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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 EDITORIAL BOARD

DIGITAL REPRESENTATION OF DISABILITY HISTORY: DEVELOPING A VIRTUAL EXHIBITION

BY ARJUN SABHARWAL

ABSTRACT: Virtual exhibition can play an important role in archival practice due to the growing volume of digital content in repositories, the growing number and diversity of remote users, and increased sophistication of technologies focusing on Web accessibility. The expanding digital environment affords archives with opportunities to leverage technology to their advantage by integrating archival description and outreach practices. Through virtual exhibitions following guidelines of the World Wide Web Consortium's Web Accessibility Initiative (W3C-WAI), archives can reach out to users with disabilities who can use assistive equipment for research purposes. With a focus on a disability history virtual exhibition at the University of Toledo's Ward M. Canaday Center for Special Collections, this article presents a conceptual framework for developing virtual exhibits comprised of three dimensions: thematic, structural, and semantic. The study presents an experimental methodology involving historical representation, information architecture, and Web accessibility. An overarching theme—the supernarrative—serves as a unifying component, holding the content and narrative together. The relationship between historical representation and the supernarrative manifests itself differently through these dimensions, but supports the position that with the help of planning, sound information architecture, and accurate descriptions, virtual exhibits can be equally effective in presenting history to users of all abilities. Virtual exhibitions should involve archivists, historians, and technologists in collaboration to achieve the best results. The article also presents elements of the W3C-WAI guidelines as relevant to the unique needs of this project.

Introduction

Virtual exhibitions play an important role in archival outreach as archivists seek more effective and innovative ways to reach patrons in the digital environment. Two critical trends have contributed to their elevated status: the proliferation of digital content and the growing emphasis on Web accessibility. The demand and support for digitized content have paved the way for local, regional, national, and global collaboration on developing digital collections, metadata schemas, and preservation standards to share

content and metadata across digital repositories. Virtual exhibitions represent one of the outcomes of these trends, enabling patrons to interact with thematically arranged digital content with descriptions similar to those seen in museums.

The increasing diversity of digital collections coincides with—if not directly results from—the increasing diversity of users, more of whom need assistive equipment to access library and archival resources on-line due to some disability. Accessibility does not exclusively apply to users with disabilities affecting mobility, vision, hearing, and cognitive conditions. Users with temporary disabilities, senior citizens, and others with bandwidth-, network-, or equipment-related technology issues are also likely to benefit from the research and implementations to improve access to information.[1] Web accessibility recommendations by the World Wide Web Consortium provide guidance to archivists and technologists developing virtual exhibitions and other digital resources that users with disabilities can access. From the vantage point of archivists, Web accessibility will be vital to archival outreach focused on patrons with disabilities. This increased need for Web access by a growing group of users with permanent or temporary disabilities, and the existence of guidelines for Web access for such users, presents archives with opportunities to experiment with various approaches to designing content-rich virtual exhibits that are accessible to patrons with disabilities.

This article focuses on the disability history virtual exhibit (DVX)[2], a collaborative project between Digital Initiatives and the Ward M. Canaday Center for Special Collections at the University of Toledo. Following the literature review, project history, and a description of the conceptual framework, the discussions will concentrate on the individual dimensions—thematic, structural, and semantic—comprising the conceptual framework. One of the aims of this article is to demonstrate through these discussions that virtual exhibitions are integral to archival outreach. The interdisciplinary approach combines topics related to historical representation, information architecture, and Web accessibility with code-embedded descriptions and metadata. While this method may well fall outside standard archival practice, it aims to highlight the experimental framework for the conceptualization of the project. The intended audience for this article, therefore, includes archivists interested in innovative outreach strategies, as well as Web designers interested in working with archival and historical materials.

Literature Review

Professional literature has extensively covered technology trends—mass digitization projects, digital preservation, and metadata standards, for example—in the past nearly two decades. However, fewer works have addressed the significance of virtual exhibitions until more recently, and even fewer—if any—have approached virtual exhibitions with an interdisciplinary perspective. The relationship of Web accessibility and information architecture is vital to historical representation in virtual exhibitions. As emerging technologies enter archival practice, scholarship will likely produce more knowledge in these hitherto unexplored areas.

What are virtual exhibitions? According to Schubert Foo, "a VE [virtual exhibition] is a [W]eb-based hypermedia collection of captured or rendered multi-dimensional

information objects, possibly stored in distributed networks, designed around a specific theme, topic, concept or idea, and harnessed with state-of-the-art technology and architecture to deliver a user-centered and engaging experience of discovery, learning, contributing and being entertained through its nature of its dynamic."[3] According to Chennupati K. Ramaiah, virtual exhibitions comprise a distinct genre in presentation techniques:

> Though virtual exhibitions are born digitally they are often based on physical exhibitions, virtual exhibitions demonstrate a great variability in content, structure, navigation, design, and complexity. They vary from a simple selection of images arranged in a given way to highly sophisticated multimedia architectures and narratives. The main difference between a virtual exhibition and other forms of online presentation is a stronger dependency established between context, form, and content, and between the whole and its parts.[4]

Foo addresses the strategic role virtual exhibitions play in outreach programs where Web sites and on-site activities can mutually benefit each other, and where digital preservation of artifacts prolong the life of exhibits otherwise deteriorating as a result of visitors' handling. Therefore, in Foo's view, virtual exhibitions are strategically significant to outreach programs at museums and archives, as they present cost-effective ways for these institutions to provide access to various artifacts, cultural heritage collections, and historical knowledge to visitors in remote locations.

Virtual exhibitions on historical topics rely a great deal on narratives similar to historical writing. With the help of long and short descriptions, exhibitions deliver historical representation into the three-dimensional space of a museum, and two-dimensional space of virtual exhibitions. Therefore, exhibitions are effective strategies for presenting history in physical and virtual spaces using physical and digital artifacts. F. R. Ankersmit's treatment of representation and description presents a conundrum in relating historical representation to exhibits. He explains: "We may 'represent' something by presenting a substitute of this thing in its absence. The real thing is not, or is no longer available to us, and something else is given to us in order to replace it. In this sense, it can be said that we have historical writing in order to compensate for the absence of the past itself."[5] Ankersmit adds that the represented and the representation can be each other's substitute, as "both belong to the inventory of the world."[6] In the context of exhibits, visitors access the absent world through such an inventory of objects symbolizing the past.

According to Ankersmit, description and representation are opposites: whereas description relies on a fixed and tangible relationship between a subject and its property, historical writing and dialogue—hence representation—are possible due to unfixed and intangible relationships between representation and the represented. What is absent in the present cannot be described but can be represented in historical discourse. Description, in contrast, requires tangible relationships between objects and their properties, both of which represent the past. Description needs to be extended to exhibits, which also rely on concrete descriptions of artifacts on display. The practice of historical writing and archival description are not identical but are mutually informative. Curators and archivists can reinforce the relationship between description and representation

via content and structure. Using a well-researched exhibition catalog may serve as a framework for clarifying the paradox in the relationship between representation and description.

Information architecture is vital to navigation, functionality, and overall design of the virtual exhibition. It builds on metaphors—or mental models—that are vital as well as meaningful to planning Web sites. Louis Rosenfeld and Peter Morville view buildings as the foundation for information spaces when they explain the relationship: "Why begin a book about [W]eb sites by writing about buildings? Because the architectural analogy is a powerful tool for introducing the complex, multidimensional nature of information spaces. Like buildings, [W]eb sites—that is, information spaces—have architectures that cause us to react."[7] Information architecture, therefore, is crucial to users' ability to interact intuitively with the content, and it is vital to Web accessibility since users with disabilities must also be able to navigate information spaces, just as they do buildings.

The World Wide Web Consortium (W3C) defines "[W]eb accessibility" as the ability of "people with disabilities [to] use the [W]eb. More specifically, it means that people with disabilities can perceive, understand, navigate, and interact with the [W]eb, and that they can contribute to the [W]eb."[8] The components of Web accessibility include content, browsers, assistive technology, users, developers, authoring tools, and evaluation (validation) tools that offer solutions to navigation and mobility throughout the Web site. The definition is rooted in "accessibility" with reference primarily to buildings, as the Architectural Barriers Act, Americans with Disabilities Act, and the Rehabilitation Act Amendments came into effect to mandate new accessibility standards. For instance, Section 508 of the U.S. Rehabilitation Act requires that technology—hardware, software, media, telecommunications, and networks[9]—be made accessible to people with disabilities. According to the Accessibility Guidelines of the Americans with Disabilities Act (ADA), a "site, building, facility, or portion thereof that complies with these guidelines"[10] is accessible. "Accessible routes"—as defined by the U. S. Access Board[11]—allow people to navigate the interior space of buildings, and present an analogy to paths followed by Web users while navigating information spaces.

Project History and Conceptual Framework

The disability history virtual exhibition (DVX) at the Canaday Center is based on the physical exhibition titled "From Institutions to Independence: A History of People with Disabilities in Northwest Ohio," which was on display from September 2008 through April 2009. The featured manuscript collections were accessioned beginning in 2001 and contributed to the Center's recognition as a regional repository for disability history. The success of the physical exhibition inspired the Center to develop a digital resource that educates the public about disability history and is, at the same time, accessible to learners with disabilities. Upon completion in April 2009—when the physical exhibition ended—the virtual exhibition presented disability history

through digitized photographs, interactive media, and a Web design following Web Accessibility Initiatives guidelines of the W3C.

The decision to create a virtual exhibition presenting disability history emphasized the need to present the original theme as accurately as technology permited. Because the physical exhibition was time-limited and scheduled to end soon, it was necessary to make the DVX the virtual equivalent of the Canaday Center exhibition. Like the physical exhibition, the virtual rendition would focus on the core collections containing primary sources—rare books, letters, photographs, diaries, reports, and artifacts—at the Canaday Center.[12] The virtual exhibition, therefore, evolved at the intersection of multiple mandates and expectations.

Planning the DVX required a preliminary study of the exhibition in terms of content (documents, photographs, and artifacts), representation (information on exhibit labels), and the overall structure (chapters and timeline). Historical representation in the physical exhibition was powerful, straightforward, and unapologetic throughout the individual chapters, imagery, and documentation that did not spare unprepared visitors. The featured manuscript collections contained various primary sources documenting the perception and treatment of disabled people in detail throughout the history of northwest Ohio, the state of Ohio, and the nation in general.[13] It was a representation of reality in the nation's, Ohio's, and northwestern Ohio's history—more specifically, the history of a society dealing with anomalies and stigmas and the reversal of trends. The pendulum of history has moved towards a change in popular attitudes about people with disabilities.

The exhibition catalog presents a well-researched narrative containing rich historical information on the topic as well as society in northwest Ohio. F. R. Ankersmit's work on historical representation is instructive in this context, as the exhibition catalog becomes the vehicle for historical writing; it presents in a narrative form the history of people, institutions, events, places, and objects that no longer exist. This narrative, in turn, forms the basis for the supernarrative, which unifies the pieces of the exhibition and focuses on the continuous paradigm shift and transition of values from institutionalization to independent living over almost two centuries of northwest Ohio history. It is not a formal narrative; rather, it presents the historical framework and social-cultural-political context for the information presented in the individual chapter essays. It follows the history of disability from the time when institutions that isolated the disabled developed, to a turning point when many disabled people sought to live independent lives within society, hold jobs, and even pursue political activism. Thus, historical representation—through the detailed descriptions in both the physical and virtual exhibitions, and as preserved in the manuscript collections—supports the work of archivists presenting an unbiased and un-interpreted history to the public.

The DVX presents a model for using virtual exhibitions in archival outreach with three critical concerns in mind: accurate historical representation, adequate descriptions and navigation, and Web accessibility. The experimental approach taken in planning the DVX required a conceptual framework with three interrelated dimensions: thematic, structural, and semantic. The thematic dimension is closely associated with historical representation following the linear, mostly chronological, and narrative-driven structure of the physical exhibition, which outlines the supernarrative. The relationship between

historical representation and this supernarrative overshadows other conceptual links in the other two dimensions.

The structural dimension underscores the hypertext nature of the exhibition and liberates the content from the linearity of the thematic dimension. Information architecture is vital to visitors' ability to navigate the exhibition in many different ways using straightforward text links, navigation bars, breadcrumb trails, and interactive media. The freedom to navigate at will allows users to engage with the content and the supernarrative on a more subjective and user-focused level, as each visit produces varied interpretation and meanings of the content. Finally, the semantic dimension focuses on users' access to code-embedded descriptions and metadata and presents the supernarrative in succinct forms. This dimension is also instrumental in allowing users with disabilities to access information not provided on the screen. In fact, both the structural and semantic dimensions support Web accessibility through navigation schemes and code-embedded descriptions, respectively, in order to enable users with disabilities to navigate and discover the content of the virtual exhibition. The ensuing discussions will focus on the individual dimensions in order to present the various interlinked concepts contributing to the design of the virtual exhibit.

The Thematic Dimension: Historical Representation and Supernarrative

The exhibition catalog provides the foundation for both the physical and virtual exhibitions and simultaneously becomes the vehicle for historical representation. The thematic dimension represents the structure of the catalog in a straightforward, visible, and tangible manner. Each chapter—researched and authored by contributing faculty, staff, and some students—presents material in a narrative form focusing on a specific aspect of disability history. The thematic relationships among chapters outline the supernarrative, and its relationship to historical representation is important: the supernarrative presents both the epistemological and ontological framework for historical representation. Thus, visitors reading about disability history get the opportunity to follow events and trends unfolding in a specific continuum and understand the relationships between this specific aspect of history and broader social, political, and geographical contexts shaping the events. The focus and scope of historical representation significantly depends on the type of records in the collections featured in the exhibition.

In archival theory and practice, organizational records pass from having a primary to secondary value after they leave the record-creating organization and enter the care of a repository interested in preserving them for long-term access. Once archival repositories accession donated records, the records fall into two main groups according to their value. In his work on appraisal standards, Theodore Schellenberg has identified two values: evidential and informational (or research) value. According to Schellenberg, "Materials containing evidence on the organization and functioning of an agency have value for the public administrator to the extent that they are needed for the current or future functioning of his agency";[14] and this value is therefore "evidential." In contrast,

informational value is "research value [that] inheres in public records because of the information they contain that may be useful in research of various kinds."[15] What once had evidential value may continue to provide informational value as primary sources for researchers using the archives. Items in these collections may or may not be of research value for historical research and representation.

The physical exhibition featured various records once needed for the operation of hospitals, asylums, schools, businesses, and philanthropic organizations. To researchers, they presented knowledge created and shared within such organizations as the Ability Center of Toledo, Bittersweet Farms, David's House Compassion, Family Service of Northwest Ohio, Sight Center of Toledo, and the Toledo State Hospital (formerly the Toledo Asylum), which no longer operates. Additionally, there were the papers of Hugh Gallagher (with direct connections to Franklin Delano Roosevelt and his struggle with polio, a fact hidden from the public for most of FDR's presidency) and Josina Lott, who employed a large number of people with disabilities in Toledo. Philanthropic activities of key organizations such as Quota International and the Toledo Rotary Club were recorded in the records of these organizations. Additionally, the exhibition included material contained in the records of the offices of the University of Toledo president and vice president for student affairs.

The catalog's appendix presents a list of commonly (even popularly) used terms uttered and published in reference to disability and, more typically, to people with physical deformations and mental disabilities. Terms such as "cripple, cretin, mongoloid, imbecile, insane, retarded"[16] and many more have documented the historical perception of disabled people in mainstream society. Additionally, the featured manuscript collections contain pictorial and textual evidence, statistical data, first-person accounts, and correspondence among people with personal knowledge of conditions inside asylums, prisons, and state hospitals handling large populations with disabilities. There was an abundance of contextual information in these collections: information about American society and northwest Ohio communities; the political treatment of the disabled and the social reception of children affected by polio; and depression as well as other mental and physical conditions.

The supernarrative provides the thematic and structural framework for historical representation, as the narratives in the individual chapters form distinct groups that cut across the sequence presented in the catalog. The related chapters cover the following topics in detail: chapter 1 discusses the history of institutionalization in northwest Ohio while chapter 8 focuses on the reversal of earlier trends through deinstitutionalization and independent living. Chapters 2 ("Sheltered Workshops and Social Clubs"), 3 ("Society and the 'Cripple'"), 6 ("Custodial Institutions to Community Care"), and 7 ("Hire the Handicapped") present important milestones when society gradually began to tolerate, sponsor, and eventually employ disabled people. Chapter 5 ("Creating the 'Perfect' Human") speaks about eugenics and social engineering whereby some sought to eliminate disabilities through euthanasia, selective breeding, and sterilization. Chapter 4 ("The Disabling Disease") presents the turning point in disability history, including the nation's realization that even someone as privileged as President Roosevelt could suffer from a debilitating disease like polio. Disability no longer carried a stigma associated with the fringes of society. The reversal of the trend presented in chapters 1

and 8 is noteworthy on a different account: it lends an element of literary symmetry and resolution to the supernarrative, which is as aesthetically appealing as it is historically accurate. Finally, chapter 9 presents a reflection on disability history with coverage of emerging conditions and perceptions associated with HIV and AIDS. Historical representation and the supernarrative thus mutually affect and inform one another.

Arranging the material for the virtual exhibition presented minimal challenges because the catalog's structure provided the framework for organizing the virtual exhibition. Each chapter occupied a Web page in the exhibition where visitors could view the individual exhibition items. The supernarrative played a self-evident role in the thematic dimension where the order of topics is visible, but its role in the structural and semantic dimensions was equally definitive in the broader conceptual framework of the virtual exhibition. In the structural dimension, the supernarrative presented the framework for the site's navigation scheme, whereas in the semantic dimension, it governed the process of embedding descriptions and metadata into the HTML or XHTML (hereafter abbreviated as X/HTML) code that allows users with disabilities to interact with the content. Both dimensions, therefore, contributed directly to Web accessibility.

The Structural Dimension: Information Architecture and Web Accessibility

The hypertext environment and interactivity of digital media offer users a number of effective ways to turn museum experience into an opportunity to develop new knowledge. For users with disabilities, best practices in information architecture can significantly improve this experience through intuitive navigation and labeling schemes. Users with mobility and visual disabilities may be able to navigate a Web site with simple and consistent navigation systems, just as they would an intuitively designed building with adequate signage. Louis Rosenfeld and Peter Morville have recognized the symbolic parallel between buildings and Web sites, and have described organizational, functional, and visual metaphors used for Web design. The first mimics the layout of commercial, institutional, and other types of facilities, while the functional metaphor presents task- or process-based models, and the visual metaphor emphasizes color- and shape-defined models for designing Web sites.[17]

The structural dimension, therefore, transforms supernarrative to suit the development of an intuitive site with historical content. The navigational links in the text, site map, navigation bar, link groups, and breadcrumb trails make the connections between the narratives of individual chapters. The subjectivity of individual experiences with the site, therefore, raises the question whether users perceive the supernarrative as one solid piece, or as one in multiple pieces and versions based on their most recent experience with the site. Moreover, will users perceive the same supernarrative each time they interact with the site? While answering this question falls beyond the scope of this article, it clearly falls in the domain of user experience experts who focus on user behaviors. The expectation is that given the flexibility of users to move around the site at will—and in different patterns—the supernarrative will take a different form

each time a user interacts with the content. With this expectation comes the assumption that the user elects to take a different route through the virtual exhibition each time s/he visits the site. In a 1994 study, Jean Umiker-Sebeok focused on museum behavior, particularly the meanings of gallery visits and the semiotic aspects of interacting with the content. One of her interesting conclusions was that prior museum experiences affected the meaning of subsequent interactions with the content.[18] If the meaning of interaction varies with the route users choose for each visit, it would mean that the supernarrative manifests itself differently at each visit because the user assembles a different part of disability history during each visit.

The physical exhibition space is the metaphor for the virtual exhibition: the concept of the DVX was to emulate visitors' experience in museums where they can walk from case to case, or in an order that they prefer. Hence, the virtual exhibition features a 360-degree interactive panorama that allows virtual visitors to develop a sense of the exhibition space around them as though they were standing at the Center. The panorama allows users to look in the direction they want with the help of a cursor. The cases and shelf levels are individually accessible in order to allow visitors visual connections among multiple exhibits.[19] A noticeable difference between the virtual and physical exhibitions is the availability of large image copies in the former, which open in a new window (with the descriptive text from the exhibit labels) when visitors click the corresponding thumbnail images[20] supplied with short captions as hyperlinks to the large views. Links from the virtual exhibition to finding aids, digital collections, rare books, and general library collections can connect researchers with detailed information on the featured collections.

The relationship of the supernarrative to the information architecture of the virtual exhibition exists on two levels of the navigation scheme: *macro* and *micro*. The *macro* scheme corresponds to the thematic organization of the exhibition. A simple solution in the DVX uses navigational arrows labeled "NEXT" and "PREVIOUS" on the left navigation bar, which allows viewers to move between exhibit cases in a manner analogous to turning pages between catalog chapters. Moreover, an index page listing the individual chapters as hyperlinks provides direct access to the individual chapters. Each page with a case view features links to the individual shelves in the corresponding cases. Viewers can move between these shelves using the TOP SHELF, MIDDLE SHELF, and BOTTOM SHELF links, or use CASE VIEW for an overview.

The *micro* scheme, in contrast, refers to different navigational features allowing viewers to navigate the virtual exhibition and interact with the digital content differently. Information architects recommend various methods for navigation systems, including vertical or horizontal navigation bars, simple arrow links, breadcrumb trails, and sitemaps. Navigation bars are consistent throughout the site and help viewers locate important pages in the site. Breadcrumb trails help viewers identify relationships between topically related pages. Some sitemaps present the hierarchical structure of the entire site with the page titles functioning as hyperlinks to corresponding pages on the Web site. Finally, there are links embedded throughout narratives and lists pointing viewers to available resources for further reference. For example, lists with hyperlinks to finding aids or books in the rare book collection are included to invite researchers to learn more about the topic by examining the records and early literature. In all, the

supernarrative presents the framework for setting up key navigational points to direct visitors between related chapters addressed in the section on the thematic dimension. Thus, whereas the catalog in print is restricted to presenting the material in a chronological sequence, the hypertext environment presents visitors with the same flexibility to move around in the Web site as they might do in the physical exhibition space.[21]

In addition to serving as a framework for navigation schemes, through which the supernarrative can manifest itself, information architecture plays a vital role in Web accessibility. The Canaday Center's decision to make this virtual exhibition accessible to users with disabilities serves as a point of reference in designing this project. The Web Content Accessibility Guidelines (WCAG) Web site not only provides advice for best practices in designing Web accessible sites, but it complies with the federal government's mandates under the Americans with Disabilities Acts, which apply to facilities and technologies, as well as information resources. For example, Guideline 13,[22] which is written to create clear navigation mechanisms, specifically relates to making navigation accessible to users with disabilities. According to the W3C guidelines, navigation links should:

1. Clearly identify the target content (Guideline 13.1)
2. Be used consistently throughout a site (13.4)
3. Be grouped logically to appear as a unit (as in navigation bars or breadcrumb trails) (13.6)

The structural dimension, therefore, plays two parallel roles: on the one hand, it relies on good information architecture to provide a solid framework for learning through interaction with the content; and on the other hand, it presents users with disabilities the essential pathways to access information about the subject matter. The role of the supernarrative in the design process is more evident, as viewers choose a navigational path to complete the learning process, and each visit may leave viewers with a different meaning or recollection.

The Semantic Dimension: Code-Embedded Description, Metadata, and Web Accessibility

The semantic dimension reinforces the supernarrative, as metadata and description play their vital roles in presenting history to users. In contrast to the solid and linear presentation of the supernarrative in the thematic dimension, the semantic dimension presents a microscopic and fragmented version. It relies on sound information architecture to enable viewers who construct a subjective mental image of disability history through interaction with the digital content. This image is likely to vary with each visit, and Umiker-Sebeok's aforementioned study on museum behavior attests to this relationship between interpretation and interaction with artifacts. In the digital environment, this relationship appears to hold for digital content, metadata, and the viewers' ability to conduct historical research. Joshua Sternfeld addresses the direct relationship between metadata and historical representation; he regards searching and metadata as crucial components of historiography and historical representation in an increasingly digital environment:

> Without a robust search engine, the user cannot access historical data; similarly, without quality metadata, a strong search engine is rendered ineffective. While this may seem self-evident, the integration of search and metadata in a representation runs much deeper; it affects, and is affected by, nearly every aspect of the representation, including its interface, aesthetic, design, structure, and functionality. Search and metadata together govern the transformative process by which historical information becomes historical evidence.[23]

Sternfeld regards metadata as the bridge between structure and content in the context of historical writing. In an environment with digital libraries, data visualization tools (using geospatial technologies), and other evolving resources, metadata plays a vital role in the work of digital historians. Sternfeld advocates that scholars of digital history must "think archivally when considering how these components contribute to a representation's historical contextualization." "Refinement of this mindset through rigorous, systematic, and interdisciplinary theoretical and practical experimentation," he argues, "could benefit scholarship, peer review, pedagogy, public history, and cultural heritage."[24] The historical work, which includes research, writing, representation, and interpretation with the help of digital content and metadata, is verified by the reliable resources contained in archives. This same argument applies to virtual exhibitions featuring content, and to information verified by archives to support scholarly activity.

The role of metadata extends well beyond the mechanics of description, searching, and retrieval; it is integral to the intellectual aspects of research. Adequate and accurate metadata in well-planned virtual exhibitions can connect users with historical data about people, places, organizations, and events, but this understanding must extend to supporting researchers with disabilities, as well. While metadata standards for integrating Web accessibility have only circulated recently, the application of Web accessibility standards to metadata schemas like Dublin Core[25] (DC), Text Encoding Initiative[26] (TEI), and Encoded Archival Description[27] (EAD) has been in progress for several years. Historians and humanities scholars have used TEI to markup historical documents for digital analysis and searching. Archives have utilized EAD and DC extensively to develop digital finding aids and digital collections, respectively. Although the discussion of accessibility standards applied to these metadata schemas is beyond the scope of this article, the progress archives have made in this direction will facilitate access for patrons with disabilities who will want to use archives for original research.

Web sites (including virtual exhibitions) do not require the systematic use of these metadata schemas, but they do present an opportunity for archives to leverage technology specifically to their advantage by combining some aspects of archival practice—including archival description—with Web design. For instance, key events, people, and places throughout the Web document can be encoded using an elaborated system of TEI (Text Encoding Initiatives) headers.[28] This method allows archivists and historians to bring scholarly works into semantic relationships, which maximizes search results. As another example, the following lines show the code in the <head> element of Web pages throughout the DVX, which uses selected fields from the Dublin Core schema:

```
<meta name="DC.title" content="From Institutions to Independence: A
History of People with Disabilities in Northwest Ohio (virtual exhibition)">
```

<meta name="DC.creator" content="Ward M. Canaday Center, Digital Initiatives, University of Toledo Libraries">
<meta name="DC.date:created" content="2009-04-20">
<meta name="DC.subject:lcsh" content="United States – Disability history">
<meta name="DC.subject" content="disability history">

Metadata in the <head> section can describe content at the site and page levels, but it is per se not visible on the display. If used consistently, this metadata will increase the chance of discovery through Web searches. Archivists may consider applying DACS or AACR standards for description, since the evolving Semantic Web environment and wider participation in the Open Archives Initiative Protocol for Metadata Harvesting[29] (OAI-PMH) will lead to improved interoperability among digital resources. Therefore, placing critical metadata in the headers of Web documents may facilitate the exchange of semantic metadata between repositories and virtual exhibits. Viewers then will have access to information about other collections at the repository, which, in turn, can lead to new threads of reference interactions and research visits.

Historical representation and Web accessibility are unrelated concepts, but through the semantic dimension, they intersect to an extent that allows users with all abilities to access historical information with the help of descriptive metadata. At this stage of development, archivists can collaborate with technologists and historians to ensure accuracy and accessibility. Virtual exhibitions present archives with opportunities to extend outreach into the digital environment and invite remote users to their resources on-line and at the repository. In order to facilitate this process, digital representation of disability history requires accurate content description at the code level where the W3C-WAI guidelines (WCAG 2.0) and various archival metadata and description practices converge. Since the virtual exhibition is made of X/HTML pages, descriptions meeting Web accessibility guidelines need to be present throughout the pages' code. In the context of archival practice, code-embedded descriptions not only meet Web accessibility requirements, but may also present meaningful information to researchers using archival resources.

Archivists working on virtual exhibitions may consider three approaches to combine selected archival description practices—according to *Describing Archives: A Content Standard* [*DACS*][30]—with those recommended in the W3C-WAI guidelines. The approaches include the following: adding metadata to the <head> element of the Web document; including short and long descriptions for images, image maps, hyperlinks, and other navigational features; and tagging specific information with TEI tags, which was addressed earlier in this article.

A common method is adding collection and page-level descriptions using <meta> tags to the <head> element, as shown previously. *DACS* presents multiple levels of description with 25 elements, not all of which are required[31]. Description in *DACS* can apply to various levels of archival collections, and may correspond to descriptions added to the <head> element of Web pages in compliance with W3C-WAI guidelines[32] (Appendix). For example, H25[33] addresses titles between the <title> tags, and archivists may apply *DACS* rules for title as one of the identity elements.[34] *DACS* requires a formal title in a natural language order, which is more common in Internet searches. The same applies

to personal names and dates,[35] which follow native formats and vary across the globe. Perhaps a benefit of using *DACS* is that the information in the <head> element can be accessible to search engines, meta crawlers, and indexers used by Google, Yahoo, and other services that are used across the globe. This demonstrates that *DACS* and other archival standards can produce meaningful results.

Another common method is to add captions (short descriptions for thumbnails, links, and image hotspots) throughout the Web document, and to provide long descriptions for images with information taken from the exhibit labels. To most viewers, the captions and narratives will provide historical context for the displayed images, while for users with disabilities, these will provide information and instructions associated with navigational features. The information provided in the ALT (or TITLE) tags in the X/HTML code trigger popup windows to open with the encoded information—a feature much appreciated even by mainstream users. W3C-WAI guidelines G73, G82, G92, G95, G91, and H24 (Appendix) address the application of these documents.[36] Exhibit labels from the physical exhibition are good sources for long descriptions ranging from a few sentences to a paragraph or two, and some include the title of the collection containing the exhibited item. The virtual exhibit should also include thumbnails with captions (short description) serving as a hyperlink to the larger image. For improved accessibility, the alternate text may include instructions, in addition to the straightforward description of the thumbnail. Image maps are also useful, but require some description and instructions to the viewers. In the DVX, the case view images serve as image maps with regions divided according to the shelf level. Each level is linked to a close-up view of the corresponding shelf with more detailed description and links to the individual items—thumbnails—that open the large-view images. When viewers navigate through successive stages leading to the displays, it is important to provide clear and short instructions in the alternate texts. Therefore, developing an information architecture plan can significantly improve user interaction with the content in the virtual exhibition.

The semantic dimension is a critical link among archival practice, historical representation, and Web accessibility, which connects patrons with disabilities and critically evaluated and preserved historical information at archival repositories. While the structural dimension supports the navigation of such an information space, the semantic dimension is the essential link between researchers and historical information. The standards between Web accessibility and archival description are not interchangeable, but they can certainly overlap to support mutual goals, and this is where archives can leverage technology to reach out to hitherto isolated user communities. Metadata plays a pivotal role, as it becomes a vehicle for historical representation to historians as well as a mechanism for delivering historical information to users with disabilities.

Conclusion

One may question this approach by asking: "Why go through all this trouble when there has been a safe approach in developing text-only sites for users with disabilities and another for the rest of society?" Robert Yonaitis questions the widely-used strategy

for maintaining a digital divide through parallel contents: one for mainstreamed users, the other just for the disabled. In his guide, he addresses the rationale for maintaining the divide:

> One frequent 'misconception' about accessibility compliance relates to the use of a second set of content that is developed as a text-only version of a site. Some developers have been told that a second set of content, provided as a text-only site, will be an acceptable replacement to making a site accessible. This simply may not be true and defeats the spirit and the years of work and research behind making electronic information accessible to all in equal form and content. [37]

On a conceptual level, where each dimension presents a distinct aspect of the virtual exhibit, the DVX presents a synthesis of two related visions. One is a continuation of a trend towards mainstreaming people with disabilities. The supernarrative in the exhibition delineates a trend from institutions to independence, as shown through the thematic dimension. The other vision involves integrating two worlds over a digital divide. The virtual exhibit indirectly answers Yonaitis's call to create a mutually accessible world through adequate navigation options and descriptions. These two visions manifest themselves in the discussion on the structural and semantic dimensions.

Virtual exhibitions merit greater recognition as potentially effective tools in archival practice—mostly through archival outreach, but to some extent, description, as well. Given the significant technological advances in computing, Web accessibility, and digital humanities, scholarship is increasingly relying on technology, metadata, and assistive technologies to support learning among users with disabilities. Another important aspect of the virtual exhibition merits attention: the fact that the hypertext environment facilitates continued learning through knowledge domain navigation, a strategy in research using both human and artificial intelligence. With the help of hyperlinks available for collections features in the virtual exhibition, researchers can discover and access library catalog records, finding aids, and other related resources with metadata leading to resources in more distant areas of the knowledge domains.

This article presents a project that entailed experimentation beyond the traditional field of archiving and where new skill sets, interdisciplinary interests, and openness to new strategies are more than just welcome; they may be necessary. Vice versa, it will be equally important for technologists and historians to understand and respect the accomplishments of the archival profession. The disability history exhibition has demonstrated that archivists, historians, and technologists have yet to forge stronger alliances in order to embrace a more collaborative, interdisciplinary, and innovative future. History is no less important today than it will be in the future, and efforts to preserve history for posterity will remain as important in the future as they are in the present. Moreover, a growing community of scholars with various disabilities will rely on innovative resources developed through a collaboration of scholars, archivists, and technologists, which will require institutions to invest more in their primary source collections and digital initiatives programs, and a more diverse audience for these resources in the future.

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APPENDIX

The following recommendations have informed the design process during the development of the DVX. While they specifically present instructions to Web designers, some decisions should encourage participation from archivists interested in integrating archivally sound descriptive practices into the X/HTML code. As interoperability of existing electronic resources improves, extending sound archival practices—such as description (using the *DACS* for example)—into practices hitherto unexplored by archivists may have favorable long-term implications for archiving.

General Wcag 2.0 Recommendations Applied to the Virtual Exhibition

The following WCAG recommendations were applied to the DVX. Use them for long descriptions on a remote site (G73, G82, and G92), short descriptions (G95), link descriptions (G91), and text alternatives to image maps (H24). The statements and methods below describe how the virtual exhibition followed these guidelines:

G73 ("Providing a long description in another location with a link to it that is immediately adjacent to the non-text content"[38])

Application: Used for most exhibits with substantive narrative in the exhibit label. In the virtual exhibition, the link was adjacent to the thumbnail linking to the full-size image and long description in a different location.

Method:

G82 ("Providing a text alternative that identifies the purpose of the non-text content"[39])

Application: Each thumbnail in the virtual exhibition informs visitors that it will open the full-size image with a complete available description.

Method:

G91 ("Providing link text that describes the purpose of a link."[40])

Application: Each resource link comes with a pop-up window with information about where the link leads—in this case, to the library catalog.

Method: Remarks on Prison Discipline

G92 ("Providing long description for non-text content that serves the same purpose and presents the same information"[41])

Application: Each full-size image was accompanied by long description available in the exhibit labels in the case.

Method: The long description is placed below the full-size image: <img src="../../images/large/ex1/ex1sel_lagoon.jpg" width="750" height="563" alt="Lagoon">

Lagoon on the former Toledo State Hospital grounds. These lagoons were created by the patients staying at the hospital. Photography by Kim Brownlee, 2008.

G95 ("Providing short text alternatives that provide a brief description of the non-text content" [42])

Application: This method was useful to describe the contents at the shelf level

Method:

H24 ("Providing text alternatives for the elements of image maps"[43])

Application: Adding hotspots—or hyperlinked areas of images—added functionality to otherwise static images. Here, the image of the Canaday Center presented opportunities to enhance the functionality of the image whereby visitors can click on the door to enter, and then click on window display to view the catalogs or awards received for the physical exhibition.[44]

Method: <map name="Map" id="Map"> <area shape="rect" coords="235,4,355,218" href="canaday.html" target="_self" title="Enter the Canaday center" />
<area shape="rect" coords="86,42,163,103" href="PDFs/disability_exhibit.pdf" target="_blank" title="Exhibit Catalog" />
<area shape="rect" coords="454,59,484,119" href="awards.html" target="_self" title="2008 Community Access Award" /> </map>

H25: ("Providing a title using the title element"[45])

Application: Adding the page title to the header section of each Web page will help some users to identify the page title. This appears in the tabs when using up-to-date browsers set to display pages under separate tabs. The information for the page title goes into the header section of the page.

Method: <head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Canaday Center Disability Virtual exhibition</title>
</head>

Collection- and Page-Level Description in the Header Section

The header section can contain descriptive site- and page-level information that is not visible to viewers unless they want to examine the page source itself. The <meta> tags in HTML, XHTML, and XML[46] environments may follow the Dublin Core (DC) standard, and correspond to collection- and item-level descriptions used by archivists. DC contains 15 to 22 elements,[47] but there is no W3C requirement to contain this type of information. The header section may contain a few meta tags sufficient to provide collection-level description in the header of the opening page, since this is the start page for most visitors. Page-level descriptions throughout the DVX contain a few lines of DC metadata to describe those pages. This method loosely follows search engine optimization guidelines to facilitate discovery of well-described pages in Internet searches.

```
<meta name="DC.title" content="Photograph of Helen Keller">
<meta name="DC.creator" content="unidentified photographer">
<meta name="DC.subject:lcsh" content="United States – Disability history">
<meta name="DC.subject" content="disability history, women">
<meta name="DC.description" content="Photographs of Helen Keller">
<meta name="DC.contributor" content="Name of donor organization">
```

Item-Level (Short) Descriptions

DVX pages contain several photos, image maps, and hyperlinks requiring short descriptions with information about the content . Hyperlinks and image maps with hotspots (or hyperlinked regions of images) often call for quick explanatory instructions to users with visual disabilities, so that such users understand the purpose of those hyperlinks. Descriptions following the ALT (or TITLE) fields in the X/HTML code trigger popup windows to open with the encoded information—a feature much appreciated even by mainstream users. In fact, the DVX features image maps to enhance the virtual experience associated with stepping in and moving from case to case, as visitors would do in a physical museum. Designers must add these instructions to the code of the image map as illustrated below:

```
<p>Click on the door to enter the exhibition space.</p>
<img src="images/tbnls/entrance.jpg" alt="Canaday Center entrance"
width="595" height="220" border="0" usemap="#Map" />
 <map name="Map" id="Map">
<area shape="rect" coords="235,4,355,218" href="canaday.html" target="_self"
alt="Enter the Canaday Center" />
<area shape="rect" coords="86,42,163,103" href="PDFs/disability_exhibit.pdf"
target="_blank" alt="Exhibit Catalog" />
<area shape="rect" coords="454,59,484,119" href="awards.html" target="_self"
alt="2008 Community Access Award" /> </map>
```

Long Descriptions

Unlike short code-embedded descriptions, long descriptions contain the exhibit label text accompanying the corresponding items in the physical exhibition. Therefore, long descriptions are intended to be visible on the page where they provide detailed information as well as space and time for learning. In the DVX, long descriptions are available at case, shelf, and item levels, providing visitors and researchers some context for the images' and documents' sources and the critical information to locate sources in special collections and the libraries. As such, both styles of description play a vital role to historical representation at the narrative and semantic levels, and this is where historically correct data and information about disability history is so crucial. Disabled users use assistive equipment to access information, which needs to be correct in order to support accurate historical representation of disability.

NOTES

1. Thomas Bevan and Amr Ahmed, "An Investigation into Web Accessibility Standards as a Practical Study with Older and Disabled Citizens." *ACM SIGACCESS Accessibility and Computing* 88 (2007), http://doi.acm.org/10.1145/1278234.1278236 (2 August 2009).
2. Ward M. Canaday Center for Special Collections, "From Institutions to Independence: A History of People with Disabilities in Northwest Ohio," virtual exhibit [2009], University of Toledo Libraries, Digital Initiatives, http://libraryexhibits.utad.utoledo.edu/ DVX/index.html.
3. Schubert Foo, "Online Virtual Exhibitions: Concepts and Design Considerations," *DESIDOC Journal of Library and Information Technology* 28:4 (July 2008): 22-34, Library Literature & Information Science Full Text (30 September 2011).
4. Chennupati K. Ramaiah, "Special Issue on Online Exhibitions." *DESIDOC Journal of Library & Information Technology* 28:4 (July 2008): 4. Library Literature & Information Science Full Text (30 September 2011).
5. F. R. Ankersmit, *Historical Representation* (Stanford, CA: Stanford University Press, 2001): 11.
6. Ibid.
7. Louis Rosenfeld and Peter Morville, *Information Architecture for the World Wide Web,* 2nd ed. (Beijing: O'Reilly & Associates, Inc., 2002): 3.
8. W3C Web Accessibility Initiative [W3C-WAI], "What is Web Accessibility," *Introduction to Web Accessibility*, http://www.w3.org/WAI/intro/accessibility.php (28 April 28 2009).
9. United Stated States General Services Administration, IT Accessibility, and Workforce, "Summary of Section 508 Standards," *Summary of Section 508 Standards*, http://www.section508.gov/index .cfm?fuseAction=stdsSum (23 March 2011).
10. United States Access Board, "3.5 Definitions," *ADA Accessibility Guidelines for Buildings and Facilities (ADAAG)*, http://www.access-board.gov/adaag/html/adaag.htm (5 May 2009).
11. Ibid. In compliance with the ADA, the Canaday Center has replaced older doors that did not offer visitors with disabilities a reasonable ease of access to the exhibit and research areas. ADA-compliant computer equipment is available for use by disabled patrons, as well.
12. Some items were on loan from organizations outside the University of Toledo; these organizations have granted permission for items on exhibit to be photographed or scanned for the virtual exhibition.
13. Some exhibits may even have afforded some visitors the opportunity to revisit family memories tied to stigmatized, even forsaken, ancestors resting namelessly in unmarked graves around Toledo and elsewhere.
14. T. R. Schellenberg, *Modern Archives* (Chicago: University of Chicago Press, 1956): 139.
15. Ibid., 140.
16. Barbara Floyd, ed. *From Institutions to Independence: A History of People with Disabilities in Northwest Ohio* (Toledo, OH: University of Toledo Press, 2011): 162. The same section on terminology documents how people with disabilities have been referred to in public discourse in recent times.
17. Rosenfeld and Morville, *Information Architecture*, 253.
18. Jean Umiker-Sebeok, "Behavior in a Museum: A Semio-Cognitive Approach to Museum Consumption Experiences," *Signifying Behavior* 1:1 (1994) http://www.slis.indiana.edu/faculty/umikerse/ papers/museum.html (10 October 2011).
19. The technology would have allowed adding hotspots to the regions of the panorama, which would have allowed users to click on the exhibit cases for a detailed view. This approach was included in a more recent virtual exhibition, however.
20. Although it is possible to include very large images, not only may such content occupy storage space, but it may also open very slowly for visitors in low bandwidth networks. The compromise between open access and accessibility for digital projects has been to lower resolution to 72 ppi and use jpeg as image format. Given the most popular screen sizes and the emergence of mobile devices, using images wider than 800 pixels may not be practical, either.
21. A study of visitor behavior in the physical space and the supernarrative is beyond the scope of this study, which does not postulate any theories of whether such a connection exists.
22. W3C-WAI, "Techniques for Web Content Accessibility Guidelines 1.0, Guideline 13: Provide clear navigation mechanisms," *W3C Notes,* http://www.w3.org/TR/ WCAG10-TECHS/ (22 October 2011).

23. Joshua Sternfeld, "Thinking Archivally: Search and Metadata as Building Blocks for a New Digital Historiography," *Digital Humanities 2010*, http://dh2010.cch.kcl.ac.uk/academic-programme/abstracts/papers/pdf/ab-747.pdf (31 May 2011): 2.
24. Ibid., 3.
25. Dublin Core Metadata Initiative [DCMI], DCMI Accessibility Community, http://dublincore.org/accessibilitywiki (11 May 2009).
26. Text Encoding Initiative, "Influence of formatting (or accessibility) concerns on markup," TCW10: Draft Recommendations on the Formatting of TEI Documents, http://www.tei-c.org/Activities/Council/ Working/ tcw10.xml#body.1_div.4 (10 June 2009).
27. Library of Congress, Encoded Archival Description Version 2002 Official Website, http://www.loc.gov/ead/index.html (25 May 2009).
28. Text Encoding Initiative, *P5: Guidelines for Electronic Text Encoding and Interchange*, http://www.tei-c.org/release/doc/tei-p5-doc/en/html/ND.html (3 November 2011).
29. Open Archives Initiative, http://www.openarchives.org/ (12 June 2011).
30. Society of American Archivists [SAA], *Describing Archives: A Content Standard* [*DACS*] (Chicago: Society of American Archivists, 2007): 7-12, 13-34.
31. Both W3C-WAI and DACS use "elements" that can be brought into loose relationships for purposes of the present paper, but they are not synonymous or interchangeable.
32. W3C-WAI, *G73: The global structure of an HTML document,* http://www.w3.org/TR/html4 /struct/global.html (28 May 2011).
33. W3C-WAI, "H25: Providing a title using the title element," *Techniques for WCAG 2.0,* http://www.w3.org/TR/WCAG20-TECHS/H25.html (22 October 2011).
34. SAA, *DACS*, 17-23.
35. The date in *DACS* may appear in natural order except when using the Dublin Core date element, which follows the ISO-approved format of YYYY-MM-DD. There is also a difference in encoding geographical names, which appear differently in the Getty classification system— Country – State – City—and in that of the Library of Congress—City(State).
36. W3C-WAI, *Techniques for WCAG 2.0,* http://www.w3.org/TR/WCAG20-TECHS/ (22 October 2011).
37. Robert B. Yonaitis, *Understanding Accessibility: A Guide to Achieving Compliance on Web Sites and Intranets* (Concord, NH: HiSoftware Publishing, 2002): 17. Available at http://www.understandingaccessibility.com/UA2009_34alabsEdition.pdf (5 June 2009).
38. W3C-WAI, *G73: Providing a long description in another location with a link to it that is immediately adjacent to the non-text content,* http://www.w3.org/TR/WCAG20-TECHS/G73.html (30 May 2011).
39. W3C-WAI, *G82: Providing a text alternative that identifies the purpose of the non-text content,* http://www.w3.org/TR/WCAG20-TECHS/G82.html (30 May 2011).
40. W3C-WAI, *G91: Providing link text that describes the purpose of a link,* http://www.w3.org/TR/WCAG20-TECHS/G91.html (30 May 2011).
41. W3C-WAI, *G92: Providing long description for non-text content that serves the same purpose and presents the same information,* http://www.w3.org/TR/WCAG20-TECHS/G92.html (30 May 2011).
42. W3C-WAI, *G95: Providing short text alternatives that provide a brief description of the non-text content,* http://www.w3.org/TR/WCAG20-TECHS/G95.html (30 May 2011).
43. W3C-WAI, *H24: Providing text alternatives for the area elements of image maps,* http://www.w3.org/TR/WCAG20-TECHS/H24.html (30 May 2011).
44. Canaday Center, "From Institutions," Awards, http://libraryexhibits.utad.utoledo.edu/DVX/ awards.html.
45. W3C-WAI, "H25: Providing a title using the title element" *Techniques for WCAG 2.0.* http://www.w3.org/TR/WCAG20-TECHS/H25.html (22 October 2011).
46. DCMI, "Expressing Dublin Core in HTML/XHTML meta and link elements," *Dublin Core Metadata Initiative*, http://dublincore.org/documents/dcq-html/ (31 May 2011).
47. DCMI, "Dublin Core Qualifiers," *Dublin Core Metadata Initiative*, http://dublincore.org/ documents/usageguide/qualifiers.shtml (31 May 2011).

ANALOG, THE SEQUEL: AN ANALYSIS OF CURRENT FILM ARCHIVING PRACTICE AND HESITANCE TO EMBRACE DIGITAL PRESERVATION

BY SUZANNA CONRAD

ABSTRACT: Film archives preserve materials of significant cultural heritage. While current practice helps ensure 35mm film will last for at least one hundred years, digital technology is creating new challenges for the traditional means of preservation. Digitally produced films can be preserved via film stock; however, digital ancillary materials and assets in many cases cannot be preserved using traditional analog means. Strategy and action for preserving this content needs to be addressed before further content is lost.

To understand the current perspective of the film archives, especially in regards to the film industry's marked hesitation to embrace digital preservation, the Academy of Motion Picture Arts and Sciences' paper "The Digital Dilemma: Strategic Issues in Archiving and Accessing Digital Motion Picture Materials" was closely evaluated. To supplement this analysis, an interview was conducted with the collections curator at the Academy Film Archive, who explained the archives' current approach to curation and its hesitation to move to digital technologies for preservation.

Introduction

Moving images are a vital part of our cultural heritage. The music, film, and broadcasting industries, as well as academic and cultural institutions, have amassed a "legacy of primary source materials" of immense value. These sources make the last one hundred years understandable as an era of the "media of the modernity."[1] Motion pictures and films were established as vital archival records as early as the 1930s with the National Archives Act, which included motion pictures in the definition of "objects of archival interest."[2] As cultural artifacts, moving images deserve archival care and preservation.[3] However, the art of preserving moving images and film can at times be daunting. Fewer than half of the films made before 1950 survive today, and only an estimated ten percent survive from the 1910s.[4] Saving these irreplaceable films of the past, and preserving the films made in the last few decades, are major undertakings for any film archives.

Fortunately, many studios and media corporations recognize that film archives can be profitable, especially in a flourishing home media market.[5] A film can have a commercial lifetime that spans one hundred years, from theatrical release to the "Long Tail" of preservation when the film is re-released in various additional formats.[6] Those individuals managing film archives also understand the necessity of trained specialists and employ professional archivists skilled in managing cultural heritage materials.[7]

Long-standing practices for preservation in professional film archives involve saving film stock masters in climate-controlled vaults. When stored and maintained properly, film can last over a century.[8] Few, if any, digital archives have attempted to claim the same reliability with their digital collections.

Due to a viable and reliable preservation medium in film stock, the industry has not wholeheartedly accepted the principle of digitization—unlike their counterparts in broadcasting—or planned for future digitization.[9] According to the Academy of Motion Picture Arts and Sciences, "the advent of digital cinematography, widespread adoption of Digital Mastering, postproduction workflows, and the studios' push to deploy digital cinema distribution to theaters means that the cinema industry must reconsider its exclusive dependence on 'film in a cold room' for long-term preservation of its motion picture assets."[10]

Furthermore, traditional film preservation methods cannot support the amount of material produced by current digital technologies. Many types of content are not suited for traditional preservation via film stock, such as game characters, scenery, or software, and leading digital cinema archives do not currently have a strategy for dealing with these "born-digital" works.[11] These works also face extinction as digital formats have shorter lifespans than film due to changing formats, software, and general life expectancy. Orphan films, for which the copyright holders are unclear or unknown, are at the greatest risk of being lost forever.[12]

Why does the film industry hesitate to embrace digital technology? Jerome McDonough and Mona Jimenez cite film archivists' common belief that digital technologies have an "unproven status" as a preservation medium.[13] Often the rate of technological change is so rapid that before expertise can be fully cultivated, the technology has moved in a new direction.[14] The decision to use digital systems is also, according to the Academy, not accompanied by necessary planning or a complete understanding of the "potential impact of the digital revolution."[15] Simply put, for most archives analog film preservation is better understood.

Scope

To understand the perspective of film archives, this article presents a case study of the archival practices of one film preservation entity. The Academy of Motion Picture Arts and Sciences is one of the most respected non-profit institutions dedicated to the art rather than the business of film,[16] and its responses are representative of the general landscape in industry film archives. In 2007, the Academy published a paper, "The Digital Dilemma: Strategic Issues in Archiving and Accessing Digital Motion Picture Materials," which explicitly detailed its reasons for not prioritizing digital

stewardship.[17] To confirm that the findings of this paper are still valid five years later, Fritz Herzog, the collections curator at the Academy Film Archive (AFA), shared his first-hand experiences and perspectives in this traditional analog film archive through an interview.[18]

The Academy of Motion Picture Arts and Sciences

Founded in 1927, the Academy of Motion Picture Arts and Sciences began curating film materials in 1929. It maintains collections from directorial masters such as Alfred Hitchcock, Cecil B. DeMille, George Stevens, Fred Zinnemann, Sam Peckinpah, and Jim Jarmusch. The Academy Film Archive was established in 1991 and currently holds all "Best Picture" winners from all years, as well as documentary winners and many Oscar-nominated films. The AFA also has a large collection of home movies, documentaries, early cinema, visual effects reels, Academy Award ceremonies and news coverage, and film festival materials.[19]

Most of the film collections at the AFA are stored on nitrate and safety stock. The Academy creates preservation or archival masters of the "35mm original camera negatives (OCN), interpositive (IP), and yellow-cyan-magenta (YCM) separations on black-and-white film stock stored in environmentally secure film vaults."[20] Preserving the original film is a normal practice in many film archives, as it is the easiest way to retain all of the information from the original film and minimize copying, which produces degraded quality in comparison to originals.[21] This "passive preservation" is the preferred method, as it avoids altering originals and ensures survival for future generations. In some cases, however, the film may have deteriorated to a point where it is necessary to duplicate it by implementing "active preservation," which can include digital restoration, where necessary and appropriate.[22] Additionally, the Academy makes copies available for public access that are not preservation or archival masters.[23]

Film Preservation in Practice

As detailed by Karen Gracy,[24] the process of film preservation includes a number of steps: selection, acquisition of funding and resources, inspection and inventory of deposited items, preparation and duplication at labs, storing master and access copies, cataloging, and providing access to the film. Selection is a key point in this process and is most often a reactive process, as film is prioritized for preservation when it is most threatened. Frequently, decision-makers such as curatorial or management staff and preservationists, determine whether an item is deteriorating, unique, culturally or historically significant, orphaned, already preserved, or adequately preserved in order to ascertain whether or not the item should be preserved within their collection.[25] In Germany, Simone Görl reports that archivists are faced with evaluating whether an old and threatened source can be adequately conserved, and furthermore, if the source should or can be preserved.[26] Egbert Koppe, from the German *Bundesarchiv*, similarly outlines the necessity of determining the importance and value of the work, while also

listing identification of the material (i.e., type of film), assessment of the condition, and analyzing storage possibilities before acceptance as important steps in the process.[27] Essentially, archivists must ask themselves: how will this information be preserved; what is worthy of preservation and who makes that decision; what resources will fund the preservation; and in what form will the film be preserved.[28]

The Academy uses many, if not all, of these principles to establish its preservation priorities. Its broad mission statement calls for the preservation and protection of films that illustrate the art and science of filmmaking, which allows for the inclusion of many different kinds of films.[29] Academy Award "Best Picture" winners and nominees are often included in AFA's items to be preserved, due to its organizational affiliation with the Academy and the Oscars. Other types of films include Hollywood feature films; short subjects and documentaries; films of historical or cultural significance; abstract experimental films; and orphan films that have "fallen through the cracks" and are not owned by a major studio, or films for which the producers do not have the resources to preserve them properly or store them for the future.[30]

According to Fritz Herzog, two key questions are asked when determining what items to prioritize at the AFA: what is unique, and what is in danger of being lost due to damage, such as vinegar syndrome and fading color? Projects funded in collaboration with studios or by grant money are frequently prioritized. Funding is limited, and the Academy has a preservation department with just three people, so only a limited number of titles can be processed in any given year. The Academy preserves an average of 50-60 titles each year, including short subjects, home movies, video productions, and feature films.[31]

When handled carefully and stored in a climate-controlled environment, film can be "stored and ignored." However, many titles have been printed on extremely flammable nitrate or acetate, which can become brittle, curl, and fall victim to vinegar syndrome as they age.[32] Best practice at most film archives, including the AFA, has been to transfer to polyester stock when the film is deteriorating and to store the preserved stock in cold vaults.[33]

At the AFA, the intake process for any deposits includes the inspection of the "photographic and physical integrity" of the item, sometimes through viewing the print to confirm that all elements are intact, and logging basic asset management information. This log includes: title of the film; information about the reel; element type, such as OCN or IP; version description (director's or editor's cut, for example); type of program (theatrical, television, or cartoon); aspect ratio; and unique bar code identifier.

Koppe has published details on how film is handled upon receipt, including classification and cataloging procedures; testing and marking nitrate film; fireproofing for nitrate film; cleaning dirty film; handling shrinkage; and dealing with film stock joined together with tape. Koppe's archives does not handle any digitization of film; rather, this process is outsourced to a vendor.[34]

One area where the Academy and others have embraced digital technology for preservation purposes is in the field of restoration. Digital restoration is utilized to address problems that cannot be fixed with traditional photochemical restoration. According to interviews conducted by Arianna Turci, film can be repaired to the smallest image and sound elements, making it possible to recover films in their entirety.

Many archives utilize digital preservation tools and attempt to best represent the original film version wherever possible.[35] Herzog also confirms that the Academy uses digital tools to restore segments that cannot be fixed using traditional photochemical laboratory methods. After the film is restored digitally, it is scanned back onto film stock for preservation.[36]

Problems with Digital Preservation

The practice of analog preservation of film stock is well understood, with processes and guidelines such as those presented in the National Film Preservation Foundation*'s The Film Preservation Guide* [37] on the British Film Institute archive's Web sites,[38] and in Koppe's articles on the German *Bundesarchiv*.[39] But digitization as a preservation alternative is not well-understood by film archivists. Although curators acknowledge the importance of digital preservation for the future, they seek a clearer understanding of the prerequisites or existence of standards.[40]

Only three suppliers are currently distributing film: Agfa, Kodak, and Fujifilm. One of these—Kodak—had been developing technology to surpass and out-perform existing high-definition technologies, and the company had been "investing strategically in a broad variety of digital technology"[41] until it filed for bankruptcy in early 2012 because it could not compete with digital film technology. Since 2003, Kodak has shutdown production of film, paper, and chemicals in 13 factories.[42] The immediate future of stock film production at Kodak, and other similar companies, is currently unclear. According to the Academy, "the demise of film is a long-term eventuality."[43] Charlotte Crofts asserted in 2008 that the traditional film business has only ten more years of growth before digital technology becomes the standard.[44] The eventuality of discontinued production of film stock[45] may become a reality before digital preservation becomes "affordable, reliable, and technically adequate."[46]

Digital assets are extremely fragile. Howard Besser outlines three factors that compromise digital assets' preservation. Firstly, physical storage media require scheduled refreshing, and file formats can become obsolete in less than a decade. Secondly, clear custodians of the content may not be defined, e.g., no specific stakeholders may have been entrusted with the task of ensuring the content's long-term existence and accessibility, nor has it been determined that stakeholders, if identified, have the proper experience to do so. Lastly, translation problems may render the assets less accessible because copies are not originals, screen sizes can change, and other problems.[47]

The Academy has identified a number of technological threats associated with digital assets management, including data integrity, monoculture vulnerabilities, obsolescence, limited or no data compression, and risk of encryption key loss. Digital assets are also susceptible to human errors, including operator error and malicious actions.[48] Digital assets can often be the solution to current film archives' access problems; however, for many of the above-mentioned reasons, as well as others, digital assets are not as robust for film preservation as are current methods.[49]

The Academy stipulates that in order to consider digitization as a viable preservation route, a digital archives system must meet or surpass a traditional film archives' performance. Such a system should allow items to be accessible for more than one hundred years, thereby allowing a "store and ignore" policy. Other system requirements include the ability to create duplicate masters for future sales, equal quality standards between the digital and film versions, and non-existence of proprietary technology dependencies. Furthermore, it is necessary to establish a standardized set of principles, which can be accepted across the industry as a whole.[50]

The Academy is not the only film archives that is hesitant to implement digital preservation. In a 2008 interview accessible on the UCLA Film and Television Archives Web site, Director Jan-Christoph Horak stated, "[A]t this point we don't do any digital preservation … we don't even use digital as an intermediate step for film preservation." Furthermore, Horak asserted, "[T]he profession at present does not have a stable, archival digital preservation medium."[51] In November 2010, UCLA held a three-day symposium on "Reimagining the Archive: Remapping and Remixing Traditional Models in the Digital Era." In Horak's introductory letter to that symposium, he admitted that the majority of the archives' more than half-a-million holdings were currently only stored in an analog format. While the archives hoped to initiate a digital laboratory for the scanning of film material, Horak wrote, it needed first to develop methods for digital archiving. He further stated his wish that the conference serve as a means to initiate a dialogue between academics and archivists on these issues.[52]

Major film preservation institutions, such as the National Film Preservation Foundation and the Association of Moving Image Archivists (AMIA), have notably omitted references to digital preservation as an alternative in their film preservation guides. For example, in its guide, the National Film Preservation Foundation only notes digital restoration technology in passing. The guide was published in 2004 and therefore may be outdated, but it is still the main publication on the foundation's Web site. The omission of digital preservation references may also indicate the foundation's current rejection of digital preservation technology.[53] Similarly, the AMIA makes no reference to digital preservation technology in its on-line documentation "Storage Standards and Guidelines for Film and Videotape,"[54] nor is the topic mentioned in its documentation on home film preservation.[55] Articles appearing in the organization's publications *The Moving Image* and the *AMIA Tech Review* do discuss digital preservation; however, AMIA does not appear to have adopted any standards in this regard in any of its on-line recommendations.

The Library of Congress (LOC) also appears to be in the research and development phase of digital film preservation, as it is developing a prototype project for digital archiving. According to Ken Weissman, supervisor of the Film Preservation Laboratory, the LOC is prepared to continue operating as a film-based laboratory even when other film laboratories discontinue their use of film stock.[56] The Library's facility in Culpeper, Virginia, includes 90 miles of shelving, 35 climate-controlled vaults, a conservation building, and a nitrate facility, which demonstrate the LOC's commitment to long-term physical film storage. In contrast, the LOC has displayed an interest in videotape digitization with its System for Automated Migration of Media Archives (SAMMA), and no film equivalent seems to be on the immediate horizon for the LOC.[57] While the

Library is partnering with film preservation organizations, none of these efforts appear to focus on solving the dilemma of digital film preservation. The LOC's partnership with the Academy of Motion Picture Arts and Sciences is dedicated to authoring the Image Interchange Format, which will provide a toolkit for digital motion picture work flow and color management, not digital preservation.[58]

Many state and university archives are similarly hesitant to embrace digital preservation for film, except in rare cases. At Washington State Libraries (WSL), for example, the digitization of historic films focused on issues of access, not ensuring long-term preservation. In WSL's project, three digital formats were created for on-line films, and a 920 GB hard drive was purchased for temporary storage, with backups to a secure server scheduled weekly. While there were efforts made to create digital redundant copies, it is clear that long-term preservation was not the purpose of the WSL project and digital preservation was not a project goal.[59] Similarly, the Texas Archive of the Moving Image (TAMI) digitized films with significant historical value for access rather than preservation.[60] In its on-line resource, the "Home Media Preservation Guide," TAMI stresses that one should not discard originals, as digitization is for access rather than for preservation.[61]

Film archives in Europe are more interested in digital preservation technologies, and some archives are actively preserving certain films in digital form. EDCine, which is predominantly a European organization, considers digital film preservation one of its priorities.[62] In 2006, Arianna Turci surveyed several European film archives' digital preservation efforts. These archives all expressed concerns regarding preservation standards for digital objects, and were at that point wary of adopting a digital-only stance towards both film preservation and restoration.[63] In a 2005 interview, the British Film Institute (BFI) stated that it only used digital technology for "restoration and access purposes," not for preservation.[64] In 2010, the institute's Web site claimed that it was "starting to preserve material in various digital file formats, held on disc or LTO datatape."[65] In 2011, the German *Deutsches Filminstitut* asserted that in order to address the challenges faced by the movement toward digital formats, it was investing in technologies not only for creating access, but also for long-term preservation.[66] While there is more of a commitment to digital preservation within the European-based national film archives, the developments still appear to be in their infancy.

Obsolescence

The film industry's hesitance to embrace digital preservation technology has led Charlotte Crofts to conclude that "digital assets are at just as much risk of decay as those originated on film, if not more so."[67] Obsolescence of equipment and formats is the top reason Herzog cites for not considering digital formats as a current preservation strategy. Keeping a digital copy means "asking for trouble further down the line," Herzog maintains, as the disc, memory card, hard drive, or software required to run it may not be available. Formats may be unrecognizable when accessed in the future. Software is dependent on proprietary systems that "come and go," and many studios that bought into the digital storage systems are finding that archived files are simply not

playable anymore.[68] It may also be necessary to archive the digital tools along with the digital data or media to ensure access. According to the Academy, "accessing the data stored on digital media requires access to the digital tools that 'go with' the archived data."[69] In this sense, it is not possible to "store and ignore" a digital asset.

It is also uncertain what stakeholders need in order to prevent corruption and maintain data integrity, especially during migration necessitated by potential obsolescence. Howard Besser suggests three types of approaches be used to deal with the problems of changing file formats; specifically: migration, or "periodically moving files from one encoding format to another that is useable in a more modern computing environment"; emulation or mimicking of old software to show new file formats; and "refreshing," in which both migration and emulation are both utilized.[70] It may also be important to make the technical specifications of files available for clarity on how a file is encoded, and also to clearly understand if file migration can be executed without corruption.[71]

Storage

Digital media files, especially digital film files, can be exceedingly large, especially if they are not compressed. Although storage costs are falling, it is still expensive to maintain large files. The preservation of digital media necessitates prioritizing either space or quality. Compressed files save space, while non-compressed files preserve the aesthetic qualities of the content.[72] JPEG 2000 is one alternative for saving both photographic and moving image formats as quality graphics content; however, the economic feasibility of such a large collection is questionable, at least until storage costs become even less expensive.[73]

Storage solutions are also affected by technological obsolescence. In the case that the storage medium is no longer the market standard at the time of preservation, a suggested preservation method is to copy all moving images to the second system before the new technology has surpassed its predecessor.[74] Both staff resources and funding must be budgeted for the future at the time of preservation, as the storage and personnel costs extend indefinitely over years.

Even if multiple copies are maintained, there is no guarantee that the items are adequately preserved. Digital assets are susceptible to corruption with no existence of an inviolable master.[75] Content, even stored in multiple copies, exists without an artifact. Without an artifact, these assets are at great risk of corruption and loss.

Additionally, some scholars, such as Rosemary Bergeron, do not assume that digital media will wholly reproduce motion picture film stock's aesthetic qualities, and they question the viability of moving to digital media to truly preserve the art of the motion picture.[76] Others state similar concerns as digitization may lead to a reduction of the data and thereby a loss of the original character of the film.[77]

Costs

According to Herzog, a second long-term issue with digital preservation is cost. He states that archives are conservative with their resources, so there is little room for experimentation, and the technology is too uncertain to warrant heavy investment.[78] According to the Academy, "The ongoing costs of storage technology trend down while the costs of data management services, labor and power increase as a percentage of the total cost of ownership."[79] In general, scholars cite a misconception about the cost of digital collections, since scanning, color correcting, and any other required processes are not cost-neutral.[80] In 2007, the Academy estimated that a film archival master cost $1,059 per year, per title, to maintain and store, whereas a 4K digital master might cost upwards of $12,514 per year per title.[81] It is cost-prohibitive to move to digital solutions when faced with hefty price tags and an uncertain future.

Standards

Due to the rapid development of digital technology, it is difficult to find a "stable and universally accepted digital format, codec, compression rate, and/or associated film playback equipment."[82] The Library of Congress established a list of suggested formats to accommodate a wide range of implementations, such as QuickTime, MPEG-4, MPEG-2, SWF-7 for animated shorts dynamically generated, GIF_89a with less frames, DPX_2, and MJP2_FF with frames encoded as separate files or entities. According to the LOC Web site on the sustainability of digital formats, "clarity and fidelity characteristics (bitstream encoding) should be used as the primary consideration; choice of file formats as secondary."[83] Even though national entities are attempting to establish best practices, this is still a work in progress.

In addition to necessary standards for formats and properties, further criteria need to be considered for metadata. Quality metadata are required to support information retrieval, and to date, no "one size fits all metadata" standard has been developed.[84] Clearly, attention must be paid to developing standards for metadata and educating not only archivists, but also content creators.

Legal Issues

Digital preservation also has its fair share of legal issues, especially because it is unclear if multiple copies are needed to protect against the potential of data loss. In addition to the U.S. Copyright Law's Section 108 regarding preservation exceptions available to libraries and archives, the U.S. House Report No. 94, which provides legislative background for the 1976 Copyright Law, suggests that preservation copying of film, e.g., from nitrate to safety film, could be considered a defensible "fair use."[85] Such copying would be "necessary for the purposes of retention of the material to keep it from physically deteriorating or being destroyed, unless the film was otherwise copied onto safety stock."[86] Although employing a fair use defense can be complicated,

it does have advantages in film preservation because when archivists restore films, they may need to modify the content, thereby creating a derivative work, which is not covered by the Section 108 preservation exceptions. Otherwise, as Eric Schwartz has noted, there is no differentiation in copyright law between restoration and preservation. Nevertheless, archives can reference both exceptions from Section 107 on fair use and Section 108.[87] Section 108 specifically allows for making up to three preservation copies of a work for purposes of replacement, although any digital copy cannot be made accessible to the public outside the preserving library or archives. This section requires that the institution copying the work must own the work, must be open to the public, and must carry forward any copyright notice from the original to the copy.[88]

The Academy Film Archive currently requires depositors to complete an agreement clarifying ownership of the items deposited. Items on deposit are owned by the depositors and are considered to be on loan to the AFA. If the AFA wants to screen the deposited works, written clearance is acquired in advance.[89] According to Herzog, the AFA physically owns the film prints and deposited items but does not own the rights to the contents (with the exception of the Academy Awards and some home videos deposited by film industry professionals). The AFA cannot make copies or sell any content, but because of fair use doctrine, it can share materials for educational purposes on site. To loan to outside parties, it must get permission from the copyright holder in advance, which generally requires payment of a fee.[90]

While it is apparent that making one copy for preservation purposes is acceptable within the current scope of film archives, it is unclear how copyright laws apply to digital assets, as many scholars suggest that adequate backups are needed to ensure the availability of the content. Archivists need to stay informed about whether or not they have sufficient rights to keep the resource accessible, either by determining if the item is in the public domain, or by clarifying copyright issues with the holder.[91]

The Digital Dilemma

Many organizations cannot maintain the pace of preserving their current data, and these needs are only growing.[92] There is hope of improving. Currently expensive processes can become more cost-effective over time, thereby increasing the likelihood of long-term sustainability.[93]

Digital assets have to be treated dynamically, and no industry has figured out how to do this without sizable and continual financial backing. Industries that the Academy uses as examples of this inability to find digital assets solutions include other economic sectors, such as medicine, earth science, government, corporate businesses, and supercomputing. Initial forays into digital assets management in these sectors have proven that while every enterprise has similar problems and issues with digital data preservation, "no enterprise yet has a long-term strategy or solution that does not require significant and ongoing investment and operational expenses."[94] The Library of Congress may incentivize both public and private institutions in the future to encourage them to undertake digital preservation.[95] Based on the actions of other economic sectors

as well as the interests of the Library of Congress, digital preservation is a concern not limited to the film industry.

The Academy states that unresolved issues experienced by other industries must be addressed before committing to digital curation as a preservation practice.[96] These issues include: to curate in-house or to outsource as practiced by the German *Bundesarchiv*;[97] to determine if data compression is or is not important; to articulate what data should be saved and what can be discarded; to standardize the level of geographic separation necessary to maintain server reliability; to resolve whether both the primary and backup archives should be connected via a network; and to decide if standardized file formats are necessary. Furthermore, the Academy calls for establishing best practices in digital preservation.[98]

The British Film Institute is attempting to balance analog and digital deposits.[99] Due to problems with digital storage media and rapidly changing storage devices and file formats, the institute produces analog or sub-masters use copies to protect its fragile digital assets.[100] These efforts indicate an acknowledgement that while digital technologies are not as reliable or robust as analog film archiving practices, digital curation will have to become a suitable preservation alternative.

A suggested approach for digital film archives is "systematic digital ingestion, storage, preservation, and access to digital objects that can be indexed and searched."[101] However, no current media, hardware, or software that can ensure long-term access exists at this time. Despite this challenge, archivists must be trained to evaluate new material, structure, and costs; to manage funding over the long term; and to maintain digital archives.[102]

The problem of digital preservation will not get simpler; rather, it will become more difficult. The collection of data and creation of content has accelerated, while digital resources have grown increasingly complex. More and more films are being shot digitally, which means there are more files, more moving image products with ancillary material, and an increasing need to locate digital fragments for reuse and repurpose.[103] Not only are more films being created, additional ancillary material continues to be generated. The Academy has acknowledged the challenges associated with the preservation of ancillary materials, such as the digital equivalents of "B negatives" (raw footage not included in the original developed film), trims and out takes, and other supplemental digital material.[104] Preserving special effects data, along with the software used to create the data, can be valuable to understanding the history of film. A new paradigm is required by archivists to manage not only digital films, but also items that together complete the work as a whole.[105]

According to the Academy, "digital archives are only truly protected by redundant replicas of the structured assets themselves;" thus, the transition to digital will follow the example of audio preservation.[106] Ancillary materials, such as digital tools for visual effects and animation, postproduction files, and others, will need to be preserved in a similar manner. The transition to digital is inevitable, due to the existence of Digital Cinema theaters and digital cameras in commercial use that are equal or better than the quality of 35 mm film.[107]

In this uncertain atmosphere, archivists must stay relevant and use their existing skills[108] to transition or balance between analog and digital technologies.[109] Creators

and producers do not necessarily understand the principles of film archiving,[110] and it may be necessary to convince rights holders that digital assets and ancillary material need to be preserved if 35mm prints are not suitable for digital projects.[111] Through discourse with creators and rights holders, the archives remain essential even when digital technologies are embraced. To remain relevant in their fields, film archivists must continue to acknowledge the challenges faced in digital preservation of moving image materials and look for solutions for the future. The academic world is responding by creating educational programs to prepare archivists to deal with digital media materials, as shown in the establishment of New York University's (NYU) Moving Image Archiving and Preservation Program.[112] Through education, awareness, and acknowledgement that some transitional strategy may be necessary, film archivists can ensure the need for their skills in the future.

The Future

Is this commitment not to commit to digital preservation enough for the film industry today? Not only are existing digital assets endangered, but film archives themselves also run the risk of becoming obsolete if digital technology is not embraced. According to Dylan Cave, "archives have to sit comfortably in both traditional and digital realms in order to justify the cost of caring for their vast holdings." The film archive should maintain possession of materials already deposited as a means of ensuring advantages during negotiation with rights holders so that forthcoming deposits are protected.[113] Currently, digitization is only a quick answer. A preferable approach is to develop a "unified strategy of stabilization, active conservation, passive subzero storage, and preservation by duplication."[114] One suggested simple approach is to preserve ancillary materials on hard drives with a clear migration strategy, which should overcome technological obsolescence until the aforementioned digital preservation strategies have become more stabilized.

The pressure to create distribution libraries for digital platforms in the film industry is palpable. Sony and Warner are both establishing digital libraries for distribution purposes (ATLAS and DETE, respectively). Unlike digital media distribution libraries, digital media archival materials will likely be "full pixel count, full bit-length, uncompressed, and unencrypted."[115]

Current Academy collaborative projects include: research on issues encountered with digital preservation; the development of standardized digital file formats; the creation of an established system for reporting case study successes and failures with digital preservation; and the move to encourage increased and positive interactions amongst shareholders.[116] Timelines for developing solutions to these issues were not addressed within the Academy's report, nor was any commitment made to even partially move to digital preservation.

The Academy is continuing to create film separation masters from any and all content, including digital assets received which are transferable to film stock. It is also monitoring other industries' experimentations with digital preservation and the resulting best practices. The Academy would like to see other industries establish

rational strategies for digital stewardship. Once these strategies are developed, the Academy will encourage open discussion in the film industry to facilitate studios' agreement on best practices. In the meantime, the Academy recommends that digital assets be actively protected by robust systems developed for continual evolution, which possess a diminished risk of technical obsolescence.[117]

Conclusion

Film archives hold materials of immense cultural value, and many institutions, such as the Academy Film Archive, are committed to preserving the art of filmmaking. Current practice ensures that 35mm films, documentaries, short subjects, and any materials that can be transcribed onto film stock remain available and accessible for at least one hundred years. Few other industries have the means or materials to compete with this kind of reliable preservation strategy. It is therefore understandable that this industry hesitates to embrace the tumultuous and ever-mutating technologies for digital preservation. However, due to the prevalence of digital technologies in filmmaking, both in production and postproduction, eventually the industry will have to develop solid strategies for digitally preserving this content.

While digital films can be curated via film stock, the additional ancillary materials and assets cannot, in many cases, be preserved in this way. These ancillary materials are also culturally valuable and instrumental in documenting this generation's filmmaking practices. Strategy and action for preserving ancillary content and assets must be prioritized to ensure that no further content is lost.

A review of literature from multiple sources, an interview with the Academy Film Archive's collection curator Fritz Herzog, and a review of the Academy's literature, make clear that a transitional strategy of balancing between analog and digital preservation is needed to ensure maximum coverage of moving image data. Meanwhile, continuing to preserve digital and 35mm films, documentaries, and short subjects on film stock will ensure that these data remain safeguarded for the future. The experience gained from preserving content with both analog and digital technologies can guide the eventual shift to complete digital preservation, whether in the next decade, or in the next one hundred years.

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NOTES

1. Dietrich Schüller, "Socio-Technical and Socio-Cultural Challenges of Audio and Video Preservation," *International Preservation News* 46 (2008): 5.
2. Janna Jones, "The Library of Congress Film Project: Film Collecting and a United State(s) of Mind," *The Moving Image* 6:2 (2006): 38.
3. Helen Sam, "Cataloging and Preservation of Moving Images: A Survey of Organizations and Initiatives," *PNLA Quarterly* 73:4 (2009): 62.
4. Vincent Kiernan, "Preserving Movies," *Technology Review* 98:3 (1995): 14-15.
5. "The Digital Dilemma: Strategic Issues in Archiving and Accessing Digital Motion Picture Materials," *Los Angeles: Science and Technology Council of the Academy of Motion Picture Arts and Sciences* 56 (2007): 12.
6. "Digital Dilemma," 47.
7. Randal Luckow and James M. Turner, "All Singing, All Talking, All Digital: Media Windows and Archiving Practice in the Motion Picture Studios," *Archivaria* 65 (2008): 180.
8. Fritz Herzog, telephone interview by the author, 18 November 2010, notes in possession of author.
9. Nan Rubin, "Preserving Digital Public Television: Not Just an Archive, but a New Attitude to Preserve Public Broadcasting," *Library Trends* 57:3 (2009): 393-412. With the Deficit Reduction Act requiring all U.S. full power television stations to turn off analog transmitters by 2/17/2009 and move to exclusively digital transmitters, analog TV became obsolete.
10. "Digital Dilemma," 13.
11. Ibid., 17.
12. Dylan Cave, ""Born Digital"—Raised an Orphan?: Acquiring Digital Media through an Analog Paradigm," *The Moving Image* 8:1 (2008): 1-13.
13. Jerome McDonough, and Mona Jimenez, "Video Preservation and Digital Reformatting: Pain and Possibility," *Journal of Archival Organization* 4:1 (2006): 169.
14. Charlotte Crofts, "Digital Decay," *The Moving Image* 8:2 (2008): 7.
15. "Digital Dilemma," 13.
16. "About the Academy Film Archive," *Academy of Motion Picture Arts and Sciences*, http://www.oscars.org/filmarchive/about/index.html (18 November 2010).
17. "Digital Dilemma," 1-74.
18. Herzog interview.
19. "About the Academy."
20. "Digital Dilemma," 13.
21. David Walsh, "How to Preserve Your Films Forever," *The Moving Image* 8:1 (2008): 38.
22. Andreas Busche, "Just Another Form of Ideology? Ethical and Methodological Principles in Film Restoration," *The Moving Image* 6:2 (2007): 4.
23. Herzog interview.
24. Karen F. Gracy, "Documenting the Process of Film Preservation," *The Moving Image* 3:1 (2003): 1-41.
25. Ibid., 8.
26. Simone Görl, "*Digitalisierung und Nutzungsmöglichkeiten historischen Filmguts*," *Archivar* 62:1 (2009): 16.
27. Egbert Koppe, "*Bestandserhaltung im Filmarchiv des Bundesarchivs: Beschreibung technischer Aspekte"*, *Archivar* 62:1 (2009): 15.

28. Davi Forbes, "Film Archives: A Decaying Visual History," *African Research & Documentation* 110 (2009): 38.
29. "About the Academy."
30. Herzog interview.
31. Ibid.
32. Richard Wright, "Digital Preservation of Audio, Video and Film," *VINE* 34:2 (2004): 74-75.
33. Herzog interview.
34. Koppe, "*Bestandserhaltung im Filmarchiv*," 14.
35. Arianna Turci, "The Use of Digital Restoration within European Film Archives: A Case Study," *The Moving Image* 6:1 (2006): 122.
36. Herzog interview.
37. "The Film Preservation Guide," *National Film Preservation Foundation* (NFPF), 2004, http://www.filmpreservation.org/preservation-basics/the-film-preservation-guide (3 October 2011).
38. "Care of the Collections," *BFI National Archive*, 2010, http://www.bfi.org.uk/nationalarchive/about/whatwedo/care.html (5 December 2011).
39. Koppe, "*Bestandserhaltung im Filmarchiv*."
40. Schüller, "Socio-Technical and Socio-Cultural Challenges," 6.
41. Crofts, "Digital Decay," 5.
42. Dawn McCarthy and Beth Jinks. "Kodak Files for Bankruptcy as Digital Era Spells End to Film," *Bloomberg*, 1 January 2012, http://www.bloomberg.com/news/2012-01-19/kodak-photography-pioneer-files-for-bankruptcy-protection-1-.html (15 March 2012).
43. "Digital Dilemma," 18.
44. Crofts, "Digital Decay," 5.
45. Michael Stabile, "Sony HD Tape Shortage Caused by Japan's Tsunami Panics California and NY Filmmakers," *LA Weekly*, 24 March 2011, http://blogs.laweekly.com/informer/2011/03/sony_hd_tape_shortage_tsunami.php (5 December 2011). In addition, Japan's 2011 tsunami may have also accelerated the switch to digital technology, as dependencies on HD tape have already created supply chain issues for the film and television industry.
46. Cave, "Born Digital," 3.
47. Howard Besser, "Digital Preservation of Moving Image Material?" *The Moving Image* 1:2 (2001): 39-55, http://besser.tsoa.nyu.edu/howard/Papers/amia-longevity.html (29 November 2010).
48. "Digital Dilemma," 37.
49. Crofts, "Digital Decay," 12.
50. "Digital Dilemma," 49-50.
51. "Big Changes Afoot at the UCLA Film & Television Archive," *UCLA Film and Television Archive*, 2008, http://www.tft.ucla.edu/profiles/community/archive_chris-horak/ (5 December 2011).
52. "Reimagining the Archive: Remapping and Remixing Traditional Models in the Digital Era," *UCLA Film & Television Archive*, http:// polaris.gseis.ucla.edu/reimagining/ReimaginingCatalog.pdf (13 March 2012).
53. "The Film Preservation Guide."
54. "Storage Standards and Guidelines for Film and Videotape," *Association of Moving Image Archivists*, http://www.amianet.org/resources/guides/storage_standards.pdf (5 December 2011).
55. "The Home Film Preservation Guide," *Association of Moving Image Archivists*, http://www.filmforever.org/ (3 October 2011).
56. Ken Weissman, "Film Preservation at the Library of Congress Packard Campus for Audio Visual Conservation," *AMIA Tech Review*, 2010, http://www.amiaconference.com/techrev/V10_02/weissman.htm (5 December 2011).
57. "New LC Audiovisual Center Boasts State-of-the-Art Technology," *Library Times International: World News Digest of Library and Information Science* 24:2 (October 2007): 21.
58. "Image Interchange Framework," *Academy of Motion Picture Arts and Sciences,* http://www.oscars.org/science-technology/council/projects/iif.html (5 December 2011).
59. Mark O'English and Trevor James Bond, "Providing Online Access to Historic Films at the Washington State University Libraries," *Library Hi Tech* 29:2 (May 2011): 211.
60. Megan Peck, "Making Texas' Moving Image Heritage Accessible," *Microform & Digitization Review* 40:3 (September 2011): 122-126.
61. "Home Media Preservation Guide," *Texas Archive of the Moving Image*, http://www.texasarchive.org/library/index.php?title=Home_Media_Preservation_Guide (5 December 2011).

62. "Project >> Cinema archives," *EDCINE*, http://www.edcine.org/intro/ (5 December 2011).
63. Turci, "Use of Digital Restoration," 122-123.
64. "The BFI is the Archive…," *Multimedia Information & Technology* 31:3 (August 2005): 93.
65. "Care of the Collections."
66. "Filmarchiv," *Deutsches Filminstitut Filmmuseum*, http://deutsches-filminstitut.de/archive-bibliothek/filmarchiv/ (5 December 2011).
67. Crofts, "Digital Decay," 11.
68. Herzog interview.
69. "Digital Dilemma," 31
70. Besser, "Digital Preservation of Moving Image Material?"
71. McDonough and Jimenez, "Video Preservation and Digital Reformatting," 183.
72. Crofts, "Digital Decay," 19.
73. McDonough and Jimenez, "Video Preservation and Digital Reformatting," 186.
74. Paolo Cherchi Usai, *The Death of Cinema: History, Cultural Memory, and the Digital Dark Age* (London: BFI, 2001): 115.
75. Cave, "Born Digital," 4.
76. Rosemary Bergeron, "Archiving Moving-Image and Audio-Cultural Works in Canada," *Archivaria* 63 (2007): 72.
77. Görl, "*Digitalisierung und Nutzungsmöglichkeiten*," 24.
78. Herzog interview.
79. "Digital Dilemma," 45.
80. Bergeron, "Archiving Moving-Image," 72.
81. "Digital Dilemma," 1-2.
82. Crofts, "Digital Decay," 22.
83. "Moving image >> Preferences in Summary," *Library of Congress*, http://www.digitalpreservation.gov/formats/content/video_preferences.shtml (18 November 2010).
84. Sam, "Cataloging and Preservation," 66. In this article, Sam references the difficulty that archives have sharing and retrieving information.
85. Copyright Law Revision (House Report No. 94–1476), 73.
86. David Pierce, "Copyright, Preservation, and Archives: An Interview with Eric Schwartz," *The Moving Image* 9:2 (2010): 135.
87. Ibid., 135.
88. United States Copyright Office, "The Copyright Act of 1976, S.22," Circular 92, 19 October 1976, http://www.copyright.gov/title17/92chap1.pdf (18 November 2010).
89. Fritz Herzog, "AFA Deposit Program," 2010, personal E-mail to author (24 November 2010).
90. Herzog interview.
91. McDonough and Jimenez, "Video Preservation and Digital Reformatting," 177-178.
92. Jane Hunter and Sharmin Choudhury, "PANIC: An Integrated Approach to the Preservation of Composite Digital Objects Using Semantic Web Services," *International Journal on Digital Libraries* 6:2 (2006): 174.
93. McDonough and Jimenez, "Video Preservation and Digital Reformatting," 168.
94. "Digital Dilemma," 1.
95. "LC Sets Digital Goals, Plans Push for Copyright Change," *Library Journal* 136:7 (April 2011): 16–18.
96. "Digital Dilemma," 30.
97. Koppe, "*Bestandserhaltung im Filmarchiv*."
98. "Digital Dilemma," 30.
99. Cave, "Born Digital," 2.
100. Crofts, "Digital Decay," 22.
101. "Digital Dilemma," 13.
102. Forbes, "Film Archives," 41-42.
103. Besser, "Digital Preservation of Moving Image Material?"
104. "Digital Dilemma," 1.
105. Besser, "Digital Preservation of Moving Image Material?"
106. "Digital Dilemma," 7.
107. Ibid., 17.
108. Luckow and Turner, "All Singing," 181.

109. Besser, “Digital Preservation of Moving Image Material?”
110. Bergeron, “Archiving Moving-Image,” 66.
111. Cave, “Born Digital,” 8.
112. McDonough and Jimenez, “Video Preservation and Digital Reformatting,” 174.
113. Cave, “Born Digital,” 12.
114. Crofts, “Digital Decay,” 7.
115. “Digital Dilemma,” 7.
116. Ibid., 7.
117. Ibid., 52.

HISTORY EDUCATION OUTREACH PROGRAMS FOR ADULTS: A MISSED OPPORTUNITY FOR ARCHIVISTS?

BY JESSICA MILLER

ABSTRACT: Because the archives and history professions are closely related, it is logical that archivists create history education outreach programs and services. Archivists provide educators with access to primary sources and assist teachers in utilizing these sources in their classrooms to foster critical thinking and historical reasoning skills in students. In recent years, archivists have heeded the call to serve teachers, K-12 students, and undergraduates, in addition to academic historians and graduate students. Most, however, have missed a valuable opportunity to reach out to the community at large with education programs similar to services they may already provide to teachers and students. This article presents an argument for history and archival education programs directed at adult users.

Introduction

Archivists have done an admirable job providing educational programs and services to teachers and students, but the profession may be overlooking an important audience for educational outreach programs: adult users, including community historians, retirees, and life-long learners. Given rapidly increasing on-line access to archival collections and the popularity of historical films, books, and television programs, archives should find receptive adult audiences in their communities. Because adult consumers of popular history face many of the same challenges as do their younger history student counterparts—especially if they have been away from the academic environment for a long period of time—archivists could easily adapt existing education programs for adult users.

While archives traditionally have reached out to non-academic adult users such as genealogists and historic home researchers, less attention has been paid to an audience consisting of consumers of popular history books, documentaries, movies, and television programs. It may be possible to reach these potential users through public libraries, local community education and recreation programs, or community colleges.

Archivists could also consider offering education programs geared toward adults returning to school or to recently retired individuals.

Because the potential adult users may have little interaction with professional educators, archivists are in an ideal position to address historical research and critical thinking skills in outreach programs. The critical thinking skills used in historical research are the same skills used by active, engaged citizens in a democratic society to make sense of current events and world affairs.[1] Some older users may not have been exposed to current methods of historical analysis in school and may view history as little more than a series of objective dates and facts. Educational outreach to these users creates opportunities for archives to be more socially responsive; educate the citizenry; increase transparency in the practice of history; help users to create their own histories; enhance the enjoyment and understanding of popular history and on-line primary sources; and create potential for collaboration among archives and public historians, museums, local historical societies, and community education and recreation departments.

Outreach and Public Programming in Archives

For nearly three decades, outreach and public programming have been widely discussed in the archival profession, and most archivists accept that outreach and public programs are essential aspects of operations. Arguments in favor of archival outreach programs include increasing the use of archives, improving the image of archives, creating support for funding archives, and increasing awareness of the importance of archives. Archival outreach typically is discussed in terms of users and audiences. Mary Jo Pugh has defined a number of potential user groups, including colleagues of an archives' parent institution, scholars, students, college professors, K-12 teachers, and such "avocational users" as genealogists, historians, and hobbyists.[2] When devising outreach programs, archivists are encouraged to focus on specific user groups, determine users' needs, and tailor programs to meet those needs. [3] Typical outreach programs in the United States include lectures, tours, exhibits, and teacher resources and workshops. In his 2000 presidential address to the Society of American Archivists, Leon J. Stout pointed out that archives exist to facilitate research, and archivists do not necessarily have to exhibit interesting documents to bring new users into their reading rooms.[4] Outreach programs that focus on educating users in history research techniques would do both.

Archives, Archivists, and History Education

From the 1980s on, archivists began to reach beyond the traditional uses by scholars to include the K-12 and undergraduate educational communities for a multitude of reasons.[5] Marcus C. Robyns perhaps best summarized the benefit of education-oriented programs by asserting that working with students can "have an empowering effect on students and can improve the quality of research in reading rooms."[6] When students

are taught historical research skills, they are more likely to be fully engaged in the research process and produce superior original research. When adult audiences and learners are taught these skills, the quality of discourse on history in society may rise. However, archivists have paid less attention in their educational outreach efforts to adult audiences from outside the history profession.

Historical Background

The skills required and challenges faced by K-12 and undergraduate students and teachers when using archival materials to construct history have been well-documented in both education and archival literature. Foremost among these skills are discerning multiple levels of meaning in documents and texts; understanding creators' biases and points of view; and coming to terms with interpretation, argument, and the problem of incomplete evidence from which to reconstruct events.[7] Students also must read and comprehend potentially unfamiliar language, see patterns and themes in primary sources, be able to revise theories and hypotheses as new information becomes available, and use multiple sources to corroborate or disprove accounts of events.[8] These concepts may run counter to many students' understanding of history as a series of facts and events linked in a positivistic series of causes and effects. Todd Estes, for example, has reflected that he often has to "push against—as we probably all do—the assumption that students often have is that there is only one 'correct' interpretation or view and that their job is simply to discover what it is and learn it."[9] This assumption is likely to be just as prevalent among adults in the general public.

In addition to the intellectual challenges inherent in history education, both teachers and their students face obstacles related to locating, using, and understanding the nature of archival materials. Elizabeth Yakel and Deborah A. Torres argue that many novice users have obtained the skills needed for interpretation of primary sources within their respective disciplines, but they lack "archival intelligence," defined as "knowledge of archival theory, practices, and procedures; strategies for reducing uncertainty and ambiguity when unstructured problems and ill-defined solutions are the norm; and intellective skills."[10] Archival intelligence can be seen, for example, when expert archives users are able to structure their search strategies around provenance rather than subject.[11] Users also must gain a sense of "archival literacy," which extends beyond traditional notions of information literacy. Anne J. Gilliland-Swetland and her colleagues have defined archival literacy as "users' consciousness of their documentary heritage and the role that records play in establishing and protecting their rights and in recording and communicating their heritage."[12] Archival outreach programs aimed at adult audiences would likely need to include instruction in both primary source interpretation and archival research skills, as well.

Archivists have addressed many of the aforementioned challenges history teachers face when using primary sources in the classroom. Several case studies and research projects have tied history education theory to potential or actual archival outreach projects. Few of these projects, however, have involved adult learners. Most of these projects have advocated collaborating with teachers rather than working directly with students to teach historical reasoning skills.

Ken Osborne, in a 1986 article on archival outreach to students and teachers, described a number of ways archivists have served this audience based on education theory related to the investigative and analytical aspects of history. Osborne surveyed programs in place across Canada at the time and identified components of effective educational outreach programs, such as involving students in solving problems; working closely with teachers, teacher training programs, and curriculum developers; and taking steps to ensure that programs go beyond simply highlighting interesting documents.[13] For adult educational programs, problem-solving and moving beyond merely exhibiting documents should be emphasized. Osborne did draw attention to the potential to use student programs with adults, but did not elaborate on what such a program would entail.[14]

In more recent years, others have expanded on Osborne's ideas in their explorations of archival outreach to the history education community. Sharon Anne Cook argued in favor of archives providing primary sources for classroom use without attaching pedagogical strategies to them; working with teachers to determine what they need and how best to fill those needs; and involving pre-service teachers in the program development process.[15] Gilliland-Swetland examined the potential for archives to meet educational users' needs when planning digitization projects, and encouraged archivists to seek user feedback. She argued that digitization projects should include collections that can be copied freely; that are well described; that contain material with exemplary value, visual appeal, local interest, or documentation of advancements in knowledge; and that are supplemented by a large quantity of existing secondary source background information.[16] These considerations also would apply to material used in adult education programs. Julia Hendry has examined literature from the education field and has found that archives have missed opportunities to work with K-12 teachers to incorporate primary sources and archival literacy in their lesson plans.[17]

Current Practice

History education outreach programs take several forms in current archival practice and are mostly geared toward K-12 students and teachers. Numerous archival institutions have assembled sets of primary sources (in digital or hard-copy format) accompanied by lesson plans. These programs are designed to assist teachers, but do not involve archivists directly with teaching critical thinking and historical reasoning. One prominent example is the Library of Congress' Primary Source Sets, which include primary sources in multiple formats related to a particular topic, teacher guides, and links to primary source analysis tool worksheets. The teacher guides include background information on each topic, suggestions for classroom activities and discussion, and citations to secondary sources.[18] Many smaller archives and historical societies offer similar resources for teachers or participate in collaborative programs with other cultural institutions.[19] Archival repositories also serve the education community by participating in local history fair or National History Day activities, where students conduct original primary and secondary source research related to a history theme and interpret the results of their research. These programs allow archivists to work directly with both teachers and their students who use archives to research their projects.[20] Many academic archives offer instructional programs for undergraduate

students. Typically, these programs are related to a specific course or assignment and are designed to familiarize students with archival research skills, access tools, and descriptive practices.[21]

Why Extend History Education Outreach Programs to Adults?

Arguments can be made for reaching out to potential new adult users by expanding educational programs already presented to younger audiences. These programs can create new audiences for and supporters of archives, provide context for on-line primary sources, allow archives to be socially responsible and increase transparency in the profession, and create potential for collaboration with other cultural institutions and education professionals.

New Audiences

History-related books, movies, and television shows have piqued adults' interest in history, creating a new potential audience for archival outreach programs. One of the most extensive studies of how American adults interact with history found that participants expressed a strong desire to access primary sources and experience the past in an unfiltered manner.[22] At the same time, advances in technology have increased the availability of and interest in on-line primary sources. Greater access to archival materials certainly is a desirable and admirable goal, but increased access does not necessarily lead to increased understanding. Obviously, libraries and archives make on-line research guides available for students, seasoned researchers, and budding historians alike, but the archival profession should also assume some responsibility for explaining how to analyze critically the archival resources that are now becoming available to potential new researchers and avocational historians. Archivists should not, of course, interpret such materials, but creating instructional programs for adults that demonstrate how to conduct historical interpretation is a reasonable way to improve the quality of access to digital archives. Such programs would also be a step toward ensuring that digital collections are more than just displays of interesting documents.

Social Responsibility and Transparency

While increasing visibility and awareness of archives is important to the profession, archivists should move beyond the goal of greater awareness to create outreach programs that also benefit participants and perhaps even society at large. In an address to the National Council on Public History, Robert Weible asserted that "historians have leadership responsibilities" to "help people understand what's real about history so that we can all do a better job of making it."[23] It is time for archivists to embrace this responsibility as well. Educating adult users about the process of constructing history could have a positive impact on social memory. Randall Jimerson argues that "social memory all too often is based on myth or simplistic stereotypes, rather than thoughtful analysis and evaluation of the historical record."[24] Social memory often falls prey to nostalgia and a desire to forget unpleasant or controversial aspects of the past. Andrew Flinn further argues that community histories "can be as exclusionary

as mainstream history in that they may marginalize or exclude other groups (on the basis of class, gender, sexual orientation or transgression from community orthodoxies)."[25] Educational outreach that instructs about techniques of historical analysis may not end these problems entirely, but it could at least help individuals recognize them when they occur, and consider their implications. Concerns about transparency in archival practice should also be addressed when facilitating historical analysis among adults. In addition to explaining document creators' perspectives and potential biases, archivists could explain their role as mediators between documents and researchers, the subjectivity of language used in archival description, and the documentation gaps that exist in archives, all of which are important considerations when constructing history from primary sources.[26]

Collaboration with Related Professions

Educational outreach programs for adult users can provide archivists opportunities to collaborate with and provide service to professionals in related fields. A team of academic historians and archivists prepared a report in 1992 arguing for increased cooperation between the two professions.[27] Archivists could similarly cooperate with public historians through outreach work with adult audiences. Public historians often undertake projects to help members of a community create their own history through books, plays, oral histories, and exhibitions. The quality of these products can be uneven, sometimes falling into the traps of sentimentality, nostalgia, or lack of focus.[28] But it is unreasonable to expect participants in community history projects to produce rigorous, critical histories unless historians and archivists educate them about how to do so using primary sources. Archivists can assist historians by using their collections to provide training to participants in historical analysis and critical thinking. Potential for collaboration with museum professionals exists as well. If a museum undertakes an exhibit involving a controversial or challenging interpretation, local archivists could organize a workshop on the process of constructing history to help potential visitors understand the scholarly underpinnings of the interpretation. Such collaborative programs would benefit archives by illustrating their value to historians, cultural institutions, and citizens. Program participants would also benefit from enhanced enjoyment and understanding of history, both in their communities and in popular culture.

Implementing History Education Outreach Programs for Adults

Adapting Existing Programs

Educational outreach programming already in place at many archival institutions could be adapted for adults. For example, in a program for undergraduate students at Northern Michigan University, archivist Marcus C. Robyns provided instruction related to "the definition and meaning of historical research, primary sources, and critical thinking, including the topics of verification, reliability, and inference" by walking participants through the analysis of sample documents.[29] He also demonstrated the concept of provenance by reviewing a finding aid "with emphasis on the biographical

or administrative history and the general scope and content note."[30] Students were then given a set of primary sources from the university's archival collections and a thesis associated with the sources. Students took the copies of documents home, selected what they thought to be the most credible sources to support their thesis, and returned the next day for a seminar-style discussion of their analyses. Robyns created a program that provides instruction in both historical reasoning and archival literacy skills. Similar programs (that could occur in one day rather than two) could be conducted for adult audiences in archival repositories rather than with more traditional lectures, collection showcases, and tours. Already existing resource sets and teacher guides could be used as a basis for these seminars. It may even be possible for such programs to be focused on a currently popular history-related movie or book.

The Harry S. Truman Library and Museum offers an example of a program for students that has successfully been adapted for adults. In the White House Decision Center program, groups of students in grades 8-12 examine primary sources related to major decisions in the Truman administration, act out the decision-making process, and answer questions at a mock press conference. The program challenges the notion of "a linear perspective of history where conclusions are given after the fact."[31] Students are exposed to a series of classroom lessons on such topics as decision making, primary source interpretation, and role-playing before they arrive for the on-site activities. According to Tom Heuertz, associate education coordinator at the Truman Library and Museum, the school program was easily transformed into a three-and-one-half hour experience for adults. Truman Library staff use a guide with pages excerpted from the school program manual. Adult groups enter without prior instruction on document interpretation and analysis, but they are given background information and context for the historical figures they will play. Several hundred adults, including military personnel, church groups, corporate executives, and ElderHostel groups go through the program each year.[32] While historical analysis and critical thinking skills are not taught directly in the adult version of the Truman Library program, archivists wishing to adapt this program model could include these skills to enhance their version.

Program Elements

Archives or history-related educational programs for adults could take numerous forms, but a seminar or group discussion format may be the most practical to implement. Archivists could explain how historians analyze and interpret documents and other archival material using samples from their repository's collections. Important elements to address would include an individual document's relationship to the rest of the collection, ways in which a document may tell multiple stories, how historians frame questions when working with archival material, and how authorship and perspective can affect a primary source's validity and reliability. Archivists' role as mediators also should be discussed here. To illustrate how historians use consensus in interpreting events, archivists might use copies of primary sources in small or large group discussions. Material related to local history or politics, controversial issues, or topics of recent popular history books, movies, or television documentaries would help maintain user interest and spark discussion. Such examples are abundant, including

the Smithsonian's *Enola Gay* exhibit, Oliver Stone's historical "docudramas," and allegations of inaccuracies and fabrications in popular history books.[33]

If an archives lacks staff resources to produce such programming on its own, it could adapt material provided by institutions like the Library of Congress and National Archives or collaborate with another repository in the area to divide the workload. Programs of this type can be run multiple times for greater return on time invested.

Conclusion

Archivists have done much to enhance education for K-12 and undergraduate students and educators, and should now extend these services to include often overlooked adult audiences. The time is right for innovative programming that capitalizes on an increased presence of history in popular culture and greater public access to primary sources through digitization. Archivists should step up to the challenge and embrace this unique opportunity for public service that has the potential not only to promote archives and their role in society, but also to serve related professions, audiences, and the community at large.

Benefits of history education outreach programs for adult users are political, personal, and institutional. Politically, such programs would allow archives to embrace a more activist role in society, prepare citizens to participate more fully in democracy, and encourage the public to engage in reasoned debates on current affairs. Personally, audiences will come away with an enhanced understanding of and appreciation for history that they can carry with them when they visit other cultural institutions, consume popular history movies, books, and television programs, and use the increasing volume of on-line primary source material. For archivists, the interactive nature of the program could provide opportunities to learn from participants, as much as for participants to learn from archivists. Institutionally, adult education programs provide archives with opportunities to become more engaged with the communities they serve and to collaborate with professionals in related disciplines. Together, these benefits help instill in archivists pride about their work and provide definitive evidence of their worth to society.

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NOTES

1. Keith C. Barton and Linda S. Levstik, *Teaching History for the Common Good* (Malwah, N. J.: Lawrence Earlbaum Associates, Inc., 2004); Julia Hendry, "Primary Sources in K-12 Education: Opportunities for Archives," *American Archivist* 70:1 (2007): 114-29; Marcus C. Robyns, "The Archivist as Educator: Integrating Critical Thinking Skills into Historical Research Methods Instruction," *American Archivist* 64:2 (2001): 363-84; Peter N. Stearns, "Why Study History?," http://www.historians.org/pubs/free/WhyStudyHistory.htm (18 April 2010).
2. Mary Jo Pugh, *Providing Reference Services for Archives & Manuscripts* (Chicago: Society of American Archivists, 2005): 43-57.
3. See, for example, Gabrielle Blais and David Enns, "From Paper Archives to People Archives: Public Programming in the Management of Archives," *Archivaria* 31 (1990-91): 101-113; Elsie Freeman Finch, "Making Sure They Want It: Managing Successful Public Programs," *American Archivist* 56:1 (1993): 70-75; Gabrielle Hyslop, "For Many Audiences: Developing Public Programs at the National Archives of Australia," *Archives and Manuscripts* 30:1 (2002): 48-59.
4. Leon J. Stout, "Reimagining Archives: Two Tales for the Information Age," *American Archivist* 65:1 (2002): 12-13.
5. See, for example, Sharon Anne Cook, "Connecting Archives and the Classroom," *Archivaria* 44 (1997): 102-117; Anne J. Gilliland-Swetland, "An Exploration of K-12 User Needs for Digital Primary Source Materials," *American Archivist* 61:1 (1998): 136-157; Hendry, "Primary Sources in K-12 Education," 114-29; Ken Osborne, "Archives in the Classroom," *Archivaria* 23 (1986-87): 16-40; and Robyns, "The Archivist as Educator," 363-84.
6. Robyns, "The Archivist as Educator," 364.
7. See Barton and Levstik, *Teaching History for the Common Good*, 7-10, 69-70, 82-85; Hendry, "Primary Sources in K-12 Education," 117-19; Robert H. Mayer, "Learning to Teach Young People to Think Historically," *The Social Studies* 97:2 (2006): 73; and Bruce VanSledright, "Confronting History's Interpretive Paradox while Teaching Fifth Graders to Investigate the Past," *American Education Research Journal* 39:4 (2002): 1091-94.
8. David Korbin, Beyond the Textbook: *Teaching History Using Documents and Primary Sources* (Portsmouth, N.H.: Heinemann, 1996): 49.
9. Todd Estes, "Constructing the Syllabus: Devising a Framework for Helping Students Learn to Think Like Historians," *The History Teacher* 40:2 (2007): 185.
10. Elizabeth Yakel and Deborah A. Torres, "AI: Archival Intelligence and User Expertise," *American Archivist* 66:1 (2003): 54.
11. Ibid., 70.
12. Anne J. Gilliland-Swetland, Yasmin B. Kafai, and William E. Landis, "Integrating Primary Sources into the Elementary School Classroom: A Case Study of Teachers' Perspectives," *Archivaria* 48 (1999): 92-93.
13. Osborne, "Archives in the Classroom," 25-40.
14. Ibid., 32.
15. Cook, "Connecting Archives and the Classroom," 108, 110-13.
16. Gilliland-Swetland, "An Exploration of K-12 User Needs," 153-54.
17. Hendry, "Primary Sources in K-12 Education," 125.
18. Library of Congress, "Primary Source Sets," http://www.loc.gov/teachers/classroommaterials/primarysourcesets (1 December 2009).
19. See, for example, Maryland Historical Society, "Lesson Plans," http://www.mdhs.org/education/lesson%20plans.html (1 December 2009); Ohio Historical Society, "Lesson Plans—History," http://www.ohiohistoryteachers.org/06/h.shtml (1 December 2009); University of North Carolina at Chapel Hill, "Documenting the American South Classroom Resources," http://docsouth.unc.edu/classroom/index.html (1 December 2009).
20. SAA Reference, Access and Outreach Section, "RAO Survey on National History Day Participation Summary Results," http://www.archivists.org/saagroups/rao/hdaysurvey.asp (1 December 2009).
21. Bowling Green State University Center for Archival Collections, "Faculty Services at the CAC," http://www.bgsu.edu/colleges/library/cac/bib/page38296.html (1 December 2009); Greg Johnson, "Introducing Undergraduate Students to Archives and Special Collections," *College & Undergraduate Libraries* 13: 2 (2006): 91-100; Robyns, "The Archivist as Educator"; Peter J. Wosh, Janet Bunde, Karen Murphy, and Chelsea Blacker, "University Archives and Educational Partnerships: Three Perspectives," *Archival Issues* 31:1 (2007): 83-103.

22. Roy Rosenzweig and David Thelen, "'Experience is the Best Teacher': Participation, Mediation, Authority, Trust" in *The Presence of the Past: Popular Uses of History in American Life* (New York: Columbia University Press, 1998): 89-114.
23. Robert Weible, "The Blind Man and His Dog: The Public and Its Historians," *The Public Historian* 28:4 (2006): 9-17.
24. Randall C. Jimerson, *Archives Power: Memory, Accountability, and Social Justice* (Chicago: The Society of American Archivists, 2009): 204.
25. Andrew Flinn, "Community Histories, Community Archives: Some Opportunities and Challenges," *Journal of the Society of Archivists* 28:2 (October 2007): 165.
26. Crista Bradley, "Meditate, Mediate, Celebrate: Public Programming in a Postmodern World," Archives and Manuscripts 34:2 (2006): 175-79; Jimerson, *Archives Power*, 311-14.
27. Edwin Bridges, Gregory Hunter, Page Putnam Miller, David Thelen, and Gerhard Weinberg, "Historians and Archivists: A Rationale for Cooperation," *The Journal of American History* 80:1 (1993): 179-86.
28. See, for example, Jeremy Brecher, "A Report of Doing History from Below: The Brass Workers History Project" in *Presenting the Past: Essays on History and the Public*, ed. Susan Porter Benson, Stephen Brier, and Roy Rosenzweig (Philadelphia: Temple University Press, 1986): 267-77; Katherine T. Corbett and Howard S. (Dick) Miller, "A Shared Inquiry into Shared Inquiry," *The Public Historian* 28:1 (2006): 13-38; Catherine Lewis, "The Neighborhoods Project" in *The Changing Face of Public History: The Chicago Historical Society and the Transformation of an American Museum* (DeKalb, IL: Northern Illinois University Press, 2005): 100-120; and Linda Shopes, "Oral History and Community Involvement: The Baltimore Neighborhood Heritage Project" in Benson, Brier, and Rosenzweig, *Presenting the Past*, 249-63.
29. Robyns, "The Archivist as Educator," 377.
30. Ibid.
31. Tom Heuertz, "Students Facing History: The White House Decision Center," *The Social Studies* 67:7 (2003): 410-412.
32. Tom Heuertz, telephone interview by author, 2 December 2009, notes in possession of author.
33. See, for example, William J. Broad, "Doubts Raised on Book's Tale of Atom Bomb," *The New York Times*, 20 February 2010, http://www.nytimes.com/2010/02/21/books/21hiroshima.html?sudsredirect=true (25 March 2010); Stanley Goldberg, "The Enola Gay Affair: What Evidence Counts When We Commemorate Historical Events?" *Osiris* 14: 176-86; Marita Sturken, "Reenactment, Fantasy, and the Paranoia of History: Oliver Stone's Docudramas," *History and Theory* 36:4 (1997): 64-79; Edward Linenthal, "Anatomy of a Controversy" in *History Wars: The Enola Gay and Other Battles for the American Past*, ed. Edward T. Linenthal and Tom Engelhardt (Philadelphia: Temple University Press, 1986): 267-77.

Better Off Forgetting? Essays on Archives, Public Policy, and Collective Memory. Edited by Cheryl Avery and Mona Holmlund. Toronto: University of Toronto Press, 2010. 242 pp. Index. Softcover. $24.95. $22.00 for SAA members.

To ask archivists if society is better off forgetting is a bold and heretical question. The title of this volume of essays is somewhat enigmatic, and raises questions such as: Who is forgetting? What is being forgotten? What is the meaning of forgetting? These questions are never directly answered, and the essays themselves do not explicitly address the title's question. A close reading of the introduction is required to discern the editors' goal in assembling this particular set of essays: to explore the neglect of the archival enterprise from the perspective of Canadian public policy.

One word that characterizes the contents of this collection of essays is "wide-ranging." Co-editors Cheryl Avery and Mona Holmlund (archivist and art history professor, respectively, at the University of Saskatchewan) have assembled diverse authors from different fields to address the many issues that affect the well-being of the archival enterprise. The wide scope is reflected in the titles of the five parts: "The History of Funding," "Access and Privacy," "The Digital Age," "Accountability and the Public Sphere," and "Resource for the Present." Fortunately, the volume includes an index to improve access to the host of ideas discussed.

In part one, archivists Marion Beyea and Shelley Sweeney address the inadequate level of funding for archives in Canada. Beyea recounts the development of the Canadian archival system in the 1970s and 1980s (including public funding for archival processing and professional development) and its subsequent erosion. Sweeney compares funding for archives with that for libraries and museums, and concludes that financial support, regardless of the source, will come only if archivists change their priorities to broaden their user base, demonstrate impact, raise their profile, and become active fundraisers (pp. 31–33).

Part two explores the tensions between the concepts of access and privacy. Archivist Jo-Ann Munn Gafuik discusses the federal access to information legislation as a tool to support both transparency in government and the role of archivists in assisting the public in making sense of the records that are preserved. David Surtees, a law professor, talks about privacy and the so-called disenfranchised who have no control over information that is collected about them. The challenges in finding the appropriate balance between access and privacy are demonstrated in Terry Cook and Bill Waiser's account of the Census Wars—a battle over the release of the post-1901 Canadian census data that pitted privacy advocates against archivists, historians, and genealogists.

The Digital Age is the focus of Part three of the volume. Historians Chris Hackett and Robert Cole discuss the implications, particularly for historians and the process of historical research, of having source material digitized and on-line. Archivist Yvette Hackett (no relation to Chris) provides a succinct and insightful overview of the emergence of born-digital records, as well as the ways in which digital records necessitate archival practices different from those used to deal with analog records. Her argument that "digital records cost more" (pp. 129–135) clearly articulates the imminent risk to our collective memory if we do not address the challenges of digital preservation.

Part four, "Accountability and the Public Sphere," features two essays by archival educators Terry Eastwood and Tom Nesmith. Eastwood examines the role of archives and archivists in accountability in a democratic society. Beginning with an exploration of the complexities of the concept of accountability, Eastwood then draws examples from many jurisdictions to set out the immense challenges faced by archivists if they are to be effective in supporting the "deep-seated public interest in preservation of government records as a vehicle of democratic accountability" (p. 164). Nesmith urges archivists to rethink their traditional public programming and find creative and innovative ways to link archival records to matters of current public concern. He provides a number of examples of archives that have done this, and offers concrete suggestions for moving in that direction (pp. 182–184). While the authors propose new approaches and identify challenges, both emphasize the chronic lack of resources in the field and the hard choices to be made about priorities if resources are diverted to something new.

The last part of this anthology is entitled "Resource for the Present" and consists of two essays. The first, by Tom Adami and Martha Hunt (archivists with the International Criminal Tribunal for Rwanda), emphasizes the importance of the records of international peacekeeping missions and international criminal tribunals. The final essay by journalist Robert Steiner attempts to link archivists with great journalists and politicians, all of whom, he claims "instinctively invite individuals into a frank encounter with the roots of their current experience" (p. 214).

Some archivists may find these essays disappointing in that many of them tell us little that is new. For example, Surtees contributes nothing new to the discussion of the principles to follow in protecting the privacy of individuals whose information we collect. Hackett and Cole's discussion of the implications of digitization for research would have been more interesting if they had applied their ideas explicitly to archival practice. Steiner's understanding of archives as "any materials—artefact or natural—that invite a person into a frank encounter with the source of their current experience" (p. 216) is likely to exasperate archivists.

But the editors are not speaking only to archivists. Instead, they wish to start "a broader debate that will stimulate interest among decision makers and inspire professionals in the field to consider how best to bring their concerns to a broader audience… whom we wish to inspire to take up the debates presented here" (p. xvii). If that is their goal, they have done well to pitch the content at a more general level and to include voices from other disciplines.

No one is suggesting that we are better off forgetting. However, the archival enterprise is not as robust as it should be if it is to fully accomplish its role in a democratic society. Archivists will find this volume useful in engaging their sponsors, users, and elected representatives in better understanding what we do. Although the discussion is grounded in Canadian public policy, the issues will resonate with those in other jurisdictions. For those who wish to "make the case for more status, funding, staffing, and influence for archives in society" (p. xvii), this volume is a good start.

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Organisational Culture for Information Managers. Chandos Information Professional Series. By Gillian Oliver. Oxford: Chandos Publishing, 2011. 178 pp. Index. Softcover. $80.00.

Books on organizational culture within information organizations (e.g., libraries, archives, and museums) have been popular in recent years, given the downturn in world economies, the loss of experienced staffers to retirements and layoffs, and the retooling and retraining that needs to occur as staff move from the print environment towards a digital environment. This book examines the concept of organizational culture from a number of different angles: national, structural, occupational, and corporate. It also explains the author's predilection for a particular organizational culture theory, one expounded by the Dutch anthropologist Geert Hofstede.

The book consists of seven chapters. Chapter one provides an introduction to the overall concept of organizational theory and contains an extensive literature review on current theory and application. Most of the research cited is international in scope, focusing on theoretical applications. Definitions of organizational culture are also provided, using the national culture theory of Hofstede (pp. 23–27). The author acknowledges that Hofstede's theory is controversial and at times hard to defend, but insists that it is the theory of most interest for the purposes of this book. Hofstede's three divisions of cultural characteristics within organizations are the main chapter divisions of this book: national, occupational, and corporate.

Chapter two discusses the national culture characteristics of organizations, examining the challenges and current debates surrounding this topic, and includes some information on the Edmund Hall conceptual model. Two major multidimensional models of culture are then compared: the five-dimensional model of Hofstede and the seven-dimensional model of Frans Trompenaars (p. 37). The rest of the chapter examines Hofstede's five dimensions: power distance, masculinity vs. femininity, uncertainty avoidance, long-term vs. short-term (for some reason, not included in Table 2.1), and individualism vs. collectivism.

Chapter three attempts to provide balance and wholeness to organizational culture theory by including political, legislative, and social environments in the mix. Tangents such as language, technological infrastructure, privacy, copyright, and freedom of information are discussed at length, although the author clearly states that the information provided on these topics is informational and not definitive. Chapter four looks at the second layer of Hofstede's organizational model, that of occupational culture. This chapter more specifically addresses information organizations and examines the literature for recent discussions and case studies regarding librarians, record keepers, archivists, and museum professionals. Chapter five considers the corporate culture of organizational culture, what the author calls the "most superficial layer." Corporate culture is the layer most susceptible to change and is unique to each organization. Things like dress code, external branding, interior design, management style, and in-house language and stories are detailed here.

To assist readers with understanding their own organizational cultures, Chapter six combines the information of the previous five chapters. A three-level framework for assessment is provided (pp. 126–127), followed by directions for documenting and

diagnosing one's organizational culture using this framework from level one to level three. Chapter seven provides four different scenarios that show how to implement a new information management initiative: establishing a special library service; developing a business case for a digital library; implementing an electronic document and records management system; and establishing an in-house archival repository. Four broad types of organizational models (village market, family model, full bureaucracy, and well-oiled machine) from chapter two are used to provide consistency and relevance to the scenarios. Each of these organizational types is presented fully before the author moves to the scenarios. For instance, in establishing a special library service, consideration is given to the following models: marketplace bureaucracy or village market model; full bureaucracy or pyramid model; personnel bureaucracy or family model; and workflow bureaucracy or well-oiled machine. In the conclusion, the author intends this book to be a practical tool for the assessment of one's information culture, and thus to provide a framework for change and direction.

While I appreciate the detail and extent of documentation on organizational culture that the author has compiled, I find Hofstede's theory regarding organizational culture hard to follow and sometimes difficult to justify. For example, the power distance index (PDI) calculations that Hofstede compiles might be construed as racist, if not overtly discriminatory. Table 2.2 indicates work organization differences between those countries with low PDI societies (such as Britain, Australia, New Zealand, Scandinavian countries, and Austria) and those with high PDI societies (such as Malaysia, Latin American countries, Arab countries, India, France, and Hong Kong). Certainly these differences exist in all countries, but the table's conclusions are not supported by any evidence.

The masculinity/femininity values (MAS) (pp.58–59) detailed by the author are just as ridiculous, as if some countries are more "masculine" or "feminine" than others. Who determines what are masculine or feminine characteristics? Is it not a major goal of the feminist movement to get away from labels and stereotypes of gender?

Basing an entire book on Hofstede's organizational culture theory, in my mind, seems rather dangerous, and I wonder if the publisher proofed some of this content before it was published. Understanding organizational culture is essential in today's economic climate; however, I do not believe this book adds anything but controversy to the topic of shaping and changing one's organization towards new directions and shared goals.

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Metadata for Digital Collections: A How-To-Do-It Manual. By Steven J. Miller. New York: Neal-Schuman Publishers, 2011. 230 pp. Softcover. $80.00.

Making digitized resources available on-line is less difficult than it has been in the past. It is no longer necessary for small to medium-sized libraries, archives, and other cultural institutions to have experience with programming or markup languages to make digitized portions of their collections accessible on-line. Web publishing platforms like Omeka allow for the creation of on-line exhibitions, and the increased availability of digital collection building and management software like CONTENTdm or Greenstone make it possible to highlight collections of digitized images, recordings, and publications. Enabling researchers to find, discover, or retrieve an item on-line through the use of consistent and structured metadata is as important as digitization. There are many recent publications on digitization projects and the need for consistent, structured metadata. *Metadata for Digital Collections: A How-To-Do-It Manual* by Steven J. Miller is a strong addition to the body of guides and textbooks that concentrate on digital resource description in small to medium-sized archives, libraries, and cultural institutions.

The author assumes the reader has only a basic understanding of metadata and he builds to more complex concepts and metadata schemes as the manual progresses. Miller creates a comfortable environment for readers new to metadata or resource description by using many tables, illustrations, and practical examples. *Metadata for Digital Collections* is a substantive introduction to the concept of metadata, metadata standards (including metadata schemes and element sets), subject analysis of digitized objects, and controlled vocabularies. Miller discusses the creation and documentation of a metadata scheme, how different metadata schemes interrelate, and the quality of an institution's metadata in an environment where it can be harvested, processed, and aggregated into a more general digital repository. Miller concludes the textbook with a chapter dedicated to the future of resource description as linked data and the potential of the semantic Web. The textbook has a companion Web site with review questions and hyperlinks to further examples and additional resources that make this volume an excellent candidate for classroom use.

The scope of Miller's textbook is intentionally restricted to three common metadata schemes: Dublin Core (DC), Metadata Object Description Schema (MODS), and Visual Resources Association (VRA) Core Categories. Rather than provide a comprehensive, but perhaps superficial, survey of the many available metadata schemes, Miller presents detailed analyses of these three metadata schemes that include discussion of most metadata elements within a particular scheme, and how to prevent common errors when using a particular scheme. Using Dublin Core and its element set as a basis, Miller effectively compares and contrasts the metadata scheme with the more complex MODS and VRA Core Categories.

Miller's approach is efficient and admirably practical. He often introduces a new subject and its application concurrently. For instance, Miller addresses the concept of resource identification and description alongside explanations of individual metadata elements. He introduces the title elements of Dublin Core, MODS, and the VRA Core Categories and puts that lesson immediately into practice by discussing the need for

a descriptive title and the difficulties associated with generating a title for a digitized image. Miller does not talk only about the need for digital resources to have consistent, structured description; he also discusses where relevant and available information should go within a particular metadata scheme, and, ideally, how the metadata should be encoded. Once readers are able to see the similarities and limitations of the various metadata schemes, the book helps them to understand the process of sharing metadata with other departments or institutions, preparing for a future product or software migration, and understanding how a data or service provider will harvest an institution's metadata. When MODS and the VRA Core Categories appear in later chapters, readers are already familiar with their respective element sets and can then come to appreciate how to translate or map these elements into another metadata scheme. Even better, by the completion of the textbook, readers should have a fair understanding of how to develop and document a metadata scheme for local institutional use. Miller's textbook provides instruction sufficient to grasp how MODS, the VRA Core Categories, and an institutionally specific metadata scheme are mapped to the Dublin Core elements. This is an important lesson, because an institution must be able map its metadata scheme, local or otherwise, to Dublin Core for metadata to be harvested and aggregated by a data or service provider.

A consistent theme throughout the textbook is balancing the local needs of an institution in describing digital resources for local use, versus a more global need for sufficient description of digital resources to facilitate better harvesting, processing, and aggregating of metadata into a larger digital repository. Given that an institution's metadata may be harvested, Miller believes institutions should direct an eye towards the interoperability and quality of their metadata. Insofar as an institution can apply an established controlled vocabulary and standardized data entry to describe its digital resources, that institution is bolstering the chances that its resource description will be able to be processed by a machine, and thus be shared or harvested more easily in the future. To assist readers with preparing for a future exchange or sharing of metadata, Miller provides examples of how repositories have harvested a particular set of metadata to demonstrate results, and ways to improve the quality and interoperability of an institution's metadata. Miller's list transcends metadata creation for digital resources and applies to any type of archival description—how to use standard elements correctly; include sufficient contextual information and access points; enter data values that are standardized; distinguish between administrative and descriptive information; and document local practices.

Although Miller has written an introductory-level textbook, he does not shy away from difficult or highly detailed issues related to creating metadata for digital resources. For example, Miller dedicates a significant amount of the textbook to the difficulties associated with content analysis, its format and relation to subject, the specificity of description, and the need for metadata creators to apply accurate and verifiable subject terms and avoid projecting interpretation onto a digital resource. The research and analysis necessary to create metadata for an unlabeled photograph is not easy. Even though subject analysis is only a small part of the digitization and metadata creation process, it is refreshing to see Miller honestly and systematically discuss the issues that arise in describing an unlabeled or unpublished item. Such a discussion seems

especially important, since the person who originally selects and describes the artifact or archival material for digitization may not be the same person who will digitize or make the resource accessible on-line. Additionally, as part of making a resource available on-line, metadata creators may need to supplement the existing metadata with subject headings, genre terms, or other information to maintain the context of a digital resource. Miller's review and explanation of linked data and the semantic Web is a challenging and interesting look at the possible future of metadata. In the context of the Resource Description Framework (RDF), Miller sketches a glimpse of the terminology and concepts that are required to create linking data. Admittedly, his explanation is complex, but the potential to link a variety of on-line resources—everything from an on-line encyclopedia article to a digitized audio recording about a particular subject, person, or event through the associated metadata—is astounding.

In my own experience as an archivist and metadata librarian, I regularly use Machine Readable Cataloging (MARC), Metadata Encoding and Transmission Standard (METS), and Encoded Archival Description (EAD). Although Miller's particular coverage of MODS and the VRA Core Categories was new to me, his textbook was sufficiently rigorous that I am confident I can use the metadata schemes in the future. As I read the textbook, I attempted to ignore my background in metadata and read it as a beginner might. Miller's practical approach to metadata is as thrilling as metadata can get. His attention to creating and mapping metadata schemes, providing a comprehensive bibliography, and focusing on metadata quality is a guide for future projects and an asset in the classroom.

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Melancholy and the Archive: Trauma, History and Memory in the Contemporary Novel. By Jonathan Boulter. New York: Continuum, 2011. 208 pp. Notes, bibliography, index. Hardcover. $110.00.

Jonathan Boulter uses the works of four contemporary writers to interrogate theories of archives, mourning, and melancholy. This is not a text aimed at practicing archivists: he grounds his work in Derrida, Freud, and Blanchot, with no mention of practical examples of archives. Indeed, many archivists will be irritated by the disregard for archival principles and the lax and expansive examples of "archives." Even Boulter's use of words like "archivic," "archivable," and "archivization" demonstrate his distance from the work of real-life archivists.

Boulter's specific aim in this book is to understand the mechanisms of what he calls the "economies of mourning and melancholy" and how they connect with archives. These goals depend on two foundational texts. The first is a 1917 essay by Sigmund Freud, "Mourning and Melancholia," in which Freud identifies two possible responses to deal with loss. Mourning, the normal response, means working through the loss to recognize that the lost party is truly gone. The abnormal response, melancholia, means identifying with the lost one so greatly that the loss continues as an everlasting part of the present. Boulter is fascinated by Freud's vagueness about the activities through which these two responses occur, and seeks to understand the processes by which mourning or melancholia happen.

The second key text is Jacques Derrida's *Archive Fever*, which Boulter uses as his foundation for understanding—if not quite defining—archives. Archives are physical places, but they also have a spectral quality. That is, their meaning only develops in the future, once they have been interpreted. Boulter states that beyond physical archives, characters in the books he discusses can themselves become archives: "As crypt, as archive ventrilocated by history, the subject begins to offer itself as a site to be heard, to be read, to be interpreted" (p. 7). Boulter seems willing to see almost anything as an archives, so long as it can be interpreted and has something roughly to do with history or memory. He goes on to suggest that the writers he will discuss support Derrida's idea that the archives is truly built on the loss of the past rather than its protection.

Boulter ties these two key texts to a third: Maurice Blanchot's *The Writing of the Disaster*. Blanchot proposes that a disaster inevitably changes the subjectivity, or the self, of the person facing the loss. Seeing the subject—in this case, the character of a novel—as an archives suggests that the archives itself is not fixed. Boulter claims contemporary fiction is "obsessed with the need to figure the subject precisely as the site for history" (p. 12), so he examines his ideas by a close reading of literary works.

The complexity of the introduction dilutes Boulter's points. Of course, the issues of loss, disaster, and mourning are all relevant to archives. Archivists have long struggled to address missing records, to document hidden pockets of society, and to facilitate public understanding of the past in all its complexity. Even taking a broader conception of "archives" to include all forms of memory and history, individuals and societies deal with loss, and attempt to heal, remember, and let go. However, combining three specific and disparate theories, and then applying them to the diverse works of four authors, makes for rather unwieldy reading.

The writers examined in this book are Paul Auster, Haruki Murakami, David Mitchell, and José Saramago. Hailing from the United States, Japan, Great Britain, and Portugal, respectively, these writers are each popular and well-known, both at home and abroad. The works examined include novels, short stories, and a lone non-fiction work, Murakami's collection of interviews of victims and perpetrators of the 1995 sarin gas attacks in the Tokyo subway system. Boulter sees "archives" depicted by the four novelists in quite inclusive ways. These include an accumulation of historical phonebooks, a private collection of films, and even an individual's consciousness, as well as a more traditional registry. In some cases, the form of the work represents the archives, such as Murakami's non-fiction collection of interviews *Underground*, and Mitchell's *Cloud Atlas*, which incorporates diaries, letters, and an "orison"—a sort of holographic oral history. (No questions are raised about the long-term preservation of this presumably fragile medium, by the way.)

Rather than walk through each individual work analyzed, this review focuses on the most traditional archives represented, the registry in Saramago's *All the Names*. This is the final text Boulter discusses, and it seems to collect his most well-developed thoughts. *All the Names* follows Senhor José, a lowly clerk in the Central Registry, who becomes obsessed with an unknown woman whose record card he chances across in the archives. He attempts to track her down, stealing into the records of her elementary school, her home, and finally, to the cemetery where she is buried. In some ways, Senhor José is the perfect case for exploring Boulter's interests. The clerk displays a bizarre melancholia for this unnamed woman: he has lost her by simply never knowing her at all. Rather than accept this loss, he becomes obsessed with it, and this obsession alters him permanently. Boulter describes Senhor José's physical deterioration, as well as his transforming identity. One of the most interesting turns in the book comes at the end with the Registrar, probably the most realistic portrayal of an archivist discussed by Boulter. The Registrar, finally alerted to Senhor José's actions, permits Senhor José to alter the woman's record card to maintain that she is still alive. He allows the records of the dead and the living to mingle, presumably changing the classification of the entire system. Unfortunately, instead of discussing records management or original order at this crucial point, Boulter reverts back to the philosophers for his understanding of how the archives ought to have been ordered.

And this represents the overriding flaw of this book: rather than contextualizing these rich narratives with the real work of archivists, Boulter depends on theories far removed from archives. It seems clear that the meaning and weight of the archives warrant artistic and intellectual examination, so surely there must be value in connecting the work that archivists do with the intellectual work that writers and scholars do. The texts discussed in this book are well-known and well-received, and several do represent some kind of recognizable archives. Reading these works of art could conceivably help archivists connect with patrons who recognize popular representations of our work. However, we may wish to skip the layer of analysis presented by literary critics.

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An American Political Archives Reader. Edited by Karen Dawley Paul, Glenn R. Gray, and L. Rebecca Johnson Melvin. Lanham, MD: Scarecrow Press, 2009. 477 pp. Appendix, index. Hardcover. $85.00. $66.00 for SAA members.

Have you ever been moved to send an author a hearty thank-you for his or her contribution to the field of archival literature? I conveyed such a message recently to U.S. Senate Archivist Karen Paul, one of the editors and contributors to *An American Political Archives Reader*. Informed that Department of Defense personnel would descend upon my repository the next day to review a congressional collection for classified material, Paul's chapter "Classified: What to Do If National Security Officials Visit" provided me with the information, authority, and options to handle the situation successfully. Although this particular episode may seem exceptional, it is indicative of the volume's value as a source for consultation and inspiration. Any repository with congressional papers in its holdings should possess a copy.

This book, along with Cynthia Pease Miller's recent publication *Managing Congressional Collections*, represents the increasing maturity of the political archives field, which has seen steady growth in both publications and professional accomplishments over the last thirty years.[1] The two volumes, in fact, complement one another rather than compete. Miller's smaller publication offers a manual with recommended minimum standards and best practices, while *An American Political Archives Reader* explores real life experiences, problems encountered, and lessons learned. The former work provides ready reference on the ideal, and the latter offers expanded discussions and explorations of practical issues.

After an introduction by former Senate Historian Richard A. Baker that examines the history of institutional support for the organized study of congressional history, *An American Political Archives Reader* is divided into six sections of several chapters, and each discusses issues related to acquisition; the documentation of Congress (including collection development policies, oral histories, and electronic records); appraisal, arrangement, and description; the building of research centers; and researcher use of political collections. A little over half of the chapters are previously published or presented works (the earliest dating from 1984), while the remaining pieces are newly commissioned. The contributing archivists include professionals with extensive experience managing congressional collections and several former leaders of the Congressional Papers Roundtable at the Society of American Archivists and the Association of Centers for the Study of Congress. The last section also contains five articles by historians and political scientists describing trends in congressional research, personal encounters with political collections, and the use of these collections in their scholarship. This section offers constructive clues to archivists about what records are valued and why, although several of the essays are written to convince archivists to utilize these papers.

Congressional collections are inherently complex in nature, and the *Reader* reflects the array of challenges associated with their maintenance. Topics include sensitive, high-profile donors; the broad spectrum of formats involved (paper, photographs, recordings, memorabilia, and electronic records); the possible inclusion of classified documents and official committee records owned by Congress; and raising funds to support the collections. Essays on appraisal, processing, and description tackle problems

posed by the sheer scale of congressional collections (1,000 to 3,000 linear feet are not uncommon). Reading these discussions, it is easy to understand that the origins of More Product, Less Process (MPLP) lie in part with Mark A. Greene's and Dennis Meissner's own confrontations with the mammoth bulk of congressional recordkeeping. Consequently, it is not surprising that several of the *Reader*'s authors discuss MPLP adaptations and ramifications.

The *Reader* includes two chapters on the papers of state legislators and an entire section on institution-building at three political research facilities: the South Carolina Political Collections at the University of South Carolina; the Howard Baker Jr. Center for Public Policy at the University of Tennessee in Knoxville; and the Richard B. Russell Library for Political Research and Studies at the University of Georgia. Despite this effort to broaden the subject matter, the book's overwhelming emphasis is on congressional research and collections. More pointed examinations of other political collection genres would be welcome. As one of three branches of our government, the judiciary generates its own set of records, and a number of archives hold the private chamber papers of judges. Such collections evolve from a separate recordkeeping tradition, possess different document types, and offer their own unique set of challenges. Surely these distinctions are fodder enough for publication.[2]

Another surprising gap is the lack of a section on outreach, reference, and instruction. Several authors (particularly L. Rebecca Johnson Melvin and Karyl Winn in their article on access tools) touch upon these concerns, but the subjects merit greater elaboration. When an archives completes and opens a major political collection to researchers, significant programming in the form of events, exhibits, or publications (or some combination thereof) often follows. In addition, election cycles and current events offer repositories continuous opportunities to connect contemporary topics to historical holdings. The scale and scope of most political papers demand more extensive consultation with patrons to insure that they make the most effective use of limited time. Finally, expanding researcher use beyond political historians and biographers requires constant education of faculty, library staff, archives personnel, and the general public about the vast array of subject matter available on national, state, and local levels that are applicable to numerous disciplines and purposes. As a political papers archivist who frequently ponders these issues, I crave insight and ideas derived from the experiences and recommendations of others.

This volume, however, claims neither to be "comprehensive nor definitive" (p. viii). The gaps perceived by this reviewer in no way detract from the tremendous value of this anthology's milestone achievement. Rather, one should consider my critiques as hopeful suggestions for a future, revised edition that will mark even further advancements in the field of political archives. In the meantime, the current version offers a bounty of collective wisdom to explore, digest, and adapt to political collections at your institution.

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NOTES

1. Cynthia Pease Miller, *Managing Congressional Collections* (Chicago: Society of American Archivists, 2008). Miller's book contains an appendix with a bibliography of the field's literature. *An American Political Archives Reader*'s appendix provides a timeline noting "advances in preserving the documentation of Congress."
2. Currently, the best available resource for a repository with judicial collections is Federal Judicial History Office, Federal Judicial Center, *A Guide to the Preservation of Federal Judges' Papers*, 2nd ed. (2009), http://www.fjc.gov/public/pdf.nsf/lookup/judgpa2d.pdf/$File/judgpa2d.pdf (9 December 2011). While invaluable, these collections cry out for more in-depth examination in the form of case studies, surveys, and use analysis.

Saving Cinema: The Politics of Preservation. By Caroline Frick. New York: Oxford University Press, 2011. 232 pp. Index, illustrations. Softcover. $27.95.

Saving Cinema: The Politics of Preservation is bookended by accounts of two Universal Studios fires in 1990 and 2008. This densely packed work uses these stories and their portrayals and meaning to illustrate a shift in the perception of film and its importance in society. In 1990, news accounts invoked the idea of films as America's cultural heritage to convey the devastation felt by many at the loss of history on the Universal lot (p. 3). However, author Caroline Frick explains that the loss of reels of film in the 2008 Universal fire was downplayed by most because of the existence of multiple copies. Studio executives and the public simply did not perceive a loss of heritage in the latter case (p. 151).

Saving Cinema has three stated goals: 1) to provide an overview of the film preservation movement going back to the 1930s; 2) to attempt a "reevaluation of the field's traditional tenet: preservation as the profession's core value and task" (p. 6); and 3) to broaden the discourse within media studies programs by looking at the history and function of film archives.

The author's impressive educational and professional background provides her with a unique perspective on the film archives community and its history. Having studied and worked both internationally and domestically for academic, government, and private institutions, Frick is able to bring together the histories of a diverse group of organizations to tell the story of film, its meaning, and its legacy.

Saving Cinema details a global history of the film preservation movement. Frick begins in the interwar period in the United States, when film critics and enthusiasts were engaged in establishing the legitimacy of commercial films. Hollywood features made up the bulk of what was considered "film" in those early years, and film studios were generally receptive to efforts to collect films deemed important to preserve (p. 28). By tracing the cooperation and conflict between the Museum of Modern Art (MoMA) and the Library of Congress, two fledgling film libraries at the time, Frick illustrates two early views of the value of film: film as art and film as history.

Though Frick shies away from focusing on personalities involved in the film preservation movement, the movement's early history comes alive when she details the exchanges between MoMA librarian Iris Barry and Librarian of Congress Archibald MacLeish over the selection of films for preservation. Barry desired films that above all were works of art, employing discriminating criteria focused on quality. In contrast, MacLeish's mandate was to assemble a representative sample of films that accurately depicted the era during which they were created. Despite their differing views on which films should be preserved, these early film archivists shared a similar end purpose: an emphasis on the exhibition of films (p. 44).

Saving Cinema then moves on to international discourse and the post-World War II shift toward perceiving film as national heritage, rather than as art or history. Frick states, "Heritage scholars posit that national heritage is most acutely articulated and considered most relevant when perceived as under threat" (p. 84). Following the devastation of World War II, nations began to focus on protecting their cultural heritage, and film became one medium involved in that movement. In the United States, this focus on "heritage" would

not begin until the last years of the Cold War, when "the nation's own motion picture industry was threatened with foreign invasion (that is, investment)…" (p. 52).

The history of the International Federation of Film Archives (FIAF) is the basis for *Saving Cinema*'s international perspective. The organization underwent a profound ideological shift from a cinémathèque model that promoted exchange and access, to a more scientific approach focusing on the preservation of film (p. 108). Frick believes this shift is related to global decolonization in the 1960s and 1970s and the resultant increase in the number of film archives from newly emerging nations. FIAF's founding members attempted to limit membership to the organization by narrowing their focus. Members from newly emerging nations such as those in Latin America objected to the focus on preservation because to them, films were "living vehicles of propaganda and decolonization, a medium for culture in the widest sense of the word and must therefore be shown as much as possible" (p. 114).

Finally, *Saving Cinema* delves into regional film archives, a more recent movement in the United States that traces its rise to the orphan film movement. This focus is a shift away from the commercial film industry, primarily Hollywood. Orphan films, defined as "a motion picture forsaken or discarded by its owner, caretaker, or copyright owner" (p. 120), came into vogue in the 1980s and led to the decentralization of the film preservation movement. The expansion of the National Endowment for the Arts (NEA) grant funding in 1978 legitimized "new archival players within domestic preservation discourse" (p. 138).

For Frick's archival audience, the most important aspect of *Saving Cinema* is the debate over preservation versus access. The book essentially contends that film archivists have moved from an imperative to collect films in order to show them, to one where preservation of the medium takes precedence over access to content. It is Frick's belief that this shift originates in the reframing of film's value. Where once collectors, societies, and archives valued film as art or history (p. 5), today's film archivists see film as an expression of national heritage, and therefore a treasure that must be kept but not used (p. 10).

In its final chapter, *Saving Cinema* argues that film preservationists must reexamine their focus on preservation of the medium of film (p. 153). It is in this conclusion that the author makes her most controversial statements.

Frick offers the idea that in the digital world, access itself can perhaps be considered preservation (p. 153). She then provocatively questions whether we even need film as a physical medium (p. 155). This is predicated upon the reality that most celluloid copies of classic films are themselves copies, rather than pristine masters (p. 175). These bold statements are likely an attempt to get the attention of those colleagues whom Frick believes have become overly concerned with the preservation of celluloid. In her compelling conclusion, she states, "Preservation itself reveals that permanence is an illusion. The more we save, the more aware we become that such remains are continually altered and reinterpreted…. Advocates of preservation who adjure us to save things unchanged fight a losing battle, since even to appreciate the past is to transform it" (p. 171).

Saving Cinema's broad focus puts to the test the view that film as art has been replaced by film as heritage. Moving between national, international, and regional archival history does not illustrate a global consensus or definitive timeline for when

preservation took over as the primary focus of film archivists. Perhaps the book needs to more explicitly trace the potential causality of this shift in different areas of the world.

Although archivists are but one intended audience of this work, I had hoped Frick would place the issues of film archives into context within the wider archival field. What are the similarities and differences between preserving film versus other item formats? Frick asks "the most leeway, license and perhaps forgiveness" from her archival audience at the very outset of *Saving Cinema* (p. xi), but I could not deny my curiosity as to whether she believes film archives are inherently different, or whether they represent a microcosm of the archival sphere.

Aimed at a wide audience, including film historians and media study students, *Saving Cinema* presents a cogent challenge to the archival community regarding the philosophy of regional film archives. Overall, Frick argues convincingly that the primacy of attention on cultural heritage in the discourse surrounding film archives has pushed the field further toward a preservation-centric model. The technical needs of preservation are clear, but Frick believes that this focus on preserving the medium of film has sacrificed the true archival mission of providing access to the items in our care. The technological possibilities of the twenty-first century present an important opportunity for reevaluation of the direction of the field's mission. Although there are real concerns inherent in providing access, especially through digitization and on-line dissemination of media, which this book, in my opinion, does not adequately address, *Saving Cinema* can be viewed as an essential first chapter of a discussion about the future of film archives in the twenty-first century.

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Engaging Students with Archival and Digital Resources. Chandos Information Professional Series. By Justine Cotton and David Sharron. Oxford, UK: Chandos Publishing, 2011. 146 pp. Appendices, bibliography, index. Softcover. $80.00.

Enhanced communication and cooperation between librarian subject specialists and archivists in academic libraries is increasingly important as libraries extend more services in the digital realm. Within academic libraries, subject specialists and archivists have traditionally existed within separate spaces, with little or no interaction between the two distinct professions. In their work *Engaging Students with Archival and Digital Resources,* Justine Cotton and David Sharron attempt to bridge this information divide and encourage the use of both archival and digital resources in library instruction sessions. The authors note that librarian subject specialists often overlook the existence of materials held in the archives or special collections department when responding to reference requests or when teaching library instruction sessions. Archivists, in turn, may not communicate to their librarian colleagues information about the rich resources within special collections departments.

Although it is a good general introduction to academic library instruction that connects special collections and digital resources, this volume is a basic overview and does not delve deeply into issues inherent in teaching with special collections resources. *Engaging Students* largely succeeds as a brief, technical guide, but falls short of the mark for more experienced library professionals.

As is evident from the introduction, the intended audience of *Engaging Students* is both librarian subject specialists and archivists. The volume opens with an introduction to archival theories and practices and a brief explanation of the differences between the two professions. The introduction and chapter one demonstrate how the authors seek to "bridge the gap between archivists and academic librarians" (p. 9). One concern with terminology addressed here by the authors is that typically archivists at academic institutions are considered "academic librarians"—they are just a different type of academic librarian. What the authors really intend to discuss are the differences between academic librarians who are subject specialists or reference librarians, and those who work as archivists or special collections librarians. The authors note that there has been a history of non-cooperation between these two types of information professionals, and they articulate several good reasons why this divide continues to exist. Often physical separation is the primary culprit because archives are typically housed in separate buildings or floors. Moreover, archivists are engaged in their own distinctive work, making it a challenge to form relationships across the spectrum of staff within an academic library.

In chapter two, "Faculty Outreach," the authors discuss ways to engage with academic faculty and promote archival and digital collections. Again, the terminology regarding "librarians," "archivists," and "faculty" employed in this chapter is somewhat imprecise and appears to ignore the possibility that librarians at some academic institutions have faculty status and are engaged in research or other scholarly projects. While acknowledging the need for better communication within academic libraries, the authors still make the assumption that the librarian faculty liaison model functions well within the library. All too often, special collections librarians and archivists do not reap the

benefits from this model. The sample outreach letters from information professionals to academic faculty members that are included in Appendix B are somewhat informative and provide an archivist or librarian a reliable outline for similar letters to use at his or her own institution.

Chapter three, "Introducing Students to Library and Archival Resources," is particularly engaging and provides an excellent overview of how to explain archival and digital collections to students. The authors stress the need to challenge student assumptions about digital resources and demonstrate the impossibility of digitizing all archival sources and making them available on-line. While most instructors may already know about these issues, this book presents such concepts in a logical manner and gives helpful pointers as to how to approach this topic with undergraduate students. The chapter reads as if it were written as a script for archivists to use to engage students or others who are not fully aware of such concepts.

One important detail absent in this guide is a thorough description of the ideal classroom setting for student instruction sessions. As physical spaces within libraries are rapidly evolving into large information commons and less shelf space for books, mapping areas for instruction becomes more and more important. Digital resources and special collections presentations can require different classroom settings. The digital resources portion of the class may involve an overhead projector, large screen, specialized software, computer workstations for both the instructor and students, and audiovisual capabilities. The special collections component of the session would ideally require large tables, a secure environment, and a location near to where collections are shelved. These are important issues for large universities with multiple libraries where instruction classrooms may be appropriate for both types of instruction. A broader discussion of some of these issues would make *Engaging Students* more informative.

Although Cotton and Sharron reference "archival and digital resources" in their title, the definition of "digital resources" remains unclear. At first, the reader may suppose that the authors are only referring to databases that include special collections materials. However, as one delves further into the work, any digital resource, including secondary source publications (e.g., Google Books and Project Muse), information clearinghouses (e.g., Center for History of Physics), and discovery tools for archival information (e.g., OAIster and Archives Canada) are included in the definition. Chapter four, "Resources," presents an unsystematic selection of such resources and tools. Interestingly, OCLC's ArchiveGrid, an important tool for searching for archival collections internationally, is not part of the list. Also, Project Muse is mentioned, but not JSTOR, perhaps the best-known humanities journal database. Although most of the digital resources discussed are useful, archivists and librarians aware of current digital resources will already know about most of these digital collections, databases, and tools. This chapter will be most helpful to new information professionals who may have not had a chance to explore some of these digital resources.

In chapters five and six, the authors arrive at the true substance of this volume: how to plan and deliver well-conceived instruction sessions about archival and digital resources. Although the team-teaching approach introduced for the library instruction sessions is not a new one, this model does work well with undergraduate students. The division of instruction into two 30-minute segments, one for the librarian subject

specialist to teach about digital sources (or secondary sources) and one for the archivist to discuss primary sources as suggested by the authors, is effective in practice. Most instructional examples used are related to English and other literature-related classes because the authors are specialists in this topic, which they freely admit. A more inclusive study would have incorporated additional perspectives in the humanities, social sciences, and the sciences, but the examples offered are genuinely good starting points. The one description provided of a history-related instruction session is a solid model for finding and using a variety of sources, both primary and secondary, related to investigating an historical event.

Engaging Students focuses primarily on lower-level undergraduate students. Upper-level undergraduate students and graduate students are only briefly addressed. The suggestion to allow upper-level undergraduate and graduate students to process an archival collection is not realistic at some universities. Processing projects are time-consuming and require considerable supervision from the archivist, especially if an entire class is participating in such a project. In addition, not every upper-level undergraduate or graduate student, even in the humanities, is interested in archival processing or in becoming an information professional. Other projects and instruction methods could have been proposed for these advanced students.

As a general step-by-step guide to delivering instruction sessions with digital and archival resources, *Engaging Students* successfully stresses the benefits of collaboration between librarian subject specialists and archivists. The conclusion of the book also provides some additional food for thought about the future of academic libraries, including the idea that special collections and digital resources may be the primary components of the academic library of the future. The message is clear that librarian subject specialists and archivists will need to start collaborating more with each other and their campus constituencies to engage students and other researchers and increase awareness about all available library resources. Finally, and perhaps most importantly, the authors effectively emphasize that instruction sessions should demonstrate that both digital and archival resources have their respective strengths in providing information, and are relevant to the future of academic libraries.

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From Grain to Pixel: The Archival Life of Film in Transition. Framing Film Series. By Giovanna Fossati. Amsterdam: Amsterdam University Press, 2009. 320 pp. Index, illustrations, bibliography, filmography, glossary of technical terms. Softcover. $39.95.

Clearly the archival world is at a crossroads with the digital transformation of historical content. In *From Grain to Pixel: The Archival Life of Film in Transition,* Giovanna Fossati outlines an approach for grappling with this challenge in film archives. A detailed look at managing the preservation, restoration, and storage of film in the midst of its transition from analog to digital, Fossati's account offers a roadmap with which to build upon the past while envisioning the future of film archives. What is unique about her method is her insistence on focusing on the transition itself, not an easy task considering the rapidity and radicalism of change. Fossati resists addressing that proposed future moment in time where all things are digital, and in doing so, provides a practical approach to film archives that is immediately accessible. Hypothesizing that a hybrid of analog and digital means of film technology and practice is likely to exist for some time, if not in perpetuity, Fossati's premise is "based upon the idea of film as inherently transitional, rather than on the idea of film destined to transition to digital" (p. 258).

The first edition in the Amsterdam University Press Framing Film series dedicated to theoretical and analytical studies in restoration, collection, archival, and exhibition practices, *From Grain to Pixel* fulfills its intent to appeal to both film studies scholars as well as archival practitioners, but leaves no doubt that the preservation of film is critical. Recognizing the complex nature of film as both document and art form, Fossati addresses theories on the nature of film itself, or its ontology, as central to understanding how these theories influence both film creation and care. In doing so, she examines how the replacement of analog film by digitization or digital capture is affecting film scholarship, and the implications this has for film archives. By bringing together film theory with film archival practice, Fossati suggests that collaboration of film laboratories, academic researchers, and archivists must occur to adequately address the challenges archival film poses in its present transformation.

To support her supposition, Fossati divides her book into two parts: "Practice and Theory of (Archival) Film" and "Theorizing (Archival) Practice," each of which is divided into two chapters. In both parts, she spends considerable time surveying the current landscape of film practice and film archives, turning a critical eye towards the methods being employed to deal with an industry in flux. How are films being made and distributed today? What exactly defines a film? How are laboratories and archives using new technologies to approach preservation and access? How are they taking into consideration film ontology in their approach? These are just some of the questions Fossati attempts to answer while remaining self-aware of examining them from a transitional viewpoint. By no means providing an exhaustive look at film production and film archival practice, Fossati reminds the reader throughout the book that she is offering "snapshots" of this inimitable transition period from analog to digital. In essence, she is seeking to reframe the discourse on film archives, encouraging archivists to embrace this transition not as a means to an inevitable end, but as a process worthy of study in its own right.

Part one looks at film practice in transition, both in terms of film production and film archives, highlighting the most relevant ways in which digital technology has affected how films are made, how they are distributed, how they are viewed, and inevitably how they are stored and managed. Through this examination, the duality of the digital dilemma is made evident: not only are archivists beginning to employ digital tools in their work, but they also are increasingly working with digital content. Those unfamiliar with the various tools and techniques currently employed in film production and restoration, as well as current popular approaches in film theory, will find this section a handy reference, both for understanding later chapters and for informing decisions in everyday practice. As Fossati states at the outset of chapter one: "Archival practice is in many ways connected to film production practice … they make use of the same providers and of the same equipment for exhibition … archivists need to know the technology used to make films today in order to be able to best preserve and restore these films tomorrow" (p. 33). Techniques and tools covered in this chapter include digital audio, digital editing, computer-generated imagery and digital compositing, digital intermediate processes, digital cinematography, and digital projection. Fossati details these changes and demonstrates how the pressure to provide digital access to analog films and preserve an ever-growing collection of digital-born films is influencing archival practice. While she touches on long-term preservation and access, Fossati's main focus is on the ethics and methods of film restoration. The common thread throughout the chapter is that as much as the film industry has already grown more comfortable using a mix of analog and digital techniques, so, too, must film archives use a hybrid approach to the resulting materials.

While the debate over the nature of film is not new (e.g., is it artifact or a concept?), the digital transition has only served to add another layer. Fossati embraces this debate in her second chapter, using it to formulate frameworks and concepts that archivists can use to address issues in practice. She points to the disconnect between film scholars and film archivists and makes the plea that "the archival life of film needs to be opened to the academic discussion, especially now …" (p. 105). Addressing film as both material and conceptual artifact, Fossati proposes four theoretical frameworks she finds the most relevant to the discussion: "film as art," "film as original," "film as dispositif (i.e., exhibition or viewing circumstances)," and "film as state of the art." She also divides the debate over the essence of film into three key concepts that impact archival practice today: convergence or the inevitability of digital; remediation or the choice of restoration; and simulation or the recreation of the analog experience. Through this discussion of film theory, Fossati posits that the current transitional phase gives us a new way of looking at the nature of film, which can lead to an essential middle ground between the oft-opposing viewpoints of film studies and film archives by advocating the use of film theory to analyze archival practices.

This argument is the basis for part two, in which Fossati applies the theories discussed in part one to existing archival policies and practices, using a ten-year span (1997–2007) in her analysis. Here she steers away from referencing new film production and focuses solely on archival film, recognizing that the archives profession is still a ways from reaching consensus on viable solutions to digital film technology. The third chapter is devoted to illustrating how four major film archives can be considered as operating

primarily within one of the four frameworks established in part one. Her scope is international, using the Danish Film Institute, the Anthology Film Archives of New York, the Nederlands Filmmuseum, and Sony Pictures Entertainment as examples. Fossati also turns to another major player in film archival practices, the film laboratory, pointing out the often close relationship shared with archives. Here, labs from Amsterdam (Haghefilm), Copenhagen (Digital Film Lab), and New York (Cineric, Inc.), all of which have relationships with one or more of the aforementioned archives, are used to illustrate the concepts of convergence, remediation, and simulation, respectively. Also included are brief descriptions of four European Union-funded projects as examples of cross-discipline cooperation that can serve to reshape the film archival profession and refocus the roles of archivists and scholars.

Lastly, in chapter four, five film restorations (mainly American commercial releases) conducted by the archives and laboratories discussed earlier, are used as case studies to illustrate the direct application of film theory. Fossati clearly states which frameworks and concepts presented in part one apply to each restoration. Workflows and the ethical issues that arose from each project are described in each distinct approach to film restoration. Here, perhaps, is the clearest demonstration of how theory is put into practice. By applying her frameworks and concepts to these cases, Fossati reveals how film theory can be used to make informed decisions, freeing the archival practitioner from speeding headlong into digitization, or from paralysis due to indecision.

A timely, must-read for those working in film studios or major government film archives, Fossati's book can be useful to all those responsible for the preservation and administration of motion picture film. However, in an increasingly visual society where film has become more prevalent in all types of archives, I question Fossati's insistence on focusing solely on major film archives. It may take some effort for a small outfit with limited film holdings to see a useful correlation between Fossati's examples and the likely amateur film they manage. Nonetheless, *From Grain to Pixel* is a welcome tool by which to measure film archives' progress, and should assist in informing most film archivists and the decisions they face today. More than that, it may spur archivists to take a more active role, with the aim of affecting change in film production, and fully utilizing available technological tools and the changing demands of digital-savvy users.

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Theorizing Digital Cultural Heritage: A Critical Discourse. Edited by Fiona Cameron and Sarah Kenderdine. Cambridge, MA: MIT Press, 2010. 480 pp. Index. Softcover. $22.00.

Digital technologies have become part of the operations of cultural institutions, augmenting and aiding in the presentation, description, and management of traditional material. This anthology, noted in the introduction as "the first comprehensive theoretical discourse on cultural heritage and digital media since 1997" (p. 1), compiles current theories and analysis of themes about the coming together of cultural heritage and technology. Written by an international cast of 30 authors, the anthology includes 22 essays and divides into three sections.

Part I, "Replicants/Object Morphologies," focuses on "the confluence of technology and culture in the representation of art and heritage collections for both Western and indigenous communities" (p. 4). The first essay, "Rise and Fall of the Post-Photographic Museum," by Peter Walsh, notes similarities between the introduction of photography and the advent of the Internet, and observes that the Internet has changed the public's relationship with art. The public no longer must visit museums to view art and can build their own on-line collections. In the next essay, "The Materiality of Virtual Technologies: A New Approach to Thinking About the Impact of Multimedia in Museums," Andrea Witcomb makes the case that multimedia installations can go beyond providing support for traditional exhibits and be material expressions in their own right. As one example, she describes an exhibit at a Melbourne aboriginal museum in which photograph displays turn into videos when patrons walk by them, creating a dialogue with the material.

"Beyond the Cult of the Replicant: Museums and Historical Digital Objects—Traditional Concerns, New Discourses," by Fiona Cameron, addresses the debate around the "original-material/copy-immaterial divide" in the relationship between historical objects and virtual representations. She concludes that while the original object will always maintain authority over the digital, more visible references to the production and materiality of digital historical objects will help them to be accepted as independent creative works. "*Te Ahua Hiko*: Digital Cultural Heritage and Indigenous Objects, People and Environments," by Deidre Brown, examines the application of three-dimensional augmented and virtual reality to Maori cultural objects and landscapes. Brown questions whether inherent qualities that give something meaning are transferred to the digital object.

The essay "Redefining Digital Art: Disrupting Borders," by Beryl Graham, notes that digital media are being used to make, interpret, reproduce, and store art. This "disruption of borders," in which digital art is produced and distributed using the same technology, differs substantially from photography and other art forms. In the next essay, "Online Activity and Offline Community: Cultural Institutions and New Media Art," Sarah Cook continues the theme of digital art as a medium and transmission system, noting how community engagement and collaboration via the Interent may take a role in shaping the work.

Part II of the book, "Knowledge Systems and Management: Shifting Paradigms and Models," explores the convergence of knowledge, learning, information management, digital technologies, and user research in cultural heritage. In her essay "A Crisis of Authority: New Lamps for Old," Susan Hazan explores whether new media modifies the relationship between museums and visitors in meaningful ways. She concludes that it

offers new opportunities for remote visitors to experience the museum. In "Digital Cultural Communication: Audience and Remediation," Angelina Russo and Jerry Watkins describe the potential for new media technologies to connect cultural institutions to new audiences through community programs.

Fiona Cameron and Helena Robinson, in "Digital Knowledgescapes: Cultural, Theoretical, Practical, and Usage Issues Facing Museum Collection Databases in a Digital Epoch," suggest changes in how museums think about, construct, and administer collection databases, including: links between 3D information spaces and traditional chronological narratives; the use of non-text-based information, including virtual reality systems; and other strategies. In "Art is Redeemed, Mystery is Gone: The Documentation of Contemporary Art," Harald Kraemer examines how traditional methods of documentation do not sufficiently record transient modern artworks, including interactive art. He offers solutions to this problem, such as considering documentation as part of the art itself.

In "Cultural Information Standards—Political Territory and Rich Rewards," Ingrid Mason explains how cultural information standards provide infrastructure for collecting, preserving, and accessing digital cultural heritage. She then describes how sociopolitical forces influence cultural information standards and knowledge spaces. "Finding a Future for Digital Cultural Resources Using Contextual Information Frameworks," by Gavan McCarthy, discusses how cultural institutions must develop systems for digital cultural information that remain manageable and accessible. The contextual information framework that he posits could network information nodes at the organizational, national, and international levels, and with stand-alone sources.

In "Engaged Dialogism in Virtual Space: An Exploration of Research Strategies for Virtual Museums," Suhas Deshpande, Kati Geber, and Corey Timpson draw on classical rhetoric and appraisal theory to create an audience-centered strategy for optimal performance of virtual museums. Classical rhetoric identifies several key characteristics of audience behavior, and appraisal theory recognizes the importance of the social context. "Localized, Personalized, and Constructivist: A Space for Online Museum Learning," by Ross Parry and Nadia Abach, explores the confluence of user-driven software, learner-centered education, and visitor-led museums. The paradigm of increased personalization, localization, and constricutivism (on-line learner as producer) is characterized by greater awareness of and responsiveness to the distant museum learner.

Part III of the book, "Cultural Heritage and Virtual Systems," reviews projects and applications of virtual reality in the area of cultural heritage, beginning with Sarah Kenderdine's essay "Speaking in Rama: Panoramic Vision in Cultural Heritage Visualization." Kenderdine investigates the history of panoramic immersion, from cave paintings and magic lanterns to contemporary virtual reality. Panoramic vision systems create virtual spaces in past environments or remote real-world locations that can be inhabited by the viewer. Increasing sophistication requires less imagination from the spectator, however. In "Dialing Up the Past," Erik Champion and Bharat Dave provide an overview of digital imagery from early days to current interactive multimedia representations. They also discuss how sense of place has come to occupy a central position in interactive digital environments.

"The Morphology of Space in Virtual Heritage" by Bernadette Flynn explores how access to heritage is becoming mediated through digital simulations and photographic

representations. Although the "aura" of the object may be lost, the user gains the "experience of navigation, immersion, vertigo, and losing oneself." Two characteristics of virtual environments are explored in Slavko Milekic's "Toward Tangible Virtualities Tangialities": the lack of support for experiential interactions with virtual information, and the emphasis placed on quantity rather than quality of information. Milekic challenges virtual environment designers to support user interactions that contribute to information transfer and retention and make the quality of virtually presented information meet or exceed real-life experience. Current browser-supported interactions are not conducive to active exploration and learning; instead, tactile, kinesthetic, verbal/auditory experiences must be incorporated into designs.

In "Ecological Cybernetics, Virtual Reality, and Virtual Heritage," Maurizio Forte addresses the concept of virtual worlds as ecosystems. The user is positioned between the production of cultural information (the mind) and the communication/transmission of information (the virtual reality system and the body) in this complex of relations. "Geo-Storytelling: A Living Archive of Spatial Culture," by Scot T. Refsland, Marc Tuters, and Jim Cooley, discusses "locative" media in the context of virtual heritage, including the concept of "Geograffiti," an open-access spatial authoring system for mobile, network-enabled, location-aware devices. This virtual graffiti application allows both interaction with space without visibly altering it and more flexible storytelling. In "Urban Heritage Representations in Hyperdocuments," Rodrigo Paraizo and José Ripper Kós discuss how hyperdocuments—links embedded in and connecting information—can be powerful tools for displaying physical urban structures and the connections that create urban spaces.

The anthology's final essay "Automatic Archaeology: Bridging the Gap Between Virtual Reality, Artificial Intelligence, and Archaeology," by Juan Antonio Barceló, defines "archaeology" as the analysis of social actions performed in the past. Archaeologists should look for actions that have produced objects, and computer technology may be used to perform this inverse engineering.

At the beginning of the anthology, the editors state their intent "to serve a broad international audience" of "professionals, academics, and students working in all fields of cultural heritage (including museums, libraries, galleries, archives, and archeology), as well as education and information technology" (p. 2). To a large degree, this compilation should serve their purpose. In particular, it is a good reference for students of cultural heritage, as it provides overviews of earlier technologies, examines the current state of the art, and identifies problems to be addressed in the future. Likewise, academics wishing to conduct further research will find it of interest, particularly the first two sections (which may be of limited value to practicing professionals). Professionals may find the last section more useful, as it describes practical applications of technology in cultural institutions. Digital technologies are here to stay, though, and everyone working in cultural heritage fields would be wise to consider the issues and applications presented in this anthology.

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Archival Anxiety and the Vocational Calling. By Richard J. Cox. Duluth, MN: Litwin Books, 2011. 355 pp. Index. Softcover. $35.00.

Archival Anxiety and the Vocational Calling is an intriguing compilation of essays regarding the archival profession from the viewpoint of Richard J. Cox, professor of library and information science at the University of Pittsburgh. The author has written over a dozen books in a career spanning more than four decades. In four parts, this latest work covers the topics of the archival profession, government secrecy, ethics, and teaching the next generation of professionals.

The book begins with a lengthy yet admirable essay by Cox examining the issues surrounding what he calls the archival/records management "calling." This is not surprising given the length and depth of Cox's career. His description of the angst felt by those in the profession who have no formalized graduate education, versus that felt by those with a graduate education but little or no experience is particularly apt. Cox includes resources about furthering education, networking, and mentoring that are particularly helpful to those new to the field as well as those considering formalized continuing education.

Next is an essay regarding the Public Records Office of Colonial Williamsburg. Cox's discussion of the original and subsequent archival purposes for the building is particularly interesting. He concludes with an expressed wish that the building could be in part repurposed to include an exhibit detailing the "making and keeping of documents…[and] visitors could ask about the nature of older records systems that…support both the interpretation of the eighteenth century town and the modern genealogist's quest for their ancestors…" (p. 53). This is a viewpoint that would be popular with genealogists hoping to find key documents for their research.

The next section focuses on government archives and the secrecy of documents. In light of the events of 9/11 and the focus on anti-terrorism, the idea of an informed public as a forearmed public is not a new one. Unfortunately, government transparency may be a long time coming. Cox discusses at length presidential libraries, redacted documents, and documents saved from gulags and imprisoned leaders like Nelson Mandela. His national and international views are eye-opening and give both the seasoned and newly-minted archivist much food for thought.

Chapter six discusses the scandal of the reclassification of government documents formerly declassified by the National Archives and Records Administration (NARA). On April 11, 2006, the public discovered that NARA had signed two agreements in secret with several federal intelligence agencies to "…remove previously declassified records from the shelves of the National Archives" (p. 103). For those not aware of the issues and players, this chapter goes into detail about the communiqués between NARA staff, the author of this book, and the news outlets that covered the story. Their intersection with the Society of American Archivists presents an interesting look at the politics of a government organization pushing its agenda and a professional organization trying to maintain standards. Cox's conclusion is not a happy one, forecasting the eventual erosion of the archival profession and its mission to provide open access to historical documents.

Chapter seven presents a multifaceted discussion of professional ethics for archivists in records management positions in corporations and academia. Using the examples of Enron and Arthur Anderson, Cox highlights the risks inherent in the profession, such as shredding of documents (Enron) and questionable auditing practices (Arthur Anderson). Whistle blowing and destruction of key documents are only two of the risks explored. On the subject of appraisal decisions, the next essay in the chapter discusses the decision by SAA to end the Archives & Archivists Listserv, and Cox classifies the resulting fallout as "a sad and disturbing episode in the history of the Society of American Archivists" (p. 182). A final essay on Anthony Clark, a researcher on presidential libraries who gave a talk attended by the author, discusses Clark's problems obtaining from NARA staff information that should have been openly accessible.

The final section of essays in the book discusses the next generation of archivists—how do we teach them amidst all the ethical dilemmas, controversy, debates, and rapid change? Cox's first essay on "Revisiting the Archival Finding Aid" takes a sharp look at the development of this crucial research tool and how it is shaped by the individual archivist's perception of the collection. He discusses such topics as advocacy for archives, the challenge of archival work, and issues facing new archivists in the digital age.

Cox's last essay on appraisal and his concluding thoughts provide readers with ample information to contemplate, whether they are currently practicing in the profession, considering it, or embarking on it fresh from graduate studies. Overall, the book is exceptionally well-written. Helpful footnotes point to further reading in topical areas of interest. For those just entering the profession, Cox's book is akin to Jenkinson, Schellenburg, or Thornton in its profile of a profession exploring the dichotomy of theory and practice in a state of perpetual change.

This volume is a must-read for those wanting a broad overview of issues and events surrounding the field of archives past, present, and future. Read this book to find out how one of the profession's leading educators views the field—a view as enlightening as it is anxiety-provoking.

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A Different Kind of Web: New Connections Between Archives and Our Users. Edited by Kate Theimer. Chicago: Society of American Archivists, 2011. 369 pp. Index. Softcover. $69.95. $49.95 for SAA members.

Writing a book about the quickly changing world of Web 2.0 and archivists' use of its applications is daring, to say the least. The ultimate challenge of hitting such a constantly moving target is ensuring its continued relevance. How do you create something that enlightens past developments, informs today's practice, and will guide future archivists? Editor Kate Theimer and the other authors of the essays and case studies that comprise *A Different Kind of Web: New Connections Between Archives and Our Users* have plotted an intelligent roadmap for addressing this difficult set of professional challenges.

Many of the authors in *A Different Kind of Web* are acutely aware of the rapidly shifting nature of this topic. For example, in his essay "Going to See the Elephant: Archives Diversity, and the Social Web," Terry Baxter remarks that "by the time this book is published, Web 2.0 may have already moved into the historical footnote category" (p. 275). While this book is still relevant to today's profession, Theimer anticipates the fate that Baxter has in mind. In her introduction, she explains that in addition to informing modern archival practice, one purpose of the book is "to document our current thinking and use of the web for the benefit of future scholars" (p. vii).

The case studies in *A Different Kind of Web* explore archivists' use of the most common social media applications, such as Twitter, Facebook, Flickr, blogs, Wikipedia, and YouTube. Each case study conforms to a uniform structure: overview of the repository, business drivers, setting the stage, results, challenges, lessons learned, and next steps. This formula allows readers to come to their own conclusions about the effectiveness of each social media application as well as each institution's implementation of the application.

While the case studies address diverse uses of social media, what binds them together is archivists' and repositories' willingness to invite users into archival processes. A good example of this prevailing attitude is the processing blog *A View to Hugh* discussed in Stephen J. Fletcher's essay. Through photographs and detailed stories of processing the Hugh Morton Collection of Photographs and Films, this blog has opened up the archival experience to those outside the profession. It has given the public an idea of what an archivist does as well as the many challenges and decisions that archivists face in processing a large collection.

The number of case study authors who employed Web 2.0 applications without clear plans or success criteria surprised me. Many of the case study authors acknowledged the problem of quantifying success, though all considered their efforts a success. Perhaps the lack of precise metrics and extensive planning speak more to the ease of use and implementation of social media applications than to carelessness on the part of archivists and institutions. These two factors have also created a low-risk environment for archivists who want to experiment with social media. In her case study, Mattie Taormina characterizes Stanford University Library's use of Second Life as an experiment (p. 47). In talking about lessons learned from the Library of Congress's Flickr Commons Project, Helena Zinkham and Michelle Springer similarly admit that

a "leap of faith in trying something new may also be needed" (p. 112). Taking leaps of faith and experimenting with these tools is needed, but as Randall Jimerson cautions in his essay, social media is not a professional panacea (p. 328).

"Liberating Archival Images: The PhotosNormandie Project on Flickr" by Patrick Peccatte is one of the more interesting case studies because of the project's creator and his use of archival material. Unlike many of the authors in this volume, Peccatte is not associated with an archival institution or repository. By collecting public domain photographs freely available on-line and posting them on Flickr, he is trying to create better descriptions of photographs of the Battle of Normandy during World War II. This case study is important for archivists because it provides a glimpse into how archives will be used in the future. It underscores the need for archivists to cede more control over their collections for the purposes of creative uses and reuses of their materials.

As new applications and technologies take the place of current ones, and as archivists become more familiar and comfortable connecting with users though social media, these case studies will inevitably become less and less relevant to daily practice. *A Different Kind of Web* will avoid a fate of obsolescence and obscurity by its inclusion of essays that frame the case studies and investigate larger currents of archival thought. These essays discuss issues such as authenticity and authority, mediation, professional diversity, intellectual control, and equality of access, all of which transcend any particular social media application.

In her essay "Balancing Archival Authority with Encouraging Authentic Voices to Engage with Records," Elizabeth Yakel conceptualizes the Web 2.0 phenomena as a "Great Opening" of archives. In fact, she claims that it is the second such opening. The first great opening, according to Yakel, occurred in the 1960s when archivists and repositories opened their doors to researchers of all kinds and expanded their collecting scopes to include records from previously undocumented members of society. Web 2.0, in her words, "…furthers the focus on access begun in the 'First Great Opening,' [and] it more directly encroaches on the authority of the archives/archivist to represent the collections" (p. 77). Because of the direct challenge to the authority of archivists as intermediaries between users and materials, many have been hesitant to completely embrace both great openings. It remains to be seen what effect the second opening will have on the profession. If the results of the first openings serve as any sort of guide, then it will surely enrich our collections as well as increase both the number of our users, and, ultimately, archivists' societal value.

Some of the authors in this volume cast doubt on the notion that Web 2.0 is an entirely new phenomenon. In his comparison of 1990s AOL and Facebook, Terry Baxter points out that many of today's social media applications and services are conceptually analogous to previous technologies (p. 275). These similarities are easy to lose track of when faced with the numerous social media applications being developed every year. Just as Baxter finds parallels in the technologies of the past, historian Robert Townsend in his contribution draws comparisons between the role of users in the early twentieth century and that of today. He reminds us how important early researchers were in preserving, describing, publishing, acquiring, and advocating for archival material during the first half of the twentieth century. The relationship between users and archives that Townsend so deftly outlines presents an opportunity to see our current users in a

new light, not just as passive receivers of archival information, but as active creators, collaborators, advocates, and shapers of archives. More importantly, this relationship places users squarely in the center of the archival universe. In his essay, Randall Jimerson echoes the historical approach to understanding the impact of social media on the archival profession. According to Jimerson, Web 2.0 tools are simply tools. While not discouraging their use, he urges archivists not to lose sight of the core principles on which the profession is based. He also warns archivists that a digital divide still exists between those with access to technology and those without it. As a result, Jimerson envisions social media not as a replacement, but as a complementary tool for access.

Kate Theimer's second contribution to the volume both serves as the book's conclusion and as an expansion of her definition of Archives 2.0. She makes it clear that Archives 2.0 is not a buzzword that simply denotes Web 2.0 as used by archives. It is akin to a new professional outlook or philosophy. Archives 2.0 is, as Theimer further explains, "an approach to archival practice that promotes openness and flexibility. It is an approach in which archivists are user-centered and embrace opportunities to use technology to share collections, interact with users, and improve internal efficiency" (p. 335).

A Different Kind of Web has much to offer archivists interested in archival history, Web 2.0, archival theory, and outreach. It presents different professional voices, challenging ideas, and innovative uses of social media. It also addresses today's pertinent archival issues and practices, and not only contextualizes them within developments of the past, but also anticipates future debates and uses of archival material. This type of thoughtful and comprehensive approach to the analysis of social media (or any archival issue, for that matter) is and will continue to be valuable to the profession.

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