stantive data, which fact tends to substantiate the contention of R. A. Fairthorne that, in most instances, "information retrieval" really means "document retrieval," and in the final analysis, much of the work in so-called information retrieval has really been the invention of mechanical stack-boys.

Librarians in general, and those engaged in library education in particular, can find small reason for pride in this volume. Innovation in information systems is definitely not coming from the library world, and only one library school is listed in this compilation. Admittedly, such a catalog as is here reviewed can throw no light on the extent to which these unconventional systems represent a real advance over traditional library methods, but there seems to be little basis for believing that this trend toward the unconventional will not become an important force in the librarianship of the future. If librarians continue in their neglect of it, they may one day find themselves hopelessly outdistanced in the race to surmount the rising Everest of man's recorded knowledge.—*J. H. Shera, Western Reserve University.*

Information Retrieval Management. Ed. by Lowell H. Hattery and Edward M. Mc-Cormick. Detroit: American Data Processing, 1962. 151p. $15.

This is a potpourri of papers, adapted from the proceedings of the Fourth Institute on Information Storage and Retrieval presented in February 1962 at American University. As with all such stews, some of the meat is tender and tasty, most of the vegetables are either underdone or so pap-like as to inhibit taste, and one's favorite ingredient is either absent or illcooked. Such collections are becoming all too frequent. At least five such volumes on various aspects of the information sciences have appeared in the winter and spring of 1962-63. These potpourries may have stimulating paragraphs or even whole papers. As books, however, they suffer from discontinuity, hastily presented ideas with little supporting evidence, and advice reminiscent of commencement addresses. Above all, they illustrate the paucity of our knowledge, both empirical and pragmatic, of information systems.

The volume at hand is no exception. According to the editors, the purpose of the papers is "to present a broader systems approach to the handling of technical information." (This reviewer can't find the referent to "broader" in the Preface.) Of the eighteen papers in the volume, only nine seem to fit the "systems approach." (Perhaps this is the meaning of "broader.") This does not mean the other papers are poor. In fact, the better papers appear outside the "systems approach."

The papers can be divided (although they are not physically so divided) into five general categories. The first explores cultural and intellectual aspects, and exhorts the reader to do something under such titles as "What Must Give in the Documentation Crisis." However, one should not miss Saul Gorn's paper "Computers, Communication and Science—Extending Man's Intellect," a perceptive *tour de force* on "computer appreciation."

The second subject area examines management's relations to information centers. Edward McCormick's paper, the last in the volume, is a good summary. In fact, it should be read first.

In the third area, the papers explore facets of communication. H. P. Luhn, as usual, writes well on "Automated Intelligence Systems." Helen Brownson reviews the state of knowledge of the communication habits of scientists—a state, and Mrs. Brownson agrees, largely unknown and unexplored. As Don Swanson so aptly put it, past studies have been "descriptive rather than diagnostic."

In the fourth category, three papers skim rapidly over various approaches to information management. In one paper, by C. D. Gull, the reader is urged to answer such questions as "Is our present system satisfactory?" without a clue as to what a "satisfactory" system is.

The final three papers describe the operating experience of three information centers—Esso Research and Engineering, General Electric Flight Propulsion Division, and the Science and Technology Division of the Library of Congress.

This volume, like others of the genera, is significant in its intimations of a future in

which traditional librarians will be forced into an even more passive position than the one they now occupy. Despite all their faults, the papers imply a dynamism that libraries are not yet prepared to accept. This remark does not mean that librarians should jump on the band wagon of automation. Many of them are intellectually pretty shoddy affairs anyway (the antecedent here is band wagon, not librarians). It does mean that librarians do need to examine their whole concept of education, systems, and services and to determine where and how they can move from the passive to a dynamic stage.—*Robert S. Taylor, Lehigh University.*

Information Retrieval Today. Papers Presented at the Institute Conducted by the Library School and the Center for Continuation Study, University of Minnesota, Sept. 19-22, 1962. Ed. by Wesley Simonton. Minneapolis: Center for Continuation Study, 1963. 176p. $5.

Information retrieval, in its mechanized forms, has not yet become a textbook subject, and those who wish to be informed on the state of the art have two alternatives. One is to keep current with developments through journal and report literature, studying and evaluating each item for reliability and pertinency. The second is not to worry until a particularly attractive conference or institute comes along, and then to take a cram course. The first is arduous and recommended only for the stout-hearted and the dedicated, of whom we need more! The latter is a prudent decision *if* one chooses the right conference.

Those who chose to attend the Institute on Information Retrieval Today did, indeed, choose the right one. The speakers were well selected for knowledgeability of, and experience with, the topic, and the attendants were largely librarians, giving a homogeneity of interests of which the speakers could take advantage in shaping their remarks. Consequently, the proceedings were remarkably free from much of the jargon one sometimes confronts when engineers, mathematicians, systems specialists, etc., gather to discuss this topic.

The goals of the institute were to present a well rounded picture of the present state of information retrieval, giving attention to both theoretical and practical aspects of traditional and newer methods. The historical development and probable future direction of the art were considered in light of users' needs and requirements. The success of the conference is partially the result of the balance achieved in realizing these goals.

Jesse Shera's "Propaedeutic of the New Librarianship" sweeps across the development of information storage and retrieval capabilities from medieval times to the present, and Harold Wooster provides a look at the innovations to come in the near and distant future. Between these splendid expositions of our past and our future, we have the bulk of the papers, constituting both theoretical and empirical observations. Calvin Mooers, G. Jahoda, Ascher Opler, and I. A. Warheit discuss indexing and computer practices, and Peter Scott reviews the graphic aids which make valuable contributions to the field. Four systems currently in use or under study are described, those being: 1) Western Reserve University's machine literature searching projects; 2) the University of Illinois, Chicago, study of data processing applications for technical processes; 3) the serials computer project of the University of California, San Diego; and 4) MEDLARS. Each of the four have by now issued larger studies of the results of their researches and experiences, and the reader may wish to consult those studies for fuller treatment. Bernard Fry's presentation discusses relationships between user needs and the development of new information systems.

The final paper is "The Librarian and the Machine" by Henry J. Dubester, who makes a point which librarians should take to heart. He indicates that if more librarians would look carefully at the pattern of work in their area with the same detail one must employ when flow charting for systems analysis and possible mechanization, this examination would yield improvements startling in themselves. The observation is supported by the experiences of the University of Illinois project staff, who report many instances where poor routines and work procedures were brought to light.

If asked to pick the outstanding paper of the institute, this reviewer would cite I. A.