

LookSmart. Essays by Stephen Paul Davis, Kathleen Forsythe and Steve Shadle, and Jonathan Rothman present ideas on how to create and develop access tools that are based on a classification system. For example, Davis describes how a project by Columbia University Libraries has been able to provide easy access to Web-based resources by using the vocabulary from the Library of Congress classification system. The article by Forsythe and Shadle is especially useful for it illustrates how the University of Washington Libraries transferred its existing online catalog into the Web environment. Although the project dates back to 1997, its history provides helpful information concerning the problems and their resolutions that were discovered along the way. The article by Dennis Nicholson, Gordon Dunsire, and Susannah Neil provides insights into the High-Level Thesaurus project in England, demonstrating the challenges that were encountered in developing a shared search engine that would satisfy librarians, archivists, and museum workers.

High-Level Subject Access Tools and Techniques in Internet Cataloging does not provide a simple answer on how to best create subject access in Internet cataloging; however, it does provide ideas for further exploration. The book is well organized, easy to read, and highly informative. Notes are provided at the end of articles, and the book includes an index for easy consultation. Many of the articles also provide graphs and charts that help make the data provided in the text more easily understood. This book is an invaluable source for anyone who wants to better understand the implications of cataloging the Web.—Alessia Zanin-Yost, Montana State University, Bozeman.

Smith, Abby. *New-Model Scholarship: How Will It Survive?* Washington, D.C.: Council on Library and Information Resources, 2003. 49p. \$15 (ISBN 1887334998). Also available online from <http://www.clir.org/pubs/reports/pub114/pub114.pdf>.

An article by NEH chair Bruce Cole published in June 2002 in *The Wall Street Journal* bore the title "Our American Amnesia." It decried the dangers of forgetting history and pointed to a host of signs that our national amnesia is "worsening." The consequences are serious, Cole points out: "Citizens kept ignorant of their history are robbed of the riches of their heritage, and handicapped in their ability to understand and appreciate other cultures." Most thoughtful contemporaries will likely agree with Cole: As a nation, we simply cannot afford to lose any more ground when it comes to memory.

And yet consider the Internet and its role as an increasingly important site of meaning in our lives. The Internet is as notorious for the ephemerality of its resources as it is for the explosiveness of its growth. Whole galaxies of popular culture, public opinion, social life and history, and indeed reflection and research arise and disappear without leaving a trace. "Daily, new landmasses form and then submerge," writes novelist Jeanette Winterson in *The PowerBook* (2001): "New continents of thought break off from the mainland. Some benefit from a trade wind, some sink without a trace. Others are like Atlantis—fabulous, talked about, but never found." Ironically, just such a disappeared continent is the NEH's own project "My History Is America's History," touted on a government Web site (<http://www.pueblo.gsa.gov/cic_text/misc/my-history-p/my-hist.htm>) as "a virtual 'front porch'—a cyberplace where families can drop by to exchange stories [and] to explore the tales from history that help make sense of [their] own and [their] ancestors' lives." Yet, if you go to this Web site at <<http://www.myhistory.org/>>, all you get is a laconic "'My History Is America's History' has closed its operations." Forgetfulness abounds indeed.

Although the task that Abby Smith has set herself in *New-Model Scholarship: How Will It Survive?* has to do primarily with the preservation of "complex and often unstructured digital objects" that are created by sophisticated research projects at

our universities, she also is concerned with the preservation of “the primary sources in digital format on which this scholarship is based” (i.e., often the same mixed-format, multimedia resources that are accumulating and then disappearing at Web sites and on computer networks all over the world). The issues of preservation of national legacy sites and research sites—in other words, of primary and secondary information in digital form—are intertwined. It is safe to say that if the university and research communities succeed in creating the same level of archival security and integrity for digital scholarship as they have for analog media, the benefits will spill over into the public domain much as the Internet itself has been adopted and popularized over the past thirty years. The matter of creating the digital repository is therefore a national charge and not one of interest only to academe.

Smith defines “new-model scholarship” as research infrastructures that take full advantage of computer and communications technology to move science rapidly forward. She characterizes the new model as “experimental,” “open-ended” (i.e., “intended to be added to over time”), “interactive,” “software-intensive,” “multimedia,” and “unpublished.” In other words, it is the evolved form of interaction between teams of scientists that was once characterized by scrawled notes on paper, chalk-on-blackboard demonstrations and proofs, conversations, scholarly meetings, and working papers, each of which, as we know, represents an intellectual “format” that brings a diversity of archival issues of their own, including the issue of what is worth preserving and what is not. In almost all instances, the science community itself must be prodded to cooperation because, as Smith points out, “self-documenting by scientists does not occur in the course of normal business.” Although the environment and the tools have radically changed in “new-model scholarship,” the fact that librarians and archivists are always struggling to keep up with the knowledge creators has not.

What has changed, as Smith elaborates, is the growing interrelatedness between content and tools in the digital environment. Unlike notes, formulas, or drawings on paper, contemporary sites are not just vessels for content, they are “hypertextual instruments.” In new-model scholarship, therefore, there is a “blurring between ‘collections’ and ‘services’ and between research ‘information’ and research ‘tools.’” So although digital preservation is often successful at preserving “bit streams” (i.e., the naked data of a digital object), its *functionality* is very difficult to migrate from one archival format to the next as software evolves and work preserved in older formats or on older media ceases to be readable.

And so we see that the virtual paradise of scholarship and the imagination can also become the nightmare of the librarian and archivist and that our scientific community may be developing the most splendid resources that, beautiful at the moment, are “fated to be ephemeral.” Must we capitulate and face the likelihood that our rich, but increasingly online, civilization will leave as few traces as the barbarian kingdoms of Visigoths and Vandals?

Fortunately, Smith does not content herself with a review of contemporary new-model scholarship and the new and obstinate issues that it raises for the digital preservation community, she also looks at the most promising and farsighted initiatives under way to grapple with these problems. These are, by their nature, being undertaken by the largest universities, with major help from foundations such as Mellon, NEH, and NSF. She describes the projects that are in progress at the University of California, now under the aegis of the California Digital Library (CDL); at MIT, where the institutional repository DSpace has been accepting content now since late 2002; as well as at other major universities such as Harvard and Stanford. Smith also looks at digital preservation as practiced by commercial and university publishers, by the government (led by the Library of

Congress), and also by such public initiatives as the Internet Archive, which has been storing snapshots of the entire Web since 1996 and successfully attracting support from many corporations and private individuals.

Looking ahead, Smith considers the obligations of foundations and funding agencies of the government such as the NSF for helping shoulder the huge costs of preserving the record and tools of contemporary scholarship. Of special relevance to librarians is the author's view that even the "smallest preservation and curatorial institutions" have a role to play in a future nationally organized digital preservation infrastructure, but that there will not be a need to replicate full-scale digital preservation activities at each and every node in that infrastructure because many functions will be most efficiently consolidated in a number of regional repositories, parts of a national distributed network.

The volume concludes with two appendices, the first a report on "Organizational Models for Digital Archiving" by Dale Flecker, head of planning and systems at Harvard University Library and a pioneer of Harvard's own digital library initiatives. This article recapitulates several discussions already found in the main body of

this publication. The second appendix is an article (with bibliography) entitled "Digital Preservation in the United States: Survey of Current Research, Practice, and Common Understandings," compiled by Smith with Daniel Greenstein, then still in his capacity as director of the Digital Library Federation.

This brief work is a thoughtful and accessible introduction to the complexities of a challenge confronting our entire society, but especially our research and archival communities. The author is equally at ease describing the intractable details of individual problem complexes as she is painting with a broad brush the high calling and solemn obligations of the academy as holders of the public trust. *New-Model Scholarship* will probably be of greatest value to preservation officers and other administrators at libraries, archives, museums, and funding agencies across the country who need to orient themselves quickly and assuredly to the problems and issues at hand. Given the complexity of these issues, such an understanding simply does not come naturally, and we can be grateful to Abby Smith and the Council on Library and Information Resources for being our guides.—*Jeffrey Garrett, Northwestern University.*