

lack of expertise. Some outsourcing projects occur in an austere climate of retrenchment; others are a luxury, an opportunity to enhance the quality of the catalog or complete the processing of a backlog. The case studies in this book provide something for everyone, and the collection of all these varied projects in one book provides a nicely balanced view of the current situation of outsourcing.

This book is a welcome alternative to wholesale digestion of the fragmented outsourcing literature, but it does not exist in a vacuum. On the contrary, it offers the reader a convenient tool for further research. A 26-page "Selected Annotated Bibliography" by Marylou Colver follows the case studies. In this bibliography, the outsourcing literature is divided into eight major categories, including three categories devoted to case study literature. The case study literature is divided further, grouping articles on well-publicized outsourcing projects by the name of the library or institution. This bibliography is up-to-date: 10 of the 15 entries on outsourcing at the Hawaii State Public Library System are 1997 citations. The annotations, which are generous paragraphs, greatly enhance the value of the bibliography.

In addition to the bibliography, the book has several useful features. Each case study begins with an abstract so that readers can locate those most pertinent to their interests. Subheadings within the chapters clearly label the different aspects of the projects, again aiding foragers to find the right data quickly. A handy index rounds out the volume. Although each case study has its own authors, the whole book reads very evenly. The writing is consistent and maintains objectivity throughout, a tribute to the thorough and painstaking editors. This book, in short, meets the needs of both the researcher who will thumb through quickly for some ready data and the one who will read it cover to cover. It is a fine work, and one that deserves serious attention from every librarian interested in outsourcing issues.—*Clare B. Dunkle, Monographs Cataloger, Coates Library, Trinity Uni-*

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***From Print to Electronic: The Transformation of Scientific Communication.*** Susan Y. Crawford, Julie M. Hurd, and Ann C. Weller. Medford, N.J.: Published for the American Society for Information Science by Information Today, 1996. 117p. \$39.50 (ISBN 1-57387-030-7).

The stated purpose of this monograph is "to provide an overview and examine ... against existing models" (p. 3) the changes in scientific communication brought about by the growth of science since World War II and the rapid development of new technologies for information management and exchange. The book consists of a foreword by Belver Griffith, two introductory chapters on the growth of science and on models of scientific communication, three case studies, and a concluding discussion of future directions.

Chapter 1, "Scientific Communication and the Growth of Big Science" by Susan Y. Crawford, is a clear, concise history of the rise of research in science and technology as a central factor in modern economic growth. Chapter 2, "Models of Scientific Communications Systems" by Julie M. Hurd, begins with a brief discussion of the Garvey/Griffith model of scientific communication, providing a useful background for the case studies and predictions that follow. Hurd distinguishes between modernization and transformation of the communications process.

"Modernization is defined as the use of new technology to continue doing the same thing, but presumably in a more cost-effective and/or efficient way. Transformation is the use of a new technology to change processes in a fundamental way" (p. 14). Hurd examines the steps in the Garvey/Griffith model informal communication, meetings and conferences, and peer review and publication, noting how each has changed since the 1960s when the model was first proposed. Hurd then proposes four new models of scientific communication: "A Modernized Garvey/Griffith Model," "The No-Journal Model," "The Unvetted Model," and "The

Collaboratory Model.”

In the first proposed model, computer-assisted communication modernizes the process by making it faster—sharing findings through e-mail, publishing in electronic journals, and indexing and abstracting materials online. The No-Journal Model replaces the journal as the primary means of disseminating research findings, relying instead on “the ‘article’ or research report as the unit of distribution” (p. 24). The Unvetted Model goes a step further by removing the concept of peer review from the communications process. Finally, the Collaboratory Model offers the possibility of physically distant groups of scientists working collaboratively through computer-assisted technologies, sharing data and research findings in common databases. This model is the most transformative of the four presented and is the model used in the three case studies presented later in the text.

The case studies, “The Human Genome Project,” “High Energy Physics,” and “Astronomy, Astrophysics, and Space Physics,” exemplify the issues addressed earlier in the text and provide substantive support of the authors’ new model of scientific communication. The studies are clearly presented and accessible—even engaging—reading for nonexperts in scientific communication. Chapter 6, “The Changing Scientific and Technical Communications System,” summarizes the work presented in the preceding chapters. The authors cite a number of instances in which technology has already influenced, modernized, or partially transformed the communications process. They review the current state of electronic publishing and rightly predict even greater transformations to come. Finally, they touch on economic issues, information needs and use, and possible future roles of libraries.

Though the ideas presented in *From Print to Electronic* will be familiar to any librarian who follows current library literature, the book is a compact, admirably readable presentation of these ideas. Librarians who confront the bewildering issues of production, dissemination, and organization of digital materials in all their

variety would be well served by a better understanding of scientific communication and of scholarly communication in general. This book meets this need.—*Edward Gaynor, Associate Director of Special Collections, Alderman Library, University of Virginia, Charlottesville (gaynor@virginia.edu)*

**Planning and Implementing Technical Services Workstations.** Editor: Michael Kaplan. Chicago: American Library Association, 1997. 237p. (ISBN 0-8389-0698-2).

In the 1990s, the bottom-line approach of the business community is finding its way into the library world in general and into the technical services area in particular. The technical services workstation (TSW) is a catchword of the effort to increase productivity with limited personnel and resources. Michael Kaplan has been at the forefront of TSW development, establishing technical services workstations at the Harvard University Library and guiding national committees in the development of TSW standards and procedures. This book is a compilation, history, and guidebook on the technical services workstation and its gradual acceptance as a solution to the problems of doing more with less in technical services. The introduction begins with productivity statistics related to the implementation of TSWs at a number of academic institutions. The definition of a TSW follows, including the statement that “it is ... the choice of the software components and the ability to network that will determine whether the computer makes the evolutionary leap and becomes a true technical services workstation” (p. xvii).

The book is divided into five parts: Background and Planning; Online Documentation and Online Tools; Productivity Enhancers: Macros and Programmatic Approaches; Ergonomic and Training Issues for the Desktop Environment; and the Symbiotic Future: Technical Services Workstations, the Internet, and the World Wide Web.

In Part I, chapter 1, “Hardware and Network Considerations,” a short history of the technical services workstation is