliability and copy quality for most library purposes. The type of equipment to select for a specific library application is determined primarily by the anticipated volume of use, the quality and capacity of telephone lines to be used, and the nature of the material to be transmitted.

Evaluation of Generalized File Management Systems. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 6. By Kevin D. Reilly. Los Angeles: UCLA, Institute of Library Research, 1967. 46p. (LI 000 499, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

This report describes various aspects of generalized or task-oriented programming systems and in particular, how their fea-

tures can be adapted for retrieval from (typical) information center and library data bases such as those described in a previous report (LI 000 498). It is not meant to be comprehensive in the sense that all such systems are discussed; indeed, many systems have necessarily been omitted. The discussion begins with already existing systems (Control Data Corporation's Information Oriented Language (INFOL), the IBM-1401 Combined File Search System (CFSS)). It then turns to systems now or about to be available in the near future (Informatics Inc.'s MARK IV). The final portions treat more advanced systems not now available (International Business Machine's Generalized Information System (GIS)). The treatment is primarily descriptive and to some extent provides a survey of the features of the above systems as they might be exploited in an environment characterized by a very large-scale (both in the format and content senses) data base problem.

Nature of Typical Data Bases. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 5. By Kevin D. Reilly. Los Angeles: UCLA, Institute of Library Research, 1967. 51p. (LI 000 498, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

The nature of typical mechanized data bases with which university information centers and libraries will be working is examined to provide background information for data base retrieval efforts. Format and content of the data must be taken into consideration before meaningful retrieval can be achieved. Hence both of these aspects are treated in detail. The discussion covers a range of data bases, including nationally sponsored projects such as Medical Literature Analysis and Retrieval System (MEDLARS), Machine-Readable Cataloging (MARC), the United States Census Tapes (1/1000 sample), and the Educational Resources Information Center (ERIC) report résumés. Also discussed are some local projects, including the University of California, Los Angeles, Brain

Information Service System and a generalized Metropolitan Center Data Bank. Various types of formatting are presented in this array of data bases, and several examples among types of requests that can be directed against such data bases are considered. The report is followed by another which assesses the applicability of generalized or task-oriented programs to these data bases (LI 000 499).

Experimental On-Line Mathematics Citation Data Base. Final Report on Mechanized Information Services of the University Library. Phase I—Planning. Part 8. By Mary L. Tompkins. Los Angeles: UCLA, Institute of Library Research, 1967. 31p. (LI 000 501, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

A Mathematical Citation Index was started in March 1965 under the auspices of the University of California, Los Angeles (UCLA), Computing Facility. Before the compilation of citations for this index could begin, however, it was necessary to produce an index to abbreviations of serial titles in the field of mathematics. The result of this effort was the first volume of a projected series of Minimum Abbreviations of Serial Titles (MAST) indexes, which are permuted indexes to serial title abbreviations. Twenty-five journals of significance in mathematical research were then chosen for further processing by asking mathematicians to list those journals in which significant research appears. The citations from these journals were keypunched and then edited using an on-line cathode ray tube display terminal system. Seven hundred citations to books were also checked to determine why each had been cited. Until authors differentiate between pedagogic and research citations to books and are specific as to pages or chapters, there seems little to be gained by their inclusion in a citation index. Appendices include examples of the MAST index, a list of core journals in mathematics (as determined by this and other research), a list of the mathematics books most frequently cited, and keypunching instructions for the Mathematical Citation Index.

Summary of Symposia on Mechanized Information Services in the University Library. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 2. By Mary L. Tompkins. Los Angeles: UCLA, Institute of Library Research, 1967. 91p. (LI 000 495, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

A series of symposia were conducted to provide forums for discussion of the problems arising when introducing into the single campus university library media which can be processed by computers. The first symposium explored the relationship between the university library and national network systems. The second concerned the relationship of mechanized clerical processing to mechanized information systems in the library. The other three symposia brought information scientists together with University of California faculty in the social, physical, and life sciences. The emphasis was on pragmatic problems—economic, technical, and administrative—which confront the university library in efforts to supply expanded information services. The specific issues which were discussed were (1) whether information systems are viable in themselves; (2) whether a single university should acquire its own machine readable stores or use the service from tapes stored elsewhere; (3) what types of data bases satisfy the needs of the faculty and students; (4) whether such services in the university should be lodged in the library or the computer center; and (5) what are the technical problems which arise? This report presents a general discussion of these issues, some likely answers to them, and what appeared to be the opinion of the attendees of the symposium. The background material presented at the symposia are summarized in the appendices.

Inventory of Available Data Bases. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 3. By Joan C. Troutman. Los Angeles: UCLA, Institute of Library Research, 1967. 57p. (LI 000 496,

available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

This survey of data bases emphasizes reference data bases only and is intended to be indicative of the variety and number of magnetic tape files in existence of a type which might be utilized in an information service center in a university library. It reflects both projects undertaken on a large national scale and those which serve the needs of particular organizations. The information assembled about each of the twenty-nine tape files, where possible, is: (1) address and director of the creating agency; (2) a brief description of its nature and contents; (3) file characteristics and size; (4) availability and cost; and (5) references to further documentation. It was found that those files created for specific purposes of a parent organization were not necessarily designed for capability for each readability for other purposes, while data bases available from organizations in the business of maintaining data bases and providing a variety of services are generally easy to read and well documented. Most of the existing data bases have simple, hierarchically arranged, field structures. Record formats, however, from one file to another are virtually unrelated.

Standards for Cataloging of Magnetic Tape Material. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 4. By Joan C. Troutman. Los Angeles: UCLA, Institute of Library Research, 1967. 35p. (LI 000 497, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

A method is defined for library cataloging of magnetic tape files. The needs of the reference librarian and the patron are taken into consideration, as well as the particular requirements inherent in the form of the material. Basically, the catalog record must serve three functions: (1) it must present a conventional and approachable record of library holdings, including entry, title, date, a brief description, a

serials holding record where applicable, and subject analysis; (2) it must indicate the physical and logical nature of the material on a tape, including the format of the data and any associated programs and documentation; (3) it must serve as an aid in formulating search requests relating to a file. A sample catalog format and associated instructions, as well as illustrative examples, which fulfill these requirements are presented. The possibility of a union catalog is also discussed.

Undergraduate and Junior College Libraries in the U.S. A Report Prepared for the National Advisory Commission on Libraries. New York: Nelson Associates, 1968. 105p. (ED 022 484, MF—\$0.50 HC—\$4.28).

This study was conducted to assess undergraduate and junior college libraries and to consider future development. Major trends are seen as: resources not increasing as rapidly as the college population; increased demands on libraries due to changes within colleges; new technology; changing characteristics of library materials; increased pressure for inter-library cooperation and service to the non-college public; greater participation by the federal government; more selective acquisition; library experimentation and changing staff needs. Problem areas include: increased demand for college library facilities; inadequate collections; staffing; unique problems of junior college libraries; the need for national leaders in technical areas; copyright restrictions; a need for research and planning; existing federal legislation and governmental programs affecting college libraries; and lack of focus in college educational programs. A major recommendation is the establishment of a national commission to plan and coordinate programs and determine which college library projects should be approached at the federal, regional, and state levels. Other recommendations involve the Higher Education Act, library education and job clas-

sification, a demonstration project for junior college libraries, and copyright and other legislation. A bibliography of forty-eight items is appended.

Experience with Library of Congress MARC Tapes. Final Report on Mechanized Information Services in the University Library. Phase I—Planning. Part 7. By A. Wendell Yeatts and Kevin D. Reilly. Los Angeles: UCLA, Institute of Library Research, 1967. 39p. (LI 000 500, available from the Clearinghouse for Federal Scientific and Technical Information, as PB 178-441, MF—\$0.65 HC—\$3.00).

The purpose of the Library of Congress Machine-Readable Cataloging (MARC) pilot project was to provide libraries with catalog data encoded on magnetic tape in order to determine the feasibility of centralized computerized cataloging in support of library functions. Sixteen participants were selected on the basis of expressed interest, available staff, access to computers and associated equipment, and proposed applications. The weekly tapes were used by the participants for two basic purposes: (1) using the data in everyday library processing, and (2) using the data to provide extra services such as machine searching. Experiences at the University of California, Los Angeles (UCLA), which used the MARC information to produce catalog cards and alphabetize subject lists for use in book selection, indicated that there were problem areas both in using the programs provided and in creating new programs for processing tapes organized in the MARC format. In general the experiments at UCLA demonstrated that (1) it takes longer to plan and implement automated library procedures than most library administrators suspect, and (2) a full-scale nationwide MARC distribution service could not be realistically utilized without a substantial "lead time" for libraries to prepare themselves for processing the data. A listing of the programs developed at UCLA is also given.