

briefly discussed, and it is suggested that introduction of an ESS may exacerbate this already critical problem. Special collection theft is briefly discussed as a part of the entire library security problem. However, for program planning it is clear that libraries should turn to materials published by the Society of American Archivists when considering the special difficulties that theft in these areas represents.

This report, even with its relatively high price, represents an excellent summary of the library theft problem. It puts electronic security systems into perspective as only one element, albeit a major element, in a balanced approach to library theft. Any library contemplating a theft prevention program will find useful material in this report.—James Michalko, *University of Pennsylvania, Philadelphia*.

Lecht, Charles P. *The Waves of Change: A Techno-Economic Analysis of the Data Processing Industry*. New York: Advanced Computer Techniques Corp., 1977. 186p. \$39.75. LC 77-94890. ISBN 0-931336-00-7.

In his foreword to this somewhat provocative book, Gideon I. Gartner states, "*The Waves of Change* describes available evidence pointing to the conclusion that we are in transition to a new era. Such evidence should be carefully considered by every student of the computer/communications environment."

Reading this volume supports this statement. Using clearly understood prose, the author addresses the following topics as chapters: (1) "Computer Industry Developments: A Review," (2) "Changing Hardware/Software Relationships," (3) "Products, Services, and Marketplace Statistics," (4) "Manufacturers' Spending Emphasis and Trends," (5) "Data Communications and Network Trends," (6) "Distributed Processing," (7) "User Budget Priorities—Past, Present, and Future," (8) "Future System Requirements/Expectations," (9) "Mini/Microcomputer Impact," (10) "Software Technology Trends," and (11) "Hardware Technology Trends."

In reviewing computer industry developments, the author shows how today we

have come full circle back to the concept of a "computer for every user" as the industry initially experienced in the early 1950s and 1960s. It is obvious to the knowledgeable data processing practitioner who has grown up with the computer industry that the author brings considerable experience to bear in the writing of this volume.

The book is filled with graphs and charts that point out trends and statistics showing how the computer industry has progressed and the directions that appear to be on the horizon. Some examples are the "Average Design and Programming Cost per Instruction," "Costs of Storage Technologies," "Dollar Growth Rate of Various Segments of the Data Processing Industry," and "Centralized vs. Distributed Data Processing Advantages." These follow each chapter as appropriate to the chapter text.

The text is attractively presented with a good quality binding. Only one typographical error was discovered in the text, which shows rather high quality manuscript processing. Although every reader will probably not agree with each trend predicted by the author, the general conclusions are supported by the data shown in this work. Of course, the future will tell just how accurate this author has been in his view of the changes soon to be upon us. Blank note pages are left at the end of the text, I surmise for the purpose of readers to note their views and then be able to look back in retrospect at some future time.

This volume should be of interest to anyone studying the possible impact of data processing on society and evolution and change in the data processing industry from an economic and technological view and obviously important to any reader whose business or profession is affected by data processing trends. Thus students and practitioners will find this volume worthwhile.

Although a previously serialized version of the data in this volume appeared in parts in the magazine *Computerworld*, this volume reflects updated and edited text incorporating more data and more polished presentation for a wider audience. For this reason, this volume is an appropriate addition to personal collections as well as for libraries that collect in the economic trend or

computer science areas.—Audrey N. Grosch, *University of Minnesota, Minneapolis.*

Current Research on Scientific and Technical Information Transfer. Abstracts and Full Text of Papers Delivered at Three 1976 Seminars Sponsored by the National Science Foundation, Division of Science Information. A Micropapers Edition. New York, Jeffrey Norton Publishers, 1977. 24p. + 7 microfiche in pocket. \$12.95. LC 77-9216. ISBN 0-88432-007-3.

This publication contains the proceedings of three seminars organized toward the end of 1976 by the Division of Science Information of the National Science Foundation. The seminars were intended to make known the results of twenty-one research projects on scientific and technical information and to provide a forum for an exchange of ideas between the original investigators and the seminars' participants.

The first one, "Alternatives to Traditional Information Transfer Mechanisms," reported results from nine projects that "investigated ways of improving electronic storage, publication formats, and dissemination methods." Included are reports relating to SCATT, IEEE publishing experiments, the northern California public library DIALOG use project, and various other studies of modes of information dissemination.

The second seminar, "The Use of Scientific and Technical Information among Scientists and Engineers," included seven presentations on formal and informal communication patterns among scientists and engineers.

The third seminar, "Planning Data for STI Managers," provided findings from five projects and analyzed the impacts of selected trends in U.S. scientific and technical communication activities, including a forecast of the scientific journal in the year 2000. While a number of the studies have important implications for academic librarians, not least because scientific and technical acquisitions are swallowing an increasing portion of the materials budget, the emphasis is on improved productivity and efficiency of industrial information systems.

The format is also worthy of comment; a

"Micropapers Edition," it consists of ten pages of introduction and contents, fourteen pages of abstracts, and seven microfiche (in a back pocket and of good quality) containing the full text of twenty of the reports (one being unavailable for inclusion). Of the abstracts, seven are reasonably informative of the results, while thirteen are descriptive only; perhaps predictably, there is unevenness in content and length of these author-produced abstracts. The presswork is uneven; the hard binding is sturdy and attractive. The running title on the fiche headers omits the first word of the actual title, which may cause some cataloging and public service furor should the fiche get separated from the book. Each fiche header gives the titles of its respective papers and the row on the fiche where each begins; but browsing among the papers takes a bit of doing, since no identifying headings appeared on the typed manuscript pages.

And the price: Is \$12.95 right for twenty-four pages plus seven microfiche where the content is a gift of and paid for by a government agency? Perhaps allocation toward publishing costs of a small part of the original twenty-one-project research investment would have really borne out NSF's announced "policy to facilitate timely and broad dissemination of research results."—*Irma Y. Johnson, Massachusetts Institute of Technology, Cambridge.*

Houghton, Bernard, and Convey, John. **On-Line Information Retrieval Systems: An Introductory Manual to Principles and Practice.** London: Clive Bingley; Hamden, Conn.: Linnet Books, 1977. 160p. \$10. LC 77-21858. ISBN 0-208-01660-0.

As in North America, library schools in Britain are now developing courses in on-line bibliographic searching, and also as in North America, some of the first generation of pedagogical material is finding its way rapidly into print. The present work is derived from courses taught by the authors at the Liverpool Polytechnic library school and is essentially aimed at the British market.

Part I (about forty pages) has four chapters sketching in the background and development of on-line systems, the fundamental techniques of automated searching,