status for college and university librarians can be made. (Whether that status should be "academic" or "faculty" is a question that deserves much more attention than it received in this book.) However, such a case must be based on a serious analysis of the role that the librarian is or should be playing within the academic community, and of the kind of status—including involvement in library governance, work week, and relations with other members of the academic community, as well as salary, leaves, promotion system, and tenure—which that role deserves. Unfortunately, a serious analysis of the academic librarian's role is absent from this volume.—*Eldred Smith, University of California at Berkeley.*

System Scope for Library Automation and Generalized Information Storage and Retrieval at Stanford University. Stanford, California: Stanford University, Feb. 1970. 157p.

Occasionally the report literature produces a document of such import that it should be read and its implications pondered by all professionals connected with the information sciences. This report is such a document. Here in concrete form, uncluttered by the acres of blue sky so prevalent in the professional literature, are the first realistic intimations of what tomorrow has in store for the information science professions.

This publication is both a paradigm for a systems study and a technical report on a collaborative research effort at Stanford between the libraries, the computer center, and a selected group of subject departments. Its purpose is ". . . to define the scope of a manual-automated system to serve the libraries and the teaching and research community of Stanford University. . . . This document defines the library operations to be supported, and the bibliographic information storage and retrieval capabilities to be provided in the system. It is directed to librarians who will use the system, to research and computer personnel who are developing it, and to university administrators and directors of libraries who need to make the policy decisions on the installation of such a system. . . ." (p.3.)

The libraries and the computer center at Stanford have long been on the cutting edge of research into library automation and information retrieval. During 1964–66, the undergraduate library produced and successfully used a book catalog. By 1968 the library and the computer center had jointly initiated and received funding for the two major research projects described in this report. The project involving library automation is known by the acronym BALLOTS (Bibliographic Automation of Large Library Operations on a Time-sharing System). The second project involves information retrieval and is known by the acronym SPIRES (Stanford Physics Information Retrieval System or Stanford Public Information Retrieval System). SPIRES is a fully automated on-line bibliographic search system which allows the remote terminal user to make a variety of search and output requests. (p.43) At the time this report was written, it had been operating as a prototype for about one year. BALLOTS was funded by the U.S. Office of Education up until the summer of 1970, while SPIRES is still (as far as this author has been able to discover) funded by the National Science Foundation. Goals and the strategy used in reaching them are complementary, enabling both projects to collaborate in the sharing of facilities, hardware, software, and staff.

The value of this report lies not so much in the fact that it chronicles a research effort in the microcosm of Stanford, but more in its use as a model or prototype for a systems effort and in its discussion of the pitfalls which await the unwary on the path to library automation and information retrieval.

Two points about the report are especially worth the reader's attention. The explanation of batch vs on-line search logic (p.45ff) is particularly good and would be of great value to those contemplating on-line capabilities but not thoroughly conversant with the constraints of machine logic. The same can be said for the discussion of file management. (p.54ff) One minor fault this author found with the report was its lack of any discussion and comparison with other systems. The only reference this author could find to other

work was to that of G. Salton at Cornell. (p.45.) Some comparison with similar work at M.I.T. and at the University of Georgia would have been of value to the reader.

The reader should not interpret these remarks to mean that this is a how-to-do-it cookbook-type manual on systems analysis. It most definitely is not. What it does give the reader is an appreciation of the philosophic implications inherent in a systems study. The direction a systems effort should follow, the rationale or philosophy behind a systems effort, its basic strategy, goals, and boundaries are all clearly articulated, and to the novice, such discussions can be of great value. More should have been said, however, about the specific analytical techniques used in time and motion studies or work analysis. For example, only briefly are flow charts used or even mentioned.

Unfortunately, the report leaves upon its readers the distinct impression that a systems effort can only be associated with library automation or some sort of electronic data processing. This was the most serious fault the author found in this report, for nothing could be further from the truth. Although library automation must of necessity be intimately associated with systems work, systems work per se does not necessarily imply library automation. Indeed, the message in a systems study may very well be just the opposite by concluding that library automation is not appropriate or feasible under the conditions which are present in a given library environment. Systems analysis and library automation exist as two conjoint sets which overlap while at the same time containing their own separate and distinct areas. The difficulty in studying a library system (used here in the technical sense) is to successfully adopt the necessary systems techniques and to avoid those which are not germane to the problem at hand. Certainly cost/benefit analysis supported by time and motion studies would have been appropriate systems techniques for the Stanford study. This author could find no evidence that either was present in the detail necessary to support a research proposal of this magnitude.

One of the most valuable features of this report was its candidness in bringing to the attention of the novice the numerous problems which face any library flirting with automation. The designers speak in utter frankness about their problems with a campus facility (the computer) which fails at least once every thirty-six hours (p.68); of the ever-present need for file protection; of their (the library's) lack of guaranteed access; and of a cost algorithm which benefits and encourages the small user while forcing the larger user to run his jobs on a second or third shift (p.67), thereby delaying his reports sometimes as much as forty-eight hours. The designers are well aware of their systems defects and have gone to great lengths to point these out for the reader. This in itself should have a salutary effect on the novice information scientist for it clears away all the cobwebs of idealism about the ease with which information is retrieved and libraries become automated.

The main body of this report is quite short, taking up only 73 of the 157 pages. It includes a brief discussion of each library subsystem and their operating constraints within the Stanford libraries system. Listed for each subsystem are system goals, problems, work loads, and limitations. Systems covered include acquisitions, cataloging, circulation, reserve, reference services, and ILL. The report concludes that ILL, Technical Information Service, and Reference Service are within the scope of an automated library system but that the precise functions in these areas which are amenable to computer support have yet to be determined (p.28).

This study is recommended reading for the staff in all libraries facing increased demands and decreasing resources (this includes practically everyone). Its message is clear. As far as human processing is concerned, the economics of scale are of limited value if indeed they can be said to apply at all. As this study so candidly points out, Stanford is one library which has already reached that point where the addition of a new staff member ". . . yields a productivity net increase of less than one full employee. . . ." (p.23.) There are many libraries in just such circumstances which have not yet fully appreciated the implications of such a position. Indeed, this is a basic dilemma facing the library profession

today. As their files and publics expand, as budgets grow, and as the demands for service increase, the solution of adding more people is only possible within certain operational and supervisory limits. There are such basic constraints as available floor and desk space, the supervisor's span of control, and even the budget itself. All library resources are finite. This places certain iron-clad limits on the amount of expansion libraries can expect to undertake in the future. But the existence of any such ceiling has so far proved unacceptable both to the library profession and to the various publics it serves. This leaves the profession with only one remaining solution —to bring data processing and computers into the library environment.—*Robert W. Burns, Jr., Librarian for Research & Development, Colorado State University.*

BOOKS RECEIVED

NOTE: *The titles listed represent books received at the editorial office that may be of interest to academic librarians.*

Antill, James M. *Civil Engineering Management.* New York: American Elsevier Publishing Company, Inc., 1970. 339p. $16.00. (72-129979). (ISBN 0-444-19643-9).

Atkinson, Hugh C. *Theodore Dreiser: A Checklist.* Kent, Ohio: The Kent State University Press, 1971. 104p. $4.50. (77-626231). (ISBN 0-87338-048-7).

The Commonwealth Foundation, Occasional Paper Number VIII, *Conference of Librarians from Commonwealth Universities in Africa.* Sussex: Hove Shirley Press, Ltd., 1970. 70p.

Doeringer, Suzannah; Mitten, David Gordon; and Steinberg, Arthur, eds. *Art and Technology: A Symposium on Classical Bronzes.* Cambridge, Mass. and London: The M.I.T. Press, 1970. 290p. (70-1113372). (ISBN 0-262-04030-1).

Feuereisen, Fritz, comp. *Die Presse in Europa: Ein Handbuch fur Wirtschaft und Werbung.* Munich and New York: Verlag Dokimentation and R. R. Bow-

ker Company, 1971. 328p. $12.50. (ISBN 3-7940-3299-3).

Fisher, Gene H. *Cost Considerations in Systems Analysis.* New York, London, Amsterdam: American Elsevier Publishing Company, Inc., 1971. 334p. $11.50. (76-133272). (ISBN 0-444-00087-9).

Harmon, Robert B. *The Art and Practice of Diplomacy: A Selected and Annotated Guide,* Metuchen, N.J.: The Scarecrow Press, Inc., 1971. 355p. (75-142234). (ISBN 0-8108-0339-9).

Herman, Molly, ed. *Libraries in New York City.* New York: School of Library Service, Columbia University in the City of New York, 1971. 241p. $3.50.

Hero, Alfred O., and Starr, Emil. *The Reuther-Meany Foreign Policy Dispute.* Dobbs Ferry, N.Y.: Oceana Publications, Inc., 1970. 228p. + tables and appendices. $15.00. (73-102939). (ISBN 0-379-00367-8).

Hosmon, Robert Stahr, ed. *The Germ: A Pre-Raphaelite Little Magazine.* Coral Gables, Fla.: University of Miami Press, 1970. 278p. $7.95. (71-125106). (ISBN 0-87024-174-5).

Mersky, Roy M., and Jacobstein, J. Myron, eds. *Ten Year Index to Periodical Articles Related to Law.* Dobbs Ferry, N.Y.: Glanville Publishing Company, 1970. 411p. $30.00. (65-29677). (ISBN 0-87802-050-0).

1969/70 Annual Survey of American Law. Dobbs Ferry, N.Y.: Oceana Publications, Inc., 1970. 774p. (46-30523). (ISBN 379-1220-6).

Olson, Edwin E. *Interlibrary Cooperation.* U.S. Department of Health, Education and Welfare, Bureau of Research, Final Report of Project No. 07-1084, Contract No. OEC-1-7-071084-5017. 139p.

Radin, Max. *Radin Law Dictionary.* 2d ed. Dobbs Ferry, N.Y.: Oceana Publications, Inc., 1970. 402p. + Code of Professional Responsibility of American Bar Association. $12.50. (74-123997). (ISBN 379-00465-8).

Simon, John Y., ed. *The Papers of Ulysses S. Grant: Volume 3: October 1, 1861–January 7, 1862.* Carbondale: Southern Illinois University Press, 1971. 479p. $15.00. (67-10725). (ISBN 8093-0471-6).