

THE EVOLUTION OF THEORY, PRACTICE AND RESEARCH ON ARCHIVAL PRESERVATION AND ACCESS IN A DIGITAL WORLD

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ABSTRACT

New technologies are making it possible to provide unprecedented global access to and information about the world's recorded heritage. At the same time, these technologies are facilitating the generation, dissemination and multi-versioning of an abundance of potential archival material across the spectrum of human endeavors, often in emergent forms and media. The identification of what to preserve, how, and how best to provide access to it has become perpetual archival endeavors. Around these dynamics, a rapidly developing research front in Archival Studies is addressing everything from the nature of the contemporary human record and its appraisal, to the preservation and curation of the by-products of digital technologies, to the very nature and role of archives in a plural, digital world. This article identifies some major areas of change for archives and their content; reviews what has been happening to key traditional archival ideas and principles in this new world; discusses some major areas of current research in Archival Studies, and identifies areas where more research is needed to support archives and archival practices in the future.

KEYWORDS

archival studies research, digital archives, digital curatorship, digitization, electronic records management, metadata management

Introduction

This is a time of great change, challenge and development for archives and special collections,¹ as well as for research in Archival Studies. New

- 1 This paper will primarily address archives containing accumulations of organizational records, but acknowledges that many archives, especially those in academic institutions and community-based archives, hold, or are paired with special collections of primary source materials such as manuscripts, personal papers, photographs and oral histories.

technologies are making it possible to provide unprecedented global access to and compilation of digital information about, and copies of, the world's recorded heritage. Archives and special collections are beginning to emerge from their sequestered vaults and "specialness" and broadly engage with the public as well as the institutional, scholarly, and various other specialized communities that previously were their primary audiences. At the same time, however, new technologies are facilitating the generation, dissemination and multi-versioning of potential archival material across the spectrum of human endeavors in unprecedented volumes and in a dizzying and constantly evolving array of digital formats, thereby making the identification of what to preserve, how, and how best to provide access to it never-ending endeavors. Around these dynamics, a growing research infrastructure, energized by a growing corpus of career academics and doctoral students in Archival Studies as well as new sources of research funding, is addressing everything from the nature of the contemporary human record and its appraisal, to the preservation and curation of the by-products of digital technologies, to the very nature and role of archives in a plural, digital world.

The distinctive role of managing and preserving recorded evidence of enduring value, and the evolution of this role in recent centuries, has endowed archives with tremendous power over the human story and its recounting in and across time. As novelist Virginia Woolf once wrote, "Nothing has really happened until it has been recorded", and archives today not only are responsible for what is retained and made accessible from that which has been recorded, but also have input into the very shape of the record. Contemplating this role and how it is faring in the current digital environment, this article will identify some major areas of change for archives and their content; review what has been happening to key traditional archival ideas and principles in this new world; discuss some major areas of current research in Archival Studies, and identify areas where more research is needed to support archives and archival practices in the future.

The expanding role and nature of archives

Many definitions of archives have been offered over the past century. Charles Samaran, Professor of Bibliography and Archivistics, *École nationale des Chartes*, Paris and future Director General of the National Archives of France wrote in 1938:

Authors in the Nineteenth century who sought to give a more precise meaning to the word archives gave contradictory definitions of it because they followed preconceived ideas, like Ménage and Le Duchat before them. We have seen that in the predominant thought of the first of these etymologists his conception of archives was that of ancient documents; for the second, it was the idea of precious documents. Several modern authors attach to the word archives other conceptions just as little satisfactory in themselves, e.g., that of official documents, of historical documents, of authentic documents, of documents in substantiation of rights.

In actual practice, if archives are in fact composed above all of documents in great part in one or another of these categories and sometimes in all of these, it does not mean that there may not be found in the archives documents which are neither ancient nor precious nor official nor authentic nor such as substantiate rights [...]²

A few years later, in 1944, Sir Hilary Jenkinson of the United Kingdom Public Records Office wrote of:

[...] the possibilities of Archives as evidence, as correctives of the more or less *ex parte* statements of contemporaries or later commentators on events [...]³

More recently, both scholars and archivists have been pointing out the sociological and anthropological as well as evidentiary roles that archives play. Sociology scholar Thomas Osborne writes in 1999:

Whether as a notion, impression, concept or anti-concept, the image of the archive is a useful focal point for bringing together issues of representation, interpretation and reason with questions of identity, evidence and authenticity; in other words, just those issues that tend to concern those who work on those kinds of problems that typically characterize the history and historiography of the human and cultural sciences.⁴

- 2 RG 64 Records of the United States National Archives and Records Administration, Subject Files of Solon J. Buck Relating to Archival Principles, Practices and Institutions, 1789-1956, Box 1.
- 3 Jenkinson, Hilary. Reflections of an archivist. // A modern archives reader / edited by Maygene F. Daniels and Timothy Walch. Washington, D.C. : National Archives and Records Service, U.S. General Services Administration, 1984. (Original work published 1944.)
- 4 Osborne, Thomas. The ordinariness of the archive. // History of the human sciences 12, 2(1999), 51-64.

Archivist and archival educator Terry Cook has written that:

A collective shift has taken place during the past century from a juridical-administrative justification for archives grounded in the concepts of the state to a socio-cultural justification for archives grounded in wider public policy and public use.⁵

Professionally, archives today are widely conceived of as either cultural heritage or information institutions or both. As such, they are often grouped together with museums, historical societies, galleries, and libraries. However, as the previous quotes indicate, their distinctive and original role in society was as the preservers of non-current, but still administratively, legally and fiscally valuable recorded evidence. Historically, that evidence was generated in the form of administrative records first by monarchs and governments, and later also by commerce, religious establishments, and other kinds of institutions. These records were retained by institutional archives in order to support the continued functioning of that institution as it pursued its interests at home and abroad. With the growth of nation states, archives became part of the infrastructure that supported the promulgation of a national identity and they are still very much associated with national, community and personal identity formation today. However, a key conceptual augmentation occurred with the French Revolution, which overtly acknowledged the role that archives could play as instruments of democracy by ensuring government and institutional transparency and accountability to citizens and other stakeholders. This also marked the beginning of a culture of citizen accessibility to records that pertained to them. The scholarly role that is now so closely identified with archives was widely recognized only comparatively recently, in the Nineteenth Century, with the development of the professional discipline of History within the academy and the rise of the modern scientific historical method that relied upon the availability of original primary source material such as the records that could be found in archives.

As can be inferred from the above, archives, or at least repositories of records, have been around for several thousand years. During this time a body of practices has developed that has managed to accommodate or adapt to considerable change in media production, dissemination and use. Fundamental archival principles formally enunciated and

5 Cook, Terry. Archival science and postmodernism : new formulations for old concepts. // *Archival science* 1, 1(2000), 3-24. Available at: <http://www.mybestdocs.com/cook-t-postmod-p1-00.htm> [cited: 2010-04-04].

codified in the last three centuries as the basis of practice in Europe and the so-called New World included the Sanctity of Original Order, *Respect des Fonds*, and the Principle of Provenance.⁶ These principles have been discerned also in some examinations of records repositories of antiquity and it has been argued that they naturally emanate out of the practices of recordkeeping and should, therefore, be reasonably expected to hold across future changes in media production, dissemination and use. While change is nothing new for archivists, what is different in the Twenty-first Century is the speed of change that is occurring. The practices of recordkeeping are also evolving, in large part due to the kinds of reformulations, re-use and data compilations that are made possible by digital technology. All of this raises some pivotal questions for archivists – does the set of principles that has guided their various practices for centuries still hold good? Does the entire archival paradigm need to be reconceptualized? Perhaps some principles of practices are more robust in the digital environment than others?

The impact of digital technology does not end there, however. It has played a large role also in reshaping bureaucracies and blurring key boundaries, for example, between collaborating institutions, official and personal documentation, and spatial and temporal dimensions of recordkeeping and records transmission. Such reshaping and boundary-blurring have major implications for the nature of the very object at the center of archival practice – the record. A prevalent archival definition of a record is that it is data or information in a fixed form that is created or received in the course of individual or institutional activity and set aside (preserved) as evidence of that activity for future reference.⁷ The record was also classically considered to be the unconscious by-product of a bureaucratic act (although many archivists today would argue that the record is a purposive document that is very consciously designed and generated). However, in the digital realm, where objects have no tangible form, mutability is innate, form is fluid, multiple originals of the same object can co-exist, and there may be no physical way to extract the data that comprises a single record or series of records in order to preserve it within an archival system, identifying what exactly comprises the record, fixing it, and then acting to set it aside can be

6 For further discussion of these principles, see Gilliland-Swetland, Anne J. *Enduring paradigm, new opportunities : the value of the archival perspective in the digital environment*. Washington, D.C. : Council on Library and Information Resources, 2000.

7 See Society of American Archivists Glossary [cited: 2010-04-04]. Available at: <http://www.archivists.org/glossary/>

highly problematic. These problems are exacerbated outside the auspices of the individual bureaucratic institution. Multi-institutional and multi-sector scientific and other scholarly collaborations hosted on wikis and other multimedia collaborative software, artist and musicians' mashups and remixes, social networking and online gaming sites, online video and imagebases, and personal and official blogs and web pages all pose conceptual and practical challenges for archivists who are engaged in capturing evidence of these sorts of endeavors. What is more, in the absence of professional archivists, who tend to work within formal institutional structures, "avocational archivists" have been appearing in some of these situations, taking on the task of "archiving" the digital activities of online groups or communities (albeit that this is not a long-term solution to the preservation of such materials). Social tagging has also become a prominent form of end-user description of resources. If archivists do not step up to manage these kinds of digital environments or to incorporate user practices such as social tagging into their activities, are they in danger of relegating themselves to the role of solely serving as custodians to certain tangible kinds of institutional bureaucratic records? Who should be responsible for and who has the skills and resources to undertake the wider documentation of human endeavor, documentation that today is greater than it ever has been before? How much change is actually occurring or should actually occur in the nature of archival activity?

The changing nature of archival activity

Appraisal

In the first half of the Twentieth Century, innovative technologies of mass production, Depression-era government programs, and massive war efforts began to generate vast quantities and ready duplicates of records in increasingly vulnerable formats. Responding to these issues, archivists in the United States pioneered appraisal and records management techniques for identifying which records really needed to be retained permanently in the archives and which could be discarded or otherwise destroyed. These techniques represented the first time that archivists systematically began to influence what would be retained for the future about the past, as well as the first concerted effort, through records retention scheduling, by archivists to get involved with the creation and management of the active record rather than being passive recipients of inactive records.

The continuation of appraisal as a viable and appropriate activity in the digital domain has now come into question, however. Arguments have been made that it is possibly cheaper and easier to store everything than to try to eliminate certain materials out of digital collections, yet at the same time, legal, social and emotional imperatives remain to eliminate certain kinds of information or documentation from the record. The actual elimination itself is also problematic, given the difficulties in this era of forensic computing of making something digital go away completely. What is more, archivists find themselves faced with a new abundance of documentation – this time created using digital technologies, that captures more aspects of contemporary society and institutional and disciplinary practices, especially more ephemeral and individual practices, than do their traditional archival holdings. Digital editing capabilities result in a lack of drafts (what previously might have been considered to be the manuscript material that formed the basis of literary and personal paper collections) and yet at the same time a multiplicity of versions and compilations. Automated rather than manual accessioning, preservation, arrangement and description, together with more sophisticated end-user retrieval algorithms are becoming a necessity.

The trajectory of engagement with the active record through records management, on the other hand, has become even more central to archival work as archivists have sought in recent decades to be involved at the design stage for electronic record-keeping systems in order to ensure that these systems are capable of identifying, segregating, and setting aside for archival preservation records of enduring value. Archivists have been working with software developers, systems designers and the actual creators of the material to ensure that any documentation created will be in an environment as little dependent upon proprietary software as possible; systems have sufficient security controls and metadata to document their reliability and authenticity in and over time; systems capture and describe accurately their provenance, content and any rights considerations; and materials that need to be preserved can indeed be “fixed” in an unalterable way and removed when appropriate from an active system to an archival system.

Arrangement and description

Unlike libraries, archives have not spent the past several decades responding to challenges as to why they still should continue to exist as

physical institutions. That may well happen in the future, but it seems to be apparent to most people who have reason to contemplate these things that these repositories of centuries of primary evidence must remain – but maybe only as secure and environmentally-appropriate storage sites. The push is on for archives to digitize their hundreds of kilometers of content and make it available online, generally without any significant enhancement to their budget. This is in many ways a highly laudable objective. For most of the history of archives, the general public did not have ready access to their contents, even when those contents concerned them directly. Digital capabilities now provide even expert archival users with the ability to collocate, analyze and publish traditional as well as new documentary sources in unprecedented ways. What is often under-recognized in the rush to provide digital access, however, is that not all preserved material merits digitization; some of it, for legal, ethical, and cultural reasons may not be publicly displayed; and most of it cannot be understood by non-expert users without considerable mediation on the part of a detailed archival finding aid and an experienced archivist.

Detailed description, therefore, has become a priority for archives, both as a surrogate for materials that cannot be disseminated in digital form, and as explication for those materials that can. Description, however, has changed considerably in recent years. To begin with, it has a more complex relationship than previously with what was once its constant companion – arrangement. Traditionally, arrangement and description were the processes by which archivists elucidated and documented not only the content of archival holdings, but also the various contexts and original order and structure of those holdings, including documentary relationships within and between *fonds* and series. By so doing, archivists were able to relate newly described materials to other holdings and also to establish a basis for documenting the continued authenticity of those materials in their custody. But as archival holdings are increasingly digitized or born-digital, archivists are finding that these materials may have multiple possible arrangements over and above their original order; they may have much more complicated documentary relationships; and they may even lack any meaningful original order altogether.

To facilitate the kind of description necessitated in online environments, several developments have occurred:

1. New interoperable descriptive standards have been developed at the national and international levels. The International Council on

Archives has extended its General International Standard for Archival Description (ISAD(G)) framework with a suite of standards that lay out how to develop authority records for corporate bodies, persons and families (ISAAR (CPF)), describe functions (ISDF), and describe institutions with archival holdings (ISDIAH).⁸ Together, they aspire to frame a total descriptive system. At the national level, developments such as Encoded Archival Description (EAD), which allows for the development of a digital finding aid to a *fonds*, record group, or archival collection, embodied the principles laid out in ISAD(G). It also embedded fields that could map into those contained in MARC, and links to digital objects such as digitized copies of items contained in the collection being described.

2. Collective description according to the provenance of a collection is a key aspect of traditional archival practice. This is in part due to adherence to archival principles that mandate keeping materials according to their provenance and in their original order, in part due to an awareness that in many collections – particularly collections of records rather than of personal papers – individual items may be less significant than the overall picture of what they collectively say or depict, and in part because of the pragmatic realization that it would be far too resource-intensive to describe every single item within a collection (although this has historically been the practice in some manuscript as well as some European national archives settings). However, as individual items are increasingly undergoing digitization, either selectively or *in toto*, it has become necessary to describe each with at least enough metadata to identify the item unambiguously, link it to the collection description (finding aid), and distinguish different versions of the digitized item (for example, in different resolutions or file formats). In other words, today's archivists find themselves undertaking, with increasing frequency, both collection and item-level description – a significant addition to the existing archival workload, particularly when the effort of digitization itself is added in, and often without comparable increases in resources. This all points to the labor intensity of putting archival holdings online in order to increase their accessibility and underscores why the bulk of archival holdings still remain offline.

8 See International Council on Archives Committee on Descriptive Standards [cited: 2010-04-04]. Available at: <http://www.icacds.org.uk/eng/home.htm>

3. Another area of effort relates to curating material to be put online. While definitions of digital curation vary,⁹ in the archival context it likely includes the act of selecting materials for digitization, deciding about the optimum digitization method and representation, addressing any policy concerns (for example, legal, ethical or cultural restrictions), and then figuring out how to present those materials to the public, especially to any specifically targeted audience. Will the materials simply be linked from a repository of digital images to a finding aid, will they be available in a gallery of similar or related items, or will they be juxtaposed with interpretive text and maybe even incorporated into some kind of online exhibit or educational programming? If the latter, to whom is the exhibit or education directed? Is the interpretive text and are the images appropriate for that audience? Many of these activities, while quite familiar in the museum world with its professional curators and education experts are new for archivists.

4. Indeed, one of the great hopes with putting archival holdings online is that they will attract new audiences as well as be more accessible to those who cannot physically visit the archives, such as users in other places around the globe, and children and youth – who, in most cases, may not enter archives. Reaching out to these audiences, however, may take skills that archivists generally do not have, such as in developing educational materials. It may also necessitate that additional descriptive work occur, for example, including lesson plans, developing bilingual finding aids, or developing pathfinders to pertinent material that is scattered throughout the holdings, for example, relating to women.¹⁰

The challenges of making archives more accessible digitally are not only those relating to selecting, digitizing, describing, curating and

9 The U.K. Digital Curation Center defines digital curation as follows ([cited: 2010-04-04]. Available at: <http://www.dcc.ac.uk/digital-curation/what-digital-curation/>):

Digital curation involves maintaining, preserving and adding value to digital research data throughout its lifecycle.

The active management of research data reduces threats to their long-term research value and mitigates the risk of digital obsolescence. Meanwhile, curated data in trusted digital repositories may be shared among the wider UK research community.

As well as reducing duplication of effort in research data creation, curation enhances the long-term value of existing data by making it available for further high quality research.

10 For a fuller discussion of ways in which archivists might re-think description to support wider accessibility, see Gilliland-Swetland, Anne J. Popularizing the finding aid : exploiting EAD to enhance online browsing and retrieval in archival information systems by diverse user groups. // *Journal of internet cataloging* 4, 3/4(2001), 199-225.

making their holdings available online. They also include balancing these activities against continuing to acquire and process large backlogs of traditional materials and grapple with how to identify, acquire and preserve describe and disseminate born-digital materials of archival value. Moreover, archivists need to stay abreast of increasingly complex and multinational policy questions relating to ownership, provenance, privacy and cultural sensitivities. There is, perhaps, a silver lining to this dilemma. The challenges emanating from digital technology have forced archivists to articulate and evaluate their ideas and practices much more closely than was necessary with only analog holdings. As a result, initiatives to implement preservation regimes and infrastructures, including institutional repositories, that protect institutional investment in digitization and meet stringent archival, evidentiary and policy requirements for the reliability and continued authenticity of analog, digitized and born-digital materials are imposing more rigorous and systematic approaches to archival materials of all types, digital and analog. There has also been more effort to develop economic frameworks and metrics and to collect data across repositories in order to arrive at a better assessment of the actual costs and other resources involved in operating in this new environment.

Areas of recent research

While Archival Science “studies the characteristics of records in their social and cultural contexts and how they are created, used, selected and transferred through time”¹¹ and centers around archival practice-based concerns, principles and techniques, Archival Studies is emerging within *iSchools* and Library and Information Science programs as the field wherein disciplinary, trans-disciplinary, and professional studies of topics relevant to archival ideas, roles and interests can take place.¹² Over the past fifteen years there has been enormous growth worldwide in the numbers of students enrolled in these programs as well as in the research being conducted by faculty and doctoral students. This growth has a natural symbiosis with developments and issues arising in the archival field and much of the research, even conceptual research, is di-

11 Kettelaa, Eric. Time future contained in time past : Archival Science in the 21st century. // Journal of the Japan Society for Archival Science 1(2004), 20-35 [cited: 2010-04-04]. Available at: <http://cf.hum.uva.nl/bai/home/eketelaar/publication.html>

12 For further discussion of this phenomenon, see White, Kelvin; Anne Gilliland. Promoting reflexivity and inclusivity in archival education, research and practice. // Library quarterly (forthcoming, July 2010).

rectly addressing questions generated out of practice, but it is bringing a greater armament of disciplinary approaches and perspectives to bear. It is also paralleled by an increased national and international investment in the curation of scientific data and the development of the digital humanities, both of which areas overlap with aspects of archival activity and interest. Government and corporate research funding in North America, Europe and Australia has supported large-scale, multinational and multidisciplinary investigations into how to capture and preserve records created using digital technologies in bureaucratic settings in ways that can meet stringent evidentiary requirements as well as how to enhance access to and curate archival and manuscript holdings through the development of online systems (including standardized online description, “digital archives”, digital humanities initiatives, institutional repositories, and digital libraries). The availability of such funding recognizes a widespread need to address the capture, preservation and access implications of new record and manuscript-creating technologies, as well as the complexities of mass digitization of primary sources.

This flowering of research has also been characterized by considerable innovation in research methods – some that have been developed specifically out of Archival Science, and some that have been adopted and/or adapted from fields that range across academe. The diversity in methodological approaches itself speaks to the range of practical, technological, and theoretical issues with which the research is concerned. For example, methods and frameworks emanating out of Archival Science include contemporary archival diplomatics, functional analysis and business process analysis, macroappraisal, and recordkeeping warrant analysis; drawing from the Social Sciences methods include recordkeeping ethnography, ethnography of archival practice, virtual ethnography, theory-building, discourse analysis, bibliometrics, sociometrics and other metrics, speech act theory, and actor-network theory; from Computer Science and Engineering methods include recordkeeping systems analysis, Information Retrieval theory and techniques, iterative systems design, simulations, expert knowledge extraction, and metadata modeling; and from the Humanities and Digital Humanities, frameworks and methods include cultural, post-colonial and Critical Race theories, ethnic, gender and media studies, discourse and rhetorical analysis, and cliometrics.¹³

13 More detail on the growth and diversification of archival research and explication of the various methods can be found in: *Building a research infrastructure for archival studies : special issue* / Anne J. Gilliland and Sue Mc. Kemmish, guest editors. // *Archival science* 3-4(2004).

Some of the areas around which Archival Studies research have clustered include the delineation of the conceptual parameters of the trusted electronic record; the development and reconciliation of metadata standards for primary sources within multi-community/institutional digital repositories; the study of archival users; the utility of social tagging to enhance archival descriptive metadata; the enterprising re-use of highly structured rich recordkeeping metadata; the exploitation of new technologies for the delivery, discovery, collation, and analysis of primary and secondary sources of all types; the rise and nature of community-based archive initiatives, especially those using the web and multimedia documentary techniques; emergent cross-jurisdictional policy concerns such as intellectual property and divergent cultural protocols for managing archival materials; and the identification, documentation and analysis of “gaps” and biases, that is, communities and phenomena that are absent, under- or miss-represented, in the archival record.¹⁴ The following more detailed delineation of some of these areas provides some more insight into the range and sophistication of current research agendas in Archival Studies, as well as the balance between applied and conceptual work:

Conceptual research addressing the implication of digitality

Identifying, capturing, preserving, describing and making available born-digital materials have been concerns of archivists for several decades now. However, much recent research has focused on the nature of trust, how it is established, and how it can be preserved and demonstrated by archives with regard to the digital and digitized records that they preserve and make available. Similarly, while archivists have always been engaged with changing media and recording practices, researchers are examining the impact of digitality on the creation of new media and on emergent recording practices and attempting to understand what is truly new, and what is merely a new manifestation of prior behaviours and phenomena. Related to this is research that seeks to identify the conceptual parameters of notions that are central to archival practice such as the record, fixity, authenticity, draft, completion, original and copy as these relate to digital documents. Another strand

¹⁴ An indication of the scope of current research can be obtained by browsing the research statements of participants in the first and second annual Archival Education and Research Institutes (AERI 2009 and AERI 2010) available at: <http://aeri.gseis.ucla.edu/aeri.htm> [cited: 2010-04-04].

of research examines how the concepts of collecting, authorship and ownership might be changing in the digital environment. On the other side of accumulating digital records are archival efforts to document aspects of life that are not otherwise captured in the official record. These include documenting life in a digital world and working with digital community memory initiatives in order to address absences or silences in the official record.

Metadata, metadata management, and metadata reusability

Metadata delineation and management has become one of the most complex technical areas in which archives are engaged. With the high volume of detailed trustworthy metadata that archival practice and the management of evidence over long periods of time necessitates, the burgeoning of user-created tags, as well as the diversity and dynamism of relevant metadata schemes and standards for repository, collection, and item-level description, metadata management regimes, preferably automated, need to be devised, prototyped and implemented. Some of the other kinds of questions that research relating to archival and, more broadly, recordkeeping metadata are asking include: how do we address the scalability of metadata practices for digital materials? What are the relative benefits and challenges of naturally-occurring and manually-created, as well as lay versus expert (professional or other) metadata? What balance, if any, can/should be struck between the empowerment and sustaining of traditional or locally-devised descriptive practices and professionally-developed metadata standards and structures designed to support inter-community/institutional/national interoperability and data exchange? And what kinds of end-user needs might be met through archival metadata alone (that is, without needing to consult any archival materials)?

User studies

Archives have often been criticized for promoting preservation over access and stewardship over use. Until recently, there was an embarrassing paucity of rigorous research relating to the use and users of archives. Today there is a solid research front that is investigating different types of uses and users as well as their disciplinary, social networking and tagging behaviors. However, there remains a considerable amount of research that needs to be undertaken investigating the nature and needs of emergent virtual users who potentially might come from any-

where around the globe, are culturally and linguistically diverse, and bring differing expertise, contextual knowledge and epistemological frameworks to their use and interpretation of archival materials.

Archives in a plural world

Globalization is a phenomenon that is closely linked to the development of digital communication and information technologies, but archival practice has historically been oriented very much toward local institutional and national constituencies. Archival research is beginning to contemplate the implications of globalization, demographic shifts, and technological implementations such as online archives and distance archival education for archival practice. The kinds of questions that are being asked include: what is the impact of international archival standards upon local and Indigenous archival traditions and recordkeeping practices? How should archivists evaluate, compare and potentially reconcile conflicting conceptual models and descriptive schema and other forms of metadata across communities? How awareness be raised, and policies and practices developed that address different legal traditions, national policies and community practices and beliefs? How should the records of multinational collaboration be identified, preserved and made available? How could documentary absences relating to immigrant, migrant and diasporic experiences be addressed? What kind of roles do archives and manuscripts repositories play in identity construction and formation of official or national narratives? And how can archival education, especially distance education, be developed that is culturally aware, sensitive and inclusive, and not acting as an agent of cultural change in other cultural contexts?

Conclusion and areas for further research

This article has attempted to paint a picture of the evolving role and activities of archives and Archival Studies research in a digital world. While considerable advances in both practice and research have occurred over the past two decades, however, there remain several key areas where more research and development are needed if archives are to continue to evolve in ways that solidify and sustain their place in a digital world. Among these are the following four broad areas: the development of analytical techniques to identify important changes in the records and records creation over time in form, format and function; the development and evaluation of tools for automatically processing

and preserving large volumes of digital materials; the design of digital archives for heterogeneous user communities and their epistemes based upon studies of how those communities create, remember, seek, and use knowledge, and the development of digital/digitized collections of, and interfaces to archival materials as well as end-user tools for manipulating those materials that are built upon sound knowledge about the needs of increasingly disciplinarily, educationally, culturally and linguistically diverse online users.

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Biographical sketch

Dr. Anne Gilliland is Professor and Director of the Archival Studies specialization, Department of Information Studies, and Director of the Center for Information as Evidence, at the Graduate School of Education & Information Studies, University of California, Los Angeles (UCLA). She is also a faculty member in the UCLA School of Theatre, Film and Television and Graduate School of Education & Information Studies inter-departmental M.A. Program in Moving Image Archive Studies. Her teaching and research interests relate to the design, evaluation and history of recordkeeping and cultural information systems in diverse community and cultural contexts, digital curation, metadata creation and management, and archival education. She is currently completing a monograph *The Archive in a Digital Age*. Recent research activities include the InterPARES 2, The Clever Recordkeeping Metadata, Museums and the Online Archive of California Evaluation (MOACII), and Pluralizing the Archival Paradigm in the Pacific Rim Projects. She is a Fellow of the Society of American Archivists.

RAZVOJ TEORIJE, PRAKSE I ISTRAŽIVANJA O ZAŠTITI I PRISTUPU ARHIVSKOM GRADIVU U DIGITALNOM SVIJETU

Sažetak

Nove tehnologije osiguravaju do sada bez presedana iskazane mogućnosti globalnog pristupa zabilježenoj svjetskoj baštini kao i informacijama o njoj. Istodobno, te tehnologije olakšavaju proizvodnju, raspačavanje i višestruku izradu inačica obilja potencijalnog arhivskog gradiva širokog spektra ljudskog nastojanja, često u novonastalim oblicima i medijima. Identifikacija što očuvati te kako i na koji najbolji način osigurati pristup tom gradivu predstavljaju trajna arhivistička nastojanja. Njihova dinamika postala je središtem brzorastućeg istraživačkog fronta u arhivističkim studijima u okviru kojeg se propituje sve u rasponu od prirode zapisa suvremenog čovjeka i njegove procjene, do očuvanja i zaštite nusproizvoda digitalnih tehnologija pa do same prirode i uloge arhiva u pluralnom, digitalnom svijetu. Ovaj rad identificira neka glavna područja promjena koje su utjecale na arhive i njihov sadržaj; daje pregled zbiivanja u odnosu na ključne tradicionalne arhivističke ideje i načela u ovom novom svijetu; raspravlja o nekim glavnim područjima suvremenih istraživanja

u arhivističkim studijama i identificira područja daljnjih istraživanja u svrhu buduće podrške arhivima i arhivskoj praksi.

Ključne riječi: istraživanja u arhivističkim studijama, digitalni arhivi, digitalna zaštita, digitalizacija, upravljanje elektroničkim zapisima, upravljanje metapodacima