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MAC

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PUBLICATION REVIEWS

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Archival Issues, a semiannual journal published by the Midwest Archives Conference since 1975, is concerned with the issues and problems confronting the contemporary archivist. The Editorial Board welcomes submissions related to current archival practice and theory, archival history, and aspects of related professions of interest to archivists (such as records management and conservation management). We encourage diversity of topics and points of view. We will consider submissions of a wide range of materials, including research articles, case studies, review essays, proceedings of seminars, and opinion pieces.

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THE GREEN ARCHIVIST: A PRIMER FOR ADOPTING AFFORDABLE, ENVIRONMENTALLY SUSTAINABLE, AND SOCIALLY RESPONSIBLE ARCHIVAL MANAGEMENT PRACTICES

BY HEIDI N. ABBEY

ABSTRACT: In the past forty years, research and publications in the library science and museum studies fields have illuminated the growing imperative of adopting green practices in cultural, educational, and public heritage institutions in the United States. These initiatives are part of a much broader and global issue known as environmental sustainability, or meeting the economic, environmental, social, and cultural needs of the present without compromising the same needs of future generations. Numerous books, articles, and professional organizations currently advocate for sustainable library and museum services and facilities, including green building construction and management, and ecologically-sensitive business operations. However, within the field of archival science, investigations have concentrated on facilities design and environmental control rather than on a holistic approach promoting simple, attainable, green initiatives that archivists can readily implement. This article examines the state of scholarship in these arenas and is further intended to broaden the scope of the green discussion within the archives community. It also offers a pragmatic framework of strategies and resources needed to incorporate more affordable, sustainable, and socially responsible archival management practices into the profession.

Introduction: Archivists and Sustainability

Archivists have long been progressive stewards of our society's cultural and intellectual heritage. As curators of artifacts, ephemera, manuscripts, records, and digital assets in various formats, archivists are deeply rooted in the theory and practice of preservation and care for the long-term needs of primary resources in their custody. The process of facilitating the survival, or sustainability, of the cultural record is at the very heart of what archivists do. It is a vital part of the *raison d'etre* of archival science. Archivists are thus naturally accustomed to thinking, throughout the archival management lifecycle, about the impact that their decisions will have upon the resources, people, and communities they serve now and in the future.

An integral aspect of this life cycle involves maintaining proper facilities and providing for consistent environmental controls to mitigate damage from lighting systems, and, most especially, rapid cycling, or fluctuations in temperature and humidity conditions. These factors, in turn, greatly affect outcomes for the short- and long-term preservation of primary resource collections. Considerable research has been published to guide archivists in planning new facilities and remodeling existing buildings and to ensure for the proper care of collections in accordance with established preservation guidelines.[1] However, managing buildings and their operational control systems is a complex and costly endeavor that puts a tremendous strain upon natural resources, including ever-increasing demands for energy sources. In fact, according to a recent study from the U. S. Energy Information Administration, buildings and their operations required the use of fossil fuels that consumed as much energy as the industry and transportation sectors combined and contributed almost half of the carbon emissions and greenhouse gases that are linked to global climate changes.[2]

Considering the financial and ecological impact of caring for primary resources on a global scale, it seems a worthwhile endeavor and in keeping with the basic tenants of the archival profession to consider the leadership role that archivists can fulfill with regard to these environmental issues. This article was inspired by the desire to explore this objective in greater detail, particularly after a review of the literature from both the library science and museum studies fields yielded extensive research on green strategies and best practices in libraries and museums—but not in archives. To be sure, over the past four decades, numerous cultural, educational, and public heritage organizations have increasingly embraced practices that are part of a much wider issue known as environmental sustainability, or meeting the social, environmental, economic, and cultural needs of the present without compromising the same needs of future generations. Numerous books, articles, and professional organizations have been advocating for the ongoing development of the "green library movement"[3] and "green museum movement,"[4] both of which champion sustainable facilities and services such as green building construction and management and ecologically-sensitive business operations.

However, within the field of archival science, research has concentrated on facilities design[5] and environmental control rather than on taking a holistic approach and promoting simple, attainable, green initiatives that archivists can readily implement in their repositories.[6] It could be argued that the existing body of guidelines developed by libraries and museums can be applied easily to the world of archives. Yet, while the professions are indeed allied, they are distinctly different. This perhaps calls for a separate sustainability framework and unique tools for archivists that are informed by and adapted from current best practices.

Aside from the limited scholarship on sustainability in archives, research for this article was further prompted by the adoption of the "Core Values of Archivists" by the Society of American Archivists (SAA) in May 2011, and greatly influenced by the recent work of author and museum studies scholar, Sarah Brophy. First, the language in SAA's "Core Values" document now includes a statement on social responsibility. This guiding principle serves as a reminder that archivists place a high value upon cultural heritage because it documents our collective memory, and that "underlying all of the professional activities of archivists is their responsibility to a variety of groups in society and to the public good."[7] When considered in conjunction with SAA's "Code of Ethics," which defines guidelines about professional relationships, judgment, authenticity, security and protection, access and use, privacy, and trust, the "Core Values" delineate the day-to-day activities of the profession. Second, incorporating social responsibility into this framework unites archivists with environmental sustainability because, as Sarah Brophy, co-author of *The Green Museum*, states, "Environmental sustainability is all about the public good. Environmentally-sustainable practices keep our institutions in sync with our communities' needs and concerns even as we fulfill our professional practice."[8]

The remainder of this article will summarize more of the work of Brophy and others on the history of sustainability within the context of the American environmental movement and will offer a discussion about research on the green library and green museum movements to date. This can subsequently be used as a basis for continuing the dialogue about sustainability in the archives community. It concludes with recommended strategies and resources that may be used to build a pragmatic framework for incorporating more affordable and socially responsible archival management practices into the profession.

Literature Review: Sustainability in Libraries, Museums, and Archives

Definitions and Context

Before discussing sustainable practices in libraries, museums, and archives, it is essential to define the terms "sustainability" and "green" as used throughout this article. They are often referenced interchangeably. Both concepts embrace worldwide ecological awareness that has become ubiquitous in contemporary American society. The environmentalist Dr. Sonya Newenhouse, founder of the Madison Environmental Group in Wisconsin, defines sustainability as "…living a beautiful, meaningful life that respects people and leaves the planet a better place for the generations that follow."[9] This is a very simple and broad definition, approachable for the layman and expert alike.

However, the most frequently-cited and earliest definition of sustainability was first used in the 1987 report, "Our Common Future," by the United Nations' World Commission on Environment and Development (WCED). Chaired by Former Prime Minister of Norway Gro Harlem Brundtland, the WCED is more commonly referred to as the "Brundtland Commission." It described sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[10] This definition is intrinsically linked to the human experience and the natural environment and has been applied within numerous industries and fields of study, including agriculture, architecture, business, ecology, engineering, economic development, design, forestry, manufacturing, and tourism.

Furthermore, sustainability is commonly parsed into three ideological pillars: social, environmental, and economic. This tripartite aspect of sustainability is often referred to as the "triple bottom line,"[11] "TBL," or "3BL," and advocates for businesses and other organizations to function in a way that considers positive outcomes for "people, planet, and profit."[12] For an organization to conduct its affairs in a sustainable manner, success must be measured against not only income, but also against impact upon a community, or society at large, and the natural environment.

Within the sustainability literature, the term "green" also appears regularly. In general, it describes numerous products and behaviors that do not harm the environment. The term "sustainability" is more holistic and encompasses green practices and processes.[13] Thus, being green is part of sustainability and involves reducing the consumption of non-renewable resources, reusing materials, and recycling. With this cursory understanding of sustainability and greener approaches to development, it is now possible to view the evolution of sustainable libraries, museums, and archives within a much broader context.

From Greener Living to Greener Libraries

Environmental sustainability, green business practices, and eco-friendly processes are not twenty-first century phenomena. These concepts have their roots in the American environmental movement,[14] which began in the early nineteenth-century. The work of well-known naturalists and writers, such as John Muir (1838-1913) and Henry David Thoreau (1817-1862), ushered in the first wave of environmentalism, which focused on natural resource conservation and man's responsibility to nature. By the mid-twentieth century, the second wave of environmentalism took hold and is exemplified by the book *Silent Spring*, written by noted biologist Rachel Carson. Released in 1962, the book highlighted the indiscriminate use of the agricultural insecticide DDT and its long-term effects on birds, people, and ecosystems. In June 1969, Americans witnessed the burning of the Cuyahoga River in Cleveland, Ohio, which became a symbol of the nation's water and air pollution problems. On April 22, 1970, the first Earth Day was celebrated, and several months later, the establishment of the U.S. Environmental Protection Agency brought 1970, the "year of the environment,"[15] to a close. Widespread litigation, legislation, regulations, and militant activism were commonplace during the 1970s and mid-1980s, leading up to the third wave of the environmental movement in the United States that has been characterized by a desire to move beyond exposing society's environmental problems and to focus instead on finding solutions for them.

These pivotal events have contributed towards an ever-growing eco-consciousness that is now closely intertwined with greener living as a whole. Responsible environmental stewardship practices exist for everything from architecture, agriculture, and business, to the hotel and convention industries and trade show exhibit design and construction. Advice on adhering to a green lifestyle bombards American consumers on their trips to the grocery store or local bookshop. For example, there are numerous popular magazines dedicated to living sustainably, such as *Kiwi: Growing Families the Natural and Organic Way,* Martha Stewart's *Whole Living*, and *Mother Earth News: The Original Guide to Living Wisely,* which has been published continuously in the U.S. since 1970. In terms of earth-friendly products, the green consumer has more choices now than ever before. It is possible to buy everything from a jar of gluten-free, soy-free, dairy-free, certified organic mustard packaged in recycled plastic to a mattress made from locally-sourced wool and organic cotton. Given the expanding green marketplace and the power of the modern consumer to demand environmentally-friendly, fair trade, non-genetically-modified foods and other goods, it is not surprising that concern about the "triple bottom line" and greener business practices eventually took hold in cultural heritage institutions such as libraries and museums.

"The Green Library Movement"

After examining the library and museum studies literature spanning the past four decades, it is evident that the library community took the lead in thinking green and putting sustainability theories into practice. Beginning in the late 1960s, two professional library organizations, the Special Libraries Association (SLA) and the American Library Association (ALA), responded to concerns about widespread misuse of natural resources and pollution in the United States. SLA led the way as early as 1968 with the formation of the SLA Natural Resources Division, and, in 1976, with the SLA Environmental Information Division.[16] Within ALA, the Social Responsibilities Round Table created the Task Force on the Environment (TFOE) in 1989. TFOE was established for the purpose of advocating for environmental sustainability issues and awareness within the profession.[17] The Library Leadership & Management Association division within ALA has also been a strong advocate for sustainable libraries, from fundraising to facilities design, since the 1990s.[18]

However, comprehensive literature reviews about green libraries were not published until Monika Antonelli's work appeared in the *Electronic Green Journal* in 2008,[19] and, more recently, Maria A. Jankowska and James W. Marcum's research was published in *College & Research Libraries* in 2010.[20] The authors' findings in each of these studies confirm that the growing ecological awareness among librarians started to emerge in the library literature of the early 1990s. In "The Green Library Movement: An Overview and Beyond," Antonelli credits the *Wilson Library Bulletin* for publishing, as early as February 1991, articles centered on the topic of "Libraries and the Environment." In this special issue, authors James and Suzanne LaRue wrote perhaps the first article dedicated to eco-librarianship, "The Green Librarian." It specifically discusses and was clearly influenced by the controversial "Gaia hypothesis,"[21] which was introduced in 1979 by British environmentalist and scientist James Lovelock. In *Gaia: A New Look at Life on Earth*, Lovelock purported that the Earth is a "…carefully interconnected, self-regulating cybernetic 'super organism' in which life creates and maintains the condition for life,"[22] and, accordingly, promoted the urgency of addressing environmental and resource conservation issues. Consequently, "The Green Librarian" reads like a manifesto for those aspiring to become green librarians in both personal and professional capacities, complete with advice that is still relevant today:

> At home, Green Librarians take steps to cut back on their trash….They use cloth or paper bags instead of plastic bags. They bicycle or walk or take the bus or carpool to work….At work, Green Librarians seek and use ecologically sound alternatives to many common, wasteful, and/or dangerous products. They try to improve the 'health' of the buildings

> where they work….Some Green Librarians specialize in providing information to others about ecological concerns.[23]

Antonelli's analysis of green library initiatives of the 1990s and 2000s provides a basis for understanding just how far the library community has evolved as a sustainability leader. Her ideas are further expanded upon in Jankowska and Marcum's work "Sustainability Challenge for Academic Libraries: Planning for the Future" in *College & Research Libraries*, which focuses on environmental stewardship for the academic library community. Their review of the library literature categorizes research on the green library movement into four distinct topics: sustainability of scholarly communication, including digital and print collections; green library operations and practices; green library facilities; and, finally, measuring and improving sustainability.[24] Jankowska and Marcum argue not only for greener library spaces, but also for greener library strategies that integrate ecologically-friendly practices into a "platform for guiding future decisions about collections, library buildings, and the scale of preservation, digitalization, equipment, products, and library networking service efforts."[25] Additionally, Jankowska and Marcum's work stresses the importance of recognizing libraries as "environmental consumers."[26] They elaborate upon the amount of waste generated and natural resources consumed by library buildings, staff, and patrons every day. Reducing, reusing, and recycling alone do not reduce a library's ecological impact. Instead, Jankowska and Marcum call for strategies that outline indicators and metrics to address the three common pillars of sustainability—society, environment, and economy. The authors argue that data from such analysis could then be used to determine a library's ecological footprint, which in turn provide a basis for decisions about future operations and services, planning, and organizational sustainability.

The aforementioned comprehensive literature reviews aside, scholarship on ecologically-sensitive librarianship continued to appear regularly in prominent magazines and journals for the field throughout the first two decades of the twenty-first century. Numerous articles on green librarianship and the construction of Earth-friendly library buildings were published in *College & Research Libraries News*, *American Libraries*, and, especially, in *Library Journal*[27] between 2001 and 2010. The year 2008[28] was a particularly seminal one for environmental sustainability in the library literature as there was a notable surge of articles about green facilities and library operations in these publications.[29] Most recently, the topic of eco-friendly librarianship has expanded even further to include greener collection development practices and passive solar designs for facilities.[30]

A shift from short articles to entire books took place in 2009 when Sam McBane Mulford and Ned A. Himmel published the first extensive, green librarianship primer, *How Green is My Library?* In the spring of 2010, Kathryn Miller authored the first green public librarianship guidebook, *Public Libraries Going Green*. These publications are perhaps reflections of the demand for more solution-oriented and comprehensive resources on this ever-expanding topic, and, indeed, a maturation of the green library movement.

Mulford and Himmel's book is written for librarians and library staff, public administrators, facilities managers, and anyone else who wishes to embrace being green. It offers readers a guide that is both practical yet extensive in scope. The book also provides an introduction to terms commonly used in the sustainability literature, such as "alternative energy," "ecological footprint," "LEED" (Leadership in Energy and Environmental Design), and "renewable energies."[31] One of the most useful sections in *How Green is My Library?* is the "Preliminary Green Assessment Checklist,"[32] which serves as an introduction to embracing greener library practices. The checklist can measure and assess how well a library adheres to environmentally-friendly standards and best practices, including water and energy efficiency, use of sustainable materials and resources, improved indoor air quality, and innovations in operations and design. Another valuable contribution in the book is the detailed explanation of the LEED Rating System and certification program. LEED was created in 2000 by the U.S. Green Building Council and serves as a benchmark for designing, constructing and/or renovating, and maintaining green buildings. It consists of requirements and a points system that are used to establish whether a building meets specific criteria.

The last section of *How Green is My Library?* includes a range of pragmatic, cost-effective suggestions on applying green methods every day such as: adopting sustainable horticulture and integrated pest management practices for a library's site and landscaping; living closer to work and/or supporting alternative transportation like carpooling or ridesharing; using less plastic; buying eco-friendly hardware; buying locally and buying in bulk; reducing, reusing, and recycling whenever possible; and engaging with teachers and activists in the library's community to promote sustainability awareness through educational programming. The authors present numerous ideas, some of which are simple and inexpensive, while others like LEED certification require considerable time, expertise, and funding.

Following the release of Mulford and Himmel's book, Kathryn Miller's *Public Libraries Going Green* specifically targets an audience of public libraries. It contains a wealth of practical information such as the codes established by the Society of the Plastics Industry that are essential for determining recyclable plastics. Miller's work also promotes the public library as a potential environmental leader and educator.[33] In fulfilling the public library's role as a green teacher, Miller references the report "Environmental Literacy in America,"[34] which was issued in 2005 by the National Environmental Education & Training Foundation (NEETF). The report outlines goals to increase environmental literacy throughout the U. S. and sheds new light on the lack of comprehensive environmental knowledge and programming in our country. According to the report, 80 percent of Americans surveyed were still influenced by incorrect or invalid environmental myths; and just 12 percent of Americans could successfully answer a quiz that measured awareness about energy issues.[35] These sobering statistics serve as a wake-up call that more work and education are needed to create a culture of environmental sustainability. Thus, Miller advocates for public libraries to contribute to environmental literacy goals by using the age-old concept of leading by example: make the library a green space, provide green services, and teach about green topics.

"The Green Museum Movement"

Over the past forty years, libraries throughout the U.S. have not been working alone as ambassadors for environmental sustainability. Many progressive museum professionals concerned about diminishing natural resources and declining biodiversity started to propel a different green movement in the 1970s. However, unlike the thorough documentation on the green library movement, a comprehensive literature review about museums and environmental sustainability in America does not yet exist.[36] The following is an overview of the discussion in the museum studies literature.

While the library profession was an early proponent of environmental activism and education during the late 1960s, cultural heritage experts did not start to build a foundation for their own green revolution until decades later. Furthermore, professional museum organizations, such as the American Alliance of Museums (AAM, formerly known as the American Association of Museums) and the Association of Zoos and Aquariums (AZA), did not take the lead in eco-awareness initiatives. Instead, it is widely accepted that practical efforts to go green in America began within zoological organizations and children's museums.[37] This is not surprising, given the ecological advocacy and wildlife conservation role that zoos typically serve and the educational mission that all museums aim to fulfill. Also, children's museums have health and safety imperatives to protect their youngest and most vulnerable visitors from pesticides, indoor air pollutants, and other harmful chemicals.

One of the earliest examples of efforts to embrace environmental sustainability and educate the public about recycling was a creative program for children known as "The Recycle Shop." Developed by the Boston Children's Museum in 1970,[38] this part of the museum featured donated materials from local manufacturers that would otherwise have found their way into a landfill. For a few dollars, museum visitors could fill a bag with recycled items to be used later in arts and crafts projects. The program has been wildly popular with children, parents, and teachers for forty years and illustrates the fact that museums can promote environmental awareness in a way that is simultaneously educational, positive, and fun.

In addition to programming exemplified by The Recycle Shop, discussions about ecological problems, social responsibility, and the pivotal role that cultural institutions can fill were first mentioned by museum theorists in the early 1970s.[39] However, it was not until twenty years later that the term "sustainability" formally appeared in professional museum publications in the United States. To understand this development, it is important to realize that the 1990s were marked by extreme self-reflection among public heritage organizations, with new ideas and questions about the culture, history, identity, theory, and politics of museums—a new museology[40]—and a strong movement away from object-centered practices towards more user-focused services and collections. This has been described by noted museum studies scholar Stephen E. Weil as a paradigm shift. Weil wrote prolifically about the future of museums and the "inseparability of the museum's interpretive and exhibition functions."[41] He argued that museums should focus on three, key institutional responsibilities, including preservation, research and study, and communication through interpretation and exhibition.

Amidst this theoretical paradigm shift in the 1990s, museum studies scholars began to address growing concerns about proactive engagement with social issues and community needs. This may have been part of the growing trend towards environmental sustainability worldwide. But it also may have been influenced by UNESCO's pivotal publication, "Our Creative Diversity: Report of the World Commission on Culture and Development,"[42] which was released in 1995. The report called for an expansion of the social, environmental, and economic sustainability factors discussed previously, and included a vital fourth factor consisting of cultural values and beliefs that ultimately influence whether or not society will develop, protect, and manage resources in a sustainable way. Two examples of this emerging trend in the museum studies literature were published by Tereza C. Schenier[43] in 1997 and Douglas Worts[44] in 1998. Both authors strongly advocated for museum professionals to incorporate sustainable development into their institution's identity in order to remain relevant into the next century.

During the first decade of the twenty-first century, Worts and other museum studies scholars, such as Sarah S. Brophy, Elizabeth Wylie, and Glenn C. Sutter,[45] contributed significantly to the body of research on sustainability topics and propelled the green museum movement forward. Their work and that of other green museum pioneers resulted in the publication of numerous articles on how to build environmentally-friendly facilities and how to include socially-responsible practices in day-to-day museum operations. Green museums were a popular topic in notable sources like *Hand to Hand: Association of Children's Museum Quarterly*,[46] *Museum News*,[47] and *Museums & Social Issues: A Journal of Reflective Discourse*.[48]

Developing concurrently with the above publications, professional organizations such as the AAM, the AZA, and the California Association of Museums (CAM) launched initiatives to create best green practices, including national conferences featuring green sessions and presentations, listservs, and special interest groups to further the ongoing development and application of sustainability projects within museums. For example, as early as 2002, the AZA established Green SAG, the "Green Practices Scientific Advisory Group,"[49] which has an active "Green Practices Listserv" that focuses on reducing an individual's or an organization's environmental footprint. In 2006, CAM established itself as an early sustainability ambassador for the museum profession by creating the "Green Museums Initiative" and corresponding committee to "inspire California museums to develop green business practices, eco-friendly facility management, and sustainable programming."[50]

In 2008, paralleling the publication trends revealed in the literature review of the green library movement, discussions about ecologically-friendly museum practices moved from the realm of articles and dialogues to the first, comprehensive book on the topic of museum sustainability, *The Green Museum: A Primer on Environmental Practice*. Co-authored by green museum gurus Sarah S. Brophy and Elizabeth Wylie, *The Green Museum* provides a thorough introduction to green practices for the profession. The book addresses sustainability concepts, green metrics such as energy audits and LEED certification, green education, and a selection of funding sources for green initiatives. To discourage readers from feeling overwhelmed by the complexity of going green, Brophy and Wylie in the "Afterword" end their green primer on a positive note by sharing, in the spirit of collaboration, the following expert and candid advice:

> Practicing environmental sustainability is complicated, evolving, and conditional. *Complication* comes from the omnipresence of the environment: one part affects another, and another, and another. That is why synergy…is so important. *Evolving* comes from increased demand and improved ability to respond to that demand. Not only are there more solutions, but there are more choices within solutions. *Conditional* is

> because each museum, and each site, is different. Much of what you decide will depend upon your particular environment. That is why it is so important to embrace the evolutionary process, and to share our knowledge and experience to help one another (not just among museums but in our local, regional, national, and global communities).[51]

Considering the pace with which the environmental sustainability field is evolving, information and resources found in *The Green Museum* are complemented by Sarah Brophy's "Green Museums Wiki" (http://greenmuseums.wetpaint.com/), created in 2008, and the "Sustainable Museums Blog" (http://sustainablemuseums.blogspot.com/), which was first launched in 2010. A thought-provoking and popular post on Brophy's "Sustainable Museums Blog" from May 18, 2010, concerns the ideological components of sustainability and how they can be reframed for the museum community as the "quadruple bottom line"[52] or "QBL." In her post, Brophy astutely draws a valuable comparison between the four tenants of sustainability—social, environmental, economic, and cultural—and the modified tenants of sustainability as applied in a cultural heritage organization—people, planet, profit, and program. In other words, for a museum to operate in an environmentally sustainable way, success must always be gauged against the impact upon and consideration for human, natural, and fiscal resources, as well as whether or not decisions support or impede the primary mission, values, and programming of the institution. A simpler way of expressing this is: People plus planet plus profit plus program equals progress towards defined sustainability objectives.

With regard to Brophy's comments on the importance of mission and values in the sustainability equation, nothing is more central to the educational mission of a museum than exhibitions and other forms of outreach. Libraries and archives often develop exhibits as well, but not to the extent typically seen in the museum community. This is a distinctive aspect of the green museum movement that warrants additional discussion because the exhibit life cycle has an enormous ecological impact. Consider, for example, all of the materials traditionally used in the development and assembly of a single museum exhibit: glues, plastics, paints, synthetic floor coverings, and pressure-treated wood are but a few. Many of these items are highly toxic for people, especially children, the elderly, and museum employees in close contact with them every day. They are damaging to the planet too, as they "off gas," or emit harmful chemicals into the air. They are wasteful if discarded, and consequently contribute to overflowing landfills across the country.

Extensive research and the development of best practices on green exhibits have been undertaken most notably by the Madison Children's Museum in Madison, Wisconsin. An early leader in the field of museum sustainability since 1998, the museum created the Web site Greenexhibits.org in 2005 to "provide museum exhibit designers and fabricators a resource for designing and building exhibits and environments that best support healthy spaces and a healthier future for kids and the environment."[53] The Web site includes a green checklist that can be used throughout the life cycle of an exhibition with the principal goals of reducing or eliminating toxins and waste.

Building upon the work of the Madison Children's Museum, the Oregon Museum of Science and Industry (OMSI), located in Portland, Oregon, created a much-needed industry tool that rates an exhibit's environmental sustainability. Launched in June 2008 and known as the "Green Exhibit Certification" tool,[54] the OMSI model was influenced heavily by the LEED rating and certification system used in the green building industry. Like LEED, the OMSI model comprises a checklist and points and rating system. However, OMSI is used to benchmark eight different exhibition design elements, including: the use of renewable materials; the potential for reuse of materials; the extent of recycled materials used; an end-life assessment, or a determination of materials that can be either reused or recycled; the use of low-emitting materials to reduce the impact of volatile organic compounds (VOCs) that negatively affect the environment and indoor air quality; the use of wood that is certified by the Forest Stewardship Council, also known as "waste neutral" wood products; the incorporation of energy efficiencies and conservation; and the use of regional or locally-sourced materials.

Although the extent to which museums use the "Green Exhibit Certification" checklist is currently unclear, OMSI has been making progress towards advocating for its widespread adoption and implementation throughout the museum profession. For example, in September 2009, OMSI was awarded a $2.3 million dollar grant from the National Science Foundation, "Promoting Sustainable Decision Making in Informal Education,"[55] which will fund a public exhibition on the topic of sustainable living as well as the ongoing development of the "Green Exhibit Certification" tool that is now referred to as the "Green Exhibit Checklist (GEC), Version II." The five-year grant will enable OMSI to revise and re-launch the tool and current website, "exhibitSEED,"[56] as well as host GEC workshops across the country for museum professionals interested in learning how to use the model to create more sustainable exhibitions. To encourage feedback from leading sustainability experts in the science and public heritage communities, and to pursue adoption of the model as a museum industry standard, OMSI is collaborating with numerous organizations and industry experts, such as the AAM, the Association of Children's Museums, and the Association of Science-Technology Centers.[57]

Beyond Green Libraries and Museums: Green Archives?

The previous literature reviews offer an examination of the American green library and green museum movements, which followed similar historical trajectories in that they both originated in the "year of the environment" in 1970. Both seem to have reached a peak in popularity around 2008, when a concentration of articles were published in magazines and journals, followed shortly thereafter by books for each respective profession. This literature of the library and museum fields is instrumental in highlighting our collective understanding of environmental sustainability, both in theory and in practice. The resources available about this topic are extensive. They are complicated and interdisciplinary in scope, reflecting an integration of knowledge, information, and perspectives that derive from and are shaped by various intellectual spheres, including the business, economic, and industry sectors (e.g., "triple bottom line," assessment, and metrics), the environmental and resource sciences (e.g., biodiversity, conservation, ecology, energy, global warming, pollution, waste management), and the humanities and social sciences (e.g., cultural and public heritage institutions such as libraries, museums, and the education field). A synthesis of key findings from these green movements confirms that libraries and museums are significant environmental consumers because of their energy-draining facilities, and the creation of resource-intensive exhibitions that generate unnecessary waste and harmful pollutants. Both communities, however, have been making significant strides to improve their sustainability efforts since the 1970s, and, in essence, take on new roles as environmental educators and leaders in the 1990s and 2000s.

Missing from these discussions, however, is another vital link to the sustainability of our cultural heritage: archival repositories, the primary sources that are contained within them, and the archivists who steward them. Similar to libraries and museums, archives strive to facilitate access to and preserve physical and intellectual resources; educate and positively engage with diverse user groups and stakeholders via exhibitions and other outreach programs; uphold intellectual freedoms; and operate within a framework of ethical and socially-responsible guidelines. Archives, like libraries and museums, are major environmental consumers, continually challenged to balance the preservation needs of collections against the fiscal, human, and environmental resources to manage them efficiently and effectively.

Consequently, many questions arise for the archives profession when reflecting upon the sustainability successes that libraries and museums have already achieved. For example, have the professional ethics, values, and practices of archival science been influenced by the American environmental movement? If so, how and when did the changes occur? What guidelines are in place to help archivists better understand and embrace sustainability objectives—for facilities and for the day-to-day management of archival collections and services—in a holistic and systematic way? What can current and future archivists do to become more effective environmental educators and leaders? And finally, what can professional archives organizations, such as the SAA, the Midwest Archives Conference (MAC), or the Mid-Atlantic Regional Archives Conference (MARAC), do to support environmental sustainability initiatives for the community of archivists in the United States? The remainder of this article will examine these questions and summarize the extent to which the archival science profession has mirrored societal concerns and activism for the natural environment.

First, within the published research on archival theory and practice, a review of the literature reveals the following: a comprehensive study about sustainability does not yet exist in the archival science literature; studies about or related to environmental research, sustainability, or green archives have appeared in limited numbers and with a narrow scope over the past several decades; and among sustainability-related publications for the profession, the majority concentrate on facilities design and environmental control.[58] Second, while formal scholarship on archives and sustainability has been limited, it would be erroneous to conclude that archivists have ignored environmental issues altogether. However, without formal documentation of green efforts, it is difficult to determine the extent to which eco-friendly practices may have been adopted by different archives. This is an area of research that warrants future exploration and could be accomplished by conducting a survey of repositories across the country.

Lacking the availability of studies that trace environmental sustainability initiatives in archives, it appears that the first reference to greener archives was published in the early 1990s with the work of Sandra Rowoldt,[59] who advocated for the use of architectural design principles rather than costly HVAC systems in the face of declining natural resources and rising energy costs. Rowoldt's environmentally-sustainable approach to archival facilities design is based upon the Stehkämper[60] model from the early 1970s, which called for architectural (passive) rather than artificial (aggressive) means to reduce a building's heat gain in the summer and increase its heat retention in the winter.

In addition to green building design, environmental research and its intersection with archives can be traced back to Todd Welch's article "'Green' Archivism: The Archival Response to Environmental Research,"[61] which appeared in *American Archivist* during the spring of 1999. This article, while not directly focused on environmental stewardship by the profession, is important because it echoes the growing interest in collecting primary resources about environmental issues during the late 1990s, and serves as a wake-up call for archivists to recognize that "concern about the environment affects everyone and promises to remain a crucial issue into the foreseeable future."[62] Unfortunately, publications on topics related to sustainability, even in the broadest sense, do not appear again in the archival science literature until the next decade.

In 2005, Mark A. Greene and Dennis Meissner published their treatise "More Product, Less Process: Revamping Traditional Archival Processing,"[63] now more commonly-known as "MPLP." When viewed through a sustainability lens with specific consideration for the principles of the "quadruple bottom line," it could be argued that MPLP is a green approach not only to processing, but also to appraisal. The MPLP method first grew out of a desire to rethink the continual problem of processing backlogs in many repositories and better meet the needs of users who desired at least minimal access to previously-unavailable collections. MPLP also advocates for using "the least number of necessary processing steps when readying an unprocessed collection for use by researchers."[64] As stated by Greene himself:

> The general principles of MPLP derive from fundamental statements about the archival enterprise, namely that 'use is the end of archival effort,' that substantial backlogs of collections not only hinder use but threaten repositories by undermining confidence of both resource allocators and donors; that in making processing decisions archivists should consider—not the traditions of the past—but the mission, audience, and resources of the present.[65]

When managing the day-to-day activities of a repository with MPLP as a guiding principle, archivists are, in effect, balancing the sustainability equation or the "quadruple bottom line": people ("resource allocators and donors," and "audience"), planet ("resources of the present" and the future), profit (cost-effective use of staffing and resources), and program ("mission" and "resources"). Additionally, because MPLP argues for a user-centered approach to processing, it more closely aligns archivists with the needs of researchers. This is another critical aspect of sustainability in practice.

Not long after MPLP rocked the profession and changed the way many archivists carry out the appraisal process, a flurry of publications, initiatives within SAA, and leadership at the National Archives and Records Administration put a spotlight on growing interest in the topic of archival sustainability between 2006 and 2012. In

November 2006, the SAA charged a "Task Force on Archival Facilities" to create and publish guidelines for the design and construction of new and remodeled repositories. Although the recommendations to the Task Force did not specifically include sustainability as an objective, this first step by SAA to codify best practices for archival facilities speaks to the recognition that national standards are needed if archivists are to become more effective and socially-responsible stewards of public heritage in the twenty-first century. While the work of this important task force continued over the next several years,[66] articles on more environmentally-friendly alternatives to traditional, archival climate control[67] and green construction[68] appeared in the professional literature in 2008.

The following year (August 2009), the theme of the SAA annual meeting in Austin, Texas, was "Sustainable Archives." The conference offered numerous presentations by leading archivists about sustainable practices for digitization, records management, and preservation. Also, in October 2009, the U.S. Federal Government enacted "Executive Order 13514 on Federal Leadership in Environmental, Energy, and Economic Performance," which calls for all Federal agencies, including the National Archives and Records Administration, to "reduce greenhouse gas pollution, eliminate waste, improve energy and water performance, and leverage Federal purchasing power to support innovation and entrepreneurship."[69] Most recently, in May 2011, SAA adopted the "Core Values of Archivists" that includes a statement on social responsibility. This will hopefully guide the profession towards a more sustainable future.

Beyond these initiatives, a continued dialogue is needed to more fully develop environmentally-friendly guidelines and best practices for archivists. To date, only one new publication has appeared in the literature that examines this topic: Mark Wolfe's "Beyond 'Green Buildings:' Exploring the Effects of Jevons' Paradox on the Sustainability of Archival Practices,"[70] which appeared in the journal *Archival Science* this year. Wolfe advocates that we, as a profession, develop and refine sustainable archival practices that will complement eco-friendly repository design. In his view, "the age of abundance," as coined by Gerald Ham, has brought about "the exponential growth in the number of records [which] poses internal risks to the sustainability of repositories."[71] He demonstrates how the advent of the personal computer had the paradoxical effect of increasing the production of paper documents, instead of leading to the "paperless office," as predicted by business gurus at the time. In response to the dilemma of bulky collections, Wolfe highlights two efficient methods of archival processing, MPLP and "postcustodial practices," that might help archivists to sustainably manage our modern collections. Wolfe does not claim to have solved the sustainability challenge for archivists. He hastens to add, however, that if efficient archival practices are not adopted with care, these newly-found efficiencies in processing can have a reverse effect, leading to Jevons' Paradox, or an increase rather than a decrease in the use of physical resources (archival facilities), human resources (staff to process and preserve collections), and fiscal resources (budgets to pay for additional space, collections processing, and management).

As this literature review and chronicle of sustainability initiatives suggests, it is evident that a movement to embrace environmental stewardship in archival theory and in practice has been growing steadily over the past several years. But it has not yet reached a level of maturity, nor has it progressed as far as the green library or green museum movements. The body of published scholarship and guidelines on this topic is limited in scope, and a comprehensive resource to specifically guide archivists on greener paths does not exist. However, given the importance of worldwide environmental crises, it is now possible to outline theoretical strategies and practical resources that could be used to stimulate a sustainability dialogue among archivists.

Sustainability Framework and Tools: Practical Initiatives and Resources for Archivists

If archivists are going to go greener and strategize about more than eco-friendly buildings, there is already a wealth of best practices from other disciplines that can be adapted for archival science. The following discussion is offered as a primer to assist archivists with establishing an environmental sustainability program, and consists of a theoretical framework within which there are five sequential steps and related tools to accomplish it: evaluate, create and innovate, collaborate, educate, and re-evaluate.

Evaluate: Archives as Environmental Consumers

Before embarking on any sustainability program or project, the first recommended step is to conduct a formal assessment that evaluates the extent to which an archival repository is functioning as an environmental consumer. In other words, consider the questions, "How green is your archives?" and "How much of an impact (negative and positive) is your archives having upon the environment?"

One way to answer these questions, and assess an organization's sustainable design and operations is to use what Mulford and Himmel describe as a "comprehensive energy audit."[72] Typically, this includes an assessment of compliance with industry-specific regulations, as well as data collection about "energy and water use, emissions, waste management, indoor air quality, pollution avoidance and prevention, and products, materials, and services sourcing."[73] This diagnostic tool, while valuable for ascertaining green benchmarks, can be costly and often requires the expertise of a professional sustainability or energy consultant. If hiring a specialist is too cost-prohibitive, utility companies may offer their assistance for little to no fee. Mulford and Himmel also created the "Preliminary Green Assessment Checklist," which can be used as a measurement tool at the outset of any sustainability program. An even simpler test that measures an institution's primary carbon footprint, or the amount of carbon dioxide or greenhouse gases that are produced, can be determined by using a number of free carbon footprint calculators available on-line.[74]

Create and Innovate: Archives as Environmental Leaders

Armed with either basic or exhaustive data about a repository's green performance, the next step in building a sustainability framework requires environmental leadership and development of a strategic or action plan with a mission (i.e., purpose: what your organization does, for whom, and why), a vision (i.e., aspirations: what you want your organization to become), as well as long- and short-term goals and strategies for achieving the desired goals. It follows, then, that one of the first goals in an archives' strategic plan would be to create an environmental sustainability policy and standards by which goals can be measured. The standards or factors used to gauge success might be the "triple bottom line" (social, environmental, and economic factors), or the "quadruple bottom line" (people, planet, profit, and program) that considers the archival programs and collections housed in a repository. A strategic plan for sustainability can incorporate numerous topics, including, but not limited to, the following categories and examples:

Table 1:

Sustainability Categories (Goals and Objectives)	Sustainability Examples (Strategies and Outcomes)
Green Strategic Planning	Draft an environmental sustainability policy and standards; create a culture of sustainability through green consulting; continuing education, outreach, and advocacy
Green Assessment	Conduct energy audits, calculate carbon footprint, and work towards LEED certification for archival facilities
Green Facilities	Design new facilities and/or renovations that adhere to SAA-approved guidelines and best practices
Energy Efficiency and Energy Conservation	Implement preventative maintenance schedules for building management equipment; utilize efficient building management systems, HVAC systems, Energy Star® products and appliances; replace CFLs (compact fluorescent lighting) with more efficient LEDs[75]
Solid Waste Reduction and Recycling	Reduce, reuse, recycle; buy more green, non-toxic, and recycled products, including office supplies and cleaning products; reduce the use of disposable gloves and buy cotton gloves that can be washed and reused
Water Conservation	Monitor water use in facilities, check and repair leaks in plumbing, install water-efficient fixtures; mulch non-turf areas; use drought-tolerant, native plants in landscaping
Pollution Prevention	Reduce the use of toxic chemicals and products and/or replace them with safer alternatives; recycle hazardous universal waste such as fluorescent lighting, E-waste, or electronic equipment such as computers and batteries; paint with low to no VOCs (volatile organic compounds); add indoor plants to office areas to filter air; encourage green transportation, carpooling, and offer telecommuting as an option to employees

Sustainability Categories (Goals and Objectives)	Sustainability Examples (Strategies and Outcomes)
Green Collections Management	Purchase polyester label holders and reusable inserts for archival boxes; when digitizing materials, scan once for multiple purposes; when selecting archival supplies, consider buying from local vendors, if possible
Green Education and Outreach	Create a culture of sustainability by forming a local "green committee" composed of staff charged to investigate sustainability issues; create green programming to promote environmental literacy (e.g., water and energy conservation) for employees and the public; develop a "green practices toolbox" and work with green consultants to conduct energy audits; buy recycled promotional items such as pencils, and print promotional materials with vegetable or low-VOC inks
Green Exhibition Design	Implement and adhere to guidelines and best practices established by the OMSI "Green Exhibit Checklist, Version II"

The items compiled in Table 1 represent only a small sampling of possible green initiatives that have applicability for the archives profession. Some sustainability goals, such as the design and construction of a LEED-certified repository, can be extremely costly, while others, such as developing a "green committee" and buying less toxic cleaning products, do not require significant funding at all. Many, if not most, of these goals and objectives involve a change in perspective and a greener mindset that thinks and acts more sustainably.

Collaborate: Archives as Environmental Partners

With a baseline of data on existing green performance measurements and a plan of action or formal strategic goals in place, the third step towards building a sustainability framework necessitates collaboration and building partnerships with other green professions and experts. This involves working with others across various disciplines to achieve a successful balance between the now-familiar elements of "people, planet, profit, and program."

Since archival facilities have perhaps the largest environmental impact in the "quadruple bottom line," it follows that any sustainability program will be enhanced by communicating closely with utility companies, hiring an energy consultant, and, if you are lucky enough to have your own utilities supervisor on staff, collaborating frequently with HVAC and building management technicians. For example, facility preventative and routine maintenance schedules not only save energy, but also money. Regularly changing filters, belts, and valves, and inspecting the general quality of equipment needed to maintain your archival facility can prevent costly repairs and damage to your building and collections, and make the environment safer and healthier for employees and the public.

To address pest problems that sometimes occur in facilities, archives could consider seeking out greener solutions with the assistance of experts in the field of Integrated Pest Management (IPM), which is a more holistic and environmentally-sustainable approach to insect control. IPM practitioners use common-sense methods to reduce the use of chemical pesticides through continuous monitoring and education.

Finally, archival organizations might partner with local businesses to purchase green office supplies and materials, and collaborate with local historical societies, museums, and/or other public heritage organizations to develop green exhibits or environmental literacy programming that benefit a variety of community stakeholders and users. There is an entire industry of green products and vendors that can supply everything from recycled paper and plastic goods to reclaimed and repurposed compact shelving[76] for library and archival facilities.

Educate: Archives as Environmental Educators and Sustainability Ambassadors

In addition to serving as environmental leaders and partners in this recommended theoretical framework, archives, like libraries and museums, have the opportunity to become sustainability ambassadors and fulfill an important educational mission by contributing to environmental literacy initiatives locally, nationally, and worldwide. Creating a culture of sustainability within a single repository can begin with one archivist advocating for the purchase of green cleaning products. But if ecologically-responsible strategies are to grow into a green archives movement, the assistance of leaders from the Society of American Archivists and other professional organizations is needed to propel the movement forward and advocate for wide adoption. Paralleling the work of SLA, ALA, and AAM, the Society of American Archivists could build upon the already-adopted social responsibility element now in the "Core Values of Archivists" and create additional benchmarks, indicators, and guidelines for adhering to sustainable practices. A green task force, similar to the one created in 2006 that researched and developed standards for archival facilities, could be charged to carry out this mission.

Re-evaluate: Archives as an Ecosystem

The final element in the proposed sustainability framework for archival repositories calls for a re-evaluation of the program and its initiatives. Like any successful project, an assessment phase that includes gathering formal and informal feedback; determining accomplishments, failures, and lessons learned; and capturing ideas for future improvements is vital to achieving sustainability objectives. The assessment phase also brings a measure of assurance that the archives and environmental stewardship goals are connected to the users, budgetary constraints, mission, and programs of a given repository. Like the natural world, all of these elements are connected in a relationship that is organic and symbiotic, and, like an ecosystem,[77] they need to constantly evolve in order to thrive.

Effective implementation of a sustainable archives program requires assessment skills, leadership, creativity and innovation, collaboration, education, and advocacy.

However, it is also understood that the general framework or model for sustainability presented in this article may not be feasible for every archival repository. Archives are by definition unique, with different missions, collections, staffing, expertise, fiscal resources, and physical constraints. Therefore, a "one size fits all" approach is idealistic and impractical. Instead, one additional and critical aspect of sustainability—often emphasized in the green architecture and business disciplines—is the concept of flexibility. In other words, achieving sustainability requires responsiveness and adaptability to identify and overcome challenges as they present themselves. As described poignantly by Brian Edwards, associate professor of sustainable architecture at the Royal Danish Academy of Fine Arts and author of *Green Architecture*, sustainability is "not universal, but like classicism, is modified by regional circumstances. It is an order of process and thought necessarily adjusted by local circumstances—the rightness of sustainability and its cultural relevance relies upon the celebration of difference."[78] It is Edwards's "celebration of difference" that makes sustainability and local interpretations of green solutions for archives not only challenging, but also worth the extra effort for "people, planet, profit, and program."

Conclusion

The fields of librarianship, museum studies, and archival science have embraced sustainability in various degrees and with different outcomes that reflect the broader societal and ecological concerns of the American environmental movement throughout the past forty years. Scholarship about adopting green philosophies and practices in libraries, museums, and archives has appeared in numerous books, journal articles, on-line sources, and within the academic discourse of professional associations from the early 1970s through the present day, and it continues to educate and illuminate the ongoing imperative of environmental stewardship for cultural heritage professionals worldwide.

To move beyond constructing green buildings and managing facilities and operations and consider its impact on the natural world, the archives profession now has the opportunity to step back and assess where we have been and where we are going on this green journey. And using our new core value of "social responsibility," coupled with a strategic framework as a starting point, we can put it into action to become more vocal ambassadors for environmental change. This idea is embodied in the collaborative work of the California Association of Museums, which advocates that sustainability starts with self-reflection and assessment to achieve a greater good: "Living and working green begins with how we look at the world around us, at our work and the impact we are making. Thinking green inspires us to be better citizens, better neighbors, and better leaders. And each of us regardless of job titles can be a leader in this task."[79] This holistic approach to sustainability can be achieved if we—librarians, museum professionals, and archivists—all work together.

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NOTES

1. See especially Michele F. Pacifico and Thomas P. Wilsted, *Archival and Special Collections Facilities: Guidelines for Archivists, Librarians, Architects, and Engineers* (Chicago, IL: Society of American Archivists, 2009).
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3. The term "green library movement" was first coined by Monika Antonelli in her article "The Green Library Movement: An Overview of Green Library Literature and Actions from 1979 to the Future of Green Libraries," *Electronic Green Journal* 1:27 (fall 2008): 1-11, http://escholarship.org/uc/item/39d3v236 (15 June 2011).
4. Use of the phrase "green museum movement" first appeared in the work of Sarah S. Brophy and Elizabeth Wylie, *The Green Museum: A Primer on Environmental Practice* (Lanham, MD: Altamira Press, 2008): xi.
5. For an overview of sustainable design practices applied to building archival repositories, see Sarah Kim, "Green Archives: Applications of Green Construction to Archival Facilities," *Primary Source* 28:1 (2008), http://www.msarchivists.org/theprimarysource/psvol28no1 _kim2.htm (15 June 2011).
6. A recent review of the archival science literature highlights the lack of published research on the topic of archival sustainability, with the exception of Mark Wolfe's "Beyond 'Green Buildings': Exploring the Effects of Jevons' Paradox on the Sustainability of Archival Practices," *Archival Science* 12 (2012): 35-50, doi: 10.1007/s10502-011-9143-4 (14 July 2011).
7. Society of American Archivists, "SAA Core Values Statement and Code of Ethics," http://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics (21 February 2012).
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9. Sonya Newenhouse, *EnAct: Steps to Greener Living* (Madison, WI: Madison Environmental Group, Inc., 2009): 5.
10. United Nations' World Commission on Environment and Development, "Our Common Future: Report of the World Commission on Environment and Development," Chapter 2: Towards Sustainable Development, June 1987, http://www.un-documents.net/ocf-02.htm (20 December 2011).
11. John Elkington, noted author and global authority on sustainable development and corporate responsibility, is credited with originating the concept for the term "triple bottom line" in his article

"Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development," *California Management Review* 36:2 (winter 1994): 90-100. The phrase was later published for the first time in his book *Cannibals with Forks: The Triple Bottom Line of 21st Century Business* (Oxford: Capstone Publishing, 1997), which is considered by many experts in the field as the bible of sustainability.

12. The development of the term "people, planet, and profit" in 1995 is attributed to John Elkington, who is also the co-founder of "SustainAbility," an independent think tank and strategy consultancy in London, England. See the Web site sustainability.com for more information.
13. Brophy and Wylie, *Green Museum*, 8.
14. For more information on the American environmental movement, see Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement*, 2nd ed. (Washington, D.C.: Island Press, 2005); and Philip Shabecoff, *A Fierce Green Fire: The American Environmental Movement* (Washington, D.C: Island Press, 2003).
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16. Frederick Stoss, "Libraries Taking the 'LEED': Green Libraries Leading in Energy and Environmental Design," *Online* 34:2 (March/April 2010): 24
17. Frederick Stoss, "How and Why We Got Here Today: A History of the ALA Task Force on the Environment," *SRRT Newsletter* 168 (September 2009) http://libr.org/srrt/news/srrt168. php#6.1 (20 December 2011). For a more comprehensive study on ALA's contributions to environmental sustainability for the library profession as a whole, see also Maria A. Jankowska, "Going Beyond Environmental Programs and Green Practices at the American Library Association," *Electronic Green Journal* 1:32 (fall 2011): 1-17, http://escholarship.org/uc/ item/1zs6k7m2 (20 December 2011).
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19. Monika Antonelli, "The Green Library Movement: An Overview of Green Library Literature and Actions from 1979 to the Future of Green Libraries," *Electronic Green Journal* 1:27 (fall 2008): 1-11, http://escholarship.org/uc/item/39d3v236 (15 June 2011).
20. Maria A. Jankowska and James W. Marcum, "Sustainability Challenge for Academic Libraries: Planning for the Future," *College & Research Libraries* 71 (March 2010): 160-170.
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22. John Barry, "Lovelock, James Ephraim," *Green Ethics and Philosophy: An A-to-Z Guide,* ed. Julie Newman and Paul Robbins (Thousand Oaks, CA: SAGE Publications, Inc., 2011) 307.
23. James LaRue and Suzanne LaRue, "The Green Librarian," *Wilson Library Bulletin* 65:6 (February 1991): 27.
24. Jankowska and Marcum, "Sustainability Challenge," 161.
25. Ibid., 167.
26. Ibid., 164-165.
27. For articles published in *College & Research Libraries News*, see especially Kathleen Rickert, "Greening Our College Libraries: Complete the Cycle of the Three Rs," *College & Research Libraries News* 62:8 (September 2001): 825-828; Megan Coder, "It's Not Easy Being Green. Or Is It?" *College & Research Libraries News* 69:11 (December 2008): 692-694; and Maria A. Jankowska, "A Call for Sustainable Library Operations and Services: A Response to ACRL's 2007 Environmental Scan," *College & Research Libraries News* (June 2008): 323-324. Two key publications issued by the American Library Association include Dorothy Waterfill Trotter, "Going for the Green," *American Libraries* 39: (April 2008): 40-43; and Wanda Urbanska, "A Greener Library, A Greener You," *American Libraries* 40:4 (2009): 52-55. For content published by *Library Journal*, see especially Bill Brown, "The New Green Standard: With the LEED Rating System in Place it is Easier to Make Sure Your New Library Saves Money as it Treads Lightly on Natural Resources," *Library Journal* 128:20 (December 2003): 61-64; Scott M. Bushnell, "Library's Green Annex Brings Acclaim, Growth," *Library Journal* 134:9 (May 2009): 32; Robert Eagan, "Sense & Sustainability," *Library Journal* 133:2 (February 2008): 40-43; Francine Fialkoff, "Green Libraries are Local," *Library Journal* 133:11 (June 2008): 8; Bette-Lee Fox, "The Constant Library: Inside 210 Public and Academic Building Projects for 2009," *Library Journal* 134:20 (December 2009): 26-40; Bette-Lee Fox, "Going, Going, Green: *LJ*'s Annual Wrap-Up Features 168 Public Library Projects and 21 Academic Buildings," *Library Journal* 132:20 (December 2007): 44-45; Raya Kuzyk, "Going

Green: *LJ*'s Second Design Institute Tackles the Ins and Outs of Sustainable Buildings," *Library By Design: Supplement to Library Journal* 133:9 (May 2008): 1-7; Rebecca Miller, "Lead with Green: Louise Schaper Says Sustainable Management is Critical and Touches Every Aspect of the Library," *Library Journal* 135:9 (May 2010): 22-23; Rebecca Miller and Francine Fialkoff, "Part of the Solution: *LJ*'s Design Institute West Takes the Green Conversation a Step Further," *Library By Design: Supplement to Library Journal* (September 2008): 14-15; Jane C. Neale, "Go Green!" *Library Journal* 133:2 (February 2008): 46; Jennifer Pinkowski, "Keeping Track of Green Libraries," *Library Journal* 132:15 (September 2007): 27; and Louise L. Schaper, "Let 'Green' Creep: Ten Steps to Sustainable Library Operations," *Library Journal* 135:9 (May 2010): 6-9.

28. It is not surprising that the topic of green libraries took center stage in the library literature during 2008. According to the International Institute for Sustainable Development's "Sustainable Development Timeline," the world's food, energy, and financial crises converged in 2008 when 1) food prices worldwide increased 43 percent in twelve months, 2) fuel costs in China and India soared due to increased demand, and 3) mortgage lending in the United States collapsed, triggering a worldwide economic recession. See the "Sustainable Development Timeline" for more information: http://www.iisd.org/pdf/2012/sd_timeline_2012.pdf.
29. Based upon the author's review of the literature, there were at least a total of seven green-themed articles in *American Libraries*, *College & Research Libraries News* and *Library Journal* during 2008. See especially resources listed in note 27.
30. See Virginia Connell, "Greening the Library: Collection Development Decisions," *Endnotes: The Journal of the New Members Round Table* 1:1 (May 2010): 1-15, and Jackie Shane, "Positioning Your Library for Solar (and Financial) Gain. Improving Energy Efficiency, Lighting, and Ventilation with Primarily Passive Techniques," *Journal of Academic Librarianship* 38:2 (February 2012): 115-122.
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32. Mulford and Himmel, *How Green?*, 55-59.
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of the mid-1950s and the "social irresponsibility" of curators during that time who all but ignored the topic in museum programming.

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75. The recommendation to replace incandescent bulbs, which are energy inefficient, and CFLs, which contain hazardous mercury, with new LEDs is based upon research that illustrates a 50 to 80 percent energy savings with the use of LEDs. Also, the U.S. Energy Independence and Security Act of 2007 started the ban of 100-watt incandescent bulbs in January 2012. By the year 2013, 75-watt bulbs will be banned, with a ban of 60-watt and 40-watt bulbs to follow by 2014. LEDs, while currently expensive, have no damaging ultraviolet rays and a working temperature range of -40 to 140 degrees Fahrenheit. According to Clean Light Green Light, "…if just 25% of fluorescent lighting fixtures in the U.S. were converted to LEDs, we could…save 15 billion in electricity costs annually, decommission 133 coal burning power plants, reduce carbon emissions by 158 metric tons and avoid releasing 5,700 pounds of airborne mercury." For more information about LEDs, see Clean Light Green Light, "LED Technology: The Future of Lighting, 2011 Product Catalog," http://www.cleanlightgreenlight.com/CLGL2011Product Catalog_lo.pdf (20 August 2011). See also Dan Koeppel, "The Future of Light is the LED," *Wired Magazine* (September 2011), 19 August 2011, http://www.wired.com/magazine/2011 /08/ff_lightbulbs/ (20 August 2011).
76. With the widespread transition from paper-based to E-records in many disciplines, especially the legal and medical professions, many organizations are removing and discarding high-density records storage systems. One vendor, R & J Retrieval Systems, Inc. based in Pine Island, New York, is reclaiming these systems and creating a market for them as recycled and repurposed compact shelving. Archives looking for more cost-effective solutions to expand their collections storage areas may wish to consider this option.
77. For additional discussion on the archives-ecosystem metaphor, see Julia Martin and David Coleman, "Change the Metaphor: The Archive as an Ecosystem," *JEP: The Journal of Electronic Publishing* 7:3 (April 2002) doi: http://dx.doi.org/10.3998/ 3336451.0007.301 (1 May 2012); and Erik A. Moore, "Birds of a Feather: Some Fundamentals on the Archives-Ecology Paradigm," *Archivaria: The Journal of the Association of Canadian Archivists* 63 (spring 2007): 103-119.
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APPRAISAL AND CUSTODY OF ELECTRONIC RECORDS: FINDINGS FROM FOUR NATIONAL ARCHIVES

BY JINFANG NIU

ABSTRACT: In this article, the author will discuss the appraisal and custody of electronic records based on an investigation of the appraisal policies, disposition instructions, and other records management guidelines of four national archives. Common appraisal methodologies of four national archives are largely media neutral, although some appraisal strategies and criteria are more relevant for electronic records. The traditional custody model still dominates electronic records, although the post-custody model is used in special circumstances. A variant of the post-custody model, the transfer of the physical custody of electronic records to a third-party trusted repository, is also identified.

Introduction

How to appraise electronic records and who should take custody of them have been debated in the archival profession for over 10 years. In the year 2000, after a comprehensive literature review, the Appraisal Task Force of InterPARES I reported some consensus about the appraisal of electronic records: "Electronic records must be appraised from the same theoretical and methodological standpoint as traditional records."[1] Two years later, Luciana Duranti, the leader of the InterPARES project, argued that although the values and criteria of appraisal remain the same for electronic records, the methodological changes are quite radical.[2] She identified four fundamental changes in the appraisal of electronic records:

> … first, the appraiser must assess the authenticity of the records considered of continuing value; second, the appraiser must determine the feasibility of the preservation of the authenticity of the records; third, the appraisal decision must be made very early in the life of the records; and, fourth, the appraiser must constantly monitor the records of the creator and…revise the appraisal decision. [3]

The issue of using a custody model versus a post-custody model for the permanent preservation of electronic records has been debated. According to Philip Bantin, the traditional custody model insists that archival repositories take on custody of electronic records, whereas the post-custody model argues that "the transfer of the inactive records to an archives may be delayed or deferred for much longer periods than in the past; in some cases, the records may actually remain indefinitely in the custody of the originating office."[4] This article discusses the appraisal and custody of electronic records based on evidence gathered from an investigation of the appraisal policies, disposition instructions, and other records management guidelines of four national archives, including the National Archives and Records Administration (NARA) of the United States, Library and Archives Canada (LAC), the National Archives of Australia (NAA), and the National Archives of the United Kingdom (NA). National archives were chosen because, unlike many smaller archival repositories, they have extensive experience with electronic records, and their appraisal and custody practices are well documented.

Research Methods

From August to November 2011, the author explored the Web sites of four national archives to research the appraisal polices, records disposition guidelines, and other documents that guide records management for government agencies. The appraisal policies and disposition guidelines were carefully analyzed and information about the appraisal and custody of electronic records was extracted. Although these documents do not reveal actual practices, they do provide guidelines. Based on the information gathered from these documents, this article discusses the appraisal and custody of electronic records.

Findings

First, this article will analyze the common appraisal methodologies applied by four national archives and will discuss how these methodologies apply to electronic records. It will then discuss four fundamental changes proposed by Luciana Duranti regarding electronic records, based on findings from the national archives. Lastly, it will discuss issues regarding the custody of electronic records.

Common Appraisal Methodologies Applied by the Four National Archives

The four national archives examined here use different terms to describe their appraisal methods and emphasize different aspects in appraisal; however, detailed analysis shows much consistency in appraisal methods. All essentially use a combination of macro and micro appraisal methods and evaluate both the evidential and informational values of records.

Macro and Micro Appraisal

The appraisal policy of Library and Archives Canada clearly states that it uses a structured appraisal model that starts with macro-appraisal, followed by micro-appraisal. Macro-appraisal assesses the context of records creation instead of records themselves. The context includes the legal context, functional context, structural context, records systems processes, and technological context. As stated in LAC's appraisal policy, macro-appraisal of an institution requires an assessment of "legislation, mandates, and policies relevant to the institution as a whole"[5] and "administrative structures, macro-functions, functions, sub-functions, programs, activities, transactions, and client interactions, as well as records-creating processes, records systems, and recording technologies."[6] Macro-appraisal at LAC moves top-down from the "function of the records creator, through various administrative structures and business processes designed to implement that function (and numerous sub-functions), to information systems created to produce and organize records that permit those processes to work, and finally to the records which document all the foregoing."[7] When the macro-appraisal is completed, the archivist forms a set of hypotheses regarding the importance of functions and activities of records, and tests these hypotheses by examining actual records in different categories. The appraisal of actual records is called "micro-appraisal."

The appraisal policy of the National Archives of Australia indicates it uses a top-down functional analysis approach for appraisal. Detailed instructions for conducting such a top-down functional analysis are provided in the first three steps in the Designing and Implementing Record Keeping Systems (DIRKS) manual. The three steps are preliminary investigation (of the role, structure and business of the organization, the regulatory and sociopolitical environments in which the organization operates, and major factors affecting its record-keeping practices); analysis of business activity; and identification of record-keeping requirements. This is similar to the context analysis described in LAC's macro-appraisal, and is much broader than a purely functional analysis. In other words, the functional analysis of the NAA is in fact a macro-appraisal approach. The term "micro-appraisal" does not appear in NAA's appraisal policy, but many of the appraisal criteria and objectives entail analyzing the content of records. This is essentially a micro-appraisal approach. In its instructions for developing a records disposal authority, the NAA, after formulating disposal classes based on functional analysis, suggests checking existing records to verify the disposal classes on the records disposal authority proposal.[8] This is similar to the hypotheses testing process at LAC. This illustrates that the NAA also uses an appraisal model that starts with a macro-appraisal, followed by a micro-appraisal, although its policies do not state this explicitly.

In NARA's guidance for the disposition of federal records, the first step is to review the functions of federal records and record-keeping requirements and practices. This includes "examining pertinent documents, such as laws, regulations, organization charts, and functional statements, and consulting with program managers, [automated data processing] managers, and records personnel."[9] This is equivalent to the context analysis stage in the macro-appraisal approach created by Library and Archives Canada and the first three steps in the DIRKS manual used by the National Archives of Australia. Further evidence of NARA's use of context analysis in the appraisal process can be seen in the Benchmarking Report on Business Process Analysis published by NARA in 2005. The report recommended that NARA and federal agencies train records managers to use business process analysis as a way to determine record-keeping requirements.[10] NARA's appraisal policy does not say whether it uses a macro or micro-appraisal approach in this process, but some of its appraisal criteria are associated with such approaches. For example, the appraisal questions "Is the information unique?", "What is the volume of records?", and "How usable are the records?" require a micro-appraisal approach to provide answers. The appraisal question "How significant is the source and context of the records?" requires a macro-approach to answer. In talking about the appraisal of research and development records, NARA guidelines state "appraisal of the records requires an understanding of the entire [research and development] business process, including the project/product lifecycle and use of outside entities for review or support."[11] This is also a macro-appraisal approach.

The National Archives of the United Kingdom traditionally appraises the provenance (functional and structural context) when selecting archival records.[12] This is an essentially macro-appraisal approach, and the NA states that it is currently moving to using macro-appraisal. It defines "macro-appraisal" as the assessment of "the value of records at a government, departmental or unit level rather than at an individual document or file level."[13] This definition says that macro-appraisal assesses the organizational structure, whereas micro-appraisal assesses at the individual document or file level. This is not identical to "macro-appraisal" as defined by the LAC. In LAC's definition, macro-appraisal assesses records creation context; micro-appraisal appraises records, either at the series level or lower. Although NA's definition of macro-appraisal deviates from that provided by LAC, NA's other descriptions of macro-appraisal do include functional analysis and thus show consistency with macro-appraisal as defined by LAC. For example, NA's appraisal policy also states "macro-appraisal encourages government-wide or organi[z]ation-wide analysis of functions as a guide to identifying records of value for business and archival purposes."[14] In its guidelines for deciding what records to keep, the NA states that "the decision for what records to keep requires an understanding of the organi[z]ation's purpose and functions, how it carries out those functions, and how it uses the records it holds already."[15] The NA guidelines also state that the difference between the newly adopted macro-appraisal policy and the traditional provenance-based appraisal policy is that macro-appraisal attempts to "make an understanding of the functions which produced public records an overt, preliminary stage in appraisal work."[16]

Like the National Archives of Australia and Library and Archives Canada, the National Archives of the United Kingdom also includes a micro-appraisal phase to test hypotheses formulated in the macro-appraisal stage. In its instructions for how to compile an appraisal report, NA guidelines formulate broad categories of records for disposition based on macro-appraisal, and state:

> The process of turning the broad decisions in the Report into specific selections involves a look at the actual content of the records and this might

> necessitate changes to the appraisal decisions. For example, committee papers might prove to be anodyne and the material better collected elsewhere; or case files prove to be more routine and less informative than anticipated and the decision is made to select a database instead.[17]

Evidential and Informational Values

The National Archives of the United Kingdom explicitly endorses T. R. Schellenberg's appraisal model.[18] Since 1958, the NA has been using the Grigg system for appraisal. The Grigg system involves two reviews of records. In both reviews, Schellenberg's appraisal theory is applied. The first review appraises primary value, and the second appraises secondary values, including evidential value and informational value. The NA points out that functional appraisal focuses on evidential value and downplays the information value in selecting records. Therefore, although it will adopt a macro-appraisal approach that focuses on functional analysis, it continues to use Schellenberg's appraisal model to assess both the evidential and the informational value of records.[19]

Library and Archives Canada and the National Archives of Australia do not explicitly endorse Schellenberg's appraisal model. Nevertheless, their appraisal policies contain an assessment of evidential and informational values that is consistent with Schellenberg's appraisal model. In addition to assessing the evidential value of records using the macro-appraisal and functional analysis approach, LAC also selects records of "national significance which contain significant or unique information that will substantially enrich understanding about Canada's history, society, culture and people."[20] This is informational value as defined by Schellenberg. The NAA defines five appraisal objectives. The first two are related to evidential values and the other three are related to information values. For example, the second objective is "to preserve evidence of the source of authority, foundation and machinery of the Commonwealth and Commonwealth institutions."[21] The third objective is "to preserve records containing information that is considered essential for the protection and future well-being of Australians and their environment."[22]

Although Schellenberg's appraisal theory originated at NARA, NARA's current appraisal policy does not mention Schellenberg's appraisal model. Yet evidential and informational values are mentioned repeatedly in NARA's appraisal policy. Section six of the appraisal policy, "Strategic Framework," lists three kinds of records that are evidential records. In section seven, which lists permanent records categories, the first two categories are evidential records that document the rights of citizens and the actions of federal officials. The third category is records that provide information "about people, places, material objects, and scientific phenomena, as well as about social conditions, political and economic activities, and events in the United States and other countries."[23] In section eight, "Appraisal Objectives," the first seven objectives are intended to preserve various kinds of evidence. The eighth objective is to preserve records that "contribute substantially to knowledge and understanding of the people and communities of our nation."[24] This is consistent with the informational value as defined by Schellenberg.

How Do the Common Appraisal Methodologies Apply to Electronic Records?

As mentioned earlier, macro-appraisal assesses the records creation context instead of records themselves; therefore, it can be applied to all kind of records. This has also been noted by Terry Cook, the major architect of macro-appraisal theory.[25] Evidential values can either be assessed based on a structural and functional analysis of the records creation context, or based on records content. For example, a functional analysis can be used to select records that provide evidence about how government organizations function. Records documenting citizen rights, such as military service records and birth certificates, can be decided based on the records' content. In either case, the appraisal of evidential value is media neutral. The informational value of records is the value of the information in them, so it is based on records content and is independent of records media. Micro-appraisal is the appraisal of records, including their content, format, and media. When micro-appraisal is conducted solely based on evaluating the information values of records, there is no difference between traditional and electronic records. Differences between the micro-appraisal of traditional and electronic records occur only when electronic records' unique characteristics, e.g. fragility, manipulability, and shorter life span of storage media, are a concern. To sum up, all these common appraisal theories and methodologies apply to both traditional and electronic records, although there may be differences between the micro-appraisal of traditional and electronic records.

The Four Fundamental Changes

As mentioned earlier, Luciana Duranti noted four fundamental methodological changes inherent in the appraisal of electronic records. Two of the changes—appraising authenticity and preservation feasibility—fall into the micro-appraisal domain. The other two—early appraisal and monitoring appraisal decisions—are about the timing and procedures of appraisal. This section will analyze how the appraisal policies of the four national archives reflect these four fundamental changes.

Early Appraisal

Earlier appraisal for electronic records does exist at the four national archives. The appraisal policies of the National Archives of Australia, Library and Archives Canada and NARA treat paper and electronic records in an integrated manner. They do not mention that they appraise electronic records earlier than traditional records. This does not preclude the possibility that they appraise both traditional and electronic records earlier than they would have in the past. The National Archives of the United Kingdom applies different appraisal timing and procedures for paper and electronic records. As previously noted, archival appraisal at NA has been based on the Grigg's system where records are appraised twice: first, at five years from closure, and second, at 25 years from creation. In the future, NA will maintain this timing for paper records, but will also allow for earlier second reviews. For electronic records and hybrid records that include both paper and electronic records, NA will merge the two reviews and conduct appraisal before creation through file plans, or at creation by filing records into folders with disposal already determined.[26] With the rapid increase in digital records, the merged review and early appraisal mode is likely to dominate in the future.

Early appraisal of electronic records is not unique. In the four countries examined here, the national archives and government agencies collaboratively develop records disposal authorities/schedules that enable early appraisal. For many records series, the disposal authorities apply to both existing records and records to be created in the future in the same series. Therefore, disposition has been decided before creation. In situations where the appraisal is also used to assess the need for records, the existence of the records and their documentary forms are decided before their creation. As stated by NAA:

> …You are appraising the need for records related to the functions and activities of your organi[z]ation, not just the particular records that have been created in the past to support that work. Remember that the disposal authority, in most cases, will be used to sentence records created in the future as well as those that have already been created. While it is important to have an authority that is useable for existing records, do not make the classes so narrow that they cannot be used for the range of records which may be created in the future.[27]

The records disposal authorities of the four national archives largely organize records based on functions, organization structures, subjects, topic, and cases. LAC uses function-based records classification for their records schedules. [28] NA[29] and NAA[30] use function-based classification at the higher levels, and then use subject-based classification on the lower levels. At NARA, record schedules are usually based on function, organization, or a combination of the two.[31] Recently, NARA published guidance about big bucket schedules, which means “the unit to be scheduled would not necessarily be the records series, but all records relating to a work process, group of work processes, or a broad program area to which the same minimum length of retention would be applied.”[32] This is a function-based classification scheme that contains only large categories. All of these classification criteria are media neutral and therefore the records disposal authorities are usually media neutral. Hence, both traditional and electronic records can be appraised early in records life through records schedules/disposal authorities.

Authenticity

NARA, the National Archives of Australia, and Library and Archives Canada mention the importance of authenticity in appraisal. The NAA includes authenticity as one of the major criteria in appraisal. Its definition of authenticity is consistent with InterPARES’ definition which states that authenticity is “whether records are what they purport to be.”[33] The NAA also includes integrity and completeness as other appraisal criteria. It defines integrity and completeness as “whether records have been securely maintained to prevent deliberate or accidental unauthori[z]ed access, alteration or removal, and whether they have context and structure as well as content.”[34] This is consistent with the InterPARES benchmark requirements for authenticity. LAC includes authenticity as one of its micro-appraisal criteria. It describes authenticity as the following:

> The records must have been created in the normal course of business under established procedures, and clearly linked by provenance to their creator and originating or successor record-keeping system. There must be assurance the records are genuine, and unaltered, or that any alterations have left a clear audit trail.[35]

This definition of "authenticity" is broader than that of InterPARES, and it includes both the concepts of authenticity and reliability as defined by InterPARES.[36] Although the two national archives interpret authenticity slightly differently, their respective definitions are media neutral. NARA does not include authenticity as an appraisal criterion in the main text of its *Appraisal Policy* and its *General Appraisal Guidelines*, but it does include authenticity as a concern in the appraisal of observational data, which usually has been collected in a digital format.[37] This is a sign of a special concern for electronic records' authenticity.

Preservation Feasibility

All of the four national archives include preservation feasibility in their appraisal policies, although only National Archives of Australia explicitly used the term "feasibility." Some feasibility issues concern paper records, whereas others address both paper and electronic records. For example, National Archives of the United Kingdom mentioned the storage cost of paper records and the costs of preserving the continuing readability and authenticity of electronic records.[38] Library and Archives Canada and NARA both discuss preservation feasibility issues caused by the poor physical condition of records, which relate to all media. LAC does not accept encrypted electronic records, or records made unintelligible by the presence of a digital signature due to preservation feasibility concerns.[39] NARA policy discusses the "availability of appropriate technology to enable access" for observational data, and the technical challenges of recovering digital information.[40] The NAA indicates it may destroy records with serious technical defects and give preservation priority to records that are technically sound.[41] These are feasibility concerns caused by the technical features of electronic records.

Monitoring Records and Updating Appraisal Decisions

The four national archives discuss two kinds of rationales for monitoring and updating disposition decisions as necessary. The first type of rationale applies to records in all media, as it is about changes in legislation or policy, business needs, organizational structure, functional structure, or other records creating and using environments. Most of the reasons for updating disposition schedules noted by NARA and the NA fall into this category.[42] The second type of rationale is unique to electronic records, as it is caused by technological obsolescence and media decay. This second kind of monitoring includes testing readability, watching technological development, and refreshing and migrating electronic records. As stated by the NAA, "Agencies that need to retain digital records for the long term should plan for technological obsolescence by ensuring that records can be copied, reformatted, converted or migrated across successive generations of computer technology."[43]

The above analyses have shown that none of the "fundamental changes" are unique to electronic records. Early appraisal is conducted for all kinds of records through records schedules. Appraisal decisions need to be monitored and updated not only because of technological concerns for electronic records, but also because of changes in the records creation context, which affect records in all media. Preservation feasibility and authenticity are concerns for both traditional and electronic records.

Although not entirely unique to electronic records, the four fundamental changes may be especially relevant to electronic records. The unique characteristics of electronic records create more challenges for appraisal than than they do for traditional records, and they have made early appraisal, monitoring appraisal decisions, and the appraisal of authenticity and preservation feasibility more urgent and important. What should be emphasized in statements about the four fundamental changes is the word "must." For example, although both traditional records and electronic records can be appraised early, electronic records "must" be appraised early because of technological obsolescence. Although changes in the records creation context cause the appraisal decision for both electronic and traditional records to be monitored and updated, the technological obsolescence issue creates an additional push for the monitoring and updating of appraisal decisions for electronic records. Although media decay is also a concern for paper records, the shorter life span of digital storage media makes assessing preservation feasibility particularly urgent.

This study identified another appraisal concern that is not unique but is relevant for electronic records. It is the usability of electronic records. Usability is included as one of the major criteria in the appraisal policies of the NAA, NARA, and LAC. NARA assesses the usability of records with regard to three aspects: the way records were gathered, organized, presented, or used in the course of business; the technical considerations affecting the records' usability; and the effect of the records' physical condition on their usability.[44] LAC describes "usability" as ensuring that records are "legible, coherent, accompanied by relevant supporting documentation (or meta-data), and arranged or indexed in a manner rendering them usable by researchers, or have the potential to be made so."[45] LAC also includes manipulability as one micro-appraisal criterion specifically for electronic records, which can be considered one aspect of usability.[46]

As noted earlier, the macro appraisal and Schellenberg's appraisal models apply to electronic records. In addition, two micro-appraisal criteria used in appraising traditional records (authenticity and preservation feasibility) are applied to electronic records, and like traditional records, the appraisal decisions for electronic records need to be monitored and updated if necessary. In addition to these high-level appraisal theories, methodologies, and criteria, some lower level methods for implementing certain appraisal theories or criteria also remain valid for electronic records. For example, when appraising the authenticity of traditional records, archivists rely on confirming the existence of an unbroken chain of custody, knowledge of recordkeeping practices, and comparing records with known authentic copies.[47] All of these methods, although not always sufficient, are still useful for assessing the authenticity of electronic records.

But the unique characteristics of electronic records also require new appraisal methods. For example, archivists use hash values to verify the authenticity of electronic records, and they assess the suitability of file formats for long-term preservation of electronic records. These methods do not exist in the appraisal of traditional records. So, on the one hand, many appraisal theories and methodologies for traditional records still apply to electronic records, and these traditional methodologies can be inherited, adapted, and applied to electronic records. But, on the other hand, new appraisal methods need to be created to deal with the unique characteristics of electronic records.

Custody of Electronic Records

The traditional custody model dominates the preservation of electronic records. The four national archives not only accept and preserve electronic records, but they also accession electronic records earlier than paper records, if not at the same time. The National Archives of Australia used a post-custody approach in the 1990s in which "digital records of archival value remained in agency custody except in special circumstances."[48] Since March 2000, it has moved to take custody of all archival digital records. Both paper and electronic records that have archival value must be transferred into the custody of the NAA as soon as they are no longer required for immediate business purposes. The National Archives of the United Kingdom continues to be the final resting place for most archives, including electronic records whose "transfer timings will in general be shortened."[49] Library and Archives Canada normally acquires an archival copy or version of electronic records as soon as archival value has been established, and before operational use of the record has expired.[50] NARA offers government agencies several options in terms of timing of the transfer of electronic records. Government agencies can choose to transfer paper and electronic records at the same time, as long as they can maintain the records until transfer. They can choose to transfer electronic records to NARA earlier than paper records. They can also choose to transfer electronic records to NARA earlier as a pre-accession, which entails transferring physical custody first within two to three years and transferring legal custody later.[51]

The post-custody model is implemented in special circumstances. The NAA, NARA, and LAC all mention circumstances in which creating agencies should retain archival digital records rather than transfer them to the archives. NARA maintains that research and developmental records with long-term value are most appropriately maintained by the creating agencies because these agencies usually possess the scientific expertise essential for providing effective access to the data.[52] The NAA believes that the "best prospect for preserving access to some digital records is to retain them within their original technological environment."[53] LAC lists some situations where records should stay with government agencies.[54] Examples of these special circumstances include a high cost of transfer or other technical considerations (such as software copyright, data complexity, and software and hardware dependency); whether the creating institution has a continuing and long-term operational need for the record; whether reference services for that kind of record can best be provided by the creating institution; or whether statutory provisions prevent transfer to LAC. Electronic records that are difficult to preserve are one of the reasons for a delayed transfer or no transfer at all to the LAC. In these cases, the creating agencies retain physical custody of the records, but legal custody of the records is transferred to the national archives. As the NAA states, "Digital records of archival value to be retained in the physical possession of agencies remain subject to the Archives Act 1983. The National Archives will still be responsible for registering and describing the records in its control systems."[55]

A variant custody model was also identified. In this model, national archives have legal custody and intellectual control of the archival records, but the physical custody is transferred to a trusted repository that has the specialty to manage specific kinds of records. This variant model has been used for both electronic records and audiovisual records. NARA allows archival observational data in the physical sciences to be maintained by a scientific data center that possesses the necessary expertise to ensure preservation and access.[56] In the UK, many electronic datasets selected for permanent preservation are transferred to the UK Data Archive and the National Digital Archive of Datasets. Films selected with archival value go to the Imperial War Museum or the National Film and Television Archive. Sound recordings selected for permanent preservation are transferred to the British Library's National Sound Archive. This indicates that even national archives that are relatively strong in resources and expertise need trusted third-party repositories to preserve certain electronic records. Small repositories are likely to be in greater need of this preservation model. With the growing increase in the varieties of electronic records, the trusted repository model is likely to grow in the future. As is widely known, in 2002, OCLC and RLG defined the attributes and responsibilities of trusted repositories.[57] In 2007, the Center for Research Libraries and OCLC published the criteria and checklist for the certification of trusted repositories.[58]

Conclusion

Many of the theories and methodologies for the appraisal of traditional records still apply to electronic records. Yet the unique characteristics of electronic records require new appraisal methods and make some appraisal methods—such as early appraisal, appraisal of preservation feasibility and authenticity, and updating appraisal decisions—more relevant or urgent. The traditional custody model continues to dominate the preservation of electronic records, and post-custody exists only in special circumstances. In addition to the traditional custody model and post-custody model, the physical custody of some electronic records is taken on by third-party trusted repositories rather than records producers or archival institutions that have the legal custody of the records.

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NOTES

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HAL W. TROVILLION’S ROLE IN PRESERVING THE HISTORY OF “BLOODY WILLIAMSON”

BY MELISSA A. HUBBARD

***ABSTRACT*:** This article examines the efforts of Hal W. Trovillion, newspaper editor and private printer, to document the controversial history of his southern Illinois coal mining town in the early twentieth century. As a historical case study, it explores some of the challenges inherent in preserving original documents and cultural knowledge without institutional support, and with active interference from community members who worked to suppress information. Trovillion used his printing presses and contacts in the historical community to ensure that the turbulent events occurring in his town in the 1920s would be preserved in the archival record.

Introduction

This case study explores a collection of papers related to the life and work of Hal W. Trovillion, a newspaper editor, publisher, and private printer who attempted to document and preserve the fascinating history of the southern Illinois town in which he lived. Because that history was often violent and subject to unfavorable national press coverage, many citizens of the town actively suppressed primary documents and refused to speak to historians from outside the community who attempted to collect information through oral interviews. Trovillion used his insider position, his newspaper and private presses, and his extensive network of contacts in the local and historical communities to ensure that the turbulent events that occurred in his community would eventually be documented in the archival record and known not only through the sensationalized picture created by the national news media. This article illustrates some of the issues regarding documenting the history of a small town with a controversial history.

Hal W. Trovillion: Newspaper Editor and Local Historian

Hal W. Trovillion moved to Herrin, Illinois, in 1904, shortly after earning his degree in English from Indiana University. This move followed a brief visit to Herrin, during which Trovillion impulsively decided to purchase the *Herrin News* and begin a long relationship with that mining community. At the time, Herrin was in a state of transition. The small Williamson County community had suffered a period of violent family feuding in the nineteenth century, which earned the area the popular nickname "Bloody Williamson." The family violence was beginning to dissipate in the first decade of the twentieth century, and Herrin was growing rapidly as the coal mining industry in the area expanded. Between 1900 and 1920, the population of the town increased from 1,559 to 10,986.[1]

Trovillion was born in Norris City, Illinois, in 1879. His father worked for a railroad station, and died in 1900. In the following year, Trovillion moved his mother and two sisters to Bloomington, Indiana, where he enrolled at the University of Indiana. The university had no formal journalism school at the time, but Trovillion received mentoring in the profession from one of his teachers, and wrote for the Bloomington *Daily Telephone* on a freelance basis. When the opportunity to purchase the *Herrin News* appeared shortly before Trovillion graduated, he seized it.[2]

In the 1920s, Williamson County's reputation for violence and lawlessness was dramatically revived in a series of events that included an organized labor riot known as the "Herrin Massacre," problems with the Ku Klux Klan, and open warfare between rival bootlegging gangs. All of these events made national news, earning the people of Williamson County a reputation as fundamentally incapable of suppressing or punishing violence, as the *New York Times* reported in 1925:

> Unpunished violence has bred unpunished organized violence. The authorities wink. Juries know what is good for their health. Prayer is good for the soul, but the foundations of peace will not be laid in Herrin or Williamson County until public sentiment, active, positive, no longer intimidated, insists on public justice. There is much intolerance in Williamson, but it doesn't apply to murder.[3]

Hal Trovillion played a unique role in all of these events as a local newspaper editor in the infamous community. He took strong editorial stands on the Herrin Massacre and its aftermath, as well as on the local Klan presence. Many of his opinions were at odds with those of the national press or other local papers. At the same time, he was actively developing an international reputation as the owner and operator of the Trovillion Private Press, which produced limited fine editions of literary works. Though few in Herrin likely knew of Trovillion's Press, his extensive correspondence, now housed at Southern Illinois University Carbondale, demonstrates that he was fully engaged in the artistic private press movement of the first half of the twentieth century.

At first glance, Trovillion led two separate lives: one as a newspaper editor with an intensely local focus; and another as a private press operator, engaged with an international artistic movement primarily concentrated in cities such as Chicago, San Francisco, and London. These two aspects of Trovillion's career intersected in his interest in documenting and preserving the history and culture of Herrin and the surrounding region, even when this work was controversial within the community.

Trovillion began his role as the editor of the *Herrin News* with strong ideals about the importance of newspapers in promoting education and literacy among their readers. In 1910, he wrote and published *An Opinion Journalistic*, which espoused the belief that the newspaper editor should have "the desire to lead his readers to aspire to higher things; to assist their intellectual advancement and at all times to encourage their moral uplift."[4] The pamphlet also suggested that the newspaper should "elevate the taste for good literature" among its readers, and "[open] the door to the world's greatest thought."[5] To this end, he placed a literary quotation at the top of his weekly editorial page in order to expose his readers to the words of writers and thinkers such as Abraham Lincoln, Charles Dickens, and William Thackeray. Trovillion also believed that the newspaper editor had a professional responsibility to develop his opinions on current events without allowing popular influence to creep in.

The view presented in *An Opinion Journalistic* suggests an image of the newspaper editor standing apart from, or even above, those in his community. It is certainly true that Trovillion's editorial voice was strong and he used his press to express his opinions, whether or not they were popular in the community. In addition to his editorials, he often documented events in the community from a minority perspective, ensuring balance in the historical record on these issues.

A good example is his involvement with the local chapters of the United Mine Workers of America (UMWA) before and after the Herrin Massacre. In 1915, Trovillion printed copies of the UMWA's "Ready Manual and Business Guide" under the *Herrin News* imprint, presumably for the benefit of local members. In 1922, the UMWA local achieved infamy during a nationwide strike. One Herrin mine owner, W.J. Lester, resumed operations a few months into the strike by bussing in outside strikebreakers. The infuriated UMWA miners laid siege to the mine, resulting in an armed standoff. When the strikebreakers finally exited the mine, believing that they would be allowed to leave in peace, 22 were killed.

Trovillion maintained a pro-labor stance in his editorials even after the massacre, as thoroughly documented in Edmund C. Hasse's 1956 thesis, *The Newspaper Editor and Community Conflict: Williamson County, Illinois: 1922-1928*. Trovillion considered his paper to be "the only voice raised in behalf of organized labor in this section of Illinois."[6] While the national press lambasted the UMWA members for their violence and depravity, and other local papers largely kept silent, Trovillion argued that the striking miners had been provoked by the terrifying atmosphere established at the mine as the armed strikebreakers were bused in. While Trovillion never condoned the massacre, he wrote that the crowd had likely been whipped into a frenzy by a few individuals under previously unimaginable circumstances. The *Herrin News* published a series of pro-labor articles after the massacre and distributed a pamphlet titled *The Other Side of Herrin*, which told the story from the UMWA's perspective. Trovillion also repeatedly criticized the national press for their lack of understanding. He even paid part of the bond for some of the UMWA members who were arrested for participation in the violence. By printing and distributing the UMWA's writings and perspectives on the events, Trovillion ensured that their side of the story would be documented, even as the national media condemned them.

When the Ku Klux Klan appeared in Herrin a few years later, Trovillion's stance as newspaper editor put his business as well as his personal safety at risk. The Klan gained popularity by exploiting nativist sentiment and actively opposing the production and distribution of illegal liquor in the area. They conducted raids intended to enforce prohibition laws, claiming that local authorities were corrupt and unwilling to address vice. Although the Klan did not publicly express any ethnic or racial agenda in Herrin, their raids tended to target Herrin's Italian-American community. A favored tactic was to force their way into private homes to search for illegal wine.

Trovillion strongly opposed the Klan in his editorial pages. He was especially critical of the support local churches offered the group. By taking this stance, he risked losing readers and advertisers, as the Klan was increasingly popular in the community; many in Herrin agreed that the local police had not done enough to stem the flow of liquor in the area. Trovillion also received threats from the Klan and their local leader, S. Glenn Young. In late 1924, Young entered the *Herrin News* offices with several armed men, demanding to see Trovillion. He was not in, so the men proceeded to threaten those who were present, and even hit a linotype operator over the head with a walking stick.[7]

Eventually, violent confrontations with local law enforcement officers and bootleggers alike took their toll on the Klan. In 1925, Young was shot and killed in downtown Herrin by Deputy Sheriff Ora Thomas. Harassed by bootleggers, the Klan's influence waned, ending the conflict.

In documenting each of these events, Trovillion used his press to create and distribute firsthand accounts in pamphlet form. In addition to *The Other Side of Herrin*, he also wrote, printed, and distributed *KKK Experiment in Journalism*, which described the local Klan's attempts to distribute their own newspaper, and to intimidate other local papers when they published material unfavorable to the Klan. Some of the material in these pamphlets was reprinted from articles that originally appeared in the *Herrin News* or one of Trovillion's other papers, but separating it out in pamphlet form emphasized the importance of firsthand accounts of these events.

For historians, these pamphlets provide easy access to information about unique and compelling events. It is unknown whether Trovillion was explicitly interested in facilitating such research when he published these pamphlets, but his later life showed that he was willing to help historical researchers. This is particularly important, given the Klan's attempts to capture the local press through intimidation and through the publication of their own newspaper. Had Trovillion acquiesced to the threats of violence, the Klan's propaganda might be the only primary documentation of this time in Herrin.

Throughout the local turmoil of the 1920s, Trovillion had another passion: his private printing press. Private printing had developed into an artistic and literary movement in the 1890s, when William Morris founded his Kelmscott Press to revive the art and craft of hand-press era printing. By the time Trovillion moved to Herrin in 1904, several organizations had begun to promote the book arts and provide printing enthusiasts with opportunities to meet and exchange ideas. One was the Caxton Club, founded in Chicago in 1895. Many private press books, such as those produced by the Kelmscott Press, were expensive to print because publishers used special papers and fonts. Trovillion, however, was inspired in his own work by Thomas B. Mosher, of Portland, Maine, who made small, affordable, and aesthetically pleasing books in limited editions. As Trovillion described it, Mosher's books made him want to produce "beautiful books, beautifully printed and filled with choice selections."[8]

Trovillion printed his first book, *Thoughts from R.L. Stevenson*, in 1908. He described his difficulties in founding a press in an essay he published in 1960:

> Under what trying hardships this first little cheerful book was produced! In between issues of getting out a small weekly paper in a wild, booming mining town, with a cursing foreman and a periodically drunken printer who was always getting his unanchored, long, grease-spotted necktie mixed in the fountain of dabby black ink, I managed, as if by miracle, to bring to completion the first attempt in real book-making.[9]

Despite these initial setbacks, Trovillion continued to produce small books, refining his craft. For 30 years he distributed the books to friends and other printers, usually as Christmas gifts or in exchange for examples of work from other private presses. He also donated examples of his work to libraries that collected private press books. Eventually, he started selling the books through catalogs and select booksellers. He continued to print and publish books until 1960, at which point he believed his private press to be the oldest in America.[10]

Operating the private press gave Trovillion a way to build relationships with many outside of southern Illinois and an avenue for interacting with the world beyond Herrin. His correspondence and travels associated with the press were international in scope. An acquaintance once wrote,

> Half the fun of operating a printing press for Trovillion lay in the contacts he made in the world of books, which was a world that does not normally impinge closely upon the city of Herrin. Hal carried on a correspondence with printers and artists and men of letters all over the world, and in his travels he made a point of visiting as many of these as he could.[11]

Trovillion's correspondence certainly demonstrates his level of activity in the book arts world. He exchanged numerous letters with typographers, binders, and other printers, asking and offering advice. At least one private press operator, James Weygand of the Private Press of the Indiana Kid, wrote that he was inspired to start his own press after seeing an example of Trovillion's work.[12] Several literary figures also exchanged letters with Trovillion, including Daphne Du Maurier and Llewelyn and John Cowper Powys. The Trovillion Private Press even published Llewelyn Powys' *A Baker's Dozen*.

Trovillion only published one local history title under the Trovillion Private Press imprint: *When Lincoln Came to Egypt*, a chronicle of Abraham Lincoln's visits to southern Illinois by George W. Smith, a history professor at nearby Southern Illinois University. Yet Trovillion was also strongly interested in documenting regional history and culture in print. In addition to the pamphlets documenting violent events in Herrin, he also published lighter historical material. In 1910, he published a pamphlet titled *Old Times in Herrin* under the *Herrin News* imprint. As distinct from the Trovillion

Private Press imprint, Trovillion did not concern himself with aesthetics when producing the *Herrin News* pamphlets. *Old Times in Herrin* consists of anecdotes written by longtime residents about life in Herrin prior to the mining boom. Despite mention of violent family feuding in Herrin, the focus of the stories is mainly positive and lighthearted. Trovillion's decision to publish such a volume indicates a shrewd marketing sensibility. Similar "Pioneer Days" local histories were popular in the early twentieth century, especially among older readers eager to reminisce about earlier, simpler times. Trovillion continued to publish material documenting Herrin's history throughout his career, even when it was controversial with some in the community.

In 1876, Herrin lawyer Milo Erwin wrote *A History of Williamson County from the Earliest Times Down to the Present*, documenting the local family feud commonly known as the "bloody vendetta," and lamenting that the perpetrators were never punished. The book angered many in Herrin who felt that the town's problems should not be aired in print. Shortly after it was published, Erwin left the community, never to return. Copies were purchased by locals and hidden to prevent their circulation.

By the time Trovillion arrived, it was nearly impossible to find a copy of the book, though he heard rumors that some copies still existed. He searched for two years and was eventually able to purchase one, as he described many years later in the *Egyptian Republican*, adding that the unnamed man who sold him the book was shot to death a month later, having been implicated in the feud.

Trovillion reprinted the book under the *Herrin News* imprint. Although feelings had cooled since the 1870s, he still faced resistance. He described one encounter with "the town's wealthiest man," who burst into the *Herrin News* offices shortly after the book was published, shouting, "It ain't fitten for this generation to read sich books. You had no right to print it again and reopen old sores that have been healing up." Trovillion's response was to point out that Old Uncle William, as this irate citizen was known, himself owned two copies of the book, and was known to loan them to "select friends" after extracting a promise that they would tell no one.[13] This seemed to mollify the older man, and Trovillion never faced serious retaliation for reprinting Erwin's notorious book. Because so many copies of the first edition of the book were actively suppressed, Trovillion's republication ensured that this valuable historical account would survive. Indeed, it has been reprinted several times since, most recently in 2006 under the title *The Bloody Vendetta of Southern Illinois*.

Trovillion's pamphlet publications and printing of *A History of Williamson County* demonstrate his interest in documenting both the positive and negative aspects of southern Illinois history. While singling out significant events and sources for monographic publication, he also solicited and published historical articles in his newspapers. For example, his *Egyptian Republican*, a monthly paper focused on state and regional political issues, often included purely historical articles such as "Shawneetown—The Oldest Living City of State," "Chester to Cairo Highway Rich in Indian Lore," "The Story of Old Stone Fort," and "Southern Illinois' Forgotten Heroes Recalled." The latter was even printed as the leading headline article for the month.

Trovillion also played a significant role in the production of the most comprehensive work ever written on Herrin's troubled history. Paul M. Angle's *Bloody Williamson: A Chapter in American Lawlessness*, published in 1952 by Alfred A. Knopf, is a classic example of regional history and a staple of college syllabi. Trovillion and Angle became acquainted through a mutual interest in Abraham Lincoln. The Trovillion Private Press printed several interesting pieces of Lincolniana, copies of which were donated to the Illinois State Historical Society, where Angle was state historian. Trovillion and Angle corresponded regularly and visited one another when possible. In 1947, Angle considered writing a book about the troubled history of Williamson County, but first deferred to Trovillion: "…if you yourself are seriously considering doing the book I wrote about, tell me that frankly and I will stay home and turn my mind to other projects."[14] Trovillion had no plans to write such a book, but offered "to assist... in every way" possible.[15]

Angle promptly embarked on his research. Trovillion loaned him copies of rare pamphlets related to Williamson County history and a complete file copy of the *Egyptian Republican*. The two corresponded regularly as the book took shape, and Angle relied on Trovillion's personal knowledge and experience to describe many of the people and events in the book. His letters are filled with questions: "Who was 'Old Uncle William? Crain, Bulliner, Henderson?"[16] "If there was a [labor] blow-up in 1910, or in any other year between 1899 and 1922, can you give me the dates?"[17] "Are there small outline maps of Williamson County? If so, could you mark the following places on one of them for me?"[18]

In addition to answering Angle's questions, Trovillion introduced Angle to various participants in Williamson County events, sent rare primary source material (even soliciting copies through classified advertisements in his paper when he did not own them himself), and suggested avenues for further research. One of the richest sources documenting the Williamson County troubles in the 1920s is a set of newspaper clipping scrapbooks compiled by Oldham Paisley, another southern Illinois newspaper editor. The scrapbooks, deposited in Williamson County's Marion Carnegie Library, formed the backbone of Angle's research on that period. They were so useful that he arranged to have them microfilmed and a copy placed in the Chicago Historical Society (CHS) collection, preserving them for future researchers. The Bloody Williamson Research Collection in CHS also includes many of the materials sent to Angle by Trovillion, so these records entered a system in which they could be professionally preserved and described. The climate in Williamson County at the time was such that local historical societies might have been unwilling to do the same, given the sensitive nature of the material.

Trovillion read a draft of Angle's manuscript, making suggestions and answering Angle's numerous final fact-checking questions. Yet despite his invaluable assistance, Trovillion is not acknowledged anywhere in the published book. The explanation for this is documented in their correspondence. Even before the book was finished, Trovillion warned Angle that it might not be well-received in Herrin:

> Understand that one of the duties assumed by the Lion's Club here is to defend and protect the reputation of the Herrin of today—so the[y are] going after the writers who bring up the city's past and let her skeletons out to get an occasional airing.[19]

Shortly before the book was published, Trovillion explicitly asked Angle not to mention him:

> I think that I can plainly see that my name would class me in a rather embarrassing spot at this time and the fact that I have no newspaper, as I once had, to tell my side of the story, I would be caught as Old Jessie James was [when] he pitched his holster and his gun on the bed and the next moment was floundering in his own blood—sounds funny, but it ain't funny.
>
> It presents itself to me at the moment that the old axiom offers safest refuge—that discretion is the better part of valor. I believe if you were wearing the same shoes that [Paisley] and I have to walk about in on our streets that you would feel the same way about it.[20]

Despite his reservations, Trovillion refused to distance himself from the book entirely, even after Angle suggested that they publicly part ways in order to protect Trovillion's reputation in the community. Trovillion even decided to sell copies of *Bloody Williamson* in the community, despite the fear that some residents would strongly object:

> No, I shall not deny anything or part company with you. If it is a matter of standing alone, I've always been used to that. I look for a big sale here in this city. I have a number of persons who have already placed orders with me and unless someone gets a court order, I shall be very glad to serve them.[21]

He later wrote that he even defended Angle when possible. Many in Herrin were upset about the book's sensational title, but Trovillion mollified them by explaining that the choice was made by the publisher rather than the author.[22]

Conclusion

Trovillion died in 1967, having lived in Herrin for almost 60 years. Despite his level of involvement in community affairs, it appears he may not have developed many close relationships with the people of Herrin. In his 1956 thesis, Edmund C. Hasse relates this anecdote about a stop in a Herrin barbershop during a research visit:

> Seven men were present when Trovillion's name was mentioned by one of the customers who noted how dissimilar Trovillion's English-style home was from the others in the community. Discussing Trovillion's current interests in the private publishing field, none of the group was sure whether he "wrote books or just printed them" although the former editor has been engaged in private printing since 1908. In view of the uncertainty it was finally concluded that "no one knows Hal very well."[23]

Trovillion may not have been well known in the town, yet he served as its ambassador through his broad and wide correspondence, such as this 1928 letter from Henry Lewis Bullen, then librarian at the Typographic Library and Museum:

> I have read about an awful Herrin, never dreaming that sweetness and light might prevail against evil things even in Herrin. Henceforth Herrin is another and better place, the home of friends with fine feelings, exquisite taste and creators of beautiful things.[24]

Similar sentiments are found in many other letters to Trovillion about book arts and literature. And Trovillion performed an invaluable service by documenting and publishing Herrin's history. Angle's scholarly *Bloody Williamson* could not have been written without Trovillion's local knowledge and access to primary source information and actual participants in the events.[25] As David V. Felts wrote in his review of the book in the August 1952 issue of the *Journal of the Illinois State Historical Society*, "the book brings into proper perspective a succession of events that had been reported only in contemporary accounts, often colored by rumor and prejudice."[26] He also wrote that "residents of the southern counties… may deplore this new interest in unsavory chapters in their local history. But this book is a work of research, not a sensational recital of rumor and partial information."[27]

Without *Bloody Williamson*, the unique history of Herrin might be known only through those sensational or prejudiced contemporary accounts. Now, as scholarly interest in the history of the southern Illinois region increases through the work of several dedicated local historians, new investigations are aided by the archival and published records created or facilitated by Hal Trovillion's interest in documenting history in the face of controversy.

The Trovillion Private Press Records offer an example of the tension between the desire to document, preserve, and provide access to history, and the competing desire to suppress sensitive and controversial information. With the professionalization of archives, this tension is often addressed through formal donor agreements, with temporary access restrictions offered to reluctant donors in order to protect their privacy during their lifetimes. Trovillion's experience represents an historical example of a citizen dealing with these same tensions. While he bravely published material that others might have preferred to forget, he also had to publicly minimize his role in the research process of a scholarly work on these controversial subjects, obscuring himself as the source of much of the material in *Bloody Williamson*. However, he left his imprint on the archival record in his own collection at Southern Illinois University Carbondale, and in the Bloody Williamson Research Collection at the Chicago Historical Society. Without these records, it would be difficult or perhaps even impossible for historians to verify the accuracy of Angle's *Bloody Williamson*, or to conduct new investigations into these significant and unique events in American history.

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11. Kenneth Hopkins, *Hal Trovillion and the Powys Brothers: A Note* (North Walsham, Norfolk: Warren House Press, 1978): 6.
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20. Trovillion to Angle, 6 March 1952. Trovillion Records.
21. Trovillion to Angle, 7 June 1952. Trovillion Records.
22. Trovillion to Angle, 3 September 1952. Trovillion Records.
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Tribal Archives, Libraries, and Museums: Preserving Our Language, Memory, and Lifeways. Edited by Loriene Roy, Anjali Bhasin, and Sarah K. Arriaga. Lanham, MD: Scarecrow Press, 2011. 247 pp. Index. Softcover. $55.00.

Language, memory, and lifeways have been organized and transmitted from generation to generation by indigenous people for centuries. Of more recent vintage is the blending of that epistemology with Western/European theories related to the institutional structures of libraries, archives, and museums.

Early movements to address the "benign neglect" paid to tribal libraries by existing bureaucracies were useful (like the 1979 formation of the American Indian Library Association within the American Library Association), but were patchy in scope and application. It was not until the late 1990s, when Alyce Sadongei's Five State Library Leadership Project coordinated approaches to tease out archives, library, and museum practices, that preservation efforts that were both professional and geared specifically to tribal communities were developed.

Directly resulting from that project were the series of national Tribal Archives, Libraries and Museums (TALM) conferences held every two years since 2002, and the creation of the Association of Tribal Archives, Libraries, and Museums (ATALM) in 2011. The last 15 years have seen a creative burst in strategies for providing tribal members with these vital services.

In many ways, *Tribal Archives, Libraries, and Museums: Preserving Our Language, Memory, and Lifeways* is the documentation of the development of those strategies. The book's 25 chapters are divided into four broad areas: The Tribal Community Library: Context and Cases; Service Functions of Tribal Information Centers; Tribal Archives: Collections and Functions; and Working in Tribal Libraries and Archives. The editors explicitly state that their anthology's purpose is twofold—to describe the history of TALMs and to point to their future development.

While it does not negate TALMs' overall usefulness, the book does have some limitations. This is especially true when read against the results of ATALM's 2012 survey in *Sustaining Indigenous Culture: The Structure, Activities, and Needs of Tribal Archives, Libraries, and Museums*.[1] While this survey is recent and could not have been anticipated by the authors in this anthology, it is useful to read the two books together as both a history and future of TALMs.

Despite its title, *Tribal Archives, Libraries, and Museums* focuses on libraries and librarians. Only three chapters are devoted to tribal archives and one chapter to tribal museums. This may be because in many tribal organizations these functions are combined in ways that blur distinctions. It might also be due to the maturity of tribal libraries in relation to tribal archives. The ATALM survey noted that archives and archivists are tribal TALMs' number one need. Regardless of the reason, archives and museums need to have their roles, responsibilities, and practices described in much more depth.

The second limitation is the book's varied level of content and perceived audience. Some chapters are clearly intended for people with limited professional knowledge, while others are directed at staff with expertise. This means that while there is something of use for everyone who reads the book, everyone is buying only half a book. This may just be a result of the paucity of writing on the subject. It may also reflect the authors' particular perspectives. In the chapter "Beyond Books and Portals: Proactive Indigenous Librarianship," Kawika Makanani notes, "I should share what I know best—my own words—and let others tell their own stories" (p. 33).

The third limitation is the dated nature of much of the material. Many of the chapters deal with resources and events that are 10 to 15 years old, and there have been developments in TALMs in the intervening years. For example, there is no mention of the Protocols for Native American Archival Materials.[2] While not universally accepted by tribes, the protocols are certainly a key document in the development of tribal archival theory.

One of the most critical aspects of modern libraries, museums, and archives—the impact of social networking on customer relations, professional practice, and collaborative structures—is barely mentioned. In many ways, this recently published collection is already begging for a sequel.

Despite these limitations, *Tribal Archives, Libraries, and Museums* fills a much-needed void, primarily for tribal professionals, but also for other individuals working with TALMs.

One of the key themes running through this collection is collaboration. While this concept is theoretically popular in the non-tribal cultural heritage world, it is deeply felt in TALMs. Though the thread of collaboration runs throughout nearly every chapter in the book—among disciplines, among TALMs and their tribal user bases, and among tribal and non-tribal entities—there are several standout chapters.

Loriene Roy's chapter, "Weaving Partnerships with the American Indian Peoples in Your Community to Develop Cultural Programming," should be required reading for any relationship involving non-Indian and Indian peoples. Roy lays out five important concepts necessary to build meaningful relationships: learning about Native communities, being aware of indigenous ways of knowing and making connections, initiating and maintaining connections, challenging your motive(s) in providing these services, and identifying resources for cultural programming (p. 142).

Roy's insightful focus on creating long-term relationships based on in-person contact and mutual respect and trust provides an extremely useful blueprint for developing cultural programming for all community members.

Roy and Dr. Cheryl Metoyer also provide essential guidance for TALMs looking to collaborate with their own tribal members. Both Roy's "Recommendations and Implications for Services to and with Indigenous Elders" and Metoyer's "Gaining Local Tribal Support for Library Development: Twenty-One Steps for Success" reinforce the absolute need for TALMs to gain the understanding and support of their own tribal members and leaders if they are to have any chance for success. While this is true in nearly any service provision context, it is especially needed with regard to TALMs, which tribal members and elders can view as impositions from outside agents.

But collaboration is not the only focus of this book. One of its primary messages is that it is time for American Indian heritage professionals to take the reins in creating TALM programs designed by Indians for Indian communities. A number of chapters focus on TALMs as drivers of language and cultural revitalization and TALMs as tribe-specific information resources.

Two chapters stand out as calls for the empowerment of TALM professionals. The first is Kawika Makinani's "Beyond Books and Portals: Proactive Indian Librarianship." Makinani describes indigenous libraries and librarians as best suited to provide meaningful experiences for indigenous communities. He focuses on the need for indigenous language and culture promotion, collection policies, references services, and other key library functions, and describes his efforts to provide them in his work at the Kamehameha Schools. Makinani's central point is persuasively made: "We indigenous peoples have to take charge of our own lives and futures. Controlling and promoting our own traditions is crucial. Indigenous librarianship is one of the keys for this to happen" (p. 39).

The other chapter is Sam Olbekson's "Indigenous Architecture for Tribal Cultural Centers." Olberkson describes the role buildings play in promoting TALM goals: "Buildings are manifestations of complex constructs of cultural meaning, social relationships, and community needs" (p. 79). In reading this chapter, this reviewer immediately thought of the spare beauty of the Tamástslikt Cultural Institute in Northeast Oregon. Its placement on the land; the use of the Coyote theater and the longhouse as structural elements to highlight exhibits and visitor experiences; the wide open windows facing the Blue Mountains—all of these elements are designed to situate the TALM within existing tribal realities. As director Bobby Conner notes, "Our experience is not separable from the land. It's a story of place. It's important for people to come here, to embrace the story in the place that it occurs."[3]

The creation of this future generation of indigenous cultural heritage professionals relies on the introduction of indigenous scholarship. Two chapters in the book address this from different angles. Victoria Beatty discusses culturally relevant approaches to research in "Empowering Indigenous Students in the Learning Library." She stresses the important role of TALMs in promoting cultural literacy. She points out that while reading rigorously is necessary in any democratic society, it is even more critical with regard to indigenous issues of sovereignty and cultural survival. This chapter endears itself to me for a very personal reason, too. Beatty closes with extended quotes from Cheryl Metoyer's "The Beauty of it All,"[4] a presentation that has touched my personal and professional heart more deeply than anything I have heard before or since.

Indigenous professional education is tackled by Christina L.P.W. Johnson, Catherine H. Phan, and Omar Poler in "TLAM: Creating Student-Driven Indigenous LIS at University of Wisconsin–Madison." They describe the development of curricula specifically designed to incorporate issues related to the administration of TALMs. While the program is recent and its long-term success unclear, it is a smart and engaged approach to professional diversity. The advice of Kelly Webster, a Boston College cataloger and past president of the American Indian Library Association (AILA), is especially insightful: travel to communities, meet existing tribal professionals, listen to what they have to say, and build long-term relationships of learning with them. Cohort-based education (whether graduate or continuing professional) has been effective for librarians and archivists in general. Programs like the upcoming Oregon Tribal Archives Institute at Oregon State University are building on UW–Madison's success.

In reading and rereading this book, I was struck by the underlying value of sharing and reciprocity. Relationships are highly valued, and the only effective way to build relationships is to get to know people, share openly and freely, and build for the long haul, not just for a present benefit. There is much that TALMs have learned and incorporated from the broader cultural heritage community. Chapters in this book reflect the use of that knowledge to create programs and processes uniquely tailored to indigenous communities.

But there is much for the broader community to learn as well. TALM components have learned to collaborate in ways that have only been talked about in the broader community. The community's involvement in professional activities and decision-making has benefitted TALMs and could be a model for non-tribal institutions and communities. And communities would do well to think about the emphasis on relationships over processes.

I view this book as the first discussion in an ongoing dialogue. Hopefully, it will spur further ideas and discussion among both tribal and non-tribal cultural heritage professionals. We all have things to share, things to teach, things to learn. This book lets us work together for a better common heritage.

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NOTES

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Waldo Gifford Leland and the Origins of the American Archival Profession. Edited with an introduction by Peter J. Wosh. Chicago: Society of American Archivists, 2011. 398 pp. Softcover. $62.95. $44.95 for SAA members.

If an Olympic medal marks the pinnacle of an athlete's career; a Nobel Prize, that of a scientist; and a Pulitzer, a writer's, what marks the highpoint of an American archivist's career? A portrait in the National Archives would definitely rank up there as a means of recognition. Even though his own portrait was unveiled in 1957, Waldo Gifford Leland would often claim not to be an archivist at all, stating his lack of personal experience at managing records, yet admitting to his personal enjoyment in "telling others how records should be managed" (p. 3). It is Leland's mix of humility, straightforwardness, and dedication to the archival profession that Peter Wosh, director of New York University's Archives and Public History Program, brings out in his combined history of the archival profession and Leland biography, *Waldo Gifford Leland and the Origins of the American Archival Profession.*

To present the breadth and depth of Leland's influence on the profession, Wosh uses a mixture of brief editorial explanation, followed by Leland's own correspondence and professional papers on subjects ranging from the "application of photography to archive work and historical editing (1908)" (p. 49); proceedings of the Fourth Annual Conference of Archivists (1912); and accounts relating to the Conference of Archivists and the First International Congress of Archivists and Librarians. Leland's relationship with the National Archives is illustrated through a reprint of his 1912 article from the *American Historical Review*, which Wosh calls "his most comprehensive and articulate argument" (p. 165) for the creation of a national archives.

The value of this book comes not from the presentation of historical facts but from Wosh's exposition of the personal narrative and published papers illustrating Leland's passion and dedication to the archival profession. Wosh explores the variety and diversity of Leland's involvement in archival practice–from Leland's 1904 joint publication with Claude H. Van Tyne, *Guide to the Archives of the Government of the United States in Washington*, to his active involvement in the American Historical Society, the American Council of Learned Societies, and the Society of American Archivists, and Leland's tireless campaign to see the creation of the National Archives building, along with the development of an effective archives administration and records management system.

One of Leland's many interesting exchanges of correspondence and conference papers is presented in chapter two, "The First Conference of Archivists (1909)." This chapter contains correspondence between Leland, then secretary of the American Historical Association, and various Association members as they prepare for the very first national conference of American archivists. Also included is Leland's keynote address to the Conference. For someone reading this material in 2012, it is fascinating to realize that so much of what we take for granted today as archival professionals was nonexistent in 1909. By that point in time, the state archives of Alabama and Mississippi had been established in 1901 and 1902, respectively, yet most American archivists did not acknowledge the need to differentiate their professional approaches from those of libraries and manuscript creators. Few archivists distinguished between personal papers and public records, paid attention to the principle of provenance, or relied upon standardized professional practices (p. 59).

In his keynote speech to the conference, Leland outlined a variety of problems he saw within the profession. He compared the United States with its European counterparts and their well-established systems for collecting, cataloging, and maintaining archival records. He described the need for legislation at the national and state levels to provide unified control of public records across agencies, and detailed the conditions under which various agencies should take control of specific documents and handle public officials' personal and public papers. Again referring to the European example, Leland addressed the need for uniform cataloging and classification, as well as the uniqueness of archival records. In sum, this keynote speech set the stage for the chapters that follow, providing a rich and varied testament to Waldo Leland's contributions to the archival profession.

The concluding chapters "Recollections (1951)" and "Reminiscences (1955)" are Leland's look back at his own career and history at two different points during his retirement. Both personal commentaries are straight-forward and honest, a genuine reflection of the man himself. I suggest *Waldo Gifford Leland and the Origins of the American Archival Profession* to anyone interested in the behind-the-scenes history of how the archival profession in America became what it is today.

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23 Things for Archivists. By Reference, Access, and Outreach Section. Society of American Archivists. http://23thingsforarchivists.wordpress.com/. Free.

The "23 Things" model for Web 2.0 training, with which participants are introduced to Web 2.0 technologies and concepts through small, participatory modules, has been popular across the library world since it was first developed by Helene Blowers for the Public Library of Charlotte and Mecklenberg Counties. The self-directed nature of the program has made it a favorite form of professional development, with high staff penetration and low time and resource requirements beyond the initial research and set-up that the program prompts.

Beginning in 2009, the Society of American Archivists' Reference, Access, and Outreach (RAO) section took up the task of bringing Learning 2.0 to archivists with the pilot run of *23 Things for Archivists*. Members of an RAO working group took responsibility for writing Web site copy and publicizing the program to the section members, and in January 2012, 23 participants began the 11-week program, with RAO mentors assisting participants with up to three "Things" each week. Participants created publicly available blogs to document their experiences with the various technologies. The report of the working group to RAO leadership indicated that participants generally liked the program, but there was also a consistent drop-off in active participants throughout the 11-week session (only two of the 23 participants actually finished all 23 Things). Tellingly, nine out of 15 respondents to a post-program survey indicated that they felt the program as presented moved too quickly to allow full absorption of the concepts related therein.

In likely response to this concern, subsequent iterations of the *23 Things* program have included a non-directed component on the main program page. This component also saw the addition of Things 24–49 as the Intermediate and Advanced tiers of the program; participants could work through these Things for information on more complex Web 2.0 concepts. The second, and part of the third, tiers of the program were completed around August 2011, resulting in an extensive set of learning modules for archivists to complete "at home or at work, alone or in a group, at your own pace as you have time." As a whole, these modules are an excellent introduction to these technologies for archivists of all experience levels looking to learn more about using Web 2.0 technologies for their institutions.[1]

The basic setup of each learning module is simple but effective. The author of the Thing gives a brief introduction to his/her subject, including information on the subject's development, current uses, and sometimes one or more applications that the subject can have to an archival repository. Following this, most of the Things lay out one or more tasks designed to get the participants to use the technologies themselves. Most of the service-based Things, such as the module for social networking, start by having participants sign up for an account with their service of choice, and then instruct participants to make use of the service in some way that might be applicable to their respective archives. These tasks are particularly useful to help archivists see the use of some of the more esoteric subjects discussed, such as Image Mashups and Video Slideshows. In most cases, the services themselves provide good documentation about how to set up an account and how to use its basic functions. However, for a few such services, such as blog widgets, more explanation of their operations in the Task section would have been helpful.

Following the tasks, each of the Things provides one or more blog prompts for participants to talk about their experiences. In most cases, these prompts are some variation on the question of how the participant might use a given tool in his or her own repository, or in archival repositories in general. To provide inspiration for answering the prompts, each blog includes a number of external links to resources related to its subject; these may be general information, articles in library/archives journals about using the tool in a specified setting, or examples of other archival institutions making use of the tool/technology. These prompts are arguably the most valuable part of the *23 Things* program, as they encourage participants to reflect on their use of the various tools and to come up with their own ways to utilize them.

Some of the Things, particularly in the Beginning tier, also include Advanced tasks intended for users already familiar with using tools and technologies to find new ways to apply the tools to archival work. The value of these tasks is mixed at best. The Advanced task for slide sharing, for example, is for the participant to upload her own presentations and share them on various other social media sites, which is the next logical step for using those tools effectively. Conversely, the Advanced task for RSS readers is to set up a Yahoo Pipe, a highly complex newsfeed tool; frustration with setting up such a service may have a discouraging effect on completing the program as a whole. The presence of the Advanced tasks may also tempt intermediate-level participants to skip the "regular" tasks, which could deprive them of opportunities to learn by approaching the basic tasks from advanced angles. The Timelines task (Thing 20), for example, does not explicitly mention using API to populate timelines, but participants who have been using tools to import content across different Web 2.0 tools in earlier Things may discover this themselves, which further cements that knowledge for future use.

The Intermediate and Advanced Things generally follow the above formula used in the Beginning Things, but the formula is applied more inconsistently in these tiers. Many of the Things from 24–49 are credited as adapted from other *23 Things* programs, most notably the Minnesota Libraries' *More Things on a Stick* program. For the most part, the Intermediate and Advanced Things included on this basis are both appropriate and useful; Google Maps, Analytics, and Screencasting, in particular, raise a number of important points and questions for archivists to think about. Others, however, are either incomplete or peripheral: E-Newsletters, which discusses the procedure for creating a static newsletter to be E-mailed to key constituents, seems the epitome of a Web 1.0 technology, and the entry for Online Media Editing consists only of a single link to an Educause article. Four of the Things have no entry linked at all. A more detailed explanation of the selection criteria would help alleviate some confusion about why these lesser entries are included.

One weakness of the *23 Things for Archivists* self-directed program as a whole is its apparently delayed update cycle, which is potentially a real problem for a program dealing specifically with Web 2.0 technologies. Most examples avoid mentioning specific programs or platforms for this very reason: the vaguer the language used to describe the use of the technology, the more likely that language is to survive the discontinuation of a particular product. Discussion of a particular program is unavoidable, and as a result, the currency of the site begins to suffer. Pageflakes, mentioned in Customized Home Pages, has been inoperative since January 2012; the interface for Facebook Apps is now completely different, and many of the specific apps that are called out no longer exist. Most egregiously, Google's acquisition of Meebo in June 2012 invalidated much of the content on Online Chat, which used Meebo as the default application. In fairness, the site does still receive updates for major developments—the Meebo news prompted a new prefatory note, mass cross-outs on the module in question, and links to alternative resources, for example—but there remain examples throughout the Web site of technology marching on, leaving copy from less than a year ago obsolete in its wake.

Overall, however, any currency faults are more than made up for by the breadth and depth of the material on the *23 Things* site. The Reference, Access, and Outreach Section has compiled an extensive collection of tools, important concepts, resources, and examples for any archivist, whether he or she is an Web 2.0 expert looking to brush up on skills, or a Web 2.0 neophyte who wants to see what all the fuss is about. Help is available to potential participants stuck on implementation of one particular Thing, and the current self-directed nature of the program enables those participants to explore Web 2.0 tools as shallowly or as deeply as is deemed necessary. The *23 Things for Archivists* program requires some initiative on the part of individual archives or archivists, but it greatly rewards any such archives professional who is willing to put in the effort.

In the spirit of the *23 Things* program, this review has an associated program blog, with much more to say about individual Things, interface issues, and other musings on ways to apply these tools in archival settings. Please see: http://reviewingarchivesthings.wordpress.com.

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NOTES

1. The site was accessed for this review between April and June 2012. Content may have been added or removed since, but comments about specific items were accurate as of June 30, 2012.

The Paper Road: Archive and Experience in the Botanical Exploration of West China and Tibet. By Erik Mueggler. Berkeley: University of California Press, 2011. 361 pp. Index. Softcover. $29.95.

Between the years 1906 and 1950, two generations of Western explorers traversed Western China searching for flora and fauna to send back to their native gardens and scientific institutions. In 1906, Scottish botanist George Forrest set out to explore China with a crew of 25 to 30 locals. The Austrian-American botanist, Joseph Rock, arrived in China in 1922 with a crew of locals similar in size to Forrest's. Many were, in fact, sons of the men who had worked with Forrest. These men came to China to find exotic plants to fill the gardens of the wealthy and to expand their knowledge about the Eastern fauna in the collections of Western botanical institutions. While Erik Mueggler's *The Paper Road: Archive and Experience in the Botanical Exploration of West China and Tibet* details the history of botanical explorers Forrest and Rock, it also seeks to challenge the idea of truth in archives. Mueggler's thesis is not an uncommon one; he tries to show how archives fail to reveal the entire truth about an event or completely document the process of gathering knowledge.

While Mueggler chose to write about Western botanists' explorations in China, his focus is not on the plants, but rather how the Western world viewed the East. It is the common tale of the early twentieth century viewed through a lens of superiority and fixed ideas of what constitutes a civilized society. The Scottish botanist George Forrest's experiences in China perfectly highlight how the West saw colonized lands. Forrest's letters and diaries detail the experience of being stared at wherever he went in China. He resented this gawking. Forrest believed that if the Chinese did not stop gazing at civilization, then they would never achieve it. He found the Chinese to be dirty, uneducated, dependent on archaic rituals, and lacking the ability to create a civilized society. Of course, this is an opinion typical of an early twentieth century man from Western Europe with the scantest knowledge about China.

Mueggler also argues that Forrest and other Westerners' experience of colonizing lands helped create a large quantity of documentation in archives across Europe that reinforced these ideas of the East. While the Royal Botanic Garden of Edinburgh holds Forrest's work (the Chinese specimens, seeds, names, and descriptions of the plants he sent back to Scotland), it does not document his experiences or knowledge about the locals whom he hired to collect these plants. The original labels placed on each plant sent back to Scotland were written by a hired local named Zhao Chenzhang. These labels were all replaced after the plants reached the Royal Botanic Garden. Zhao's full name is not even mentioned in Forrest's letters and diaries. Forrest made no attempt to document Zhao's knowledge of local Chinese flora and fauna, even though it was Zhao who led Forrest to places where these plants grew.

Mueggler contrasts the experiences of George Forrest with those of botanist Joseph Rock. Rock arrived in China in 1922 and also viewed China through the lens of Western superiority. What is different about Rock is that his views of China and its people evolved as he spent more time there. Rock's diaries from his first expedition in 1922 detail his obsession with the "filthiness" of China. He wrote about how unkempt the people were and how trash and sewage routinely lined the roads and lanes of every village. He described how he could easily astonish the locals by taking a picture with his camera or silence everyone with his phonograph. Rock's first experience of China is practically a carbon copy of Forrest's. But by Rock's third expedition to Western China, his views had completely changed and he felt more at home in China than he did in America. He learned the local language and threw himself into the translation and description of the *dongba*, a local language and religious text that dictated daily life for the Mu people.

Mueggler, an anthropologist by training, describes at length the difference between archives and experience in this book. He draws this contrast to show that archives only capture one particular point of view and often leave out the total reality of an event. He laments the lack of documentation about the local men who assisted the botanists and how neither the botanists nor the hired men themselves documented their experience of the expeditions. Mueggler complains about the state of archives, but fails to see what the archives allowed Mueggler to achieve.

It is true that the archives of the Royal Botanic Garden in Edinburgh, where Forrest's and Rock's papers are housed, had little or no written documentation describing how the Chinese felt about the expeditions. These archives did, however, provide Mueggler names and photographs of the hired men, and even hand-drawn maps describing for the botanists where their specimen plants originated. He found Joseph Rock's diaries, which detailed genealogies of Tibetan and Western Chinese rulers and how those rulers governed. Rock also wrote a great deal about a hired local named Li Shichen, who became his trusted partner during his expeditions to China. Also, in addition to Forrest's and Rock's papers, other archives provided information about local governments, local traditions, and systems of education in China in the early twentieth century. While the archives are not complete, they contain enough for Mueggler to have written a book about the expeditions from both the botanists' and the hired locals' respective viewpoints.

Archives do not claim to be complete in describing the reality of events. Rather, archives seek to document people's experiences, and people bring their own biases and limited education to an experience. While Mueggler laments the lack of "complete archives," he fails to recognize that archives would be unsuccessful even if they were complete. Though this book is not aimed for archivists, it demonstrates exquisitely the breadth of existing archives and also how much information has simply been lost. It is an excellent reminder of why we keep archives and how archivists can always strive to document more completely the world in which we live.

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Book Repair: A How-To-Do-It Manual, Second Edition Revised. By Kenneth Lavender and Artemis BonaDea. New York: Neal-Schuman Publishers, 2011. 300 pp. Index. Softcover. $80.00.

Few preservation-related books make you want to run out to the nearest art supply store, purchase materials, and get started on a project, but *Book Repair: A How-To-Do-It Manual* does just that. While its primary audience is librarians, the methods and principles outlined here can be appreciated by anyone whose collection includes paper or non-electronic books.

Lavender is a professor at the Syracuse University School of Information Studies. BonaDea is a long-time book conservation specialist and the author of *Conservation Book Repair: A Training Manual*. This revised edition of Lavender's work features chapter updates, a flowchart to help determine the best treatment for water-damaged books, new information sources, an updated suppliers directory, and a new glossary.

As you would expect, the topic of book repair is covered in great detail. The manual shows and explains not only how to fix a broken spine, but also how to make a new one or replace the case (i.e., cover). With the help of numerous illustrations and photographs as well as numbered, step-by-step instructions, you can learn how to hinge-in sheets, tip-in pages, and even sew text blocks. Other topics addressed include reinforcing paperbacks, making cloth boards, repairing hinges, and replacing end sheets.

Sensibly, *Book Repair* does not recommend single-item treatment for every book. The introduction presents questions one should consider when deciding whether to invest funds and labor into repairing an item, and offers a handy flowchart to guide that decision. The introduction also sets out the three basic conservation principles: harmlessness, durability, and reversibility. As the author points out, "the most professional restoration treatment is not accomplished or reversed without some harm to the original book. The materials and techniques used are selected because their durability extends the life of the book while causing the least harm possible. … When in doubt, make a box for it" (p. 5).

Book Repair goes beyond the title topic to describe a range of basic paper repairs and preservation techniques, including paper cleaning, how (and whether) to treat water-damaged books and papers, what to do about mold and mildew, mending, and how to make protective enclosures. A description of tools and supplies and the best ways to use them precedes the instructional chapters.

The instructional chapters stand alone, so it is not necessary to read the entire book to perform a specific repair. Procedures generally run from easiest to most difficult in each chapter. For example, the chapter on enclosures first provides instructions on creating two-dimensional polyester film enclosures; then mats; then polyester film book and pamphlet covers; next, board phase boxes; and finally, cloth-covered, felt-lined clamshell boxes.

The layout contributes to the book's handiness. The table of contents breaks down each chapter into topics and subtopics, and the first page of each chapter reiterates the subtopics. Instructions for each procedure start out with the list of supplies needed, and similar techniques are grouped together. In many cases, the text refers to numbered illustrations that are further broken down into lettered sections, so you can see exactly how to complete a process. I followed the instructions for creating a "fill" mend to repair a loss, and found them easy to follow, resulting in a much stronger mend.

Each chapter ends with a list of resources and specialists. One appendix provides basic origami instructions for making a disposable paper or polyester box (useful for paste or dye), while others list suppliers of tools and materials and a bibliography of print and on-line resources.

One quibble I had with the book's organization appears in the chapter "The Basics: Tools and Techniques." The section on "paper" abruptly switches to multi-page, illustrated instructions on how to tear mending strips from various weights of tissue, and then it returns to the list of tools. Perhaps the section should have been set off as a sidebar at the chapter's end.

Occasionally, information is presented as fact without explanation. For example, the author says that when testing inks for bleeding, the liquid used should be at room temperature, but he does not explain why. He also states that repair tissue must be torn along the grain and, again, he does not explain why. (In some instances, tissue torn against the grain is preferred to increase mend strength.)

While I thought the glossary could include more terms, the definitions it does provide are informative, with frequent cross-referencing. Unfortunately, the index lacks thoroughness. For example, the names of tools are given entries, but instructions on how to use them are not listed under these entries. Take the term "dry cleaning sponge": If you look under "sponges," you find an entry for page 22, which includes only the briefest mention of a dry cleaning sponge. To learn more about it, you need to go to the section on "testing methods," or the section on "paper cleaning." A "see also" reference to "cleaning, paper" or "testing methods, dry" from "sponges" would direct readers to the correct pages. Better still would be the inclusion of subentries such as "cleaning with" or "and testing" under the main entry of "sponges."

Regardless, the useful information provided in the book more than makes up for its few minor faults. Why should you not microwave a book? What's the best way to use an eraser? When is a clamshell box preferable to a phase box? *Book Repair* answers these questions and many, many more.

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The Lone Arranger: Succeeding in a Small Repository. By Christina Zamon. Chicago: Society of American Archivists, 2012. 157 pp. Index. Softcover. $69.95. $49.95 for SAA members.

The variety of tasks required in archival work—from collection processing, to digital reformatting, legal issues, and budgetary concerns—are common challenges faced by all archivists. Balancing the needs of your constituent researchers against the documentation and preservation of history are responsibility enough for an entire department of archivists. Pity the sole practitioner who must be a skilled hand with every one of these tasks, often with minimal funding, little institutional guidance, or moral support.

What are these practitioners, these “lone arrangers,” to do when every project is a priority and there are no colleagues or staff to whom they may delegate? How does one run an entire archives efficiently and with grace, single-handedly?

Christina J. Zamon, head of Archives and Special Collections at Emerson College, has offered a simple answer to this quandary in the form of a book intended solely for these hardy and beleaguered souls: *The Lone Arranger: Succeeding in a Small Repository.* Zamon, having identified a lack of guidance for small repositories in the archival literature, set out to write a guidebook outlining the basics of practice in a small shop.

Broken into seven categories by sub-discipline, the book acknowledges that archival work does not simply consist of the meat and potatoes tasks of processing and reference. Rather, the successful archivist will be equal parts traditional archivist, businessperson, cheerleader, teacher, and diplomat. Nodding to these roles, Zamon has addressed the full spectrum of key specialties practiced in the profession: administration and management, collections management, technology issues, fundamental programs (e.g., processing and preservation), facilities management and disaster planning, reference and outreach, and budgeting and financing.

Each chapter bears a clever title corresponding to the question or need of a lone arranger, such as “How am I going to get my work done?” (“Fundamental Archival Programs”), and “You Want What?” (“Reference and Outreach”). Case studies in each chapter examine success stories spanning the map from Tennessee to Oregon. The contributing authors are archivists who work in historical societies, county records and municipal archives departments, universities, museums, and churches. Many small-scale archivists will find cases relevant to their respective institutions among these examples.

Zamon’s approach to each question is to lay out potential needs and challenges in simple, accessible language, address accepted best practices, and then offer advice on multiple options to pursue. In many instances, she addresses the potential repercussions of various choices. *The Lone Arranger* acknowledges that there is not always *one* correct answer to our troublesome questions, but rather, a variety of possible answers, each with its own perks and pitfalls.

When gauging *The Lone Arranger*’s success in offering a lifeline to the small repository, it is important to know the book’s intended audience. The work is an excellent introduction to the field, fundamental terminology, and best practices for new lone arrangers, M.L.I.S. students, and those who may find themselves—whether intentionally and by training or not—in the archival lone arranger role. Of course, one could argue that small institutions may be more likely to have an archivist falling into one of these categories than would a larger archival repository, outfitted with sub-specialists assigned to different roles. In that sense, the book meets its goal. One could imagine the slim volume becoming dog-eared and much-beloved in its role as helpmate to those archivists with few local alternatives to querying professional listservs. In this respect, *The Lone Arranger* is a useful, solid summary of the basics of nearly every aspect of work in the archives field.

Like any work that aims to cover its topic with great breadth, however, it does not always offer great depth. While specialists and professionals further along the career track could benefit from perusing sections for reminders or as initial guidance for a new task, they will almost certainly need to look elsewhere for more detailed information. In this manner, the primary complaint against the book is a bit of a compliment: “It is too short! I could have used more of this insightful and helpful advice.”

Fortunately, Zamon has anticipated the difficulty of cramming the entirety of this venerable profession into a slim volume of 157 pages: she has included an ample resource guide and list of selected readings on each topic, pointing to publications, institutions, and professional organizations that provide further information.

Overall, *The Lone Arranger* is a helpful contribution to archival literature and should act as a solid guide to archivists seeking clear, basic foundational advice. In addition, the work would make a strong textbook for would-be archivists, and should serve as one of many helpful tools to those tasked with creating an archives on a shoestring budget—particularly those with little advanced training.

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Public Relations and Marketing for Archives: A How-To-Do-It Manual. Edited by Russell D. James and Peter J. Wosh. New York: Neal-Schuman Publishers, 2011. 250 pp. Softcover. $80.00.

At the 2003 Society of American Archivists' (SAA) Annual Meeting in Los Angeles, David Logan, associate dean and executive director of the Office of Executive Development at the Marshall School of Business, implored archivists to place ourselves more in the spotlight. He wanted to see our input and articles on the front page of *The Wall Street Journal* and hear our opinions on National Public Radio. Almost a decade later, archivists have participated in the television shows W*ho Do You Think You Are?* on NBC and *Finding Your Roots* and *History Detectives* on PBS. Are these mainstream mentions enough exposure for archivists and their collections?

In this time of budget cuts, it is more important than ever to promote our archives. In *Public Relations and Marketing for Archives: A How-To-Do-It Manual*, edited by Russell D. James and Peter J. Wosh, archival professionals from a variety of backgrounds have contributed 12 chapters to assist archivists in developing public relations skills. I admire these writers for finally addressing such a complex issue, one which never seems to get the attention it deserves. This book offers a great deal of practical information and public relations templates.

Unfortunately, I was somewhat disappointed with the book, mainly because it was already out of date regarding the topic of social media. Some chapters glossed over information and the shortest chapters tackled topics that should have been the most in-depth. I also wished the editors had invited more corporate archivists and professional public relations and marketing experts to write some of the chapters. More examples of successful public relations/marketing demonstrations would also have been helpful.

Real-life advice based on day-to-day experiences is missing and basic public relations jargon is not explicitly explained. A chapter that coaches archivists on how to collaborate and brainstorm with their internal communications and marketing colleagues also would have been useful. Archivists should be included with public relations teams in pitching ideas because when archivists work with PR and marketing liaisons, everyone wins. Providing input to media colleagues is vital to our success, especially since archival repositories are full of dynamic content.

Chapter one, "Websites" by Michele Lavoie, addresses Web site content and site surveys. Lavoie does not discuss search engine optimization or cloud storage as the next trends, nor does she mention Web site templates such as WordPress or Wix.com that could help archivists make their own sites in a quick, easy, and affordable way. She also could have explained web analytics tools such as Compete or Quantcast, which allow you to see how many visitors your Web site receives monthly.

Lauren Oostveen's chapter on social media is timely. The most useful section of the chapter is Oostveen's insight into Flickr and Facebook (pp. 44–47). Her best advice is to sign up for social media tools on your own for practice, and then for your repository after you have learned how to use the application. All archivists should know how to tweet and use Facebook. Oostveen (who has a PR background) misses opportunities to describe buzz marketing, crowdsourcing, and consumer-generated marketing, and makes no mention of Google Alerts, Google+, Tumblr, Pinterest, Instagram or Wikipedia.

Blogging is a fast and easy way to highlight your repository and its collections. Lisa Grimm includes links to successful Web sites and blogs (p. 56) in her chapter on blogging. Another highlight of her chapter is the step-by-step guide to setting up a hosted blog (p. 63).

Chapter four, Stephanie Gaub's "Media Outlets," is the manual's shortest chapter, but probably should have been the longest. Many professionals in the archives field have no background in media or experience cultivating a relationship with the media. More graduate schools need to address this issue. A documentary that may help archivists better understand the tight deadlines that journalists face daily is *Page One: Inside the New York Times* about the newspaper's inner workings. While Gaub's advice about handling negative publicity and cultivating a positive image of your archives is practical, she could have provided more basic instructions about working with media outlets, such as instructions on how to write a press release.

In chapter five, "Press Kits and Press Releases" by Russell James, the jargon used in public relations could have been more fully explained. For example, many professionals do not understand the difference between a media kit and a press kit or the term "boilerplate."

Chapter six highlights the use of newsletters, an old-fashioned approach to public relations in the age of blogs and the Internet. I believe the book would have been better served by replacing this section with a chapter focused on media campaigns built around important anniversaries, whether it is the company's 25th anniversary or the 100th anniversary of the sinking of the *Titanic*.

Stephanie Gaub, who wrote the chapter on media outlets, also wrote chapter seven, "Visual Exhibits." While the chapter includes many helpful examples of use agreement forms, Gaub glosses over the use of watermarks and facsimiles in visual exhibits and fails to address how archivists are often involved in helping choose visuals for publications produced by their employers. There are many ways that an archivist can promote his or her repository through visual materials. Unfortunately, Gaub also missed an opportunity to showcase one such example: how iconic brands are using their archives in their visual materials. Over the years, I have witnessed some fascinating ways that companies license their historical collections for souvenirs and capture visitors' and employees' attention with exhibits and videos at their museums or headquarters. There are many examples of ways companies have successfully utilized their archives—from TV commercials to interior decor—but there are no inspiring stories in this chapter. Grub could have discussed, for example, the facts that Motorola's cafeteria is decorated with archival images; Ben and Jerry's uses old images and a timeline on their ice cream shops' tables; and Shawn Waldron, the archivist for Conde Nast, uses his archival collection in a unique for-profit way (see http://www.condenaststore.com/.) Another example is the Levi Strauss archives, which is highlighted at the company's headquarters through the display of movie posters of James Dean wearing Levis and letters from U.S. presidents discussing how much they love their Levi jeans. In addition, retailers like J. Crew and L.L. Bean are utilizing their archives for special "vintage" collections.

Chapter eight, "Educational Programming" by Maria Mazzenga, would have been more compelling had Mazzenga discussed social media and audiences, such as how *The New York Times* is reaching out to its readers in order to identify people in 1960s photographs. I am grateful that Mazzenga mentioned an educational goals checklist and the need to know your staff's expertise. Mazzenga urges archivists to "use every opportunity to educate in-house patrons on the worth of your repository" (p. 167). Social media can assist with this. For example, archivists who have to write tour scripts for a wide array of audiences can use social media updates as a quick and easy way to update the public about tours and lectures.

Elizabeth Myer's public presentations section was my favorite chapter and should probably have been the first chapter in this manual. Myer is masterful at getting you to think about outreach. She advises archivists to "raise visibility and usage, and reinforce your archives' intellectual, social, educational, and economic value" (p. 171). Her most helpful chart, "Translating common jargon for general audiences: a brief guide" (p. 178), is exceptional. Myer reminds the reader to have a template for your presentations, but also to target your unique audience.

Suzanne Campbell and Victoria Arel Lucas contribute excellent chapters on "Historical Societies, Genealogists, and Volunteers" (Campbell) and "Donors" (Lucas). Campbell advises archives to create separate brochures for areas of specialization that describe the material and how it can be accessed. Lucas reminds us about relationship marketing and how donors "need to know you exist." Lucas's advice is exceptional, especially her emphasis on loyalty and communication when marketing to donors. As an example, archivists might create special exhibits for colleges reunions that can help create loyalty—and ultimately lead to donations.

I wish one of the contributors in this book had pointed out concrete examples of archivists who are actively marketing their profession as historical consultants with TV shows, such as Heather Halpin Perez, an archivist for the historical Alfred M. Heston Collection at the Atlantic City Free Public Library, who was hired as a historical consultant by HBO's *Boardwalk Empire*'s lead researcher. Halpin Perez provided details for some of the sets and costumes by using the library's archives to accurately re-create set props. Archivists at the Rockefeller Archive Center in Sleepy Hollow, New York, were consulted by *Mad Men*'s producers to make sure the show accurately portrayed Nelson Rockefeller's election in one episode. Success stories such as these would have made the book more intriguing.

In conclusion, I would have liked to have seen more precise suggestions on what archivists can do to participate more in the media, but perhaps that is for another book. Archivists are experts in their subject matter and they are essential to making PR and marketing successful for their employers. There is no excuse for archivists to shy away from publicity. My hope is that this book will provoke interest, and I would be delighted to see a session at the next SAA meeting concerning public relations and marketing participation. We have much to learn from our colleagues.

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I, Digital: Personal Collections in the Digital Era. Edited by Christopher A. Lee. Chicago: Society of American Archivists, 2011. 379 pp. Index. Softcover. $69.95. 49.95 for SAA members.

Over the last several decades, the volume of digital materials in archival collections has soared. Some of the most difficult of these collections to deal with have been personal digital collections donated by individuals or families. These records might document the daily lives of people, their work, and their leisure time, and yet they may be scattered across a variety of different platforms and Web sites, exist in a variety of formats, and be stored in different ways over time. In *I, Digital: Personal Collections in the Digital Era*, editor Christopher A. Lee explores the issues associated with these personal digital collections.

A major benefit of this book is its attempt to bridge the gap between two distinct but interrelated fields: archives and personal information management (or PIM). As Lee points out in his introduction, researchers in these two fields often take different perspectives on the same issues; however, it would be a boon for researchers in both fields to be aware of what their colleagues are studying. As an archivist by training, this reviewer was interested to learn that PIM focuses on the activities people undertake to arrange, store, retrieve, and control their personal records (paper-based and digital) in order to fulfill daily tasks, both at work and at home. In the first essay in the collection, Lee and Robert Capra compare PIM with archives and records management (ARM) to show key ways the fields overlap and differ. For example, while ARM generally treats records on an aggregate level and emphasis is placed on context and provenance, PIM considers records on an individual level, and emphasis is placed on the ability of people to retrieve and use each individual record. In PIM, research focuses on how to support an individual's ability to retrieve (or "refind") information in the short term, such as a person trying to remember which folder on his own computer contains a particular document to which he needs to refer. Archivists and records managers also try to determine how to efficiently store records in the short term (so that a legal office may refer to recent court cases to prepare for a new case, for example). But ARM professionals also pay close attention to how to arrange and describe records so that in the future, scholars and researchers can successfully use collections they did not themselves create. This is one of several key areas that Lee and Capra suggest PIM and ARM professionals should study together—RM professionals may benefit from learning what PIM professionals know about the steps people take to find information. Recent archival scholarship on Web usability testing, and on metrics to measure the quality of teaching, suggests that archivists are interested in learning how to help users search on their own more effectively and efficiently.

Another interesting subject the authors address is how PIM and ARM each deal with the question "Why not keep everything?" Since PIM scholars are especially concerned with how efficiently users "refind" their records, the idea of keeping everything is less problematic, so long as an individual has enough storage space and an effective search strategy. On the other hand, for archivists, resource allocation can be paramount: "For an archives to keep everything, it first has to get copies of everything (logistically impossible) and then commit to providing meaningful and appropriately controlled access to it over time (professionally unrealistic and an irresponsible allocation of scarce resources)" (p. 52). Lee and Capra's chapter also contrasts care of digital records with care of physical records with regard to both PIM and ARM practice.

The book is divided into three sections. The first is devoted to conceptual foundations of PIM and ARM and how they interact, as described above. Part two is "devoted to particular types, genres, and forms of personal traces; areas of further study; and new opportunities for appraisal and collection" (p. 18). For example, in another essay by Christopher Lee, "Collecting the Externalized Me: Appraisal of Materials in the Social Web," Lee describes ways that traditional archival appraisal strategies can translate into appraisal of personal digital collections containing material from social media Web sites. Part three "addresses the practical implications of the issues raised in the previous chapters for the strategies and practices of professionals who work in memory institutions" (p. 18–19). Part three is especially useful to the practicing archivist, as it provides suggestions about how to apply the strategies presented in the rest of the book to their work. In an excellent essay by Rachel Onuf and Thomas Hyry, "Take It Personally: The Implications of Personal Records in Electronic Form," the authors emphasize the profound ways digital archives, if done properly, can provide scholars many benefits that paper documents cannot. Another helpful essay, "Making It Usable: Developing Personal Collection Tools for Digital Collections" by Leslie Johnston, describes tools created to manage digital content of various kinds.

The core argument of the book—that archivists, records managers, personal information management researchers, and information technology professionals have much to learn from each other about personal digital collections—is strongly argued and well-supported. However, as an archivist, I was not entirely satisfied with the book's discussion of the ways I can apply any of these lessons. The essays in part three were a good start, but more discussion on how to use the research on PIM in day-to-day archival work would have been helpful. Clearly there is overlap in these fields, and much of the information about PIM was interesting, but at some points the book provided more information on PIM than was necessary (and probably far more information on archives than was necessary to PIM scholars). Some other essays, such as "Evidence of Me…in a Digital World" by Sue McKemmish, seemed to pick up in the middle of academic conversations that would require outside reading before readers could fully grapple with the argument presented. In trying to reach a wide range of people, this volume sometimes tries to accomplish too much, and clarifying details are often lost.

Regardless, *I Digital* is a great first step in opening up a conversation among several complementary fields, and is worth a look for anyone working with digital personal collections. Perhaps future books can build on these themes and provide more practical information on how PIM research can resolve issues for archives professionals.

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Managing and Growing a Cultural Heritage Web Presence: A Strategic Guide. By Mike Ellis. London: Facet Publishing. 217 pp. Index. Softcover. $99.95.

Managing and Growing a Cultural Heritage Web Presence: A Strategic Guide by Mike Ellis provides planning and application tools to establish or improve a cultural institution's Web presence. It is a practical, step-by-step guide. Archivists and other cultural institution professionals require Web savvy and agility in the digital age, whatever media they might use. This guide offers help. The contents are well-organized and concisely presented. Especially helpful are on-line worksheets and checklists available at http://www.heritage.co.uk/book. This guide is peppered with quotes and anecdotes from cultural custodians that aim to intellectually link archivists as they move between management duties and archival work. Nonetheless, the basic Web development and presence advice in this guide stands on its own—it could be helpful to any organization developing a Web presence. This global knowledge approach is a positive attribute.

The publication's title and repeated references to a "Web presence" may initially belie the fact that this book is chiefly devoted to the mechanics and management of a successful Web site. This guide promulgates the theory that a successful Web site is integral to a successful cultural Web presence.

Ten chapters guide the reader through practical processes and the basics of understanding the on-line world for content providers and developers in cultural heritage institutions: "Evaluating What You Have Now," "Building a Strategic Approach," "Content," "Marketing," Policies and Guidelines," "Traffic and Metrics," "The Social Web (Web 2.0)," "The Website Project Process," "Away from the Browser," and "Bringing All Together."

The early chapters offer insight into content and other Web issues that cultural institutions may not foresee. Ellis's dual cultural heritage and digital background prove helpful as he reminds archivists of the need to understand both functional Web management as well as their respective institutions and patrons because "…they will use content in ways that surprise, too" (p. 3). Chapter one successfully links the evaluation of a current site to the development of the strategic nuts and bolts that are introduced in chapter two.

Chapter two provides practical planning advice which can be summarized as stop, look, and listen. Ellis urges cultural heritage institutions to avoid reacting and proactively plan a presence. This helpful advice segues efficiently to chapter three. Advice and guidance on practical assessment, implementation and challenges of content management, and content management systems comprise this chapter. On-line checklists and links provide step-by-step assistance.

Chapter four, "Marketing," provides both tactical and practical information on how Web links spider and work as well as trackback to see if a presence has been established successfully. Chapter four's helpful hints and practical advice should soon be reinforced by on-line checklists.

Policy advice and Web site links to a social media policy generator complete the guidelines provided in chapter five. Many institutions may use this as a risk tool when they employ the Web 2.0's interactivity to support a Web presence. Chapter six is equally practical, providing basic instruction in traffics and metrics. This chapter also provides a dose of theory on metric assessment, in a decidedly practical tone.

The preceding chapters refer to the issues addressed in chapter seven, "Social Media." Although this chapter contains much practical advice and acknowledges that "social media is where the audience is" (p. 124), the guide's lukewarm advice reinforces the author's theory that a strong Web site is the keystone to a successful Web presence. Again, the on-line companion is incomplete. A later reading may be more beneficial.

Chapter eight brings the reader back to the practical drawing board with guidelines and advice for bringing a project to life. Chapter nine, "Away from the Browser," discusses and defines Open Data and other incoming technologies. (The title is misleading—this chapter actually addresses the landscape beyond the desktop browser, including kiosks, mobile browsers, and other applications.) While this chapter is informational rather than practical, it should not be skipped.

The final chapter is a tidy assessment of the core instructions in this guide. Ellis clearly understands the spectrum of staffing and funding at cultural institutions and the incremental pace at which progress is achieved. Scarcely a step or configuration seems to be excluded. This simplifies the presentation, as does Ellis's strong dependence on Wikipedia definitions. Because the guide is well-organized, the more experienced reader may skip through these passages or delve into more complex definitions.

It was a pleasure to read this meticulous and complete work. *Managing and Growing a Cultural Heritage Web Presence* is a successful amalgamation of Web presence practices for the cultural heritage institution. In the space of two hundred pages, Ellis succeeds in providing an essential and powerful guide for cultural institutions.

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