computer science, or librarianship. All listed disciplines will continue doing what they have done, doing more, and surely doing both better.

A number of library schools long since took pioneering steps in adding to their curricula courses in science and engineering literature and bibliography, as well as in the literature and bibliography of other fields. It was evident at the conferences that library school heads are openminded about additional training to be offered to their science-interested enrollees. But with such a great need for librarians, the heads rightly were not in favor of diminishing any of their present programs. What the conferences clearly indicated is that more, and more widely varied, training is needed. Programs to do this were prescribed, some as definite proposals. Since the conference, two elaborate ones known to the reviewer have actually been formalized: the first at Drexel, well coordinated with its library school; a second at Georgia Tech as a "School of Information Science" administratively approved to start in September 1963. These conferences may well turn out to be as seminal as the National Science Foundation had hoped, and this little book may turn out to be a truly significant document for all concerned.—*J. H. Moriarty, Purdue University Libraries.*

Microphotography

Enlarged Prints From Library Microforms. By William R. Hawken. (Library Technology Project Publication No. 6) Chicago: American Library Association, 1963. 131p. $4.

Microphotography has become an accepted communications medium for establishing information systems in libraries. In many cases output by display on the microfilm reader screen is sufficient for the needs of the user. There is, however, a tendency (encouraged by the increasing use of office copiers) for the scholar to demand hardcopy output from the micro-reproduction system. As a result, there are now about twenty different models of microform reader-printers available. These make it possible

for the user to examine his microcopy on the reader screen and immediately receive paper prints of the pages he wants without sending the microform to a darkroom or commercial laboratory. Most of these machines are designed for 16mm microfilm and aperture cards (*e.g.,* IBM cards with a window holding a frame of 35mm microfilm), forms of microfilm that are infrequently found in most libraries.

In this volume Mr. Hawken has limited his full evaluation to those eight models that will handle the microforms (35mm ribbon microfilm, 3 x 5 inch microcard, and 6 x 9 inch microprint) usually found in American libraries. These are: Filmac 100, Filmac 200-R, Filmac 300, Documat, Rollacopy/ Micromate, Universal (French), Microcard Copier, and Ross Microreader (English). Each machine was tested under conditions simulating those to be found in libraries and with microforms of originals common to most libraries. The performance characteristics, advantages, disadvantages, capabilities, and limitations of each example are considered and described, with many excellent and helpful illustrations. Some models that work well with microfilm of business records, and others that perform satisfactorily with engineering drawings in Filmsort cards, did not prove successful with library materials. A few of them showed poor design and manufacture. No machine came through the test with a perfect record. The nearest contender for a seal of approval was the Filmac 300, but as its price is $3,600 it will be beyond the range of most libraries.

The introductory chapters on the fundamentals of reader-printers and processes for rapid print production, and the chapter on various miscellaneous methods of print production, are well worth study by all librarians who are considering activity in this problem-filled field. The closing chapter of summation (which includes brief notes on some ten models in addition to the eight studied) is required reading for all potential users, as well as producers of current models and those planning to get into this field. There is information of value for all sorts of librarians; even the bibliophile will be interested in the choice of an example (figs. 56 and 57) to show the unevenness of illumination resulting in poor print-out of

two pages of text. Mr. Hawken and the LTP have followed their *Photocopying From Bound Volumes* with a worthy successor.—*Hubbard W. Ballou, Columbia University Libraries.*

Engineering Data Microreproduction Standards and Specifications. By the United States Department of Defense. (Informational Monograph No. 1) Annapolis, Md.: National Microfilm Association, 1963. 151p. $3.

A phrase that occurs many times in variant forms in William Hawken's recent book on enlarged prints from microforms is: "This machine was never designed to reproduce the diverse sizes and types of documents which make up library collections of microforms." In his summary chapter he throws down his gage before the equipment manufacturers challenging them to: ". . . take another look at the library world, its vast holdings of microforms, and its needs." We can say "Hear, hear!" to this, but in all honesty can we not grant the manufacturers a valid counter-challenge to us to do something about standardizing the production of our library microforms, so that they may design us simplified and inexpensive models?

A field which was faced with a similar problem was that of engineering drawing files. The Department of Defense wanted to simplify the storage, dissemination, and reproduction of these bulky items through use of microfilm. These drawings occur in multifarious sizes and of indescribably varying qualities of legibility. The only way to make the system work was by standardization all along the line: production of the original drawing, filming, processing, mounting the film in tab cards, and reproduction through numerous generations to the final paper print output.

The National Microfilm Association has been active in the progress of the Engineering Data Microreproduction System since serious work began on it about 1956. The association, at its San Francisco convention in April 1963, reprinted the many scattered specifications that were the outgrowth of this program. Though available as twelve separate specifications from the various agencies involved, this package publication is the easiest and cheapest way to acquire the series. Written as federal specifications are, they are not designed as light reading matter; but there is much food for thought buried beneath the official jargon. Libraries can learn by analogy from problems faced by the DOD EDMS program, and get what cheer they can from knowing that other users of microreproductions have met the same problems. One warning is necessary, however, and that is that the two problems are similar but not replicas of each other. We must pick and choose those points of similarity with care, and not try to specify all items from the DOD specs every time we place an order for microfilming.—*Hubbard W. Ballou, Columbia University Libraries.*

Latin American Directory

Guia de Bibliotecas de la América Latina. Edición provisional. (Pan American Unión, Columbus Memorial Library. Bibliographic Series, no. 51) Washington: Union Panamericana, 1963. viii 165p. $5.

For some time the lack of a guide to Latin American libraries—similar to the *American Library Directory*—has hampered persons needing information about such institutions. The many changes in the library picture there since 1942 have, of course, rendered Rodolfo O. Rivera's *Preliminary List of Libraries in the Other American Republics* inadequate for most purposes. The present compilation, prepared by the Pan-American Union's Library Development Program, while not fully comparable to the Bowker list, represents a step in the right direction.

Although the compilers have not attempted to include all Latin American libraries, their aim was to present all university and special libraries, public libraries of more than two thousand volumes, and school libraries of more than one thousand volumes; they recognize that, even with these limits, they have probably missed some institutions. Nevertheless, the user finds approximately twenty-two hundred libraries (*vs.* five thousand in the less selective Rivera list); there is a section for each of the twenty Latin American republics and Puer-