

Invoking “collective memory”: mapping the emergence of a concept in archival science

Trond Jacobsen · Ricardo L. Punzalan ·
Margaret L. Hedstrom

© Springer Science+Business Media Dordrecht 2013

Abstract The concept of “collective” or “social” memory has assumed increasing prominence in the discourse of archivists over the past few decades. Archives are frequently characterized as crucial institutions of social memory, and many professional activities are considered forms of memory preservation. We present a systematic examination of the relationships between archives and collective memory as articulated in the English-language archival literature. We first identify the major themes regarding collective memory and categorize archival writings into four major threads. We then analyze citations extracted from 165 articles about collective memory published between 1980 and 2010 in four leading English-language archival studies journals. We identify the most influential scholars and publications and trace the evolution of the collective memory concept in that literature. By comparing the archival literature on collective memory to that indexed in Thomson’s Web of Science and in Google Scholar, we identify specific disciplines, authors, and works that archivists working on collective memory may find useful. We find that in general the archival literature on collective memory is fairly insular and self-referential and call on archivists to actively engage other disciplines when carrying out collective memory research.

Keywords Collective memory · Social memory · Public memory · Archives and memory · Citation analysis · Transdisciplinarity

T. Jacobsen (✉) · M. L. Hedstrom
University of Michigan, Ann Arbor, MI, USA
e-mail: trond@umich.edu

R. L. Punzalan
University of Maryland, College Park, MD 20742, USA

The concept of “collective” or “social” memory has assumed increasing prominence within the academy over the past 30 years. Scholarly interest in understanding how individuals, families, social groups, and nations come to know and remember the past is evident in such fields as history, sociology, anthropology, psychology, communication studies and cultural studies, among many others. “Memory studies” is emerging as a distinct multidisciplinary field that is developing core concepts and definitions of collective memory, new methods for analyzing the dynamics of memory formation and transmission, and models for comparative work across culture, place, and time (Misztal 2003).

Archivists too express considerable interest in collective memory and many claim a special affinity between archives and memory. Archives are frequently characterized as crucial institutions of social memory, and many professional activities are considered forms of memory preservation. A sampling of recent efforts suggests the depth of interest in memory by many in the archival community.¹ A number of books and edited collections of essays by archivists are published on the subject.² *Archivaria* (2002) and *Archival Science* (2001 and 2011) devoted entire issues to collective memory and other leading journals, such as *American Archivist* and *Archives & Manuscripts*, regularly publish articles examining various aspects of memory and archives. Clearly archivists are interested in collective memory.

The relationship between archives and the memory they index is our particular concern. We aim to better understand how ideas and concepts of collective memory were introduced, adopted, and circulated among archivists. We recognize there are thousands of articles and monographs on the topic, but which works, which ideas, and which authors have particular salience?³ How did the idea of collective memory enter archival discourse and how has it been used in the archival literature?

¹ In 2000 and 2001, the University of Michigan hosted the seminar “Archives, Documentation and Social Memory” and produced a publication under the same title. “Archives, Memory and Knowledge” was the theme for the International Council on Archives congress in 2004. The University of Michigan hosted a 2008 conference called “Interdisciplinary Perspectives on Archives and the Ethics of Memory Construction,” and the conference “Memory, Archives and Human Rights: Confronting the Demons of the Past” was held in Sweden the same year. “The Political Life of Documents: Archives, Memory and Contested Knowledge” and “Memory, Identity and the Archival Paradigm: An Interdisciplinary Approach” were held at the University of Cambridge and the University of Dundee in the UK in 2010.

² A sample of the English-language literature includes Francis X. Blouin, Jr. and William G. Rosenberg, editors, *Processing the Past: Contesting Authorities in History and the Archives* (Oxford: Oxford University Press, 2011); Cheryl Avery and Mona Holmlund, *Better Off Forgetting?: Essays on Archives, Public Policy, and Collective Memory* (University of Toronto Press, 2010); Jeannette A. Bastian and Ben Alexander, eds., *Community Archives: The Shaping of Memory* (Facet, 2009); Randall C. Jimerson, *Archives Power: Memory, Accountability, and Social Justice* (Chicago: Society of American Archivists, 2009); Francis X. Blouin, Jr. and William G. Rosenberg, eds., *Archives, Documentation, and Institutions of Social Memory: Essays from the Sawyer Seminar* (Ann Arbor, Michigan: University of Michigan Press, 2007); and Jeannette Allis Bastian, *Owning Memory: How a Caribbean Community Lost its Archives and Found Its History* (Westport, Connecticut: Libraries Unlimited, 2003).

³ A search of Google Scholar for works from Biology, Life Sciences, and Environmental Science; Business, Administration, Finance, and Economics; and Social Sciences, Arts, and Humanities, containing exact phrase “collective memory” and published between 1980 and 2011, yielded 27,100 results (Google Scholar Advanced Search, July 24, 2011).

We present a systematic examination of the relationships between archives and collective memory as articulated in English-language archival scholarship.⁴ In the first section, we identify major themes around the concept of collective memory found in a selected body of works by archivists and place those archival writings into four major threads. The purpose of this first section is to survey the recent terrain of collective memory scholarship and to synthesize the various topics archivists engage in order to better reveal how the archives–collective memory relationship is articulated. Our analysis underscores the depth of interest by archivists.

In the second section, we analyze citations about collective memory extracted from 165 articles published between 1980 and 2010 in the leading English-language archival journals *American Archivist* (USA), *Archivaria* (Canada), *Archives & Manuscripts* (Australia), and the international journal *Archival Science*.⁵ We identify which scholars are most influential, how and how often new ideas enter the archival discourse, and how often well-known works are used. This section turns from surveying and synthesizing meaning toward an analysis of scholarly influences and citation behaviors.

Through this combination of methods and research emphases, we believe this work offers insight into what it is about memory that invites the attention of archival scholars, how they engage memory when they do, and which scholars and scholarly traditions have proven most influential. We conclude with an analysis of data suggesting an opportunity for archivists to more deeply engage non-archival literature for our benefit and for the benefit of those in other fields participating in collective memory scholarship.

Understandings of memory in archives

In this section, we categorize a number of different approaches used by archivists engaging the concept of collective memory. Whether and how the substance of the collective memory work by archivists might contribute to the larger collective memory studies discussion is an important and provocative question but one we largely leave to future work.

Archival scholars use the concept of memory in many different ways when describing the role of archives and records in society. We have isolated four major threads from this large skein of the English-language archival literature. The first thread positions archives as heritage institutions and focuses on their role as symbolic foundation for collective memory; for instance, the many different ways that archives enable feelings of a common past feeding into a collective identity. A second thread critiques the role of records, archives, and archivists in the creation, construction, and propagation of social memory. A third traces relationships among

⁴ We return later to questions of language bias and reliance on journals alone to seed a citation network.

⁵ The *Journal of the Society of Archivists* is a high-impact English-language archival journal that we decided early on to exclude from our analysis based on an initial assessment that the topic of collective memory was not very frequently a point of emphasis.

archives, memory, and social power. Examples include works on the ethical position of archives as social institutions and the role of archives in public remembrance and commemoration. Finally, memory is used to propose ways of rethinking the nature of records as evidence and artifacts of the past including the notion of an “archival memory” (Brothman 2001). These threads are not mutually exclusive but rather are intertwined and interrelated.

Embodying heritage and collective identity

A prominent early thread in archival literature joins archives with heritage and illustrates ways that archives can help create a sense of collective identity. Canadian Hugh A. Taylor was the first archivist to tackle archives’ relationships with collective memory in his 1982 essay “The Collective Memory: Libraries and Archives as Heritage” (Taylor 1982–1983). Inspired by ideas around heritage conservation, Taylor argues that documents, like historic buildings, archeological sites, or great works of art, are artifacts of heritage. As evidence of the past, he argues that records are a “powerful medium of communication to the reader, providing a sense of immediacy with past and possessing their own esthetic and emotive qualities” (Taylor 1982–1983, p. 123). Thus, records must be protected from destruction or effacement resulting from neglect, reproduction, or de-accession. Taylor was writing in the midst of what is now seen as the “heritage boom,” the beginnings of intense and sustained effort by the heritage sector to preserve remnants of the past. The drive to protect authentic and unique expressions of heritage was of foremost concern in societies seen as slowly losing connections with their pasts.

Taylor called for archivists to consider their role in heritage work and to create public programs highlighting the heritage aspect of their collections while cooperating with other collecting institutions, such as libraries and museums. A decade later, he renewed this call for cooperation by underscoring that archives do not have “a monopoly on “collective memory,” which spans all surviving evidence of the past” (Taylor 1995). In 1995, Taylor expanded the idea of the record by framing it as “material culture,” a concept borrowed from archeology, anthropology, and heritage studies. He argued in favor of the necessity to understand records, especially during their active lives, as powerful “instruments” for conducting bureaucratic affairs and social relationships. “Our documents,” he wrote, “have, in one way or another, made an impact on the lives of people to whom they were directed.” Here, he links archival records with other cultural remains that evoked connectedness with the past.

Understanding records beyond their traditional historical, utilitarian, juridical, or administrative contexts has become a key feature in linking archives with heritage and memory. American archival scholar James O’Toole, for instance, has articulated the notion of the “symbolic significance” of archives giving more room to interpret records in a wider “symbolic” conception (O’Toole 1993). Exploring how records trigger a sense of collective heritage inspired more reflections on how archives as social institutions figure in the propagation of collective consciousness.

Many scholars regard archives as sites where the politics of inclusion and exclusion in public remembrance and official narrative are made and negotiated. As Terry Cook declares, “collective ‘remembering’—and ‘forgetting’—occurs through galleries, museums, libraries, historic sites, historic monuments, public commemorations, and archives—perhaps most especially through archives” (Cook 1997). Works in this vein illustrate how communities gain a sense of the past as embodied in archival collections and how repositories come to signify shared historical origins (Harvey-Brown and Davis-Brown 1998; Punzalan 2006).

Rethinking, reframing, and redefining archives

A second use of “memory” draws attention to the limitations of records and archives as embodiments of past events or sources of collective memory. These works raise challenging questions about the influence of archival institutions in shaping memory, and many also question the kinds of memories that archives produce and legitimate. This thread critically examines the role of archives as keepers or facilitators of memory. Perceiving a direct connection between memory and archives is tempting. For instance, Joan Schwartz and Terry Cook once claimed that “Memory, like history, is rooted in archives. Without archives, memory falters, knowledge of accomplishments fades, pride in a shared past dissipates” (Schwartz and Cook 2002). Others emphasize the ambiguity of the archives–memory relationship. For instance, Barbara Craig describes memory as a powerful concept often assumed to have self-evident meaning, but is in fact frequently vague or misleading (Craig 2002). Francis X. Blouin, Jr. and William G. Rosenberg observe that the archives–memory relationship forces a look at the “spatial boundaries” of archives (Blouin and Rosenberg 2007).

The social contexts by which archives are related to memory, and whether knowledge constructed from archival sources feeds into social remembrance, require further examination. Michael Piggott characterizes casual associations between archives and memory as a “carefree” and less-than-critical appeal to memory (Piggott 2005a). Similarly, Margaret Hedstrom argues that though it is rhetorically tantalizing to associate archives with memory, the terms and conditions of this relationship are not clearly understood (Hedstrom 2010). Calling for a more nuanced or calibrated characterization, skeptics cite the lack of direct evidence demonstrating how archives or archivists and recordkeeping functions figure in the construction of memory. These and similar works problematize taken-for-granted views that archives and memory are equivalent concepts.

Others react against the traditional belief that archives provide neutral, reliable, or complete evidence of past actions. Richard Harvey-Brown and Beth Davis-Brown argue that archival work has inherent political motivations and ramifications (Harvey-Brown and Davis-Brown 1998). They contend that standard archival functions like selection, organization, and preservation can directly influence social memory. Verne Harris concludes that records comprise mere “archival slivers” of the events and processes that documents are supposed to embody or reveal (Harris 2002). He asks archivists to claim less and to deliver more, arguing that records do not provide the complete narrative of past events but only “a sliver of a sliver of a

sliver” of what actually happened. Records, he argues, are unreliable witnesses—often manipulated to represent the perspectives of oppressive regimes—and thus provide a poor basis for memory construction whether by long-dominant elites or newly transformed societies like post-Apartheid South Africa. In other words, archival records do not compellingly present “collective memory,” but rather situated and partial truths (Harris 1997).

Metaphors are sometimes used to provide a more nuanced characterization of the role of archives in memory construction. Laura Millar, for example, rejects the notion that records are memories by themselves; instead, they constitute “touchstones” that trigger memories and the recollection of past events, but only if they are accessed, read, and used (Millar 2006). Hedstrom uses the computer design concept of “interface” to describe how archivists function as intermediaries between documents and their users in ways that “enable, but also constrain, the interpretation of the past” (Hedstrom 2002). Similarly, Robert McIntosh uses the notion of “authorship” to emphasize the mediating role of archivists in memory creation as they “practice a politics of memory, a determination of what will be remembered” (McIntosh 1998). Jeanette Bastian offers “community of records” as a framework to understand the dynamic of archives and community memory while expanding notions of provenance and ownership of records (Bastian 2003). “Memory text” is another concept some have used to illustrate the archives and community memory dynamic. Separately, Bastian and Eric Ketelaar use the phrase “memory text” to emphasize the need to transcend the limits of traditional archival formats to embody cultural performance and distributed remembering (Bastian 2006; Ketelaar 2005).

Some works suggest valuable and recordable memory exists outside archival repositories that persist with or without archives and even despite the archival limitations. Bastian, for instance, calls for archivists to become more active in documenting manifestations and expressions of collective memory in order to enhance archival collections and facilitate “an archival continuum of event and memory” (Bastian 2009, p. 129). She regards “memory as an extension of the event itself” and linking memory and counter-memory through archives “may be one way to augment, enhance, and contextualize the records, a way to fill in some of the undocumented and underdocumented space” (Bastian 2009, p. 119). In this sense, memory exists outside of archives but may be mobilized to enhance and facilitate recordkeeping.

Others believe that for archives to figure in public consciousness, archivists need to find better means to interact with the broader public, not primarily researchers and scholars. Richard Cox argues that archives can actively engage and even promote collective memory by way of outreach, public programming, and advocacy (Cox 1993). Increasingly interactive functionalities of the World Wide Web have also been suggested as openings for archives to engage or foster a sense of collective memory. Ketelaar, for instance, explores how web technologies can enable public use of records making it possible to present differing versions of events embodied in records by appropriating records for their own specific narratives. Technology in his view can open up archives as social “spaces of memory” (Ketelaar 2008).

These studies indicate a growing desire to assess the function of archives and archivists in society and to expand the conceptions of archival significance and

memory. In addition, an important though underdeveloped dialog has begun about the role of archival functions in shaping the creation of memory.

Archives, social power, and ethics

With growing frequency, self-reflexive scholarship by archivists examines their social position and responsibilities as participants in collective memory phenomena. In this thread, memory is often used to examine the ethical role of archivists in relation to marginalized communities and efforts to achieve justice. For instance, in a recent issue of *Archival Science*, issue editor David Wallace (2011) situates archives within the complex dynamic of the “ethics of memory construction.” Wallace interrogates the links between archives, memory, politics and justice, and situates archivists in profoundly political processes of constructing particular versions of the past. At the same time, he acknowledges the challenges to promoting and achieving social justice, an elusive but powerful outcome in such politicized contexts (Wallace 2011). The examination of the work of archivists in the production of particular versions of mutable pasts must, therefore, elucidate past injustices and reveal structures of power.

Writing of archives outside the developed world, Michelle Caswell (2010) and Ricardo Punzalan (2009) separately illustrate that archives, as both records and social spaces, can facilitate public remembrance or commemoration. Caswell (2010) contends that while records can be powerful reminders of an oppressive regime and used as evidence in efforts to seek justice and accountability, archives can also serve as sites where victims, survivors, and their families perform memorializing acts that transcend other social institutions, such as international criminal tribunals and truth commissions. She writes that “archives are successfully creating public memory about the Khmer Rouge in ways in which the Tribunal is not” (Caswell 2010, p. 41). Similarly, Punzalan (2009) shows how the creation of archives serves an act of commemoration for a former segregation facility for people afflicted with leprosy as they come to terms with a painful, colonial past. In these contexts, archives have come to function as memorial sites for the displaced or oppressed communities.

An increasing number of works relate memory to records collected and generated by human rights tribunals and truth commissions. These examine memory in witnessing or testifying and the subsequent impact of the records produced under these circumstances in reconciliation, social justice, and the writing of history. Nannelli (2009), for example, acknowledges the problematic nature of records created by a commission investigating reported human rights violations in East Timor under the Indonesian regime. She reveals the complexities of relying on individual and collective testimonies drawn from memory in the politicized atmosphere of a truth commission and the constraints of its operations. Nonetheless, testimonies generated in such a process can be important to ensure that such crimes will never happen again despite the lack of material or other evidence of past atrocities. Thus, it is important to “bear in mind the context of the creation of these records, and the way in which the context shapes what the records contain and how they are read and used” (Nannelli 2009, p. 39).

Josias (2011) demonstrates how political transformation and a quest for social justice can provide the impetus for memory creation and public remembrance. If memory is presumed to not reside exclusively within archival repositories, archival activities and varied forms of documentation are not confined within the walls of archival institutions. She describes the efforts of various institutions to construct “new” memories in the post-apartheid South Africa through public displays, oral history collections, and public dialogs. While outside traditional archival institutions, these archival efforts help shape and sustain societal and institutional memories.

For Valderhaug (2011), archivists are ethically called upon to use their expertise to “locate whatever documentation there is to be found” in order accommodate memory’s desire for justice. When very little evidence, if any, exists to document a crime against a community, memory can be a powerful force that can sustain efforts to seek justice and retribution. In some cases, archives are expected to provide proof of memory’s “truthfulness.” This emerging discussion examines how archives are used to seek justice for past or even forgotten acts of injustice.

Global movements that lobby for human rights and the establishment of tribunals and truth commissions may have inspired archivists to reflect on their role in the pursuit of justice and social healing. Beyond providing evidence of atrocities, archives can also become spaces for commemoration, remembrance, and recovery of memory.

Finding memory in archives

Another use of memory in archival scholarship is the call to establish the field’s unique place in understanding the dynamics of collective memory transmission and construction. As Michael Piggott once asked, “So is there archival memory and a different library or museum memory, when all collectively are now to be styled as memory institutions?” (Piggott 2005a, p. 64) In this light, we may consider how the concept of *archival* memory has been explored.

Foote (1990) is perhaps the first to inspire such thinking in the field by highlighting the capacity of archival records in “extending the temporal and spatial range of communication.” Foote places archives among a range of communication resources that can facilitate the continuous transfer of information across generations. Similarly, Jimerson (2009, p. 211) posits that “documents embody reminders of the past,” which can be used and interpreted in numerous different ways. Such documents are not memory itself, but surrogates of memory. Foote and Jimerson attach memory to fixed objects in order to perpetuate it over time and distance. Hedstrom (2010) recently concluded that “archives are sources for the potential discovery or recovery of memories that have been lost” and that the challenge is to understand how archives are mobilized in the process.

Aside from understanding the role of archives as sources of hidden or lost memory, this strand also challenges archival thinkers to reflect upon unstated assumptions and conceptualizations about the nature of the past that affect access and preservation. Brothman (2001) calls for further exploration of the archival conception of the past and how archival actions are implicated in defining and

constructing versions of the past. Situating the place of archives in the dynamics of memory sometimes means recognizing that history and memory each offer different meanings and approaches to the past. In thinking about archival conceptions of time, memory, and history, Brothman characterizes two types of archivists: “history’s archivist” and “memory’s archivist.” History’s archivist is primarily concerned with “finding records and, in them uncovering evidence to develop a linear narrative about a past...Memory’s archivist is interested in the past’s residue as material promoting integrated knowledge, social identity, and the formation of group consciousness” (Brothman 2001, p. 62).

Drawing on Australian contexts, Piggott (2005b) describes examples and instantiations of “collective memory archives.” He argues that dedicated spaces and institutions of remembrance such as museums and memorials accumulate records that document various commemorative actions. Over time, records themselves become memorials. Thus, memorials and the memorialization process become constitutive elements of such collective memory archives. In this context, records are inseparable from memorialization.

Weaving together the threads

Archivists use the concept of memory to situate the archival field within the larger domain of heritage and material culture, thus emphasizing its links with other similar institutions. Archival scholars also use memory to examine the limitations of the field, and sometimes challenge the longstanding notion of archives as neutral and objective sources of the past.

One proposition is that archives are the very foundation and source of memory. The flourishing of public commemorations and remembrance outside the archival purview seems to challenge this claim. Questions about the neutrality of the archival record bring out the politics of what is placed in the archives and how the performance of archival functions ultimately influence social memory.

Another position assumes that memory inherent within records and archival functions does not necessarily amount to the formation of collective consciousness. Archivists must make every effort to bring collective memory into archives, and to make archives feed into social memory. Bringing archives into interaction with memory might require better and effective implementation of already existing archival functions of public programming, advocacy, and access.

The possibilities afforded by networked and digital technology might also provide more spaces for public interaction for archives to directly contribute to memory production and propagation. Archivists can also actively document instances of remembrance and commemoration in order to augment and expand existing collections or to provide context to the records that are already in archival custody.

Even though memory is a part of the archivist’s vocabulary, there is no consensus about the role of archives in memory formation. Differences in the definition and uses of the term influence how the archives–collective memory relationship is perceived. “Memory” can be seen as a discourse used by archivists in thinking about archives, archivists, and the significance of recordkeeping in

society. Archivists sometimes use memory as shorthand to articulate their social responsibilities and the function of archives in society, sometimes casually and sometimes critically. Despite its notoriety as too often an unexamined totem, memory also has the capacity to suggest a profound sense of purpose. Archivists use it to talk to one another and their constituencies. They also use memory self-reflexively to consider what they do and the meaning and purpose of the archives they keep.

Collective memory in archival studies: a citation analysis

In the previous section, we highlighted distinct themes and examined key arguments by archivists writing in English about collective memory. Still lacking is a clear view of the intellectual influences shaping that scholarship. In this section, we describe several systematic citation analyses of the collective memory scholarship published in leading English-language archival journals. Citation studies treat citations as a type of symbolic currency that signals intellectual influences, situates an author's arguments in a larger scholarly context, and functions as a medium of communication useful as a proxy for social interactions (Lievrouw 1990). Tracing citations provides a view of the "social ecology of knowledge" for ideas circulating among scholars and across disciplines through the medium of their citations (Shin et al. 2009, p. 319).

We examine collective memory scholarship in leading archival studies journals to answer three primary questions:

1. Who are the influential authors writing about collective memory in the archival literature and how influential are they?
2. Which journal articles and books influence the concept of collective memory in the archival literature?
3. Which authors are cited in articles about collective memory in the archival studies literature?

Our central finding is that to a significant degree English-language archival scholarship on collective memory remains insular and self-referential. One indicator is heavy reliance on a few sources cited again and again. A second is that entire areas of active collective memory scholarship are overlooked by most archivists, most significantly sociology and social psychology. A third indicator is that works produced by archivists are essentially invisible to scholars in other fields. A final indicator is that Maurice Halbwachs is the only non-archivist highly-cited by archivists and non-archivists alike.

We used relatively simple methods to identify seed articles and to extract citations. We started by identifying seed articles⁶ about collective memory published from 1980 to 2010 in *American Archivist* (US), *Archivaria* (Canada),

⁶ Seed articles are listed in the "Appendix". A *seed article* refers to one of the 165 articles from the four seed journals. A *cited reference* is any qualifying source extracted from a seed article. Some seed articles are also cited references.

Archives and Manuscripts (Australia), and *Archival Science*.⁷ In brief, we first gathered candidate seed articles using keyword searches in databases or manual scans of indexes and tables of contents and after directly inspecting appearances of the term memory in the text either included or excluded candidate articles.

We ultimately identified 165 seed articles and systematically extracted a total of 1502 citations to 1,174 unique published works (20 seed articles yielded no qualifying cited references).⁸ Because we extracted only references cited in paragraphs bearing the term memory,⁹ our dataset is comprised of sources used by authors when directly engaging the concept of collective memory. From these data, we created: (1) a publication network with individual citations as nodes and (2) an author network with individual first authors as nodes. Using several measures, we identify influential articles and authors and describe both the main research backbone in the publication network and an author co-citation network.

When we refer to archival scholars and their scholarship in our analyses, we are referring to the citation networks we extracted from seed articles. We use the notion of “influence” and we hope others recognize as we do that authors and works exert influence in many ways, and in each instance, when we use the notion, we apply a specific measure. Influence also should not be taken as a direct proxy for quality or value though this association is usually automatic and not without some merit (De Bellis 2009).

Publication network

In a publication or article network, the nodes are individual published works such as a journal article or book and links represent citations with cited references pointing to citing works to represent the flow of knowledge through time (Yan and Ding 2010). The number of times a work is cited is the most common measure of influence, but citation data should be normalized because older articles have more opportunities to be cited and fewer works to cite. Table 1 ranks citations by the number of times cited and includes two normalized measures to account for year of publication.

Two translated books, Derrida’s *Archive Fever* (1996) cited thirteen times and Halbwach’s *Collective Memory* (1951/1980/1992)¹⁰ cited eleven times, are the Most

⁷ We selected seed articles published in the four leading journals from 1980 to 2010. Three journals are tied to large professional associations and available electronically, and according to data from Ulrichsweb: Global Serials Directory, they have the largest circulation of active scholarly archival journals. In their 2010 analysis, *Archival Science* and *Archivaria* are the only archival journals receiving an A+ ranking from the Australian Research Council and the other two received an A rank (See the rankings of archival journals at <http://aeri2010.wetpaint.com/thread/3891876/Archival+Journal+Ranking>). Further, our analysis of data collected by Bastian and Yakel (2006) shows these four journals dominate over all the others in the frequency their articles appear on archival syllabi in North America, the region with the largest number of institutions granting degrees in archives. We begin our study in 1980 because, as Kerwein Lee Klein (2000, p. 127) argues, few academics gave much attention to collective memory until the “great swell of popular interest in autobiographical literature, family genealogy, and museums that marked the seventies”.

⁸ Seed articles failing to yield references and not cited were removed from network analysis.

⁹ We excluded appearances in abstracts, footnotes, endnotes, titles, page headers, and descriptors.

¹⁰ The 1951, 1980, and 1992 editions were treated as a single work in network analyses.

Table 1 Influential publications in the collective memory network ($n = 1174$)

Publication (seed article bold)	# of times cited	Cited (norm) ^a	# times cited/potentially cited ^b	Field
Derrida (1996)	13	8.98	0.085	PHIL
Halbwachs (1992)	11	6.50	0.069	SOC
Cook (2000b)	10	7.79	0.071	ARCH
Harris (1997)	10	6.63	0.067	ARCH
Schwartz1995	9	6.91	0.058	ARCH
Brothman (2001)	9	6.75	0.070	ARCH
Ketelaar (2001)	9	6.75	0.070	ARCH
Lowenthal (1985)	8	5.63	0.049	HIST
Cook (1997)	8	5.30	0.054	ARCH
Craig (2002)	8	4.67	0.071	ARCH
Schwartz and Cook (2002)	8	4.67	0.071	ARCH
McKemish (1996)	7	4.83	0.046	ARCH
Foote (1990)	7	4.50	0.043	ARCH
Stoler (2002)	7	4.08	0.063	ANTH
Cook and Schwartz (2002)	7	4.08	0.063	ARCH
Ketelaar (2005)	6	5.79	0.073	ARCH
LeGoff (1992)	6	3.55	0.038	HIST
Hedstrom (2002)	6	3.50	0.054	ARCH
Greene (2002)	6	3.50	0.054	ARCH
Nesmith (2002)	6	3.50	0.054	ARCH

Most influential documents ranked by number of times cited and with normalized measures

^a Number of times cited divided by average times each article in the network published the same year was cited

^b Times cited divided by sum of all future seed articles plus half the number of seeds published the same year

most-cited individual works. The two works most-cited by archivists writing about collective memory in English are translations from outside archival studies, and three other non-archival works appear on the list of most influential works. Nevertheless, most of the most-influential cited references are to other archival works. The two most-cited seed articles in **bold** are by Brien Brothman (2001) in *Archivaria* and Eric Ketelaar (2001) in *Archival Science* (Table 1).

The first normalized citation frequency measure addresses age effects by dividing the citation count for each publication in a given year by the average citation count of all publications from that same year.¹¹ The second normalized measure divides the number of times cited by the number of seed articles that could in principle have cited that work.¹² Each measure provides a slightly different view of relative

¹¹ Every measure in bibliometrics, including approaches to normalization, is the subject of a vast literature and often raging controversies. See De Bellis (2009) for a thorough review.

¹² Possible in-degree was calculated as the sum of the number of all future seed articles plus half of the number of seed articles published the same year.

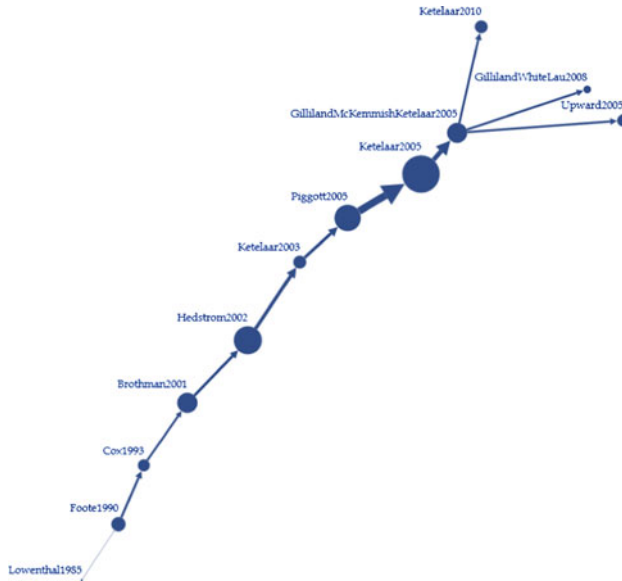


Fig. 1 Main Path in the collective memory network. This figure shows the “Main Path” through the network of collective memory citations in the archival studies literature (Hummon and Doreian 1989). The “Main Path” consists of those publications that through their references “cover the greatest connectivity in the network” (Demaine 2009)

influence. Derrida’s (1996) *Archive Fever*, for instance, is not only cited frequently in absolute terms it is also highly-cited given the maximum number of times it might have been cited *and* it is cited more frequently than other works published the same year. Comparing Halbwachs (1992) to Cook (2000b), by contrast, shows that even though the former is cited more times (11 times vs. 10), the Cook article is relatively more influential considering either how many seed articles could have cited it or how often it is cited compared to the average number of times other references published the same year were cited.

Citation networks do not emerge fully formed but evolve over time and their information flows have a direction and chronology. Sociologists Hummon and Doreian (1989) propose several methods for identifying what they call the “Main Path” through an evolving scholarly network. Instead of an analysis centered on nodes (e.g., authors, articles), they use link characteristics, and when implemented in Pajek, their most commonly used method is called Search Path Count (SPC).¹³ Main Path analysis identifies a series of articles that “through their references, cover the greatest connectivity in the network” (Demaine 2009). If scholarly networks are imagined as watersheds comprised of rivers and tributaries, Main Path analysis reveals the main stem of the river system and the path providing the most expansive view of the entire watershed traveling from source to terminus (see Fig. 1).

¹³ Hummon and Doreian (1989) validate their algorithm which correctly identified nearly all the seminal articles about DNA identified by other accepted means.

Table 2 Introduction of important non-archival publications

Non-archival citation	# of times cited	Field	Year 1st cited	1st seed article to cite
Derrida (1996)	13	PHIL	2001	Cook (2001a) Cook (2001b) Cox (2001) Tyacke (2001)
Halbwachs (1992)	11	SOC	1990	Foote (1990)
Lowenthal (1985)	8	HIST	1990	Foote (1990)
Stoler (2002)	7	ANTH	2004	Gilliland and McKemmish (2004)
LeGoff (1992)	6	HIST	1994	Cook (1994)
Connerton (1989)	5	HIST	2001	Brothman (2001)
Geary (1994)	5	HIST	1997	Cook (1997)
Lerner (1993)	5	HIST	1994	Cook (1994)
Nora (1989)	5	HIST	2001	Brothman (2001)

Most-cited non-archival citations, total times cited, first year cited, and first seed article(s) to cite

We have identified influential individual publications and provided one representation of the main course of archival research on collective memory. Now we identify seed articles whose authors first cited ultimately highly-cited non-archival works potentially introducing new perspectives about collective memory research.

Table 2 lists the non-archival references cited at least five times, their first year cited, their scholarly field, and the citing seed article.¹⁴ These relatively highly-cited sources from outside archival studies are overwhelmingly books (76.9 %) with the rest journal articles (23.1 %). In terms of discipline, more than half (55.6 %) come from history.

Two works that were first cited by Foote (1990) ultimately became the second (Halbwachs 1980/1992) and third (Lowenthal 1985) most-cited non-archival works. Four different seed articles published in 2001 first-cited Derrida's *Archive Fever*, which became the most highly-cited non-archival work. All but one of the most-cited non-archival works were first introduced by Cook (1994, 1997, 2001a, b), Brothman (2001), or Foote (1990).

We have identified archivists writing about collective memory, the most influential citations, followed the research backbone, and traced the introduction of outside scholarship. We now turn from the publication network to examine influential authors cited by archivists.

Author network

Author networks reveal the cumulative influence of scholars over their careers. In this section, we identify and quantify author influence and we identify community

¹⁴ All cited at least 3 times by seed articles except for three articles cited only twice but at least once by Brothman, which are included because of their high Eigenvector centrality.

Table 3 Highly-cited authors (>5)

Authors	# of times cited
Cook	31
Harris	24
Brothman	15
Derrida	15
Ketelaar	13
Cox	13
McKemmish	13
Durranti	13
Halbwachs	11
Schwartz	10
Clanchy	10
Nesmith	10
Craig	9
Bastian	9
Lowenthal	9
Hedstrom	8
Foote	8
Greene	8
Nora	6
Eastwood	6
Hamilton	6

structure using author co-citation analysis (ACA). From the publication network data, we extracted the lead author from every citing and cited reference to create a network of 850 unique authors citing each other 1,239 times. Most authors are only cited once (e.g., Punzalan cites Iletto once), but one-third are repeat citations (e.g., Cook cites Harris six times), including 69 self-citations.

Who are the influential authors? As shown in Table 3, Terry Cook and Verne Harris are by a fairly large margin the most influential authors measured by how often their colleagues writing about collective memory cite them (we did not exclude or uniquely weight self-citations). The list includes many leading archivists and several non-archivists including Derrida, Halbwachs, Lowenthal, Clanchy, and Nora.

A deeper appreciation of author influence is provided by the HITS algorithm originally developed by Kleinberg (1998) for hyperlinked environments.¹⁵ The HITS algorithm identifies nodes that are hubs (those pointing to many authorities) and authorities (those pointed to by many hubs). “Hub” authors are useful for locating other authors the community considers valuable while good authorities are those pointed to by high-value hubs. Inspired by the impact factor metric for journals (Berners-Lee et al. 2006), the algorithm has been used to characterize the

¹⁵ HITS is Hyperlinked Induced Topic Search but is more often just called HITS or Hubs and Authorities.

Table 4 Hubs and authorities in author network

Hubs	Hub score	Authorities	Authority score
Brothman	0.7207	Harris	0.2438
Cook	0.3001	Cook	0.2124
Ketelaar	0.2934	Brothman	0.1944
Millar	0.2033	Derrida	0.1743
Craig	0.2005	Halbwachs	0.1612
Bastian	0.1980	Cox	0.1450
Schwartz	0.1461	McKemish	0.1361
Hedstrom	0.1388	Lowenthal	0.1262
Piggott	0.1377	Clanchy	0.1189
Cox	0.1361	Connerton	0.1164

Author Hubs and Authorities in the author network ranked by HITS hub and authority scores (Kleinberg 1998)

importance of journals as nodes linked each time one of their articles cites another journal (Calero-Medina and Noyons 2008).

What these data indicate is that Brien Brothman is an author readers can expect to direct their attention to valuable citations measured retrospectively from the point of view of other authors. Brothman is a Hub—has a high normalized hub score—largely because he cites 9 of the 10 authors listed as authorities in Table 4 (he does not cite Terry Cook). Cook and Ketelaar are other notable hubs in the author network. Harris, Cook, and Brothman lead a list of authorities that includes the most important external disciplinary contributors such as the historian Lowenthal and the philosopher Derrida.

Now we turn to discerning structure in the network itself: Which authors are perceived as related in the minds of others? ACA is one of the most common techniques for discerning structure of this type in a citation network. Because two authors are linked every time a third author cites both of them, co-citation is a measure of their similarity in the minds of those citing. To create an author co-citation network, we imported the author network data into the open source Sci2 tool and extracted an author co-citation network with 850 nodes (then removed 54 isolates) and 23,949 edges. Using a pruning algorithm (Quirin et al. 2008)¹⁶, we produced the network in Fig. 2 where node size is a function of the number of times the author was cited in the original author network (large nodes are cited more often) and edge width reflects the number of times linked authors are co-cited (wide edges indicate the two authors are frequently cited together).

There are two distinct sub-communities in the author co-citation network. There is one consisting primarily of authors outside of archival studies and another consisting of authors who we identify as archivists. As Fig. 2 shows, the sub-community that includes most of the more influential non-archivists has archivist Verne Harris as its largest and central node. By contrast, Cook is the largest node in

¹⁶ This represents a scaling ratio of 30.469. The MST Pathfinder algorithm used for pruning was implemented in Sci2. We deleted 54 isolates.

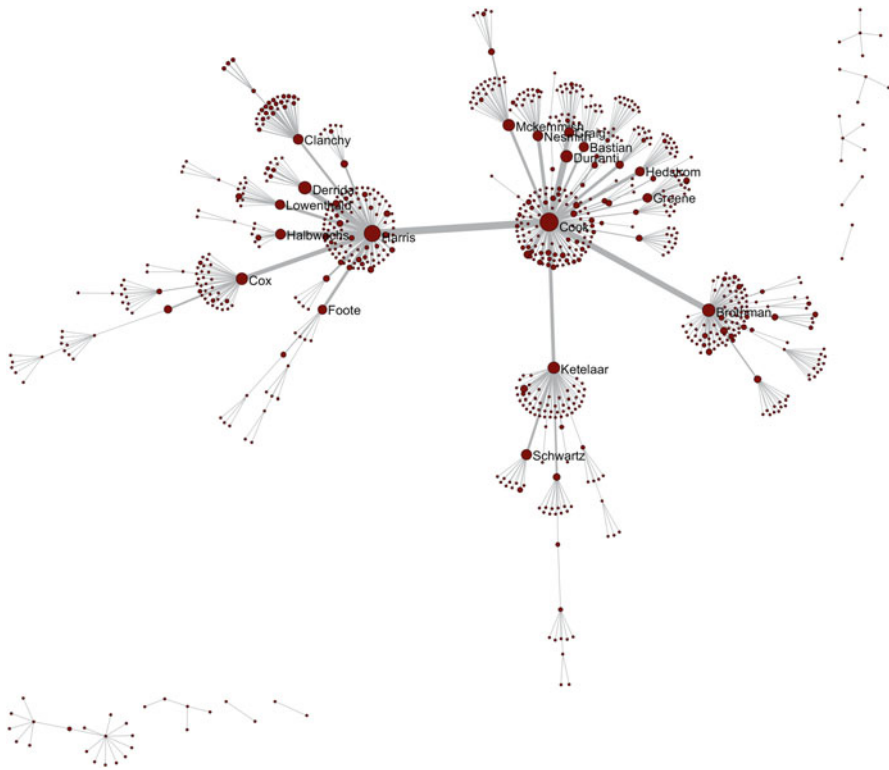


Fig. 2 Top 80 nodes in archives author co-citation (ACA) network (Top 80 of 796*). Author co-citation network from the archival studies literature on collective memory. Larger nodes are more frequently cited and wider edges connect two authors frequently cited together. Harris and Cook are cited together more frequently than any other two authors in the network

the sub-community whose other prominent members are archivists. It is not possible to determine from these data alone whether Harris is in fact a bibliographic or conceptual bridge to non-archivists for archivists writing about collective memory. Nonetheless, when archivists writing about collective memory cite non-archivists, they are more likely to cite Harris as well than they are to cite any other archivist.

Situating archival collective memory scholarship

So far, we have identified influential publications, influential authors, patterns of co-citation, and two sub-communities of authors. While these analyses illustrate clear citation patterns over an impressive collection of works, they also illustrate that archival scholarship on collective memory is insular and self-referential. We say this because archivists and those we most cite are not significant influences on other disciplines and because the active base of research occurring in other fields reported in their journals is rarely cited by archivists.

As we analyzed these networks and reflected on their deeper meaning, we became curious whether archival scholarship on collective memory differs from collective memory research in other fields. Which authors and publications are cited by the community of collective memory researchers outside archival studies? We wanted to determine whether the authors and publications we regularly cite are also highly-cited by non-archivists. Such questions were motivated by a belief that collective memory research by non-archivists should be of interest to archivists. A synthetic review of those works, however, one analogous to our effort in the first part of this paper for archival scholarship, is beyond the scope of this paper. Even a cursory analysis, however, reveals the enormous scale of collective memory research occurring beyond our disciplinary boundaries and we invite readers to consider crossing those boundaries in their collective memory research.

In what follows we identify disciplines and several scholars outside archival studies actively engaged in collective memory research and we very briefly describe some of their approaches. In describing archival literature as self-referential, however, our intention is more descriptive than prescriptive and it is not our goal to direct readers to particular works or authors but rather to present a partial map hinting at the vastness of the terrain. We argued in the first part of this article that “collective memory” is prompting some archivists to rethink and revisit cherished

Table 5 Disciplinary influences in archival studies memory network ($n = 1,124$)

Fields	#	%	Cumulative %
Archives	501	44.6	44.6
History	286	25.4	70.0
Cultural studies	38	3.4	73.4
Psychology/CogSci	37	3.3	76.7
Sociology/poli science	37	3.3	80.0
Information science	36	3.2	83.2
Philosophy	31	2.8	85.9
Law	28	2.5	88.4
Anthro/archaeol/geog	25	2.2	90.7
Museum	20	1.8	92.4
Literary (theory and fiction)	19	1.7	94.1
Journalism	13	1.2	95.3
Computer science	11	1.0	96.3
Education	10	0.9	97.2
Linguistics	10	0.9	98.0
Audiovisual	9	0.8	98.8
Business/management	9	0.8	99.6
Art	4	0.4	100.0
	1,124	100.0	

Subject classifications for publications in the collective memory network, excluding those classified as reference works (25) or miscellaneous (25) which were removed

traditions and assumptions and we think part of that process should include active efforts to engage new streams of scholarship.

Table 5 lists the distribution of disciplines that we assigned to each of the citations in the archival studies network where archival studies represent a significant plurality of all cited references (44.6 %) with history representing another significant share (25.4 % of all works and nearly half of all non-archival works). Archivists interested in collective memory rely very heavily on archival studies and history.

For purposes of comparison, we searched Thomson's ISI Web of Science (WoS) for articles with the exact phrases "collective memory," "social memory," or "public memory" in their title or abstract (a more stringent criterion than that used in selecting seed articles).¹⁷ We downloaded bibliographic records for the 1,628 works that this query returned (the results set) and which included cited references, mostly to other journal articles but also many books and conference papers. Using Sci2, we extracted author names, publication title, cited references, and the primary and secondary subject categories assigned to the 1,628 WoS documents.

The disciplinary categories we applied are not precisely comparable to those used in WoS, but nevertheless, the results reveal a large body of literature on collective memory that may be underutilized by archivists publishing in the four seed journals. It also suggests our literature does not register in the citations from other fields. None of the four seed journals is fully indexed but when articles in the WoS database contain references to an article from one of them or to other archival sources, the primary subject category for that citation is given as "Information Science and Library Science." Of the 1,628 documents in the WoS results set that are fully indexed, only 9 were classified as Information Science and Library Science and none were among the 165 seed articles. This means that the leading articles in the archival studies journals we review are not part of the collective memory discussion in the disciplines and their journals indexed in WoS (Table 6).

"History" is the most common subject category applied to articles about collective memory in the WoS database (15.6 %) and it is also the most common non-archival discipline in the archival studies publication network (25.4 %). Other subject categories relatively common in the WoS database, such as sociology, psychology (particularly social psychology), and communication studies are rare in the archival studies literature we analyze (sociology 3.3 %, psychology 3.3 %, and communications 0.0 %).¹⁸

¹⁷ TS = ("collective memory") OR TS = ("social memory") OR TS = ("public memory") AND Language = (English)

Timespan = 1980–2010. Databases = SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH. Lemmatization = On.

¹⁸ Potentially interesting journals frequently publishing articles on collective memory include the familiar history journals *Public Historian* (17), *American Historical Review* (15), and *Journal of American History* (12). Leading journals archivists tend not to cite but which are heavily engaged in collective memory scholarship include the communication and media studies journals *Symbolic Interaction* (12), *Quarterly Journal of Speech* (11), and *Media Culture and Society* (11) and the anthropological journals *American Ethnologist* and *American Anthropologist* with 10 articles each. The sociological journals *Contemporary Sociology*, *American Journal of Sociology*, and the *American Sociological Review* each published 11 articles on collective memory from 1980 to 2010.

Table 6 Subject classifications in Web of Science memory dataset ($n = 1,628$)

Fields	#	* %	*Cumulative %
History	253	15.6	15.6
Sociology	123	7.6	23.1
Psychology	119	7.3	30.5
Communication	106	6.5	37.0
Neurosciences and neurology	99	6.1	43.1
Anthropology	94	5.8	48.9
Arts and humanities	74	4.6	53.4
Area studies	70	4.3	57.7
Literature	61	3.8	61.5
Behavioral sciences	55	3.4	64.9
Government and law	48	3.0	67.8
Computer science	47	2.9	70.7
Social sciences	38	2.3	73.0
Archeology	30	1.8	74.9
Env. Sci and ecology	30	1.8	76.7
Geography	28	1.7	78.5
Education & Ed. research	27	1.7	80.1
International relations	24	1.5	81.6
Business and economics	22	1.4	83.0
Art	16	1.0	83.9
Ethnic studies	16	1.0	84.9
	1,380 ^a		

Subject classifications for 1,628 publications in the ISI WoS database returned by “collective memory”, “social memory”, or “public memory” in article titles, abstracts, and keywords

^a Does not sum to 100 % because less-cited categories are excluded from the table

To appreciate how individuals experience or help build collective memory archivists may garner insights from social psychologists and cognitive psychologists examining the cognitive underpinnings of collective memory phenomena. For instance, Harvard psychologist Schacter (1995, 1996, 2001) has studied how individuals and social groups mutually influence their respective processes of recall and later collaborative work (Hirst et al. 2009) attempts to explain how individuals encode memories of mass trauma events like the 9–11 attacks. Highly-cited in the WoS data, Weldon and Bellinger (1997) examined the social and cognitive mechanisms of individual and collaborative recall in the experimental tradition of Bartlett (1932). Neuroscientist Damasio (1994/2005, 1999) pioneered studies of the role of emotion in cognition. Kansteiner (2002) argues that reception—how collective memory phenomena are experienced by individuals—as well as our understanding of the cognitive processes implicated in the emergence and maintenance of collective memories are underdeveloped. Scholarship from these fields may help archivists better appreciate issues of reception and the modes of interactions between individual and collective memories.

That collective memory continues to interest sociologists is evident in the WoS data and the most influential over the 1980–2010 time period are Schwartz (1982) and Olick (2007a, b, 1999), Olick et al. (2011) and his frequent co-author Robbins (Olick and Robbins 1998). Early sociological interest in collective memory dates to Durkheim (1912/1965) and the phrase itself is widely credited to later translations of work by his student Halbwachs (1925) who alone accounts for nearly half of the sociology citations in the archival studies network. Halbwachs is influential in the WoS citation data as well but there are many other sociologists with a significant research presence in collective memory studies who appear to be largely overlooked by archivists. Princeton sociologist Paul DiMaggio's (1997) "Culture and Cognition" article in the *Annual Review of Sociology* is one of the most highly-cited individual articles. DiMaggio examines the intersections of individual and "supra-individual" cultural memory phenomena. Barry Schwartz is among the most highly-cited sociologists writing on collective memory, particularly his landmark (1982) study on the social contexts of commemorative events examined through differing perspectives on collective memory. Few contemporary sociologists engage collective memory with the sustained intensity of Jeffrey Olick whose articles (1999) especially with Olick and Robbins (1998) and books on collective memory are helping to drive the emergence of memory studies as a transdisciplinary field (Erll and Nünning 2008).

The prominence of some of these authors is evident in the WoS author co-citation network depicted in Fig. 3. The named authors represent five of the top seven authors measured by betweenness because the citation behaviors of authors position them as bridges between the large brain and psychological sciences cluster on the top and the social sciences such as sociology in the large cluster on the bottom. Using the Girvan and Newman (2002) community detection algorithm, we identified sub-communities in the network distinguished by color and shape and node size reflects times cited and highly co-cited authors are near each other. For instance, nearly all sociologists are in the cluster of the light-blue nodes and relatively near a cluster of mostly social psychologists (dark green) and researchers in information technology (orange). The other large cluster includes neuroscientists (dark blue) and psychologists (red). Among other things, these data show that collective memory research remains in relatively cohesive and insular research communities. Archivists may be notable in their degree of insularity but they are not alone.

Academics increasingly use Google Scholar at least in part because it is believed to provide better coverage of fields outside of the hard sciences. The Publish or Perish application developed by Harzing (2007) and Harzing and van der Wal (2008) allows users to perform Google Scholar searches and it organizes the returned set and generates several bibliometric measures (e.g., cites/year, authors/paper, h-index). Using "collective memory," "social memory," and "public memory" as search terms for the years 1980–2010, we extracted the top 1000 Google Scholar citations and list the top 20 in Table 7.

We are not suggesting all these works or those in the WoS citation data are necessarily relevant to archivists interested in collective memory. Likely most are not germane. Nevertheless, these data do show that archivists in our dataset are not

Table 7 Top 20 collective memory citations indexed by Google Scholar

Rank	Citation	Source (book or journal)	Times cited	Author or document cited?
1.	Halbwachs (1992)	Halbwachs/Coser: On collective memory	11	DOC
2.	Bodnar (1993)	Remaking America: Public memory...		
3.	Lipsitz (2001)	Time passages: Collective memory and...		
4.	Zerubavel (1995)	Recovered roots: Collective memory and...		
5.	Couzin (2002)	Journal of theoretical ...		
6.	Olick (1998)	Annual Review of sociology	1	AUTH
7.	Boyer (1996)	The city of collective memory	1	AUTH
8.	Assman (1995)	New German Critique		
9.	Pennebaker (1997)	Collective memory of political events:		
10.	Skowronski (1987)	Journal of Personality and Social...		
11.	Osiel (1999)	Mass atrocity, collective memory and the law		
12.	Confino (1997)	The American Historical Review	1	AUTH
13.	Dantzer (1987)	Psychopharmacology		
14.	Schwartz (1982)	Social Forces		
15.	Zelizer (1992)	Covering the body: The Kennedy		
16.	Irwin-Zarecka (2007)	Frames of remembrance: Dynamics of...		
17.	Zerubavel (2003)	Time maps: Collective memory AND the social		
18.	Kansteiner (2002)	History and Theory		
19.	Olick (1999)	Sociological Theory	1	DOC
20.	Thor (1982)	Journal of Comparative and Physiological		

Top 20 publications in Google Scholar using “collective memory”, “social memory”, or “public memory” in the Publish or Perish application (Harzing 2007), excluding the Chemistry and Materials Science and the Physics, Astronomy, and Planetary Science collections. Google Scholar ranking can change slightly between search sessions because the network is highly dynamic. This search completed April 4, 2012

“No. of times cited” means the number of times either the author or the specific work was cited in the archival studies data and the “author or document cited” column indicates which

citing essentially any works from a large volume of collective memory research even though some surely is of value. Halbwach’s *On Collective Memory* is highly ranked in both Google Scholar and in the archival studies citation networks but only four other top Google Scholar citations are cited by archivists. In each case, the highly ranked Google Scholar scholars cited in the archival network are only cited once and usually to another work rather than the one most highly ranked. Coupled with the WoS subject classification data, we believe this indicates that collective memory research by archivists is self-referential (Fig. 3).

Moreover, the research that archivists publish in the core archival studies journals is not generally cited by the larger collective memory research community dominating the Google Scholar rankings. Nine articles total from the four core journals appear in the top 1000 Google Scholar citations and seven appear in our citation network. As shown in Table 8, two of the three highest ranked of these are

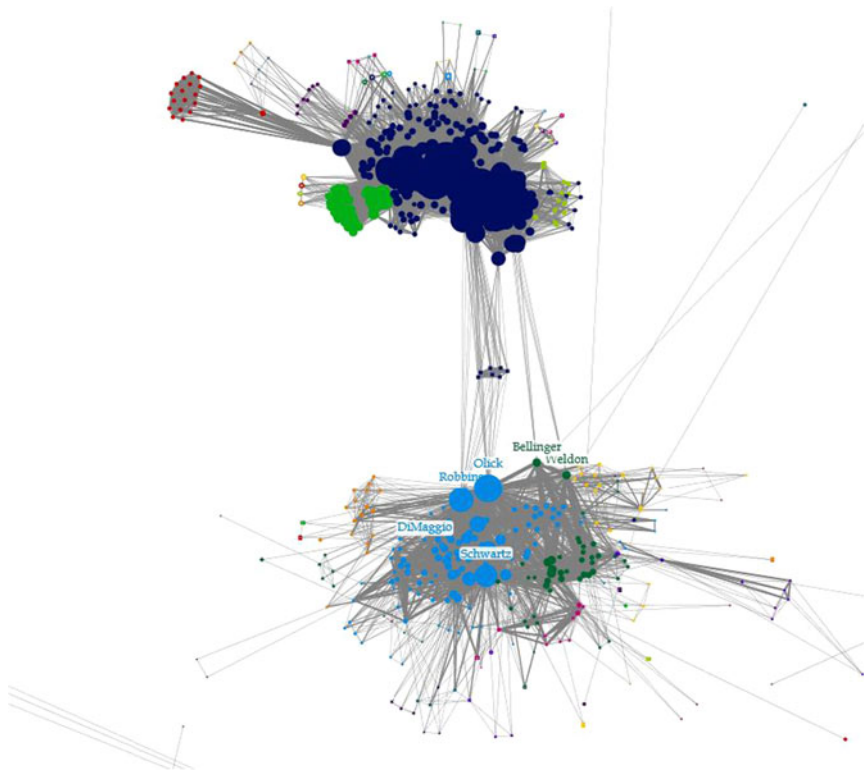


Fig. 3 Author co-citation network for Web of Science (694 nodes, 15687 links)

articles by Taylor (1982–1983, 1995), officially trained as an historian. Richard Cox's (1993) article on public memory is also relatively influential (ranked 264). Although not a seed article, Harris (1997) is influential among archivists and is a top-500 Google Scholar article. The other seed articles registering in the top 1000 Google Scholar results are Ketelaar (2001), Schwartz and Cook (2002), and Craig (2002).

The seed articles we used to create the author and publication networks are not generally cited outside archival studies which leads us to describe the archival literature on collective memory as insular. Furthermore, only a few of the authors and articles that are frequently cited by the larger collective memory research community, as represented in the WoS and Google Scholar results sets, are also frequently cited by archivists.

Discussion and implications

The concept of collective memory continues to attract the interest of scholars across the academy and around the world. In the first part of this article, we characterized the major ways that archivists frame the relationships between archives and

collective memory processes. Surveying the English-language literature, we placed works into four major threads: archives as collective memory and cultural heritage, the role of archives in memory formation and transmission, questions of power and justice in the context of archives and collective memory, and, finally, the ways in which archival collections can provide moments and spaces for finding and making memory.

Our citation analyses in the second part of this article revealed two characteristics of the English-language archival literature on collective memory. First, the contributions that archivists are making to collective memory research are not discovered or widely discussed outside of archival studies judging by citation frequencies. Second, a very large body of literature on collective memory has not been discovered or cited by archivists. These two questions are not necessarily the flip sides of the same coin. In fact, there may be different explanations for each characteristic and each may have different implications for archival research and publication.

We can only speculate about the lack of citations to the archival studies literature on collective memory in other fields, but several different factors may explain this behavior. As mentioned above, not even the core archival journals are fully indexed in the ISI Web of Science, one of the most common bibliographic databases for research literature.¹⁹ As a consequence, researchers unfamiliar with the archival literature and journals and who are unaware that archivists publish on the topic of collective memory must go out of their way to discover and search the archival literature or wait to stumble upon it, most likely through a citation to an archival journal in the indexed literature. Moreover, because citation begets more citation as researchers use “footnote chasing,” more citations to a source increases its PageRank, and therefore visibility in a Google Scholar search, and a single citation to a publication in an archival journal by the author of an article in a journal indexed by ISI brings the archival studies article into the purview of the WoS database. Whether collective memory researchers outside of archival studies would consider archivists’ contributions relevant, insightful, and useful if they were easier to discover using common search tools is a question that we cannot address with the analysis we have performed.

The lack of attention to the collective memory literature outside of archival studies by archivists publishing in the seed journals is more challenging to explain. Our analysis of citation patterns in publication and authors networks shows that only a small number of shared citations refer to works outside of archival studies. Archivists writing about collective memory appear to draw from different pools of

¹⁹ We began an analysis of data from the SCOPUS database with more titles than WoS (though a larger percentage are something other than academic journals) and which apparently has better coverage of Asia and slightly better coverage of South America. Another difference is that while the total percentage of journals in both WoS and SCOPUS from North America and Europe is similar, they differ in their relative share with a greater volume of and reliance on European journals in the SCOPUS database. This effort was set aside due to the complexities of comparing datasets derived from the two databases and because as a much newer product SCOPUS has indexed fewer older works and provides full access to cited references only since 1996.

literature, especially when they cite literature outside the archives field. That both highly-cited authors and highly-cited articles are very few in number is typical of citation networks and bibliometrics pioneer de Solla Price (1965) demonstrated that citation networks generally observe a power law distribution. What is unusual in the author and publication networks is the field distribution of citations. The vast majority of authors from outside our field are cited only once and a very small number of authors, such as Derrida and Halbwachs, are cited many times. Our hunch is that archivists writing about collective memory rely primarily on citations in articles published in the core archival journals to find relevant literature, especially non-archival literature.

Regardless of the reasons that archivists rely on only a small slice of the literature on collective memory, this practice is detrimental to developing a comprehensive and balanced understanding of the larger phenomenon known as “collective”, “social”, or “public” memory. As an emergent multidisciplinary field, “memory studies” include many streams of discourse, debates, and differences of interpretation around core concepts, interpretive frameworks, methodologies, and standards of evidence. Archivists, for the most part, are not part of this discourse either as consumers of the literature or as participants in the debates. Moreover, “memory studies” is a dynamic field with hundreds of new articles appearing in dozens of journals every year. Yet, only 141 new items (articles, websites, monographs, etc.) from outside the archival literature have been added to the citation network since 2003, and only three of these items have been cited more than once. This means that an entire decade’s worth of work on collective memory outside the archival field is largely unnoticed by the archivists in our dataset. Our findings show that archivists publishing in four leading English-language archival journals are overlooking most of the non-archivists carrying out the most active research on collective memory and their own archival research is largely invisible to these non-archivists.

In spite of these indicators of insularity, including the fact our most influential articles barely register in other fields, there are a number of tentative indicators suggesting the term “archive” is increasingly invoked in the broader memory literature. For instance, a burst detection analysis (Kleinberg 2002) of 3,074 author keywords extracted from the 1,628 WoS articles indicated a surge in the incidence of “archiv*” beginning in 2008.²⁰ This means that starting in 2008, authors writing about collective memory in WoS journals started using some variant of “archives” more than might be expected given earlier keyword choices. Additional tentative and intriguing evidence is suggested by a preliminary analysis of word co-occurrences in the titles and abstracts of the same 1,628 documents. We determined which words are most similar based on how frequently they co-occur in titles and abstracts taking into account both the underlying frequency of those words

²⁰ Burst analysis performed in Sci2. A possible fallacy of equivocation is obvious as incidence measures can obscure semantic differences: ‘Archives’ means many things, including meanings some archivists may not embrace. We think this is further incentive for archivists to join the discussion: if others believe ‘archives’ (as they understand them) are factors of interest in collective memory, we think archivists and our perspectives should help inform them.

Table 8 Seed articles in top 1000 Google Scholar citations

Google rank	Citation in the archival studies network
114	Taylor (1982)
264	Cox (1993)
447	Harris (1997)
472	Taylor (1995)
632	Ketelaar (2001)
690	Schwartz and Cook (2002)
932	Craig (2002)

Rank of archival studies citations in top 1000 on Google Scholar using “collective memory,” “social memory,” or “public memory” in the Publish or Perish application (Harzing 2007). Search on April 4, 2012

individually and adjusting for the probability of co-occurrence by chance.²¹ What we found is that in the minds of the authors in the WoS database the word that “archiv*” is most similar to is “memori*”.

We acknowledge several limitations to our study. Under even the best of circumstances, citation analyses are open to criticism on various statistical grounds (Schoonbaert and Roelants 1996; De Bellis 2009, pp. 243–284) and we have made only modest descriptive claims using simple measures of influence. A deeper limitation is that while citation behaviors are objectively observable they do not necessarily provide evidence of any author’s thought processes. We are only able to infer that highly-cited authors and articles are more influential. The meaning of the social act of citation defies simple assertions and despite many advances we still “lack a theory of citing” (Cronin 1981, p. 16). Some even challenge the entire enterprise of citation analysis (MacRoberts and MacRoberts 1987).

Beyond these general criticisms, we acknowledge potential limitations arising from our research design. Our study is the first citation analysis of the archival literature that we are aware of since the Gilliland-Swetland (1992) study of electronic records literature published in *Archival Issues*. There is no basis for comparison between our findings and recent archival studies citation networks built around other topics. Our seed articles reflect a narrow topic as published in four journals in one field and we constructed the citation network from only portions of those articles albeit in a systematic fashion. It is possible that a set of seed articles on a somewhat broader topic or from a larger set of journals would produce different results.

A more significant potential limitation is that all the sources in our literature survey and the articles seeding our citation networks are in English. With our data, we cannot characterize collective memory scholarship published in non-English

²¹ Words appearing in titles and abstracts were first normalized in Sci2 which entails converting all text to lower case, tokenization (eliminating punctuation and spaces) and stemmed (archiv for archives, archivalization, etc.). Standard stop words are removed. Using WordStat 6.0, we calculated word similarity using the Sorensen similarity coefficient ($2a/(2a + b + c)$) where a is co-occurrences of two item (words), while b and c represent cases where one or the other item is present alone. For details see the WordStat 6.0 manual.

archival studies journals. We cannot and do not claim, for example, that archival scholarship and citation behaviors in Polish or Hindi exhibit any of the characteristics we describe. Our data do suggest that whatever their native language when authors publish in the leading English-language archival journals, they overwhelmingly cite materials in English, including translations of some influential works originally in French (Derrida, Halbwachs, LeGoff, Nora). We found only 33 citations (2.2 %) to non-English literature, nearly half from citations in articles by Ketelaar (11) or Brothman (5), essentially the only archivists writing about collective memory regularly citing non-English literature, including archival literature.

We look forward to a day when it is possible to perform citation analyses that include references from many publication types in any language. That day lies in the future. The substantial Anglophone bias in database coverage and in the global reach of journals is a potential limitation to our findings, but they also provide reasons to consider them more closely. We show that archivists writing about collective memory in English are fairly insular and nowhere more so than in the language of the references they cite. Given the circulation and prestige of the four seed journals, not to mention the authors they publish, we also think our findings speak to a major component of the international archival research infrastructure.

Conclusion

The relationship between collective memory and archives is fertile ground for examination. Greater attention by archivists to research and writing on collective memory outside the archival field and concerted effort to draw attention to the potential contributions archival studies can make, such as publishing in interdisciplinary journals or co-authoring work with non-archivists, could enrich the discourse on collective memory on all sides. Our characterization of the archival literature on collective memory as insular and self-referential should be received as an invitation for archivists to better engage the larger memory studies research community for mutual benefit. Our collective memory work can be improved by engaging non-archival scholarship and we are confident that through stronger engagement archivists can contribute to the evolution of memory studies, bringing our insights, experiences, and values to the collective memory discussion. We also join those archivists and others, some cited in our networks, who urge archivists doing collective memory work to recognize the opportunity and the responsibility to consider new sources of knowledge, new partnerships, and new archival principles and not only more articles from scholars in other disciplines. The citation analysis methodology used here can be applied fruitfully to other topics where archivists are engaged in multi-disciplinary research, such as accountability, social justice, post-colonialism, and any number of other contemporary issues. If the results are similar, such studies would reveal broad swaths of relevant literature and perspectives that would enrich our understanding of these phenomena and their relationships to archives.

Appendix: Collective memory network seed articles

- Adami TA (2007) Who will be left to tell the tale? Recordkeeping and international criminal jurisprudence. *Arch Sci* 7(3): 213–221
- Alexander B (2006) Excluding Archival Silences: Oral History and Historical Absence. *Arch Sci* 6(1): 1–11
- Alexander B (2009) ‘What a setting for a mystery’: Yaddo, the Yaddo records, and the memory of place. *Arch Sci* 9(1–2): 87–98
- Anderson SR, Allen RB (2009) Envisioning the Archival Commons. *Am Arch* 72(1): 113–132
- Bastian JA (2001) A Question of Custody: The Colonial Archives of the United States Virgin Islands. *Am Arch* 64(Spring/Summer): 96–114
- Bastian JA (2004) Owning memory: How a Caribbean community lost its archives and found its history. *Arch Manusc* 32(1): 140–142
- Bastian JA (2006) Reading Colonial Records Through an Archival Lens: The Provenance of Place Space and Creation. *Arch Sci* 6(3–4): 267–284
- Bastian JA (2009a) Flowers for Homestead: A Case Study in Archives and Collective Memory. *Am Arch* 72(1): 113–132
- Bastian JA (2009b) ‘Play mas’: Carnival in the archives and the archives in carnival: records and community identity in the US Virgin Islands. *Arch Sci* 9(1–2): 113–125
- Beard D (2008) From work to text to document. *Arch Sci* 8(3): 217–226
- Blair A, Milligan JS (2007) Introduction. *Arch Sci* 7(4): 289–296
- Boles F (2010) But a Thin Veil of Paper. *Am Arch* 73(1): 17–25
- Bolotenko G (1993) Frost on the Walls in Winter: Russian and Ukrainian Archives since the Great Dislocation (1991–1999). *Am Arch* 66(Fall–Wint): 271–302
- Brothman B (2001) The Past that Archives Keep: Memory, History and the Preservation of Archival Records. *Archivaria* (51): 48–80
- Brothman B (2010) Perfect present, perfect gift: Finding a place for archival consciousness in social theory. *Arch Sci* 10(2): 141–189
- Bruebach N (2003) Archival Science in Germany—Traditions, Developments and Perspectives. *Arch Sci* 3(4): 379–399
- Buckley K (2008) ‘The Truth is in the Red Files’: An Overview of Archives in Popular Culture. *Archivaria* (66): 95–123
- Butler B (2009) ‘Othering’ the archive—from exile to inclusion and heritage dignity: The case of Palestinian archival memory. *Arch Sci* 9(1–2): 57–69
- Carter RGS (2006) Of Things Said and Unsaid: Power, Archival Silences, and Power in Silence. *Archivaria* (61): 215–233
- Caswell M (2010) Khmer Rouge archives: Accountability, truth, and memory in Cambodia. *Arch Sci* 10(1): 25–44
- Clanchy MT (1980) Tenacious Letters: Archives and Memory in the Middle Ages. *Archivaria* (11): 115–125
- Cline SR (2009) To the Limit of Our Integrity: Reflections on Archival Being. *Am Arch* 72(2): 331–343
- Conde A (2005) The symbolic significance of archives: A discussion. *Arch Manusc* 33(2): 92–108
- Cook T (1994) Electronic Records Paper Minds: The revolution in information management and archives in a post-custodial and post-modernist era. *Arch Manusc* 22(2): 300–328
- Cook T (1997) What is Past is Prologue: A History of Archival Ideas Since 1898, and the Future Paradigm Shift. *Archivaria* (43): 17–63
- Cook T (2001a) Archival science and postmodernism: New formulations for old concepts. *Arch Sci* 1(1): 3–24
- Cook T (2001b) Fashionable Nonsense or Professional Rebirth: Postmodernism and the Practice of Archives. *Archivaria* (51): 14–35
- Cook T, Schwartz JM (2002) Archives, Records, and Power: From (Postmodern) Theory to (Archival) Performance. *Arch Sci* 2(3–4): 171–185
- Cook Ti (1998) Review Article: Tools of Memory. *Archivaria* (45): 194–204
- Cooke A (1991) What do I do with the rowing oar? The role of memorabilia in school archives. *Arch Manusc* 19(1): 57–62
- Cox RJ (1993) The Concept of Public Memory and Its Impact. *Archivaria* (36): 122–135
- Cox RJ (1996) The records in the manuscript collection. *Arch Manusc* 24(1): 46–61

- Cox RJ (2001) Making the Records Speak: Archival Appraisal, Memory, Preservation, and Collecting. *Am Arch* 64(Fall-Wint): 394–404
- Cox RJ (2002) The End of Collecting: Towards a New Purpose for Archival Appraisal. *Arch Sci* 2(3–4): 287–309
- Cox RJ (2005) Public Memory Meets Archival Memory: The Interpretation of Williamsburg’s Secretary’s Office. *Am Arch* 68(Fall-Wint): 279–296
- Cox RJ (2006) Are there really new directions and innovations in archival education? *Arch Sci* 6(3–4): 247–261
- Cox RJ, Larsen RL (2008) iSchools and archival studies. *Arch Sci* 8(4): 307–326
- Craig BL (2001) The Archivist as Planner and Poet: Thoughts on the Larger Issues of Appraisal for Acquisition. *Archivaria* (52): 175–183
- Craig BL (2002a) Rethinking Formal Knowledge and its Practices in the Organization: The British Treasury’s Registry Between 1900 and 1950. *Arch Sci* 2(1–2): 111–136
- Craig BL (2002b) Selected Themes in the Literature on Memory and Their Pertinence to Archives. *Am Arch* 65(Fall–Wint): 276–289
- Cunningham A, Oswald R (2005) Some functions are more equal than others: The development of a macroappraisal strategy for the national archives of Australia. *Arch Sci* 5(2–4): 163–184
- Daniel D (2010) Documenting the Immigrant and Ethnic Experience in Am Archives. *Am Arch* 73(1): 82–104
- Delmas B (2001) Archival science facing the information society. *Arch Sci* 1(1): 25–37
- Deserno I (2009) The value of international business archives: The importance of the archives of multinational companies in shaping cultural identity. *Arch Sci* 9(3–4): 215–225
- Dirks JM (2004) Accountability, History, and Archives: Conflicting Priorities or Synthesized Strands. *Archivaria* (57): 29–49
- Dixon MJ (2005) Beyond sampling: Returning to macroappraisal for the appraisal and selection of case files. *Arch Sci* 5(2–4): 285–313
- Dodge B (2002) Across the Great Divide: Archival Discourse and the (Re)presentations of the Past in Late-Modern Society. *Archivaria* (53): 16–30
- Duff WM, Harris V (2002) Stories and Names: Archival Description as Narrating Records and Constructing Meanings. *Arch Sci* 2(3–4): 263–285
- Dunbar AW (2006) Introducing critical race theory to archival discourse: Getting the conversation started. *Arch Sci* 6(1): 109–129
- Duncan C (2009) Authenticity or Bust. *Archivaria* (68): 97–118
- Durranti L, Thibodeau K (2006) The Concept of Record in Interactive, Experiential and Dynamic Environments: The View of InterPARES*. *Arch Sci* 6(1): 13–68
- Ellis J (1999) Consulting into business archives. *Arch Manusc* 27(2): 16–25
- Evans J, McKemmish S, Bhoday K (2005) Create Once Use Many Times: The Clever Use of Recordkeeping Metadata for Multiple Archival Purposes. *Arch Sci* 5(1): 17–42
- Fairweather J (2000) Secrets, Lies, and History: Experiences of a Canadian Archivist in Hungary and South Africa. *Archivaria* (50): 181–192
- Faulkhead S (2009) Connecting Through Records. *Arch Manusc* 37(2): 60–88
- Fisher R (2009) In Search of a Theory of Private Archives: The Foundational Writings of Jenkinson and Schellenberg Revisited. *Archivaria* (67): 1–24
- Flinn A, Stevens M, Shephard E (2009) Whose memories, whose archives? Independent community archives, autonomy and the mainstream. *Arch Sci* 9(1–2): 71–86
- Foote K (1990) To Remember and Forget: Archives, Memory, and Culture. *Am Arch* 53(3): 378–392
- Furner J (2004) Conceptual Analysis: A Method for Understanding Information as Evidence and Evidence as Information. *Arch Sci* 4(3–4): 233–265
- Galloway P (2006) Archives, Power, and History: Dunbar Rowland and the Beginning of the State Archives of Mississippi (1902–1936). *Am Arch* 69(Spring/Summer): 79–116
- Gentile P (2009) Resisted Access? National Security, the Access to Information Act, and Queer(ing) Archives. *Archivaria* (68): 141–158
- Gilliland A, Lau A, Lu Y, McKemmish S, Shilpa R, White K (2007) Pluralizing the Archival Paradigm through Education. *Arch Manusc* 35(2): 10–39
- Gilliland A, McKemmish S (2004) Building an Infrastructure for Archival Research. *Arch Sci* 4(3–4): 149–197

- Gilliland A, McKemish S, White K, Lu Y, Lau A (2008) Pluralizing the Archival Paradigm: Can Archival Education in Pacific Rim Communities Address the Challenge? *Am Arch* 71(Spring-Summ): 87–117
- Greene MA (2002) The Power of Meaning: The Archival Mission in the Postmodern Age. *Am Arch* 65(Spring/Summer): 42–55
- Greene MA (2009) The Power of Archives: Archivists Values and Value in the Postmodern Age. *Am Arch* 72(1): 17–41
- Harris V (2002) The Archival Sliver: Power, Memory, and Archives in South Africa. *Arch Sci* 2(1): 63–86
- Hastings E (2011) ‘No longer a silent victim of history’: Repurposing the documents of Japanese American internment. *Arch Sci* 11(1–2): 25–46
- Hedstrom ML (2002) Archives, Memory, and Interfaces with the Past. *Arch Sci* 2(1–2): 21–43
- Hensen SL (2002) Revisiting Mary Jane, or, Dear Cat: Being Archival in the 21st Century. *Am Arch* 65(Fall-Wint): 168–175
- Heon G (2005) The Archives Nationales du Quebec: Memory of a Nation. *Archivaria* (59): 69–82
- Huotari ML, Valtonen MJ (2003) Emerging Themes in Finnish Archival Science and Records Management Education. *Arch Sci* 3(2): 117–129
- Iacovino L (2010) Rethinking archival, ethical and legal frameworks for records of Indigenous Australian communities: A participant relationship model of rights and responsibilities. *Arch Sci* 10(4): 353–372
- Iacovino L, Reed B (2008) Recordkeeping research tools in a multi-disciplinary context for cross-jurisdictional health records systems. *Arch Sci* 8(1): 37–68
- Iacovino L, Todd M (2007) The long-term preservation of identifiable personal data: a comparative archival perspective on privacy regulatory models in the European Union, Australia, Canada and the United States. *Arch Sci* 7(1): 107–127
- Jimerson RC (2005) Documents and Archives in Early America. *Archivaria* (60): 235–258
- Jimerson RC (2006) Embracing the Power of Archives. *Am Arch* 69(Spring/Summer 2005): 19–32
- Jimerson RC (2007) Archives for All: Professional Responsibility and Social Justice. *Am Arch* 70(Fall-Wint): 252–281
- Kaplan E (2002) Many Paths to Partial Truths: Archives Anthropology and the Power of Representation. *Arch Sci* 2(3–4): 209–220
- Kenosi L (2008) Records, National Identity and Post-Apartheid South Africa. *Arch Manuscr* 36(2): 76–87
- Ketelaar E (2000) Archivist Research Saving the Profession. *Am Arch* 63(Fall-Wint): 322–340
- Ketelaar E (2001) Tacit Narratives: The Meanings of Archives. *Arch Sci* 1(2): 131–141
- Ketelaar E (2002) Archival Temples, Archival Prisons: Modes of Power and Protection. *Arch Sci* 2(3–4): 221–238
- Ketelaar E (2003) Being digital in peoples archives. *Arch Manuscr* 31(2): 8–22
- Ketelaar E (2005) Sharing: Collected memories in communities of records. *Arch Manuscr* 33(1): 44–61
- Ketelaar E (2007) Muniments and monuments: The dawn of archives as cultural patrimony. *Arch Sci* 7(4): 343–357
- Ketelaar E (2010) Records out and archives in: Early modern cities as creators of records and as communities of archives. *Arch Sci* 10(3): 201–210
- Kirchoff T, Schweobenz W, Sieglerschmidt J (2008) Archives, libraries, museums and the spell of ubiquitous knowledge. *Arch Sci* 8(3): 251–256
- Klopfer L (2001) Oral History and Archives in the New South Africa: Methodological Issues. *Archivaria* (52): 100–125
- Koltun L (1999) The Promise and Threat of Digital Options in an Archival Age. *Archivaria* (47): 114–135
- Koltun L (2002) The Architecture of Archives: Whose Form, What Functions? *Arch Sci* 2(3): 239–261
- Light M, Hyry T (2002) Colophons and Annotations: New Directions for the Finding Aid. *Am Arch* 65(Fall-Wint): 216–230
- Loewen C (2005) Accounting for macroappraisal at Library and Archives Canada: From disposition to acquisition and accessibility. *Arch Sci* 5(2–4): 239–259
- Lovblad H (2003) Monk Knight or Artist? The Archivist as a Straddler of a Paradigm. *Arch Sci* 3(2): 131–155
- Lovering TJ (2010) British Colonial Administrations’ registry systems: A comparative study of Northern Rhodesia and Nyasaland. *Arch Sci* 10(1): 1–23
- MacNeil H (2006) From the memory of the act to the act itself. The evolution of written records as proof of jural acts in England 11th to 17th century. *Arch Sci* 6(3–4): 313–328

- Maliniemi K (2009) Public records and minorities: Problems and possibilities for Sámi and Kven. *Arch Sci* 9(1–2): 15–27
- McCarthy G, Sherratt T (1996) Mapping scientific memory: Understanding the role of recordkeeping in scientific practice. *Arch Manuscr* 24(1): 78–85
- McInerny C (2002) Implementation of encoded archival description at the Australian war memorial: A case study. *Arch Manuscr* 30(2): 72–81
- McIntosh R (1998) The Great War, Archives, and Modern Memory. *Archivaria* (46): 1–31
- McKemmish S (1996) Evidence of me. *Arch Manuscr* 24(1): 28–45
- McKemmish S, Gilliland A, Ketelaar E (2005) Communities of memory: Pluralising archival research and education agendas. *Arch Manuscr* 33(1): 146–174
- McKemmish S, Upward F (2006) Teaching recordkeeping and archiving continuum style. *Arch Sci* 6(3–4): 219–230
- McRanor S (1997) Maintaining the Reliability of Aboriginal Oral Records and Their Material Manifestations: Implications for Archival Practice. *Archivaria* (43): 64–88
- Meehan J (2006) Towards an Archival Concept of Towards an Archival Concept of Evidence. *Archivaria* (61): 127–146
- Meehan J (2009) The archival nexus: Rethinking the interplay of archival ideas about the nature, value, and use of records. *Arch Sci* 9(3–4): 157–164
- Menne-Haritz A (2000) Archival Training in a Changing World. *Am Arch* 63(Fall–Wint): 341–352
- Menne-Haritz A (2001) Access—The reformulation of an archival paradigm. *Arch Sci* 1(1): 57–82
- Miffin J (2009) Closing the Circle: Native American Writings in Colonial New England, a Documentary Nexus between Acculturation and Cultural Preservation. *Am Arch* 72(3): 344–382
- Millar L (1998) Discharging our Debt: The Evolution of the Total Archives Concept in English Canada. *Archivaria* (46): 103–146
- Millar L (1999) The Spirit of Total Archives: Seeking a Sustainable Archival System. *Archivaria* (47): 46–65
- Millar L (2006a) Subject or object? Shaping and reshaping the intersections between aboriginal and non-aboriginal records. *Arch Sci* 6(3–4): 329–350
- Millar L (2006b) Touchstones: Considering the Relationship between Memory and Archives. *Archivaria* (61): 105–126
- Milligan JS (2007) Curious Archives: Making the Musée de l’histoire de France in the Archives of the Second Empire. *Arch Sci* 7(4): 359–367
- Montgomery BP (2004) Fact-Finding by Human Rights Non-Governmental Organizations: Challenges Strategies, and the Shaping of Archival Evidence. *Archivaria* (58): 21–50
- Montgomery BP (2010) Returning Evidence to the Scene of the Crime: Why the Anfal Files Should be Repatriated to Iraqi Kurdistan. *Archivaria* (69): 143–171
- Nannelli E (2009) Memory, records, history: The Records of the Commission for Reception, Truth, and Reconciliation in Timor-Leste. *Arch Sci* 9(1): 29–41
- Nesmith T (2002) Seeing Archives: Postmodernism and the Changing Intellectual Place of Archives. *Am Arch* 65(Spring/Summer 2002): 24–41
- Nesmith T (2005) Reopening Archives: Bringing New Contextualities into Archival Theory and Practice. *Archivaria* (60): 259–274
- O’Sullivan C (2005) Diaries, On-line Diaries, and the Future Loss to Archives; or, Blogs and the Blogging Bloggers Who Blog Them. *Am Arch* 68(Spring/Summer 2007): 53–73
- O’Toole J (1993) The Symbolic Significance of Archives. *Am Arch* 56(2): 234–255
- O’Toole J (2004) Archives and Historical Accountability: Toward a Moral Theology of Archives. *Archivaria* (58): 3–19
- Pearce-Moses R (2007) Janus in Cyberspace: Archives on the Threshold of the Digital Era. *Am Arch* 70(Spring/Summer 2003): 13–22
- Piggott M (2005a) Building collective memory archives. *Arch Manuscr* 33(1): 62–83
- Punzalan RL (2006) Archives of the new possession: Spanish colonial records and the American creation of a ‘national’ archives for the Philippines. *Arch Sci* 6(3–4): 381–392
- Pylypchuk MA (1991) The Value of Aboriginal Records as Legal Evidence in Canada: An Examination of Sources. *Archivaria* (32): 51–77
- Reed B (2005) Beyond perceived boundaries: Imagining the potential of pluralised recordkeeping. *Arch Manuscr* 33(1): 176–198

- Riley J (1997) Integrating archival programs into the core business of the independent school. *Arch Manuscr* 25(1): 50–61
- Roberts J (2001) One Size Fits All? The Portability of Macro-Appraisal by a Comparative Analysis of Canada, South Africa, and New Zealand. *Archivaria* (52): 47–68
- Roberts-Moore J (2002) Establishing Recognition of Past Injustices: Uses of Archival Records in Documenting the Experience of Japanese Canadians During the Second World War. *Archivaria* (53): 64–75
- Rosen F (2008) Off the record: Outsourcing security and state building to private firms and the question of record keeping, archives, and collective memory. *Arch Sci* 8(1): 1–14
- Rosenberg WG (2001) Politics in the (Russian) Archives: The “Objectivity Question”, Trust, and the Limitations of Law. *Am Arch* 64(Spring/Summer 2001): 78–95
- Russell L (2006) Indigenous records and archives: Mutual obligations and building trust. *Arch Manuscr* 34(1): 32–43
- Sassoon J (2007) Sharing Our Story: An Archaeology of Archival Thought. *Arch Manuscr* 35(2): 40–55
- Sassoon J, Burrows T (2009) Minority reports: indigenous and community voices in archives. Papers from the 4th International Conference on the History of Records and Archives (ICHORA4), Perth, Western Australia, August 2008. *Arch Sci* 9(1): 1–5
- Schwartz JM (2000) Records of Simple Truth and Precision: Photography, Archives, and the Illusion of Control. *Archivaria* (50): 1–40
- Schwartz JM (2006) Having New Eyes: Spaces of Archives, Landscapes of Power. *Archivaria* (61): 1–25
- Schwartz JM, Cook T (2002) Archives, Records, and Power: The Making of Modern Memory. *Arch Sci* 2(1–2): 1–19
- Shepherd E (2009) Culture and evidence: or what good are the archives? Archives and archivists in twentieth century England. *Arch Sci* 9(3–4): 173–185
- Simonson K (2006) Memories Resurrected In Context: Gender and Remembrance in Charlotte Black’s Scrapbook. *Archivaria* (62): 179–197
- Sinn D (2010) Room for archives? Use of archival materials in No Gun Ri research. *Arch Sci* 10(2): 117–140
- Sloggett R (2005) Valuing significance or signifying value? Culture in a global context. *Arch Manuscr* 33(2): 110–129
- Swain ED (2003) Oral History in the Archives: Its Documentary Role in the Twenty-first Century. *Am Arch* 66(1) (Spring/Summer): 139–158
- Symons THB (1982) Archives and Canadian Studies. *Archivaria* (15): 58–69
- Taylor HA (1982–1983) The Collective Memory: Archives and Libraries as Heritage. *Archivaria* (15) (Winter 1982–83): 118–130
- Taylor HA (1995) Heritage Revisited: Documents as Artifacts in the Context of Museums and Material Culture. *Archivaria* (40): 8–20
- Timms K (2009) New Partnerships for Old Sibling Rivals: The Development of Integrated Access Systems for the Holdings of Archives, Libraries, and Museums. *Archivaria* (68): 67–95
- Tjiek LT (2009) Surabaya Memory: Representing Minority Voices in the Digital History of a City. *Arch Manuscr* 37(2): 127–137
- Todd M (2006) Power, Identity, Integrity, Authenticity, and the Archives: A Comparative Study of the Application of Archival Methodologies to Contemporary Privacy. *Archivaria* (61): 181–214
- Trace CB (2002) What is Recorded is Never Simply ‘What Happened’: Record Keeping in Modern Organizational Culture. *Arch Sci* 2(1–2): 137–159
- Tyacke S (2001) Archives in a Wider World: The Culture and Politics of Archives. *Archivaria* (52): 1–25
- Upward F (2005) Continuum mechanics and memory banks: (1) multi-polarity. *Arch Manuscr* 33(1): 84–109
- Upward F (2005) Continuum mechanics and memory banks: (2) the making of culture. *Arch Manuscr* 33(2): 18–51
- Valderhaug G (2011) Memory Justice and the Public Record. *Arch Sci* 11 (1–2): 13–23
- Wake P (2008) Writing from the archive: Henry Garnet’s powder-plot letters and archival communication. *Arch Sci* 8(2): 69–84
- Wareham E (2001) Our Own Identity, Our Own Taonga, Our Own Self Coming Back: Indigenous Voices in New Zealand Record-Keeping. *Archivaria* (52): 26–46
- Wareham E (2002) From Explorers to Evangelists: Archivists Recordkeeping and Remembering in the Pacific Islands. *Arch Sci* 2(1): 187–202

- Wexler G, Long L (2009) Lifetimes and Legacies_ Mortality, Immortality, and the Needs of Aging and Dying Donors. *Am Arch* 72(2): 478–495
- Wilton K (2009) Meztizaje and remembering in Afro-Mexican communities of the Costa Chica: implications for archival education in Mexico. *Arch Sci* 9(1–2): 43–55
- Wickman D (2000) Bright specimens for the curious or the somewhat imponderable guided by the unfathomable: Use users and appraisal in archival literature. *Arch Manuscr* 28(1): 64–79
- Wilson IE (2000) The Fine Art of Destruction Revisited. *Archivaria* (49): 124–139
- Withers CWJ, Grout A (2006) Authority in Space?: Creating a Digital Web-based Map Archive. *Archivaria* (61): 27–46
- Wozny ML (2009) National Audiovisual Preservation Initiatives and the Independent Media Arts in Canada. *Archivaria* (67): 87–113
- Wurl J (2005) Documenting Displacement: The Migration of Archival Sources From Post-WW II East European Émigré Groups. *Arch Sci* 5(2–4): 79–92
- Yeo G (2010) ‘Nothing is the same as something else’: significant properties and notions of identity and originality. *Arch Sci* 10(2): 85–116

References

- Bartlett FC (1932) *Remembering: a study in experimental and social psychology*. Cambridge University Press, Cambridge
- Bastian JA (2003) *Owning memory: how a Caribbean community lost its archives and found its history*. Libraries Unlimited, Westport, CT
- Bastian JA (2006) Reading colonial records through an archival lens: the provenance of place space and creation. *Arch Sci* 6(3–4):267–284
- Bastian JA (2009) Flowers for homestead: a case study in archives and collective memory. *Am Arch* 72(1):113–132
- Berners-Lee T et al (2006) A framework for web science. *Found Trends Web Sci* 1(1):1–130
- Blouin FX, Rosenberg WG (2007) Preface. In: Blouin FX, Rosenberg (eds) *Archives, documentation and institutions of social memory essays from the Sawyer Seminar*. University of Michigan, Ann Arbor, pp. vii–ix
- Brothman B (2001) The past that archives keep: memory, history and the preservation of archival records. *Archivaria* 51:48–80
- Calero-Medina C, Noyons ECM (2008) Combining mapping and citation network analysis for a better understanding of the scientific development: the case of the absorptive capacity field. *J Inf* 2(4):272–279
- Caswell M (2010) Khmer Rouge archives: accountability, truth, and memory in Cambodia. *Arch Sci* 10(1):25–44
- Cook T (1994) Electronic records paper minds: the revolution in information management and archives in a post-custodial and post-modernist era. *Arch Manuscr* 22(2):300–328
- Cook T (1997) What is past is prologue: a history of archival ideas since 1898, and the future paradigm shift. *Archivaria* 43:17–63
- Cook T (2000) Beyond the screen: the records continuum and archival cultural heritage. Paper presented at Australian Society Archivists Conference, Melbourne, 18 August 2000
- Cox RJ (1993) The concept of public memory and its impact. *Archivaria* 36:122–135
- Craig BL (2002) Selected themes in the literature on memory and their pertinence to archives. *Am Arch* 65(Fall-Win):276–289
- Cronin B (1981) The need for a theory of citing. *J Documentation* 37(1):16–24
- Damasio A (1994/2005) *Descartes’ error: emotion, reason, and the human brain*. Penguin, New York
- Damasio A (1999) *The feeling of what happens: body and emotion in the making of consciousness*. Harcourt, New York
- De Bellis N (2009) *Bibliometrics and citation analysis: from the science citation index to cybermetrics*. Rowman and Littlefield, Lanham
- de Solla Price DJ (1965) Networks of scientific papers. *Science* 149(3683):510–515

- Demaine J (2009) A main path domain map as digital library interface. In: Proceedings of the SPIE 7243, 72430G, 19 January, San Jose
- Derrida J (1996) *Archive fever: a Freudian impression*. University of Chicago Press, Chicago
- Durkheim E (1912/1965) *The elementary forms of the religious life*. Trans. Swain JW. The Free Press, New York
- Erl A, Nünning A (2008) *Cultural memory studies: an interdisciplinary and international handbook*. Walter de Gruyter, New York
- Foote K (1990) To remember and forget: archives, memory, and culture. *Am Arch* 53(3):378–392
- Gilliland-Swetland AJ (1992) Archive and the computer: a citation analysis of north American periodical articles. *Arch Issues* 17(2):95–112
- Girvan M, Newman MEJ (2002) Community structure in social and biological networks. *Proc Natl Acad Sci USA* 99:7821–7826
- Halbwachs M (1925) *Les Travaux de L'Année Sociologique*. F. Alcan, Paris
- Halbwachs M (1992) *On collective memory*. Trans. and ed. Lewis A. Coser. University of Chicago Press, Chicago
- Harris V (1997) Claiming less delivering more: a critique of positivist formulations on archives in South Africa. *Archivaria* 44:132–141
- Harris V (2002) The archival sliver: power, memory, and archives in South Africa. *Arch Sci* 2(1):63–86
- Harvey-Brown R, Davis-Brown B (1998) The making of memory: the politics of archives, libraries and museums in the construction of national consciousness. *Hist Hum Sci* 11(4):17–32
- Harzing AW (2007) Publish or Perish. <http://www.harzing.com/pop.htm>
- Harzing AW, van der Wal R (2008) Google Scholar as a new source for citation analysis. *Ethics Sci Env Pol* 8:61–73
- Hedstrom ML (2002) Archives, memory, and interfaces with the past. *Arch Sci* 2(1–2):21–43
- Hedstrom ML (2010) Archives and collective memory: more than a metaphor, less than an analogy. In: Eastwood T, MacNeil H (eds) *Currents of archival thinking*. Libraries Unlimited, Santa Barbara, pp 163–179
- Hummon NP, Doreian P (1989) Connectivity in a citation network: the development of DNA theory. *Soc Netw* 11(1):39–63
- Jimerson RC (2009) Constructing memory. In: Jimerson RC (ed) *Archives power: memory, accountability, and social justice*. Soc Am Arch, Chicago
- Josias A (2011) Toward an understanding of archives as a feature of collective memory. *Arch Sci* 11(1–2):95–112
- Kansteiner W (2002) Finding meaning in memory: a methodological critique of collective memory studies. *Hist Theory* 41(2):179–197
- Ketelaar E (2001) Tacit narratives: the meanings of archives. *Arch Sci* 1(2):131–141
- Ketelaar E (2005) Sharing: collected memories in communities of records. *Arch Manuscr* 33(1):44–61
- Ketelaar E (2008) Archives as spaces of memory. *J Soc Arch* 29(1):9–27
- Klein KL (2000) On the emergence of memory in historical discourse. *Representation* 69(Winter): 127–150
- Kleinberg JM (1998) Authoritative sources in a hyperlinked environment. <http://www.cs.cornell.edu/home/kleinber/auth.pdf>
- Kleinberg JM (2002) Bursty and Hierarchical Structure in Streams. In: Proceedings of the 8th ACM SIGKDD international conference on knowledge discovery and data mining, July 23–26, 2002 Edmonton, Alberta, Canada
- Millar L (2006) Considering the relationship between memory and archives. *Archivaria* 61:105–126
- Lievrouw LA (1990) Reconciling structure and process in the study of scholarly communication. In: Borgman C (ed) *Scholarly communications and bibliometrics*. Sage, Newbury Park, CA
- Lowenthal D (1985) *The past is foreign country*. Cambridge University Press, Cambridge
- MacRoberts B, MacRoberts M (1987) Testing the Ortega hypothesis: facts and artifacts. *Scientometrics* 12(5):293–295
- McIntosh R (1998) The great war, archives, and modern memory. *Archivaria* 46:1–31
- Misztal BA (2003) *Theories of social remembering*. Open University Press, Maidenhead UK
- Nannelli E (2009) Memory, records, history: the records of the commission for reception, truth, and reconciliation in Timor-Leste. *Arch Sci* 9(1):29–41
- Olick JK (1999) Collective memory: the two cultures. *Soc Theory* 17(3):333–348
- Olick J (2007a) *The politics of regret: on collective memory and historical responsibility*. Routledge, New York

- Olick J (2007b) States of memory: continuities, conflicts, and transformations in national retrospection. Duke University Press, Durham
- Olick JK, Robbins J (1998) Social memory studies: from collective memory to the historical sociology of mnemonic practices. *Ann Rev Soc* 24:105–140
- Olick J, Vinitzky-Seroussi V, Levy D (2011) The collective memory reader. Oxford University Press, Oxford
- O'Toole J (1993) The symbolic significance of archives. *Am Arch* 56(2):234–255
- Paul DiMaggio (1997) Culture and Cognition. *Ann Rev Sociol* 23:263–287
- Piggott M (2005a) Building collective memory archives. *Arch Manuscr* 33(1):62–83
- Piggott M (2005b) Archives and memory. In: McKemmish S, Piggott M, Reed B, Upward F (eds) *Archives: recordkeeping in Society*. Charles Sturt University Centre for Information Studies, Wagga Wagga, pp 299–328
- Punzalan RL (2006) Archives of the new possession: Spanish colonial records and the American creation of a 'national' archives for the Philippines. *Arch Sci* 6(3–4):381–392
- Punzalan RL (2009) 'All the things we cannot articulate': colonial leprosy archives and community commemoration. In: Bastian JA, Alexander B (eds) *Community archives: the shaping of memory*. Facet, London, pp 197–219
- Quirin A, Cordon O, Guerrero-Bote V, Vargas-Quesada B, Moya-Anegón F (2008) A quick MST-based algorithm to obtain Pathfinder networks ($\infty, n - 1$). *JASIST* 59:1912–1924
- Schacter DL (1995) Memory distortion: how minds, brains, and societies reconstruct the past. Harvard University Press, Cambridge MA
- Schacter DL (1996) Searching for memory: the brain, the mind, and the past. Basic Books, New York
- Schacter DL (2001) The seven sins of memory: how the mind forgets and remembers. Houghton Mifflin, Boston MA
- Schoonbaert D, Roelants G (1996) Citation analysis for measuring the value of scientific publications: quality assessment tool or comedy of errors? *Trop Med Int Health* 1:739–752
- Schwartz B (1982) The social context of commemoration: a study in collective memory. *Soc Forces* 61:374–402
- Schwartz JM, Cook T (2002) Archives, records, and power: the making of modern memory. *Arch Sci* 2(1–2):1–19
- Shin X, Tseng B, Adamic L (2009) Information diffusion in computer science networks. In: *Proceedings of the 3rd Int'l AAAI Conference on Weblogs and Social Media*. May 17–20, 2009, San Jose, California. AAAI, Palo Alto CA
- Taylor HA (1982-1983) The collective memory: archives and libraries as heritage. *Archivaria* 15:118–130
- Taylor HA (1995) Heritage revisited: documents as artifacts in the context of museums and material culture. *Archivaria* 40:8–20
- Valderhaug G (2011) Memory justice and the public record. *Arch Sci* 11(1–2):13–23
- Wallace DA (2011) Introduction: memory ethics—or the presence of the past in the present. *Arch Sci* 11:1–12
- Weldon MS, Bellinger KD (1997) Collective memory: collaborative and individual processes in remembering. *J Exp Psychol Learn Mem Cognit* 23(5):1160–1175
- Yan E, Ding Y (2010) Weighted citation: an indicator of an article's prestige. *JASIST* 61(18):1635–1636