

thorough and fascinating report of her research into certain characteristics of main entry and the works they represent, she summarizes: "One of Lubetzky's gifts to library users who seek particular works was his explication of the work principle, which has the potential to allow us to design OPACs [online public access catalogs] that meet the cataloging objectives better than any catalogs we have ever seen before. The generations of library leaders that followed Lubetzky dropped the ball, however, and allowed the development of OPACs that impede the user who seeks particular works much more than the card catalog ever did" (102). That should give pause to the people who design online catalogs and, if they are made aware of this and other studies, prompt them to begin thinking of catalogs as intellectual rather than mechanical devices.

The third and final part consists of six chapters: "The Ideology and Technology of Cataloging at the End of the Millennium" by Freedman; "Cataloging Virtual Libraries" by Malinconico; "World Wide Web Opportunities in Subject Cataloging and Access" by Bates; "Cataloging at Crossroads: Preservation and Accommodation" by Byrum; "Guidelines for a Future Anglo-American Cataloging Code" by Margaret Maxwell; and "Current Activities in Cataloging Code Revision" by Tillett. Again, each of these papers is worth time and thought. They move from the theoretical plane to the practical, describing potential changes to the Anglo-American Cataloging Rules (AACR) in the context of goals to be achieved and the new environment in which a cataloging code must function.

The book is well edited and simply, but neatly, formatted. Editors Connell and Maxwell did not contribute original papers to the volume, but their work is evident in the smooth flow of language and lack of errors. Notes at the ends of chapters offer

some material for subsequent follow-up, though references to AACR abound. Unfortunately, the print is small and the margins narrow, indicating that the book was not intended to withstand heavy use or be rebound after many readings and rereadings. More is the pity, because this book is worth understanding by the masses—myriad practitioners working with online catalogs, which remain the library's basic tool for patron service.

Because the core of the text is focused on research, this book promises to have an active, useful life for the foreseeable future. It will always have historical value and be of interest for a while for its prognostications; but the likelihood that practical payoffs from the research reported here will take years to realize means that the influence of the Lubetzky Symposium should remain fresh and vital for quite some time.—*Sheila S. Intner (shemat@aol.com), Simmons College Graduate School of Library and Information Science, Boston*

Progress in Visual Information Access and Retrieval. Ed. Beth Sandore. *Library Trends* 48, no.2 (fall 1999): 283–524. Champaign: University of Illinois Graduate School of Library and Information Science, 1999. Single issue, \$18.50 (ISSN 0024-2594).

Sandore's stated goal in this compilation of papers is to present a diverse audience "with a current perspective on the development of visual information retrieval and access tools" (283). She succeeds admirably in accomplishing this goal, providing not a single perspective but rather several perspectives on a variety of issues. The authors of the papers come from different backgrounds, encompassing both library science and computer science. In the past, the library science approach to providing access to images has concentrated on "concept-based" analysis of images that relies on textual terminology usually assigned

by human indexers. The computer science approach, on the other hand, has concentrated on "content-based" analysis that relies on automated processing of the images themselves. It is good to see in this compilation that most of the authors now view the two approaches to image analysis as complementary rather than as an either-or choice.

The three papers in the first section, "Foundations of Access to Visual Information," are devoted to the problems of access to images from three different perspectives. Hsin-liang Chen and Edie M. Rasmussen, in "Intellectual Access to Images," describe briefly the tools currently available for providing intellectual access to images and the contexts in which these tools are being used. P. Bryan Heidorn, in "Image Retrieval as Linguistic and Nonlinguistic Visual Model Matching," explores the complexities of visual perception and memories and describes ways in which systems might be designed to assist users in retrieving images that match the mental models of the images they are seeking. Heidorn focuses on users who have mental models of the images that they are seeking, but does not address the needs of users who may be seeking images because they do not know what something looks like. In "Computer Vision Tools for Finding Images and Video Sequences," D. A. Forsyth concentrates on automatic tools for providing access to images, describing their current limitations and suggesting ways in which these limitations might be overcome.

The second section, "Implementation and Evaluation," is richer in content than its title might imply. The papers in this section are not simply of the show-and-tell variety, but rather incorporate thoughtful analysis of the often-complex issues surrounding access to images. Practical guidance may be found here, but always in the context of theoretical issues and users' needs. Teresa Grose Beamsley, in

“Securing Digital Image Assets in Museums and Libraries: A Risk Management Approach,” discusses the details of digitizing images but at the same time explores the problems of preserving image integrity and image context. Beamsley also addresses some of the issues surrounding copyright and control of images in the digital world. In “Getting the Picture: Observations from the Library of Congress on Providing Access to Pictorial Images,” Caroline R. Arms describes the processing of images in the vast collections of the Prints and Photographs Division of the Library of Congress. She details all aspects of processing, from specifications for digitizing images to the design of the retrieval interface. Arms’s paper is particularly valuable because she describes methods for processing a large collection of images, including the creation of collection-level and group-level records, and for integrating access to images with access to other materials, as occurs, for example, in the Library of Congress’ online catalog. Christie Stephenson, in “Recent Developments in Cultural Heritage Image Databases: Directions for User-Centered Design,” describes the experience of the Museum Educational Site Licensing Project (MESL) and in the process explores the issues involved in providing access to images from museum collections. In “Evaluation of Image Retrieval Systems: Role of User Feedback,” Samantha K. Hastings describes a study performed using a relatively small and homogeneous set of users and images. Based on this study, Hastings categorizes user queries and suggests the types of tools that are best suited to address these queries, as well as the best ways of evaluating the success of these tools.

The final section, “Experimental Approaches,” consists of three experimental automated approaches to providing access to images. It is an interesting and welcome development

that all three of these approaches make use of textual information as well as automated analysis of the image itself. Yong Rui et al., in “Information Retrieval beyond the Text Document,” describe an experimental technique tested in the context of images of museum objects. They focus on what the computer can do best—provide an analysis of color, texture, and shape—and suggest that this analysis is most successful when used in conjunction with manually supplied, text-based access. Both Neil C. Rowe in “Precise and Efficient Retrieval of Captioned Images” and Rohini K. Srihari and Zhongfei Zhang in “Exploiting Multimodal Context in Image Retrieval” describe experiments in which automated text processing is combined with image processing in order to retrieve images from Web pages. All three papers in this section include detailed descriptions of the methodology used in the automated analysis.

In summary, the papers in this compilation provide a theoretical exploration of issues, a description of the current state of access to images, some practical guidance, and a look at possibilities for the future. This compilation should be useful to both librarians and computer scientists and to anyone involved in providing access to image collections.—*Sara Shatford Layne* (slayne@library.ucla.edu), *Science and Engineering Library, University of California, Los Angeles*

The Social Life of Information. By John Seely Brown and Paul Duguid. Boston: Harvard Business School Pr., 2000. 320p. \$25.95 (ISBN 0-87584-762-5). LC99-49068.

The authors are, respectively, the director of the Xerox Palo Alto Research Center and a historian and social theorist research specialist at the University of California-Berkeley. They come garlanded with encomia from a variety of the digital great and

the good who praise their efforts to prove that “information is inevitably embedded in social relations” (Robert D. Putnam, 3) and that “information technology does not work unless supported by viable communities and institutions” (Bruce Kogut, 3). Even a cursory reading of this text demonstrates that Brown and Duguid are serious fellows appropriately skeptical of the prevalent cyberhype but, at the same time, convinced of the transcendent importance of the changes that technology is wreaking and will wreak in the future. So far, so very good—and the fact that the authors write in acceptable English prose is another unexpected plus.

I am a simple and prosaic soul and always approach books of this type with two simple and prosaic tests. How do the authors define information? What do you find when you look up library or libraries in the index? (The latter on the grounds that how authors treat something that I know well is a fair guide to how they treat what is less well known.) It is a sad fact that many books on information, the Information Age, and so on fail to provide any definition of information, or give *en passant* a cursory and practically useless definition. My spirits lifted when I found a discussion of the differences between knowledge and information (117–19), but not for long, because apart from the smart-sounding “knowledge usually entails a knower” (119), the discussion ends with thrown up hands. I write “smart-sounding” because the implication is that information can exist without human consciousness—an interesting philosophical question but one without practical utility. Surely, even data without a human mind is unbearably evanescent. There is a definition of sorts for information: “something that can be recorded, transcribed, digitized, and shipped in packets” (2). Apart from the leadenness of the words, the fact that they can apply to everything from a Mozart symphony