

contemporary librarianship. *Digital Libraries* is a disturbing, distressing book, as it should be. Modern librarianship can benefit from a gadfly, and Arms plays that role with admirable effectiveness.—*Allen B. Veaner, Tucson, Arizona*

Authenticity in a Digital Environment.

Washington, D.C.: Council on Library and Information Resources, 2000. 76pp. \$20, alk. paper (ISBN 1-887334-77-7).

On January 24, 2000, the Council on Library and Information Resources (CLIR) convened a group of recognized experts to ponder the questions: What is an authentic digital object? How do the standards of archival preservation apply to digital artifacts? Where can archivists position themselves, as the keepers of the intellectual record, to ensure that future generations will be able to study certifiably genuine digital documents? In an effort to get the discussion started, CLIR asked five leaders in the fields of archiving and digitization to write position papers on various aspects of the topic of ensuring authenticity of the digital record. This publication contains those five essays.

Charles T. Cullen, president and librarian of the Newberry Library, writes in his essay, "Authentication of Digital Objects: Lessons from a Historian's Research," of the difficulty of affirming the provenance of paper objects, let alone that of digital objects. He expresses chagrin at the lack of real signature markings that would prove beyond doubt that a document is truly the work of the assumed author. He touches on the ease with which changes can be made without note in digital work, even when an honest transcription is attempted. Who can vouch for the fidelity of the transcript to the original? Finally, Cullen urges librarians, publishers, and authors to push forward to find methods to mark digital works with identifiers that will prove authorship.

Peter B. Hirtle, codirector of the Cornell Institute for Digital Collections, in his essay, "Archival Authenticity in a

Digital Age," focuses on the records used for authentication of an object. As an example, he uses the USS *Constellation*, a wooden-hulled navy vessel moored in Baltimore Harbor. The *Constellation* was recorded as being Baltimore built in 1797, and all historic documents regarding her construction and launch were consistent in this regard. However, it was discovered that she was actually built in Norfolk, Virginia, in 1854, and constructed to look like the much-admired USS *Constitution*, but commissioned for duty during the Civil War, not the Revolutionary War. The documentation had been "adjusted" in 1909 to reflect the earlier building date, although records prior to 1909 showed her accurate construction date. Hirtle's point is that if paper records can be so manipulated and still appear authentic, archivists will need to exert great effort to maintain accurate provenance for digital objects. He proposes that one collective method will be "social mechanisms of control," or diplomatics, a body of practices that has long been accepted as a rigorous validation technique. Trust in the repository will continue to be a key concept.

David M. Levy, a consultant on documents, digital libraries, and publishing, uses a humorous example in his essay, "Where's Waldo? Reflections on Copies and Authenticity in a Digital Environment," to make the point that in a digital world, in which a copy can be identical to the original (or nearly so), the ascertaining of authenticity of the original becomes almost impossible. First establishing that it may not be possible to create stable digital objects, he suggests that audit trails may be useful in defining the "original." He posits that our first step is to understand what it is we want to accomplish, then to discern what is possible to accomplish.

Clifford A. Lynch, executive director of the Coalition for Networked Information, in his essay, "Authenticity and Integrity in the Digital Environment: An Exploratory Analysis of the Central Role of Trust," sets forth many propositions

that warrant further research. Among his points is the need to establish long-term infrastructure for authentication, including provision of a watermarking process, intellectual and economic support for the process, and the technological support necessary for management of digital objects. At the current time, this management process is being driven by the motivation for profit in the publishing industry, and this will not sustain the goals of archival preservation.

Finally, Jeff Rothenberg, a senior computer scientist at the Rand Corporation, writes in his essay, "Preserving Authentic Digital Information," that a "uniform technological approach" is necessary for the true authentication of digital objects. He accurately compares this concept with the Rosetta Stone, as it would provide translation capabilities borne through the commonality of validation. Urging cross-disciplinary communication and cooperation, Rothenberg builds a case for the establishment of a common authentication vocabulary.

These essays, read individually and as a whole, are provocative to anyone who has interests in publication, research, archives, copyright, and other aspects of information perpetuity. None is so technical as to be daunting nor so scholarly as to be obscure. This is, in fact, a remarkably clear-eyed and cohesive collection. Each essay is opinionated and compelling. The summary following the essays, written by Abby Smith, director of programs at CLIR, does a good job of identifying key issues that appear in the papers and that arose in discussions during the meeting. Her introduction also serves its purpose well. This collection can be recommended to all who are interested in this timely topic, as well as to students preparing to forge a career in the information world broadly defined.—*Tom Schneider, Harvard University.*

Douglass, John Aubrey. *The California Idea and American Higher Education, 1850 to the 1960 Master Plan.* Stanford, Calif.: Stanford Univ. Pr., 2000. 460p.

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Is there a distinctively "American" contribution to the development of higher education in the Western world? Beginning at least with Veysey's landmark study of *The Emergence of the American University* (1965), a number of scholars have suggested that there is. Douglass builds on Veysey's work, as well as that of more recent historians of higher education, including Levine and Geiger, to describe the evolution of public higher education in California as a reflection of American egalitarianism. He suggests that the "California Idea" is a model for building a broadly accessible system of high-quality institutions of higher education that eventually might be as influential on the world stage as was the German model of the research university more than a century ago.

For those unfamiliar with the subject, a short introduction is required. In its current form, public higher education in California is built on three systems: the California Community Colleges (CC), the California State University (CSU), and the University of California (UC). This tripartite system provides the youth of the state with unparalleled access to postsecondary education. Moreover, each type of institution occupies a specific niche within the system (with the UC system, for example, the only one authorized to independently grant the doctoral degree). Although the present arrangement is largely the result of the so-called master plan for higher education engineered by UC President Clark Kerr in 1960, Douglass argues that California had long been committed to coordinating a statewide system of complementary educational institutions. This commitment to both increase access to higher education and create high-quality institutions as part of "a logical and interconnected system" of public higher education is what Douglass refers to as the California Idea.

Douglass contrasts the California approach to public higher education with