Archival Divides and Foreign Countries? Historians, Archivists, Information-Seeking, and Technology: Retrospect and Prospect

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ABSTRACT

Rumors of the deterioration of the historian-archivist relationship have been exaggerated. This article first traces the evolving historian-archivist bond over the last eight decades. Second, it discusses the methods scholars have employed in studying historians, namely bibliometrics, questionnaires, interviews, and a combination. Third, it describes the results and implications of those studies in three areas: locating sources, using primary and nontextual materials, and overall information-seeking and use. Fourth, it considers the evolving and still ambivalent role of information technology in historians' research. Finally, it suggests possibilities for future research, highlighting digital history, personal archiving, Web 2.0, democratization and public history, crowdsourcing and citizen archivists, digital curation, activist archivists and social justice, diversity and the changing demographics of the archival profession, and education and training. Though historians and archivists may not always have used their relationship to Clio's maximum advantage, digital technology and an improved knowledge of historians' work practices based on investigations by archival scholars engender new and better possibilities for collaboration.

KEY WORDS

Historians, Historiography, Digital collections, Online environment, Archivist-historian relationship, Archival profession, Digital scholarship

> Perhaps the very closeness of that century-long historian-archivist relationship fostered perceptions in both professions that now hinder understanding the realities of archives and forging closer partnerships with each other.
>
> —*Terry Cook*[1]

> The necessary reconsideration of how the historical art is practiced is not taking place universally or uniformly.
>
> —*Lena Roland and David Bawden*[2]

> Historians' culture and modus operandi have typically been the opposite of the speed and openness, the collaborative spirit and do-it-yourself mentality, that characterize the Internet at its best.
>
> —*Kristen Nawrotzki and Jack Dougherty*[3]

> The moments of discovery that scholars share with archivists were described by historians with delight and gratitude.
>
> —*Jennifer Rutner and Roger C. Schonfeld*[4]

Introduction: Why Study Historians?

The impact of historians' work transcends their own academic communities: it percolates into public education curricula and influences multiple generations of students.[5] Historians, too, represent "researchers of last resort" and therefore wield disproportionate influence as users and as advocates.[6] Third, as frequent and experienced users, they constitute an identifiable and measurable user group.[7] Historians and archivists alike can profit from a closer and more perfect union.[8]

Both analysis and synthesis, this article first traces the contours of the historian-archivist bond over the last eight decades. Second, it lays out the methods scholars have employed in studying historians, namely bibliometrics, questionnaires, interviews, and mixed approaches. It then describes the results of those studies in three areas: locating sources, using primary and nontextual materials, and overall information-seeking and use. Fourth, it considers the evolving and still ambivalent role of information technology in historians' research. Finally, it suggests directions for future research, highlighting digital history, personal archiving, Web 2.0, democratization and public history, crowdsourcing and citizen archivists, digital curation, activist archivists and social justice, diversity and the changing demographics of the archival profession, and education and training.

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Historians and Archivists

In 2011, Terry Cook and Francis X. Blouin and William Rosenberg provocatively argued that historians and archivists faced an unprecedented lack of common understanding.[9] Cook stressed that historians view archives as a "foreign country"; meanwhile Blouin and Rosenberg underscored an "archival divide" between the two professions. Whereas in Cook's opinion historians see archivists as "honest brokers," archivists in fact "co-create" the archives.[10] "That archivists are continually making such judgments may account for the historical profession's sense of denial," Cook underlined, "or at least its failure to engage with the archival profession on matters of archival substance."[11]

More alarmist still, Blouin and Rosenberg contended that such a divide imperils future historical research.[12] "The structures and managerial demands of digital archives," they insisted, "are almost certain to reinforce the separation between historians and archivists—between historical understanding and archival administration—that characterize the archival divide."[13]

But the cleavage Cook and Blouin and Rosenberg pointed out is overdrawn. It may well be more rhetorical—not to say polemical—than factual. Both Cook and Blouin and Rosenberg tended to dichotomize the two groups ("historians" versus "archivists") even as they homogenized the members of each group. As archivist Maygene Daniels reminded us, "Our unity seems to be as much in our diversity and the breadth of our interests as in any common professional core."[14] The historical profession similarly welcomes diversity, foregrounds inclusivity, and encourages variegated intellectual pursuits. Sweeping generalizations must be made with great caution.

Far from a new phenomenon, the peculiar relationship among historians and archivists has long proved a source of concern, debate, and ambivalence. Interpretations of the historian-archivist relationship, whether positive or negative, whether hortatory or admonitory, whether focusing on the personal or on the intellectual aspects of the relationship, have differed over time undoubtedly because of changing demographics, new areas of study, and new types of sources. Professions, after all, are never static, and dynamism is not necessarily an indication of dysfunction.[15] Rather, professional evolution may indicate new possibilities for or phases of symbiosis. In short, the temptation to tell a facile story of declension must be resisted.

On the whole, studies of historians' information-seeking practices and the relationship between historians and archivists since the middle of the twentieth century paint a more nuanced—and more favorable—picture of the relationship

than Cook and Blouin and Rosenberg would have us believe. Historians are increasingly aware of the constructed nature of the archives, even if their work does not always explicitly address this construction.[16] Research since the early 2000s in particular suggests that historians both need and appreciate archivists more than ever.

Gestating in the nineteenth century, the archivist-historian relationship remained pivotal both in facilitating historical research and in defining the identity of both archivists and historians.[17] The ambivalent relationship between archivists and historians long predated even the era of the archival profession's "Founding Brothers."[18] The relationship appeared turbulent between 1909 and 1935, but a breach was unlikely, even after the Society of American Archivists coalesced in 1936.[19] In 1939, the first president of the Society of American Archivists, historian Albert R. Newsome, opined, "Perhaps an archivist ought not to be a historian, but a historian may well be an archivist."[20] From their professional birth, however, archivists feared encroachment by historians and librarians.[21] Presumably the feeling was mutual.

Many of the early characterizations of the historian-archivist relationship were anecdotal. In 1951, the National Archives' Philip Brooks lamented a growing separation between the archival and historical professions.[22] But a year later, Brooks retrenched, claiming, "For some years after the mid-1930's the close understanding between the majority of historians and the archivists seemed to diminish . . . . Since World War II the comity of interest has gradually revived."[23] Historian Donald McCoy agreed: the 1950s ushered in a rapprochement between the professions.[24]

One of the "Founding Brothers," Lester Cappon, a PhD in history and director of the Institute of Early American History and Culture at Williamsburg, also seized upon the issue. He remarked in defense of historians, "We may criticize some of his ilk for their antiquarianism, but it was he who challenged careless State officials and won public support for modest archival agencies, who rescued discarded Federal records from destruction, who awakened men in private life to awareness of the historical value of their family papers and offered preservation of these documents in the 'cabinets' of historical societies."[25] Karl Trever, who had also done doctoral work in history, similarly pushed for collegiality between archivists and historians.[26] Historian John Edwards Caswell soon lobbied for a closer relationship not only among archivists and historians, but also among archivists, historians, and records managers.[27]

Cappon stressed, "The archivist is not a mere caretaker of the paper residue of the past but a person with scholarly proclivities and, at best, a scholar himself. And his field of scholarship . . . is history."[28] In much the same way, future archivist of the United States James B. Rhoads, another history PhD, noted, "The archivist is . . . an information specialist in the truest sense—a

historian analyzing existing structure and providing information about the content of large bodies of historical material."[29]

Nevertheless, many historians demurred, framing the archivist as merely a "hack," a "hewer of wood and a drawer of water."[30] But assessments of the relationship remained ambivalent if not contradictory. Historian Walter Rundell Jr., who chaired the Survey on the Use of Original Sources in Graduate History Training in the late 1960s under the aegis of the National Archives, thought the relationship for the most part satisfactory, though he conceded that both parties could work to improve it.[31] Archivist Patrick M. Quinn subsequently labeled the archivist-historian relationship as less than harmonious since the Second World War.[32] But he also maintained, "If in the past the historian has been the bricklayer and the archivist the hod-carrier, the future will witness at least an equalization of these roles."[33]

Though Philip Mason, founder of the Walter P. Reuther Library and a history PhD, conceded the stereotype of archivist as subordinate, he exhorted archivists not to accept "second class citizenship."[34] Former acting archivist of the United States Frank Burke was hopeful: "maybe . . . there will emerge that reconciliation of the estranged parent and child, both having matured and recognized that each has a place in the other's existence."[35] George Bolotenko of the National Archives of Canada wondered: "Is this modern banishment of historians from the role of keeper of the record not in some measure the conscious or subconscious revenge of the 'little brother' against 'big brother'?"[36] Archivist Mattie Russell eschewed equivocation, insisting, "Archivists should first be historians."[37]

Archivist William L. Joyce saw an "unfortunate" adversarial dynamic obtaining between the two groups, not least because many archivists were "tilling in a vineyard once looked down upon by historians."[38] But Fredric Miller, holder of both a PhD in history and a master's in library science, lauded "the dynamic and uniquely symbiotic relationship between archives and history."[39]

Scholars who studied the relationship empirically reached similar conclusions. Archivists made appreciable intellectual contributions to historical scholarship, asserted Barbara C. Orbach, a PhD student in American studies as well as the holder of a master's degree in library and information science.[40] A team of archivists and historians in the early 1990s pinpointed the "natural partnership" among those who rendered evidence available and those who exploited it.[41]

The relationship between archivists and historians also appeared closeknit in the 2000s. Library and information science professor Wendy Duff and LIS doctoral student Catherine Johnson believed archivists key in orienting historians to new archives and new collections.[42] Historians appreciated archivists' social capital.[43] The former group profited from archivists' knowledge of recordkeeping, of archival systems, and of core concepts such as scope, content, and

provenance.[44] Further, archivists proved key partners in historians' verification efforts.[45]

Johnson and Duff concluded, "Historians develop different strategies to establish relationships with [archivists], including chatting, doing their homework, and offering to help with matters that concern the archivist, such as explaining collections, collaborating, and empathizing over professional problems."[46]

Again lauded as crucially important to and critically involved in the research process in the 2010s, the archivist represented an "expert and a partner."[47] "The stereotype of the curmudgeonly archivist," suggested one scholar, "is disappearing."[48] Cook, however, pinpointed an "unhealthy divergence" between historians and archivists gathering momentum since the 1970s, a perspective Blouin and Rosenberg endorsed, but that seems difficult to sustain evidentially.[49]

Despite their tortuous bond, archivists and historians share fundamental concerns, as Blouin and Rosenberg conceded. Each group wrestles with the nature of source materials, the phenomenon of social memory, and issues surrounding culture, power, and agency. The possibility for productive collaboration is perhaps unprecedented. The past may be a foreign country, as David Lowenthal asserted, but surely historians and archivists can cocreate maps.[50]

Results of Previous Scholarship

Methods and Samples

Challenges abound in studying the users of archives; historians are no exception.[51] Even 40 years after Arthur McAnally's seminal 1951 study, Donald Case observed, "History remains an area in which actual behavior . . . has not been well studied."[52] Nearly a quarter-century after Case's observation, the literature remains underdeveloped still. Archivists may focus on collections at the expense of their users.[53]

Early scholarship on historians' information-seeking and use dealt largely with the roles of libraries and librarians; only in the late 1970s did archivists and archives-centered scholars enter the dialogue with salutary results. Changing trends in historiography, namely the advent of the new social history in the 1960s and the ascent of cultural history in the 1970s, made such user studies all the more necessary. Unfortunately, such evolving scholarly practices likely fed some scholars' belief of disjuncture among historians and archivists (as well as among the historical discipline itself). Historian Donald Kelley argued:

> The political and ideological confusions of the 1960s produced more new histories and "turns" both left and right, social and linguistic as well as massive demographic expansion of the historical profession in the context of the Vietnam War, with attendant repercussions, student movements, and radicalisms which

> sought not only to view history "from the bottom up" but also to shift it into a "new left" activist mode, though increasingly in the interests not of an imagined international proletariat but of women, blacks, neglected ethnic groups, and others seeking identity through a history of their own.[54]

By the middle of the 1980s, in fact, "factional polarization" or "fragmentary chaos" seemingly prevailed in the historical discipline.[55]

Some archival scholars also took heed of the shifting direction of historical scholarship. Social history deeply affected not only the writing of history, but also the relationship among archivists and historians of all stripes.[56] "The mundane and the ordinary" acquired unpreceded prominence; concordantly, historians consulted a similarly unprecedented array of sources.[57]

More problematic for archivists, the field's dynamism militated against traditional forms of archival organization. Accustomed to ordering materials by provenance and filing system, archivists found themselves confronted by research interests resistant to these schema.[58] One scholar skewered archivists for failing to respond to the challenges of the new social history. These challenges persist in the present.[59]

The new social history aside, archivists also were faced with the efflorescence of cultural history in the 1970s.[60] Cultural history's apotheosis continued.[61] More broadly, historiography turned away from national and international politics toward sundry topics such as childhood, death, and the body; from a focus on events to a focus on structures; from the efforts of "great men" to those of so-called ordinary people and the ways in which they experienced social change; and from the study of thought to the study of collective movements and trends. Methodologically, moreover, historians tuned away from traditional notions of objectivity and accepted heteroglossia. Finally, historians proved increasingly amenable to a greater variety of evidence (oral, visual, and statistical, for instance) as opposed merely to traditional documents (namely official written records).[62]

Facing these challenges emerging from social and cultural history, both librarians and archivists studied historians largely as a way to improve services. Though their units of analysis often varied, scholars have employed four methods in studying historians' information-seeking practices: bibliometrics, questionnaires, interviews, and mixed methods.

Bibliometrics

Describing literature formally, bibliometrics provides "insights about research interests, resource needs, research behavior, interdisciplinarity, scholarly communication, and collection management."[63] Bibliometrics comprises two classes. Citation studies count each bibliographic unit each time it appears in a footnote; reference studies, by contrast, count each bibliographic unit in

the footnote only once.[64] Bibliometrics covers a tremendous amount of data; conversely, it deals only with explicit data (occurrences and co-occurrences) in published texts.

But bibliometrics cannot provide information about how researchers locate or obtain materials.[65] Other potentially problematic assumptions with bibliometric analysis include that the citing of a document implies use of it by the author; that the citing of a document reflects its quality; that citations point to the best available works; that a cited document is related in content to the citing document; and that all citations are equal.[66] For archival materials, finally, bibliometric analysis may be compromised by a general lack of common standards and terminology.[67]

Arthur McAnally,[68] Annie Marie Alston,[69] Clyve Jones, Michael Chapman, and Pamela Carr Wood,[70] Clark Elliott,[71] Fredric Miller,[72] M. Sara Lowe,[73] Jana Brubaker,[74] Graham Sherriff,[75] and Donghee Sinn[76] employed bibliometrics in their studies (see Table 1). Despite their common reliance upon bibliometrics, however, these scholars examined literature that generally varied in theme, time period, and geography; they also tended to use different sample sizes (number of journals, number of articles, and number of citations).

Questionnaires

Other scholars relied upon questionnaires. Properly designed questionnaires are useful if the units of analysis are individuals. Further, they may help collect original data when a population is too large to observe directly. On the other hand, questionnaires depend upon individual memory; similarly, they report what researchers claim they used and what materials they claim they found useful.[77] What is more, they cannot show what scholars would have used had other materials been available.[78]

On a pragmatic note, achieving a desired response rate (e.g., 50%) challenges scholars, as does culling a representative sample from a larger population. Moreover, disseminating the survey and following up often proves time consuming and resource intensive.[79] Michael Stevens,[80] Peter Uva,[81] Margaret Stieg,[82] Dianne L. Beattie,[83] Helen R. Tibbo,[84] Wendy Duff, Barbara Craig, and Joan Cherry,[85] Susan Hamburger,[86] and Alexandra Chassanoff[87] used questionnaires to study historians. As with bibliometric studies, these studies varied considerably in their foci and render direct comparison difficult (see Table 2).

Interviews

Interviews provide "a window on a time and a social world that is experienced one person at a time, one incident at a time."[90] Despite their advantages,

Table 1. Studies Employing Bibliometrics

Author	Date	Thematic focus	Temporal focus	Geographic focus	Sample
McAnally (PhD student, LIS)	1951	Not specified	1789–	United States	Not specified
Alston (Master's student, LIS)	1952	Not specified	Not specified	United States	2,029 references
					11 books
					7 book chapters
					9 journal articles
Jones, Chapman, & Carr (Librarians)	1972	Not specified	1050–939	United Kingdom	7,127 references
					7 journals
					119 articles
Elliott (Archivist)	1981	History of science	19th and 20th c.	Great Britain, Canada, United States	3,635 references
					15 journals
					51 articles
Miller (Archivist/ Historian)	1986	Social history	1800–	United States	16 journals
					214 articles
Lowe (Master's student, LIS and history)	2003	Not specified	Not specified	World	1,915 references
					4 issues
Brubaker (Librarian)	2005	Illinois state history	Not specified	Illinois	1,379 references
					1 journal
					4 articles
Sherriff (Librarian)	2010	Not specified	3rd c.–late 20th c.	32 of 47 North American	3,498 citations
					47 Master's theses
Sinn (Professor, LIS)	2012	Not specified	Not specified	World	34,627 references
					1 journal
					309 articles

namely in the area of "thick" description, interviews, like questionnaires and bibliometrics, evince possible shortcomings.[91] For example, it presupposes that the interviewee will summarize his or her perception and behavior as it evolved throughout the research process. Additionally, an interviewer necessarily assumes that the interviewee will reliably report his or her perceptions and behavior during the interview.[92]

To combat these limitations, scholars who undergirded their studies with interviews—Barbara Orbach,[93] Donald Case,[94] Charles Cole,[95] Robert Delgadillo and Beverly Lynch,[96] and Wendy Duff and Catherine Johnson[97]—often combined structured and nonstructured methods or employed open-ended questions to spur discussions (see Table 3). Yet again, these scholars' foci varied considerably.

Table 2. Studies Employing Questionnaires

Author(s)	Date	Subjects' thematic focus	Subjects' temporal focus	Subjects' geographic focus
Stevens (Graduate student, LIS)	1977	Political (39%)	19th c. (52%)	United States
		Social (13%)	20th c. (35%)	
		Intellectual (8%)	17th or 18th c. (13%)	
		Diplomatic (8%)		
Uva (Librarian)	1977	Medieval (13.6%)	Byzantine history –modern U.S.	Foreign country (72.4%)
		Far Eastern (13.6%)		
		Modern European (13.6%)		United States (27.2%)
		American Cultural and Intellectual (13.6%)		
Stieg (Professor, LIS)	1981	General (43)	Classical–modern U.S.	United States
		Topical (31)		
		Colonial (31)		
		19th century (29)		
Beattie (Archivist)	1989	Women's (3/4)	Not specified	Canada
Tibbo (Professor, LIS)	2003	All	All	United States
Duff et al.[88] (Professors, LIS)	2004	Social (64%)	20th c. (83%)	Central Canada
		Cultural (45%)	19th c. (73%)	
		Political (40%)	18th c. (23%)	
Duff et al.[89] (Professors, LIS)	2004	Social (358)	20th century (379)	Canada (304)
		Cultural (288)	19th century (348)	Europe (294)
		Political (284)	18th century (148)	United States (126)
Hamburger (Archivist)	2004	Not specified	Not specified	Not specified
Chassanoff (PhD student, LIS)	2013	Women's (approx. half); focus on social and cultural	20th c.	United States

Table 2. Extended

Sample size	Response rate	Subjects' gender	Subjects' rank
61	49.60%	Not specified	Not specified
22	48.80%	Not specified	Professors (59.1%)
			Associate (18.2%)
			Assistant (22.7%)
360	Approx. 50%	Not specified	Not specified
41	60%	Not specified	Not specified
308	44%	Male (70%)	Full or Associate Professor (80%)
		Female (30%)	Assistant Professor (20%)
173	50.60%	Male (71%)	Professor (45%)
		Female (29%)	Assistant Professor (16%)
600	50.60%	Male (73%)	Professor (43%)
		Female (27%)	Associate Professor (30%)
			Assistant Professor (16%)
131	43.60%	Male (53%)	Faculty (31%)
		Female (39%)	Graduate Student (25%)
		Unspecified (8%)	Undergraduate Student (13%)
86	Not specified	Male (32%)	Professor (11%)
		Female (67%)	Associate Professor (23%)
			Assistant Professor (26%)
			Adjunct Professor (16%)
			Teaching Professor (5%)
			Visiting Professor (5%)
			Professor Emeritus/a (2%)
			Research Professor (1%)
			Dean/Department Head (1%)
			Endowed Chair (1%)
			Distinguished Professor (1%)
			Other (5%)

Table 3. Studies Employing Interviews

Author	Date	Thematic focus	Temporal focus
Orbach (Librarian/Doctoral student, American studies)	1991	Social (40%)	20th c. (40%)
		Political or political/diplomatic (20%)	
		Intellectual (20%)	
		Cultural (10%)	
		General (10%)	
Case (Professor, LIS)	1991	Social (30%)	Not specified
	1991	Intellectual (15%)	
		Chronological (15%)	
Cole (Professor, LIS)	1998	Not specified	20th c. (22%)
	2000		19th c. (20%)
	2000		17th c. (6.7%)
Delgadillo (Master's student, Latin American studies); Lynch (Professor, education)	1999	Not specified	Not specified
Duff (Professor, LIS) and Johnson (PhD student, LIS)	2002	Social (40%)	Not specified
		Political (10%)	
		Legal (10%)	
		Aboriginal (10%)	
		Intellectual (10%)	
		Cultural (10%)	
		Material culture (10%)	
Johnson (PhD student, LIS); Duff (Professor, LIS)	2005	Historians:	Not specified
		Social (40%)	
		Political (10%)	
		Legal (10%);	
		Aboriginal (10%)	
		Intellectual (10%)	
		Cultural (10%)	
		Material culture (10%)	
		Doctoral students:	
		Canada (60%)	
		Scottish (10%)	
		German (10%)	
		Communication studies (20%)	
Rutner and Schonfeld (Consultants)	2012	Not specified	Not specified
Roland and Bawden (Professors, LIS)	2012	Not specified	Not specified

Table 3. Extended

Geographic focus	Sample size	Subjects' gender	Subjects' rank
United States	10	Male (60%)	Professor (60%)
		Female (40%)	Assistant Professor (10%)
			Visiting Lecturer (10%)
			Doctoral Student (20%)
United States	20	Male (95%)	Professor (55%)
		Female (5%)	
United Kingdom	45	Not specified	Doctoral Student (100%)
Continental Europe (20%)	15	Male (80%)	Doctoral Student (93%)
Latin America (20%)		Female (20%)	Master's Student (7%)
United States (20%)			
Far East (13.3%)			
Africa (13.3%)			
Great Britain (6.7%)			
Eastern Europe (6.7%)			
Not specified	10	Male (60%)	Associate or Assistant Professor (100%)
		Female (40%)	
Not specified	20	Not specified	Historian (rank not specified) (50%)
			Doctoral Student (50%)
Not specified	53	Not specified	Faculty (60.4%)
			Doctoral Student (13.2%)
			Support Staff (26.4%)
Not specified	41	Not specified	Historian
			Archivist
			Librarian
			Web Researcher

Combination of methods

As work by Raymond Vondran,[98] Diane Beattie,[99] Helen Tibbo,[100] Deborah Lines Andersen,[101] Suzanne R. Graham,[102] Ian Anderson,[103] and Margaret Stieg Dalton and Laurie Charnigo[104] showed, some scholars compared the results of different methods brought to bear on the same sample (see Table 4). Using multiple methods may yield the most trustworthy results, but may be the most challenging study to undertake.[105] But reconciling divergent findings produced by the use of different methods remains difficult, as Beattie's, Anderson's, and Dalton and Charnigo's studies underscored.[106]

Irrespective of method, scholars faced similar challenges in designing their studies, namely corralling a representative sample from a larger population and isolating or accounting for numerous variables. Indeed, many studies are not directly comparable as a result, as tables one through four suggest.[107] What is more, there may be a disjuncture between what historians did and what they claimed they did with respect to their research processes. Future research should grapple with these issues and compare more specifically their studies' units of analysis as well as their findings.

Studies of historians focused on how they located scholarly materials, on the ways in which they used those materials (especially primary and nontextual sources), and on their overall information-seeking and use strategies.

Historians' Research Processes

Locating Sources

In locating sources, historians' favored methods remained consistent over time (see Table 5). Most notably, footnote or citation chaining remained foundational, ranking first in Uva's study, first in Stieg's, first in Hernon's, second in Beattie's, first in Orbach's, first in Tibbo's (1993), first in Delgadillo and Lynch's, first in Tibbo's (2003), first in Anderson's, second and third, respectively, in Duff, Craig, and Cherry's two studies, second (primary sources) and third (secondary sources) in Dalton and Charnigo's, and second in Hamburger's.

This long-standing preference for footnote-chaining aside, two trends are of particular importance for archivists. First, archivists themselves played an important role for Stevens's study (fourth), Beattie's (first), Anderson's (eighth), Duff, Craig, and Cherry's (first in "Finding and Using Archival Resources" and fourth in "Historians' Use of Archival Sources"), and Dalton and Charnigo's (eighth). Orbach noted, "Historians tended to accord repository staff due credit—and considerable power—in facilitating access to primary material."[112] Along these lines, visits to archives were important for historians in Dalton and

Charnigo's (fourth in primary sources) and Hamburger's (third) studies. In both cases, there is clearly room for archivists to embed themselves more deeply, more frequently, and earlier on in historians' work processes.

Notwithstanding the role of archivists themselves, finding aids help scholars reduce uncertainty in working with unfamiliar repositories and materials.[113] Historians ranked finding aids fifth in Orbach's study; fifth in Tibbo's ("Primarily History"); second in Anderson's; first in Duff, Craig, and Cherry's ("Historians' Use of Archival Sources"); first in Dalton and Charnigo's; and sixth in Hamburger's. Conventional finding aids aside, the Web irrevocably changed the possibilities for locating sources.

According to Daniel V. Pitti, the Web "awakened an abiding but dormant aspiration: to provide comprehensive universal access to the world's primary cultural and historical resources."[114] Particularly after the turn of the millennium, scholars probed historians' use of new technology to locate materials. Despite the advent of Encoded Archival Description, however, simply mounting finding aids on the Web was no panacea for historians. The search engine used, the skills of the user, and the amount of information available on the Web played a critical role in historians' successfully locating finding aids.[115] Indeed, only 4 of Tibbo's 153 historians ("Primarily History") were certain they had used EAD finding aids (a further 61 were unsure, and 82 indicated they had not). Furthermore, Tibbo's sample rarely consulted electronic databases; instead, they employed varied search methods to find primary sources, from footnote-chaining to Web searching. Building on these findings, Tibbo emphasized the importance of developing user-friendly electronic finding aids and databases.[116] Indeed, webinars on EAD or on tools such as ArchiveGrid may prove a useful investment of repository resources.

Speaking to Tibbo's finding, 12% of Dalton and Charnigo's respondents never used electronic databases.[117] But Anderson also found that United Kingdom historians' concerns about online finding aids did not indicate reluctance to use online retrieval tools per se. Indeed, the same number of his interviewees ranked online methods and print and informal means "most effective." Anderson found that print-based (i.e., formal) retrieval methods were most significant for unpublished and government sources and informal retrieval methods were most significant with published sources and artifacts.

Anderson also encountered a disjuncture that underscored the possible difference between use and usefulness. Nearly all of his sample claimed they used leads from print sources (97%) or informal contacts (88%) to locate materials, but only just above a quarter (29%) said these leads were the most effective method. In other words, the most popular retrieval methods were not invariably the most effective. Ultimately, Anderson's historians sought more online retrieval options even as they remained beholden to print forms.

Table 4. Studies Employing Mixed Methods

Author	Date	Method	Thematic focus	Temporal focus
Vondran (Professor, LIS)	1976	Interviews	Not specified	Post-Renaissance
Beattie (Archivist)	1989–1990	Bibliometrics Survey	Women's history (3/4)	Not specified
Tibbo (Professor, LIS)	1993	Interviews	Political (20%)	19th–20th c. (24%)
		Abstract analysis	Social/cultural (16%)	18th–19th c. (20%)
			Diplomatic (8%)	General modern (non-U.S.) (12%)
			Labor (8%)	17th–18th c. (12%)
			Historiography/research methods (8%)	20th c. (12%)
			Special groups/topics (8%)	All centuries (8%)
			U.S. regional (8%)	Ancient/classical (4%)
			Economic (4%)	Medieval (4%)
			Constitutional/legal (4%)	Other (4%)
			Women (4%)	
			Quantitative (4%)	
			Military (4%)	
			Archives (4%)	
Andersen (Professor, LIS)	1998	Interviews Questionnaires	Not specified	Not specified
Graham (Librarian)	2002	Bibliometrics Questionnaire	Not specified	Not specified
Anderson (Professor, LIS)	2004	Interviews Questionnaires	Not specified	Not specified
Dalton (Professor, LIS); Charnigo (Librarian)	2004	Questionnaires	Questionnaires	Modern/early modern
		Citation analysis	Social (19)	
			Women's (13)	
			Cultural (10)	
			Religious (9)	
			Scientific (9)	
			Legal (9)	
			Political (6)	
			Medical (6)	
			Intellectual (6)	
			Foreign policy/foreign relations (6)	

Table 4. Extended

Geographic focus	Sample size	Subjects' gender	Subjects' rank
Europe and Americas	Interviews (65)	Not specified	Not specified
	Questionnaires:		
	181 articles		
	50 journals		
Canada	Bibliometrics	Not specified	Not specified
	33 articles		
	41 scholars		
	Questionnaires:		
	68 sent out, 41 returned		
North America (40%)	Interviews (25)	Male (76%)	Professor (48%)
Europe (28%)		Female (24%)	Associate Professor (48%)
U.S.-Western History (joint history) (8%)			Instructor (4%)
Africa (4%)			
Latin America (4%)			
Middle East (4%)			
U.S.-Asia (foreign relations) (4%)			
U.S.-Europe (foreign relations) (4%)			
Other (4%)			
Not specified	Interviews (28)	Not specified	Professor (overrepresented)
	Surveys (60)		Associate or Assistant Professor (underrepresented)
Not specified	Not specified	Not specified	Not specified
Not specified	Interviews (25)	Females overrepresented by 7%	Senior/Principal Lecturer (35%);
	Questionnaires (105)		Lecturer (26%)
			Professor (26%)
			Dean/Department Head (7%)
			Reader/Research Fellow (6%)
Questionnaires:	Questionnaires (278)	Male (66%)	Professor (over 50%)
United States (38%)	Citations (2,078)	Female (33%)	
European (29%)			
Latin American (7%)			
Asian (7%)			

Table 5. Discovering and Locating Sources

Author	Year	Source 1	Source 2	Source 3	Source 4
Stevens (Master's student, LIS)	1977	Secondary sources	NUCMC	Colleagues	Archivists
Uva (Librarian)	1977	Footnotes/citations (90.9%)	Journals (90.9%)	Separately published bibliographies (81.8%)	Book reviews (77.3%)
Stieg (Professor, LIS)	1981	Bibliographies/ references in books or journals	Specialized bibliographies	Book reviews	Library catalogs
Hernon (Professor, LIS)	1984	Review of subject literature	Book reviews	Library catalogs	Indexes/abstracts
Beattie (Archivist)	1989-1990	Consulting archivists (89.4%)	Citations in journals or books (84.2%)	Colleagues (76.3%)	Inventories/lists (73.6%)
Orbach (Librarian; PhD student, American studies)	1991	Citations in footnotes/bibliographies (80%)	Guides of some sort (60%)	Card catalog/index (60%)	Colleagues (40%)
Tibbo (Professor, LIS)	1993	Footnotes/ bibliographies from monographs (84%)	Footnotes/bibliographies from journal articles (68%)	Browse library subject catalog (48%)	Specialized bibliographies (36%)
Delgadillo (Master's student, Latin American studies); Lynch (Professor, education)	1999	Citations in secondary sources (100%)	Bibliographies (80%)	Library catalog (46.7%)	Talking with advisers (26.7%)
Tibbo (Professor, LIS)	2003	Leads/citations in printed books (98%)	Library online catalog (80%)	Printed bibliographies (79%)	Printed repository guides (78%)
Anderson (Professor, LIS)	2004	Printed books/ articles (97%)	In-person repositories' physical finding aids (89%)	Informal leads, e.g. colleagues or browsing (88%)	Printed bibliographies (81%)
Duff, Craig, and Cherry[108] (Professors, LIS)	2004	Archivists (87%)	Footnotes/other references (87%)	Colleagues (78%)	Published bibliographies (67%)
Duff, Craig, and Cherry[109] (Professors, LIS)	2004	Finding aids (93%)[110]	Archival sources (93%)	Footnotes or references (89%)	Archivists (83%)
Dalton (Professor, LIS); Charnigo (Librarian) (primary sources)	2004	Finding aids (26%)	Footnotes/citations (20%)	Archives/library catalogs (20%)	Archival visits (19%)
Dalton (Professor, LIS); Charnigo (Librarian) (secondary sources)	2004	Bibliographic databases (23%)	Reading other sources (21%)	Footnotes, references, notes, bibliographies in other works (21%)	Library catalogs (19%)
Hamburger (Archivist)	2004	Library OPAC (67.9%)	Footnote chaining (62.5)	In-person visit (46.6%)	Library website (45.8%)

Table 5. Extended

Source 5	Source 6	Source 7	Source 8	Source 9	Source 10
Journals	Hamer's *Guide*				
Colleagues (72.7%)	Correspondence (54.5%)	Meetings (40.9%)	Indexes (31.8%) (tie)	Students (31.8%) (tie)	Other (22.7%)
Abstracts or indexes	Colleagues (outside home institution)	Browsing library shelves	Consulting experts	Discussion with colleagues (home institution)	Consultation with librarians
Colleagues outside home institution	Browsing library shelves	Consulting experts	Colleagues at home institution	Consultation with librarians	
Catalogs/indexes (71%)	Published guides (65.7%)	Union lists (39.4%)			
Finding aids (40%)					
Browsing library stacks (32%)	Footnotes/bibliographies from dissertations (32%)	Indexes and abstracts (24%)	General bibliographies (24%)	Citation indexes (12%)	
Talking with colleagues (26.7%)	Talking with instructors (13.3%)	Talking to librarians (6.7%)			
Printed finding aids (76%)	Other libraries' catalogs (67%)	Newspapers (65%)	Repository websites (63%)	Online bibliographic utilities (58%)	Government documents (56%)
Other institutions' websites/OPACS (71%)	Repository guides (62%)	Own institution's websites/ OPACs (60%)	Archival/library staff or hired researchers (53%)	Government documents (50%)	Newspapers (47%)
Book reviews (52%)	Web (49%)	Indexes (40%)	Abstracts (29%)	Students (27%)	
Colleagues (% N/A)[111]	Published bibliographies (% N/A)	Book reviews (% N/A)	Web (45%)		
Bibliographies (11%)	Bibliographic databases (8%)	Colleagues (5%)	Archivists (4%)	Websites (3%)	Reference librarians (2%) (tie)
Bibliographies (15%)	Book reviews, new books, journal listings (13%)	Specialized bibliographies (4%) (tie)	Colleagues (4%) (tie)	Browsing library stacks (3%) (tie)	Publisher catalogs (3%) (tie)
Librarian/reference staff (38.9%)	Paper finding aid (33.6%)	Colleagues/ friends (30.5%)	Manuscripts card catalog (29.8%)	OCLS/ RIN (22.1%)	NUCMC (19.8%) (tie)

Ninety-one percent of Anderson's sample used at least one electronic retrieval method, and 30% used between 5 and 6. Participants used websites and OPACs heavily but rarely used search engines or Archon. Indeed, 19% of his interviewees deemed online retrieval most effective, but one-third claimed online retrieval was least effective (they expressed concerns about accuracy and completeness). These historians wanted a greater number of online finding aids (37% of the sample) and more digitized sources (13%) that provided context and peer-reviewed mediation.[118]

Overall, Tibbo's (2003), Anderson's, Dalton and Charnigo's, and Duff et al.'s (both 2004) studies suggested historians' willingness to adopt electronic resources as long as those resources were easily accessible and met traditional criteria for authenticity and reliability.

By 2004, then, the Web was of considerable importance in locating historical information.[119] In one study, half (49%) of participants claimed the Web was "very" or "somewhat" important in locating sources.[120] In this sense, the advent of Google added a formidable arrow to historians' quivers. Crucial in jumpstarting the research process, Google offered convenience, ease of use, and a broad scope of searchable material.[121] Historian Daniel J. Cohen queried rhetorically, "Is Google good for history? Of course it is."[122]

Still, Google coexisted with traditional approaches, as Chassanoff determined.[123] Although the Web represented a "ubiquitous, enabling tool," participants in Rutner and Schonfeld's study evinced concerns regarding its efficiency and comprehensiveness (mirroring the concerns expressed by Anderson's participants) nearly a decade earlier.[124] Indeed, historians were not always amenable to the Web's promise of nearly instantaneous delivery of historical information.[125]

Reflecting this ambivalence—or perhaps divided loyalty—95% of Chassanoff's sample still followed leads in books and articles in ferreting out primary sources. While 68% of her sample exploited a combination of online tools (Google key among them) to locate materials, they tended to use these tools early on in their research processes.[126] Historians' comfort level with print remained evident: continuity and change coexisted, if not always easily.

Using Materials

Primary materials

In the 2010s as in the 1950s, primary sources constitute the foundation of historians' work. Historians remain fixed on primary materials.[127] Anderson's 2004 study, for instance, found that 99% of the sample used primary sources.[128] Though historians working on all historical periods used a broad array of sources, the ratio of archival to secondary materials remained relatively constant over time (see Table 6).[129]

In his 1951 dissertation, McAnally found that between 62.7% and 68.5% of the citations referred to primary sources.[130] Of these primary sources, between 80% and 82% denoted printed primary sources and between 10% and 13% manuscript materials. In their United Kingdom study, Jones, Chapman, and Woods found similar use of primary sources: 10.9% of their references were to manuscripts.[131] But Elliott's citation analysis published just shy of a decade later issued a corrective to McAnally and to Jones and his colleagues: approximately 28% of the references he analyzed referred to primary unpublished sources. Just under half (46%) of the references Elliott culled referred to primary published sources; therefore, fully three-quarters (74%) of references were to primary sources of some type, a finding that pointed to Uva's (primary sources were the most important sources at almost every stage of the research process).[132]

Elliott, like McAnally and Jones et al., found that historians preferred certain types of primary sources more than others. Of primary unpublished sources in Elliott's study, 59% referred to personal papers, and 48% of those referred to correspondence. The other 41% referred to corporate sources, and 20% of those referred to correspondence. (A full 68% of manuscript references harkened to correspondence.) Finally, those historians studying twentieth-century topics made the heaviest use of manuscripts (i.e., unpublished primary sources).

Reaffirming Stieg's finding of 1981, albeit with a different sample, Miller found that his sample depended upon primary sources almost as much as on books and periodicals. Three-quarters of Miller's sample used primary unpublished materials substantively. Despite their concentration on the new social history, however, Miller's historians made much use of tried and true sources such as personal correspondence.[133] Nevertheless, Miller's sample showed a slightly lower reliance on personal papers than Elliott's. On the whole, Miller's sample worked more intensively with sources such as case files and census records (i.e., public records) rather than personal, family, and financial records.[134]

The majority (70%) of Orbach's interviewees used secondary sources initially and turned to primary sources only upon writing. These historians turned back to secondary sources at the close of their projects; thus they resembled those Tibbo (2003) later studied.[135] Whereas primary sources undergirded arguments, secondary sources "played supporting roles such as exposing untrod intellectual territory, providing background, supplying leads to pertinent sources, and filling in facts."[136] Mirroring the findings of earlier studies, 60% of her participants thought correspondence the most useful class of primary source.

Rooted in a combination of methods, Beattie's study problematized earlier work. She found four contradictions. First, more than three-quarters of respondents to her questionnaire deemed primary manuscript materials the most useful type of textual materials, and less than half claimed government

Table 6. Sources Most Commonly used

Author	Date	1	2	3	4
McAnally (PhD student, LIS)	1951	Books (43.72%)	Newspapers (12.15%)	Public documents (10.16%)	Journal articles (9.23%)
Jones et al. (Librarians)	1972	Monographs (34.1%)	Journal articles (21.5%)	Printed documents/calendars (11.3%)	Manuscripts (10.9%)
Elliott (Archivist)	1981	Primary published sources	Secondary sources	Unpublished primary sources (personal)	Unpublished primary sources (corporate)
Stieg (Professor, LIS)	1981	Books	Periodicals	Manuscripts	Newspapers
Lowe (Master's student, LIS and history)	2003	Monographs (57%)	Journals (25%)	Book chapter (9%)	Government material (3%)
Tibbo (Professor, LIS)	2003	Newspapers	Unpublished correspondence	Published pamphlets	Handwritten manuscripts
Duff et al. (Professors, LIS)	2004	Manuscript records (97%)	Published printed records (96%)	Typescript records (91%)	Photographs (76%)
Duff et al. (Professors, LIS)	2004	Original (95%)	Microfilm (82%)	Photocopy (75%)	Microfiche (50%)
Dalton (Professor, LIS); Charnigo (Librarian)	2004	Books (99%)	Journal articles (98%)	Manuscripts, archives, special collection (94%)	Dissertations (87%)
Brubaker (Librarian)	2005	Newspapers (44.6%)	Archival sources (36.8%)	Government documents (9.7%)	Journals or serials (7.8%)
Sherriff (Archivist)	2010	Books (53.2%)	Periodicals (15.7%)	Journal articles (7.8%)	Government documents (6.7%)
Sinn (Professor, LIS)	2012	Secondary published materials (86.83%)	Archival materials (10.54%)	Web resource (.76%)	Digital collections items (.39%)
Chassanoff (PhD student, LIS)	2013	Correspondence (88.3%)	Newspapers (88.3%)	Books (86.0%)	Periodicals (77.9%)

records were the most useful. But her questionnaire and the reference analysis revealed contradictory results, namely, twice as many references to manuscript materials as to government records. Second, Beattie's historians claimed to use the personal papers of individuals (100%) and the records of women's organizations (92.1%). On the other hand, her citation analysis showed that half of

Table 6. Extended

5	6	7	8	9	10
General manuscripts (5.47%)	Archives (4.4%)	Interviews (3.2%)			
Newspapers (5.6%)	Contemporary pamphlets/ ephemera (4.1%)	Parliamentary debates/ proceedings (3.2%)	Published collections (2.3%)	Reference works (1.7%)	Government reports (1.5%)
Microcopies	Government publications (tie)	Theses/dissertations (tie)			
Unpublished materials (3%)	Newspapers (2%)	Dissertations (.5%)	Oral communications (.5%)		
Unpublished diaries or journals	Government papers or reports	Typed manuscripts	Government correspondence	Unpublished minutes	Photographs
Maps (52%)	Moving images (34%)	Sound recordings (29%)	Architectural plans (28%)		
Transcribed (43%)	E-reproduction (21%)	Photographic facsimile (21%)			
Newspapers (72%)	Government documents (67%)	Photographs (62%)	Maps (61%)	Publications of scholarly organizations (60%)	Websites (58%)
Other (1.1%)					
Book chapters (5.3%)					
Multimedia (.13%)					
Manuscripts (72.1%)	Photographs (62.8%)	Diaries (62.8%)	Legal materials (51.2%)	Accounts (40.1%)	Maps (37.2%)

respondents (49.9%) cited organizational records, but that only 36.4% cited personal papers. Third, two-thirds (66.6%) of questionnaire respondents claimed to have used census records, but only 10% of their footnotes cited these records. Fourth, two-thirds (69.4%) of respondents claimed to have used social service and court case files, but fewer than 10% cited these sources.

Faced with these conflicting findings, Beattie hypothesized that use was not tantamount to usefulness.[137] Subsequent studies such as Tibbo's, Anderson's, and Duff et al.'s reaffirmed this point: the materials historians most often used were not always the ones they considered most useful.[138] This issue remains unresolved in the 2010s.

Debates over use and usefulness aside, Web resources emerged as a key concern of scholars who studied historians in the early 2000s. Graham's study unearthed still another contradiction: more than 40% of her sample had not sought out primary sources online even though nearly three-quarters (72%) felt "general satisfaction" with the quality of Web information. Nearly half (46%), moreover, were confident that Web resources had sufficient permanence to be cited in scholarship.[139] This reticence presaged Tibbo's "Primarily History in America" study, which found historians still characterizing printed primary sources such as newspapers and unpublished correspondence as their most important sources. These historians' preference for newspapers reinforced McAnally's and Jones et al.'s decades-old conclusions.[140]

Graham's findings also pointed to Duff et al.'s "Finding and Using Archival Resources": this sample's most important sources were textual (manuscripts, printed records, and typescripts). Conversely, more than one-fifth (21%) of their sample used digital reproductions. Historians appreciated the potential for digitization because it could increase their access to documentary materials. Yet they wanted direct access both to original documents and to digitized finding aids. They trusted archivists, moreover, to ensure proper measures were taken to ensure authenticity and integrity.[141]

Conversely, some historians' skepticism about Web resources persisted, Brubaker's study found historians citing very few electronic primary or secondary sources. Her sample eschewed electronic newspapers, journals, and serials; only .3% of their citations to archival materials were to electronic versions.

Change was afoot by the 2010s. Relatively few of Rutner and Schonfeld's 2012 interviewees worked solely with physical primary sources. Instead, they used digital representations whenever possible to save time and money.[142] Similarly, their sample unhesitatingly used digitized secondary sources such as books, book chapters, and articles. What was more, these scholars found working with digitized materials unprecedentedly convenient. Mirroring Duff et al.'s sample of 2004, these historians wanted more online finding aids as well as more digitized primary sources.[143]

Like Rutner and Schonfeld, Chassanoff found nearly all of her sample (93%) relying upon digitized primary sources. While these historians often physically accessed accounts and ledgers, correspondence, diaries, and manuscripts, they frequently deferred to online versions of nontextual materials such as artworks, oral histories, photos, sound recordings, film, and video.[144]

Familiar concerns persisted, however. Chassanoff's historians showed most enthusiasm for digitized sources that effectively replicated the attributes of physical archival sources. Concerned with quality, her historians requested reproductions of original images, a finding that went against both Sinn's and Gibbs and Owens's studies, both of which found that content outstripped quality in importance.[145] Similarly, Chassanoff's sample wanted to procure online materials from a reputable repository that provided a detailed finding aid. Other desiderata included collections of digitized primary materials supported by provenance information. Her historians' digital wish list, finally, included full (and searchable) runs of historical newspapers as well as manuscripts, popular magazines, and diaries and journals. In keeping with their current use patterns, they hoped for increased online access to nontextual items such as photographs and oral histories.[146]

Though comparisons are challenging because of scholars' varying units of analysis, several trends particularly relevant to archivists can be discerned. First, as shown in Table 6, archival materials were used by almost all historians examined in these studies. Such materials cropped up in McAnally's (fifth and sixth), Jones et al.'s (fourth), Elliott's (third and fourth), Stieg's (third), Lowe's (fifth), Tibbo's (second, fourth, fifth, seventh, and ninth), Duff et al.'s (first and third), Dalton and Charnigo's (third), Brubaker's (second), Sinn's (second), and Chassanoff's (first, fifth, and seventh) work.

Second, newspapers were heavily used, as noted in studies by McAnally (second), Jones et al. (fifth), Stieg (fourth), Lowe (sixth), Tibbo ("Primarily History") (first), Dalton and Charnigo (fifth), Brubaker (first, tied), and Chassanoff (first, tied). Third, periodicals ranked second in Stieg's study, second in Sherriff's, and third in Chassanoff's. Fourth, diaries ranked fifth in Tibbo's study ("Primarily History") and seventh in Chassanoff's. Finally, nontextual materials constituted an important primary source for historians, a finding discussed in greater detail below.

In setting their work priorities, archivists and archival scholars can learn much from these studies. For example, they might probe the vexing question highlighted by scholars such as Beattie: how can the seeming disjuncture between use and usefulness be resolved? Determining which materials are most useful as opposed merely to most used seems critical for resource allocation as archivists increasingly seek to mount sources on the Web. Second, archivists might determine how best to preserve traditional attributes such as provenance and authenticity in mounting materials on the Web. Chassanoff's, Sinn's, and Gibbs and Owens's studies suggest scholarly consensus is elusive: do historians prefer quality over quantity? Third, archivists might well prioritize digitization projects based on previous studies' findings. It appears that correspondence represents a particularly good candidate for digitization. Newspapers and

periodicals seem in robust demand, as do nontextual materials. Finally, archivists would do well to explore Pitti's suggestion of in the late 1990s: how to link finding aids or other tools for locating materials with quality reproductions of the materials themselves.

Nontextual materials

As shown in Table 6, nontextual materials became increasingly important in historians' work. On one hand, Stieg found the relative lack of her sample's use of newer media formats "striking, if not surprising."[147] On the other hand, her historians used materials such as photographs (ranked number eight in her survey among formats), maps (ninth), sound recordings (tenth), films (twelfth), and videotape (thirteenth).[148] Beattie's sample often exploited nontextual primary materials: approximately three-quarters of respondents claimed to use photographs and nearly two-thirds used oral histories.[149] That said, Dalton and Charnigo learned that the availability of nontextual sources and the time period being studied by historians circumscribed the extent to which such sources, especially film, were used.[150]

Pursuant to Beattie's work, over the next quarter-century scholars such as Lowe, Tibbo, Dalton and Charnigo, Duff et al., Rutner and Schonfeld, Sinn, and Chassanoff also found historians using nontextual materials. Lowe's sample, for instance, used oral communications (ranked eighth), and Tibbo's ("Primarily History") used photographs (tenth). Dalton and Charnigo's historians relied upon photographs (ranked seventh; 62% used them), maps (eighth; 61%), oral histories (twelfth; 44%), audiovisual materials (fourteenth; 38%), and artifacts or museum pieces (fifteenth; 30%).[151] Similarly, Duff et al.'s sample embraced photographs (ranked fourth; 76% of respondents called them "very" or "somewhat" important), maps (fifth; 52%), films and moving imaging (sixth; 34%), sound recordings (seventh; 29%), and architectural plans (eighth; 28%).[152]

Rutner and Schonfeld's historians, too, embraced nontextual materials, namely audio/video, websites, and games. Locating, accessing, and working with such materials seemed unprecedentedly convenient to these scholars.[153] Also in 2012, Sinn found photographs and artwork cited frequently (73.4% of the total number of images). His sample also cited screenshots of film or multimedia (.47%).[154] Perhaps more important, archival materials were the most frequently used source for images (48.6%) and digital archival collections contributed another 12.8%.

Nearly 63% (ranked sixth) of participants in Chassanoff's study relied upon photographs, 37.2% (tenth) upon maps, 30.2% (eleventh) upon oral history, 23.3% (twelfth) upon artwork, 16.3% (thirteenth) upon film, 15.1% (fourteenth, tied) on datasets, 15.1% (fourteenth, tied) on sound recordings, and 12.8% (sixteenth)

on video. Perhaps more important, participants accessed artwork, oral histories, photographs, and sound, film, and video recordings more frequently online than in person.[155]

On the whole, scholarly reliance upon nontextual images perhaps has been slow to evolve.[156] That said, these studies suggested that historians were more willing than ever to consult sources other than traditional print. One strategy for quickening the pace of digitization and thus insinuating nontextual images into historians' work is to include historians themselves in undertaking tasks such as metadata creation or descriptive tagging.[157] In light of findings such as Chassanoff's, making these nontextual materials accessible electronically should be among archivists' key priorities.

Historians' Overall Information-Seeking and Use

As part of their user studies, some scholars traced the overarching information-seeking behavior of historians. For instance, Stevens stressed his sample's reliance upon professional networks as opposed merely to the consultation of formal sources.[158] Conversely, Uva's historians used literature more extensively than personal channels; the latter were most germane in the early stages of scholars' work.[159] Nearly three decades later, however, Lowe reiterated that informal contact was a principal vehicle of scholarly communication.[160]

Relying upon informal versus formal retrieval methods led to a larger conversation: whether historians participated in an invisible college. Scholars remained far from reaching consensus on this issue. Vondran,[161] Stevens,[162] Case,[163] and Delgadillo and Lynch claimed historians did rely upon such a network.[164] Conversely, Stieg,[165] Hernon,[166] and Dalton and Charnigo[167] concluded that historians lacked an invisible college.

Given her verdict on historians' lack of an invisible college, it was no wonder that Stieg thought historians' research methods unsystematic; they also neglected to exploit all available resources.[168] Although Miller believed social historians to be astute users of archives, he echoed Stieg: historians did not use as many sources as they might, nor did they fully exploit these sources' potential.[169] Orbach, too, underscored historians' "neither entirely conscious nor entirely linear" research process.[170] Satisficing or even the principle of least effort could triumph.[171] "Few scholars would argue with the ideal of thorough and painstaking research," Orbach suggested, but "fewer still care to or can afford to engage full-time in this single pursuit until its completion."[172]

Challenging the findings of Uva and Stieg, scholars such as Beattie, Orbach, Case, Tibbo ("Primarily History"), Cole, Duff and Johnson, and Chassanoff argued that historians were methodical and organized, if nonlinear and iterative, in their pursuits. Indeed, an iterative approach could prove key in building context,

"the sine qua non of historical research."[173] Case highlighted the number of archives and libraries containing materials of interest to historians, another factor that could engender perceptions of haphazardness.[174] "Although the information seeking is partially blind or unconscious," Cole concluded, "it is strongly motivated nonetheless."[175] Finally, Chassanoff's sample harkened to Uva's; her historians pursued a nonlinear search process involving multiple (an average of eight) strategies.[176]

Whether methodical or not, historians' research processes often revolved around collecting names and subjects. Both Stevens and Orbach stressed the importance of names and subjects; Orbach also emphasized the salience of chronological periods.[177] Cole, too, discerned that collecting names of people and organizations constituted vital information-finding strategies. The bedrock of original research, names allowed researchers both to access resources and to perform original research.[178]

Like Stevens's, Orbach's, and Cole's samples, nearly all of Duff and Johnson's historians collected names.[179] Susan Hamburger also underlined her sample's reliance upon personal names, though she thought personal names far from the most effective vehicle for searching.[180]

Historians' strategies may be orderly to one degree or another, but whether they are maximally efficient is another matter. They would be well advised to involve archivists earlier and more frequently in the research process both formally and informally, especially given archivists' technological savvy. Computer technology renders archivists' involvement with historians' work all the more imperative—and all the more feasible.

Historians and Information Technology

Computers seemed promising for historical research as early as the 1930s with the first scholarly use of punch cards. In the late 1940s, Frank and Harriet Owsley incorporated statistics into their work; a handful of other historians followed suit in the 1950s. In the early 1960s, some scholars focused on social mobility, urbanization, patterns of assimilation, ordinary people, and multiple causation. Quantitative analysis and data modeling predominated. But the cost and time involved in training impeded such work.[181]

Notwithstanding microfilm, historians accrued only limited experience with new technology by the late 1960s and in any event lacked a clear conception of how best to exploit it.[182] The lack of standardized computer programs meant new methods spread slowly.[183] Nonetheless, Archivist of the United States James B. Rhoads thought computers were rising in archivists' estimation as effective data manipulators.[184]

Yet historian H. J. Hanham insisted that the computer had changed historians' priorities little.[185] For some historians, in fact, computing became negatively identified with quantitative history.[186] Another historian, however, examined the state of political, economic, and social history and found much to admire. Pointing to the nineteenth-century roots of the historical profession, he reflected, "Perhaps we are closer than many thought possible a few years ago to realizing . . . a truly scientific historiography."[187] Still another historian, Joel H. Silbey, concurred: "Guidelines are well-defined, themes and patterns are well established . . . the sophistication attained and confidence exhibited suggest a great deal of useful work to come."[188] In 1977, Uva found that 27.3% of respondents used computers in their research, though hardly for the advanced number-crunching advocated by Silbey and others of his wont.[189]

Computers and networking were de rigueur in some quarters by the early 1980s.[190] Merely using word processing software, for example, yielded a considerable payoff.[191] The 1980s witnessed important refinements in the use of databases for historical computing.[192] Yet lack of coordination and communication between historians and computer programmers festered.[193] Gereben Zaagsma even contended, "American computer-aided historical research had all but died by the mid-1980s, the result of a backlash against quantitative approaches . . . to the detriment of traditional problem-oriented and narrative history."[194]

In the early 1990s, adoption of information technology by humanists remained desultory.[195] "A persistent skepticism still haunts the profession, as our machine-less colleagues still wonder whether historians who use computers are the vestal virgins of a new research paradigm or naked emperors proud of their virtual clothes," remarked the head of the Canadian Committee for History and Computing.[196]

During this period, however, LIS scholars such as Case and Tibbo probed historians' willingness to use computers in unprecedented depth. Case was of two minds. On one hand, he observed "an antitechnology bias in a tradition-oriented profession," but, on the other, he found his sample of historians remarkably open to any strategies that would facilitate their research.[197] In Case's sample, 17 of 20 historians used computers and had done so for an average of 3.3 years. At the same time, nearly all still edited their manuscripts on paper; not one, moreover, used bibliographic databases.[198] Computers alleviated the tedium of composing, typing, and revising, but the work a computer could perform seemed but prefatory to critical interpretation.[199] Tibbo called for synthesizing traditional and new approaches.[200]

Surveying the offerings of the Web in 1997, two historians reflected: "We are impressed—even astonished."[201] Historian and librarian Robert Darnton admitted, "Like many academics, I am about to take the leap into cyberspace,

and I'm scared. What will I find out there? What will I lose? Will I get lost myself?"[202]

Barriers to the optimal enlistment of technology persisted. One study of humanists castigated historians' "culture of low expectations."[203] In this vein, Andersen's sample feared that investing time in electronic resources would undercut scholarly productivity. Some of her historians deemed lack of instruction and finding relevant information key impediments. Foreshadowing a 2010 American Historical Association study, Andersen found that many members of her sample neglected information technology, but that a minority made heavy use of it. They requested cutting-edge equipment; personalized, hands-on, and in-house training; and timely support, database information, and improved access to electronic information.[204]

In a related study, Andersen's sample (like Case's) undercut stereotypes about technophobia.[205] These scholars embraced computers for word processing, communicating, printing, and photocopying. Additionally, nearly all members of her sample thought electronic information access technologies essential, especially in verifying bibliographic citations or locating documents. But seldom did they use databases or spreadsheets. Perhaps most important, responses indicated that many of these historians were unaware of the resources available to them.[206] Clearly, communication was at a premium.

History students meanwhile cited problems with electronic sources similar to those of full-fledged historians. Cole's sample of doctoral students stressed the challenge of assessing the quality and relevance of information as opposed merely to its quantity.[207] Though generally positive about computer use, Delgadillo and Lynch's sample showed only limited use of computing technology. One-third of the sample had used email during the previous year, but they used computers mostly for consulting online catalogs and for word processing. Overall, these students demonstrated many of the same information-seeking strategies as did their mentors, which likely helped to explain their hesitancy about adopting new technologies.[208]

For historians and students alike the question remained open: could the Web facilitate "serious" historical work?[209] Complicating this question, the Web seemingly democratized history by allowing users of all stripes to create and place their own histories in the public domain.[210] Historians Michael O'Malley and Roy Rosenzweig thought the Web showed that "meaning emerges in dialogue and . . . culture has no stable center, but rather proceeds from multiple 'nodes.'"[211]

A 1999 survey conducted by the American Association for History and Computing (AAHC) identified much individual and institutional variety.[212] Every respondent used email and nearly all (93%) used computers for research. Moreover, two-thirds of respondents (65%) felt dissatisfied with their institutions'

technology policies, initiatives, and plans.[213] In the end, though, responses indicated a sentiment of "cautiously optimistic experimentation."[214]

Optimistic or not, historians ratcheted up their expectations for the information age. For example, Duff and Cherry's sample wanted the best of both worlds: easy access to electronic documents in good condition, on one hand, and the functionality of paper documents on the other. In terms of electronic resources, they requested comprehensive coverage, results ranked in order of relevance, provenance information about digitized images, browsing functionality, and search query assistance.[215]

Graham's mixed-methods study determined that most respondents used electronic resources more in 2000 than in 1997. Nevertheless, her sample showed no particular interest in using electronic versions of sources, despite the latter's advantages in search functionality. Few of these historians cited electronic resources in their work, for they believed their colleagues respected print citations more than electronic ones. (Sinn later hypothesized that new types of resources undergo a trial period in which they build up legitimacy among scholars.) Finally, though 36% were uncertain whether digitized sources would positively affect their research, half were interested in learning more about digitized sources.[216] In just this sense, Roy Rosenzweig propounded, "Historians are not particularly hostile to new technology, but they are not ready to welcome fundamental changes to their cultural position or their modes of work."[217] Statistical and mathematical tools, after all, could not supplant critical qualitative judgment.[218]

Anderson's study similarly found historians willing to use online resources and tools as long as those resources met their needs.[219] Some historians' problems with electronic sources stemmed from the scope and indexing of the source rather than from equipment or software.[220] Indeed, most members of Dalton and Charnigo's sample were "highly appreciative" of electronic resources, though their use of online resources and tools in no way implied jettisoning traditional methods. [221]

Scholars also discussed generational issues with respect to technology. For instance, Tibbo discerned a difference between junior and senior faculty: junior faculty were much more likely to search the Web and OPACs than their older colleagues.[222] Conversely, Dalton and Charnigo claimed, "The myth of the younger generation teaching the older appears . . . to be just that, a myth."[223] Cohen and Anderson concurred with Dalton and Charnigo: neither technophobia nor technophilia was the strict preserve of any age group.[224]

Historians voiced concerns about the migration of sources to the Web. Many historians found reading onscreen unpleasant.[225] Others evinced concern about the authenticity, reliability, persistence, stability, and legibility of sources on the Web.[226]

Holdouts such as historian Alexander Maxwell noted that historians traditionally were reluctant to embrace methods of digital scholarship.[227] He insisted not only that original paper documents were always to be preferred, but also that digital archives should duplicate (not replace) such originals. Any digital documents, he felt, should embody images of the original.[228]

Complicating Maxwell's argument, more than 4,000 members of the American Historical Association described their use of computer technology in 2010.[229] "Power users" (4.3% of the sample) exploited multiple digital technologies; "active users" (68.9%) employed a variety of online sources, adopted new technology, and taught themselves to use it; "passive users" (24.4%) employed computers for word processing and for occasional online searches, but relied on others for training; and "avoiders" (2.4%) shunned computers.

Power users worked with a greater number of programs (8.9) than active (5.9) or passive (3.9) users. Whereas more than half of power users welcomed new software or digital tools, the remaining respondents favored a more cautious approach. Notably, nearly half (49%) of passive users and avoiders claimed few programs or tools proved useful in their research.

Despite their cautiousness, nearly all respondents used word processing and conducted some online searches; three-quarters (74%) used at least one other program or technology. Therefore, the differences between power users and the other respondents perhaps hinged more on quantity than on use. But age and generation proved notably important in the study (concurring with Tibbo but not with Dalton and Charnigo, Cohen, or Anderson), more so, in fact, than geographic field of specialization, type of employing department, or gender. Historians over 65 were twice as likely to be either technologically ambivalent or hostile as their counterparts under 45.

Despite such checkered findings, a 2012 study determined that "more digital archival materials are used in historical research and . . . more historians are using digital archival materials for their research."[230] The use of digital archival materials—the actual number of items each year, the average number of digital items in the articles, the number of articles that used digital items, and the average number of articles using digital items each year—increased between 2001 and 2010. But the actual use of such resources remained infinitesimal: Web resources were .76% of citations, digital archival collections were .39%, and multimedia were .13%. Even so, the small number of items cited might not indicate a minor scholarly impact.[231] It seemed that electronic sources were slowly coming into their own. But a familiar conclusion emerged from Gibbs and Owens's study: interest in new forms of data coexisted with traditional use of historical sources.[232]

Ultimately, scholars' verdicts on the impact of computers on historical practice varied, but most opted for cautious generalization even as they hedged

their bets rhetorically. For example, it seemed unclear to one group of researchers whether use of the Web by historians constituted a sea change or merely an adaptation.[233] Rutner and Schonfeld also temporized, "The underlying research methods of historians remain fairly recognizable even with the introduction of new tools and technologies, but the day to day research practices of all historians have changed fundamentally."[234]

According to Toni Weller, though few historians seemed "digital Luddites," by the early 2010s, there remained "a degree of condescension and suspicion towards digital resources."[235] Few historians leveraged digital tools for analysis, much less disseminated their work digitally.[236] The phenomenon of "new media, old mentality" died hard.[237] Indeed, Gibbs and Owens determined that both history professors and graduate students exploited technology to streamline their traditional methods; they were relatively ignorant, however, of digital tools.[238]

"The Web may not be the brave new world or the postmodern inferno, but it is an arena with which everyone concerned about the uses of the past in the present should be engaged," claimed O'Malley and Rosenzweig.[239] Ultimately, technology can serve as an ever more powerful resource not only for effecting historical scholarship, but also for enabling new collaborations among archivists and historians.[240]

Possibilities for Future Research

Possibilities for future research on historians, archivists, and information-seeking include digital history, personal archiving, Web 2.0, democratization and public history, crowdsourcing and citizen archivists, digital curation, activism and social justice, diversity and demographics, and education and training. These overlapping issues will profoundly affect both the writing of history in the future and the trajectory of the historical and archival professions.

Digital History

Digital history harnessed computers and software. [241] "On one level," noted William G. Thomas III, "digital history is an open arena of scholarly production and communication, encompassing the development of new course materials and scholarly data collection. On another, it is a methodological approach framed by the hypertextual power of these technologies to make, define, query, and annotate associations in the human record of the past."[242]

Nevertheless, the bulk of professional historians vouchsafed little attention to digital history; digital scholarship itself comprised a sliver of American history overall as of the middle of the 2000s.[243] Although scholars relied upon

word processing, email, and Web browsing, their computerized research skills were immature.[244]

In spite of slow adoption by historians, digital media and networks quantitatively improved capacity, accessibility, and flexibility. They also promoted diversity, manipulability, and interactivity. Conversely, they posed drawbacks. Concerns stemming from quality, authenticity, durability, readability, passivity, and inaccessibility loomed large.[245] Faced with this Gordian knot, one historian complained, "I am up for tenure this year; I don't have time for this electronic stuff."[246]

In the 2010s, born-digital objects such as hypertextual maps, annotated letters, edited video, oral histories, and relational databases became part of some historians' practices. Some historical work showed the advantages of textual analysis and historical geographical information systems (HGIS) in enriching or amending traditional interpretations.[247] But exactly how "doing history" has changed remains an open question. Not only are incentives sparse overall, but few students are trained in such methods. Historians' tendencies toward conservatism remain apparent.[248] One historian chimed in, "I do not care a whit whether improved access to digital information comes about because of public-private partnership or changing attitudes among library professionals: I only care about improved access."[249]

Flying in the face of such sentiments, Gibbs and Owens noted, "Historical scholarship increasingly depends on our interactions with data, from battling the hidden algorithms of Google Book Search to text mining a hand-curated set of full-text documents."[250] Recent projects such as William G. Thomas III and Richard Healey's "Railroads and the Making of Modern America" and Daniel J. Cohen and his colleagues' "Using Zotero and TAPOR on the Old Bailey Proceedings: Data Mining with Criminal Intent" demonstrated the scholarly potential inhering in large quantities of data.[251] In these arenas, the computer qua research tool served as "a moveable and adjustable lens that allows scholars to view their subjects more closely, more distantly, or from a different angle."[252] Ian Anderson testified, "Whether analyzing change over time or the relationship between cause and effect it is impossible to avoid talking about extent, range, scope, degree, duration, proportion or magnitude, whether one is using adverbs and adjectives or decimal points and chi-squares."[253] James Crossman lobbied for combining historians' and statisticians' skills.[254]

In 2006, the American Council of Learned Societies' report *Our Cultural Commonwealth* maintained, "Digital technology can offer us new ways of seeing art, new ways of bearing witness to history, new ways of hearing and remembering human languages, new ways of reading texts, ancient and modern."[255] Zaagsma recently noted, "I would hope that within a decade or so there will be no more talk of 'digital history' as all history is somehow 'digital' in terms of

incorporation of new types of sources, methods and ways of dissemination."[256] How can archival principles and practices add value to digital history?

Personal Archiving

In 2013, Donald Hawkins observed: "What we have written, what we have read, where we have been, who has met with us, who has communicated with us, what we have purchased, and much else is recorded in increasingly greater detail in personal digital archives, whether they are held by individuals, institutions, or commercial organizations, and whether we are aware of those archives or not."[257] Personal digital archives thus constituted "an optional, even accidental, part of our collective cultural record."[258]

For archivists, personal archives introduced another degree of difficulty to existing practices. Perhaps most important, archivists lacked input regarding the creation of personal archives. Furthermore, archivists needed to take responsibility for preserving indefinitely the materials and their contextual relationships. Finally, archivists needed to preserve the authenticity of these materials and to remain cognizant of privacy and intellectual property issues.[259]

A number of scholars suggested the importance of personal archives for future scholarship and encouraged repositories to take heed of these materials lest they be lost irretrievably.[260] Granular studies of personal records' creation and use seemed an overlooked area for research.[261] Archivists may profit from adopting the Bodleian Library's recommendations. First, creators would benefit from exposure to digital curation expertise. Second, though archival professionals have important skills to deal with these materials, they need to extend those skills, namely in learning how to exploit new tools. Third, archivists can raise awareness of the need to preserve personal materials and can forge collaborations with creators and other stakeholders.[262] What strategies for raising awareness and effecting collaborative outreach might be most effective?

Web 2.0

Newfound interest by archivists in personal archiving channeled into their engagement with Web 2.0 more broadly. Web 2.0 represents:

> The network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform; delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an

> "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences.[263]

In the 2000s, Web 2.0 infiltrated the archives as well.[264] It offered not only new sources for archivists to preserve, but also new ways for them to reach out to professional and public historians and to other constituents. "Do we dare to assign value to the words of those prophets written on subway walls and tenement halls, now more likely inscribed on web sites, blogs, Twitter, Facebook, YouTube, and other digital social media?," asked Terry Cook.[265]

Mary Samouelian's study found a gap between archivists' awareness of the importance of Web 2.0 and repositories' actions in capitalizing upon it. Of the 85 repositories in her population that hosted digital collections, 38 (45%) used Web 2.0 applications. More auspicious, interviewees were "overwhelmingly positive" about using Web 2.0.[266] Another study found nearly one-fifth of repositories in the United States and Canada using at least 1 of 3 Web 2.0 applications (blogs, Facebook, or Twitter). Nonetheless, their outreach efforts appeared relatively conservative.[267]

Samouelian's participants' most common motivations for embracing Web 2.0 stemmed from their interest in promoting use and sharing of content. Interviewees mentioned requests for scans, interest in viewing original materials, and even inquiries about donations. On the other hand, the time necessary to maintain a Web 2.0 presence proved the biggest drawback.[268] The institutions most successful in attracting audiences had the luxury of devoting staff time to Web 2.0.[269] All the same, Web 2.0 projects may ultimately help archives large and small attract new staff and resources.

Overall, Web 2.0 changed archivists' technological interaction with stakeholders.[270] "In a Web 2.0 world," Max J. Evans argued, "researchers who discover collections and collection components should have several interactive choices: an email address or telephone number by which to contact an archivist to learn more; a way to schedule a visit; or a listing of hours and location so that an unannounced visit can be planned. Or . . . detailed finding aids can also become the means to order up archival digitization-on-demand."[271] This ideal is yet to be realized.

Apropos of preserving Web 2.0 materials, archivists might consider targeting blogs, Facebook, and Twitter. Blogs seemed the successor to that staple of historical research, diaries. Through blogs, ordinary people are "confessing their sins, complaining about work, or celebrating small, personal achievements."[272] By extension, blogs in many ways democratized Web 2.0, shedding light on ordinary people (or at least ordinary Web users, potentially a key distinction). Barriers to entry are low: users needed neither advanced technical skills nor design and literacy skills. Moreover, they can exploit free software and online services.[273]

But blogs posed challenges for archivists—not least because of their inherent instability. Along these lines, preservation of blogs can prove labor-intensive and potentially duplicative. Last and perhaps most important for future researchers, blogs could lose necessary context if separated from their environment of creation.[274]

Like blogs, Facebook and Twitter drew increased interests from archivists in several studies both as future historical sources worthy of preservation and as tools to connect with constituents such as professional and public historians. First, scholars considered preservation. One study's participants showed "indifference, mistrust, and confusion about the preservation of their Facebook records."[275] Furthermore, participants assumed their records lacked historical or research value.[276] Suffice it to say, these results do not bode well for future research use.

Additionally, preservation of Tweets drew attention from archival scholars.[277] Four obstacles arose. First, Tweets were ephemeral and lacked standards and best practices for collection and preservation. Second, both experiential and contextual information could be lost in the course of preservation. Third, it was difficult if not impossible to determine whether a given account is used by a single or by multiple users, much less to verify the identity of a user or of users. Finally, archivists faced two ethical issues: the anonymity and safety of users and the inability to secure consent.[278] Yet Timothy Arnold and Walker Sampson offered useful prescriptions for preserving Tweets. First, they advocated for documenting the tools employed to gather any tweet collection(s). Further, to preserve necessary contextual information, archivists should document the rationale behind their search parameters (for example their selection of keyword terms and hashtags).[279]

Second, both Facebook and Twitter spurred archives to strengthen bonds with existing constituents and to cultivate new audiences, public and professional historians among them. As an extension of existing outreach endeavors, Facebook allowed archivists to keep pace with peer institutions' outreach efforts and to raise the public profile of their own institutions as well as to share their collections.[280] The vast majority of participants in a recent study (19 of 23) deemed Facebook a "good" or "great" outreach venue.[281]

Like Facebook, Twitter increased its archival profile in the 2010s, in no small measure because the Library of Congress committed in 2010 to preserve the entire Twitter archives. A recent study found institutions successfully increasing awareness of and access to their collections through Twitter. Institutions engaged with their audiences through administrative updates (3.72%), links to institutional site content (21.06%), link sharing from other sites (28.88%), interacting with Twitter users (14.64%), event promotion (27.55%), and social media–focused tweets (4.15%). Two findings seemed propitious. First, through Twitter,

smaller institutions could have an impact disproportionate to their size. Second, Twitter encouraged reciprocity between users and institutions.[282] Indeed, one project on the War of 1812 testified to the possibilities of Twitter vis-à-vis outreach.[283] Therefore, Web 2.0 can potentially contribute to the democratization of history and highlight archivists' public roles in the process.

Despite the myriad possibilities offered by Web 2.0, archivists would be well advised to remember, as Roland and Bawden proclaimed, "Among all the 'noise'—blogs, emails, status updates, chat forums, Tweets—there is also much silence."[284] The digital divide continues to loom large in the archives. Web 2.0 is no exception. Scholars thus might explore how best to capture representative Web 2.0 content for future historians. What selection and appraisal policies and practices are appropriate?

Democratization and Public History

Carl Becker famously declared, "The history that lies inert in unread books does no work in the world."[285] Professional historians seemed oblivious. More than six decades later, Douglas Greenberg lamented that American professional historians lacked legitimacy with the general public, in no small measure because of their tendency to remain cloistered in the academy.[286]

By the early 2000s, however, the public history Web seemed a reality based upon grassroots efforts that comprised individuals, nonprofit organizations, and government agencies.[287] Ideally, such democratization could counteract the narrowing of concerns of professional historians.[288] Rosenzweig argued, "The web takes Carl Becker's vision of 'everyman a historian' one step further—every person has become an archivist or publisher of historical documents."[289] Indeed, those who rarely if ever had access to historical materials could now access or even publish such materials.

In this vein, the very notion of who counted as a "historian" expanded to include amateurs, curators, documentarians, historical society personnel, teachers, and students. The Web could render the past better documented, more diverse, and more democratic.[290] Moreover, Web 2.0 fostered symbiosis between scholarly and popular history; this augured well for the examination of collective experience, consciousness, and public memory.[291] Greenberg maintained, "Public historians can do their work for the public, by the public, and with the public."[292]

Popular engagement, however, introduced potential drawbacks: users might not grasp the context(s) surrounding materials. Similarly, users might reflexively presume sources' impartiality or completeness or both.[293] More broadly, the democratization of history paradoxically could exacerbate the digital divide, whether between commercial and nonprofit entities or between

resource-rich and resource-poor educational institutions.[294] The ideal spelled out by the American Council of Learned Societies, "We should place the world's cultural heritage—its historical documentation, its literary and artistic achievements, its language, beliefs, and practices—within the reach of every citizen," remains just that, an ideal.[295] Scholars might ask: how can the most diverse contributions to the public history record on the Web be secured, and what roles might archivists (and historians) play in enlisting such contributions?

Crowdsourcing and Citizen Archivists

Crowdsourcing complements the democratization of history.[296] "By designing platforms that make adding real value to our work intriguing, easy, and fun," Archivist of the United States David Ferriero contended, "we can cultivate both professional and non-professional 'citizen archivists.'"[297] Members of the public may contribute to public education.[298]

"Crowdsourcing," asserted Johan Oomen and Lora Aroyo, "has the potential to help build a more open, connected, and smart cultural heritage with involved consumers and providers: open (the data is open, shared and accessible), connected (the use of linked data allows for interoperable infrastructures, with users and providers getting more and more connected), and smart (the use of knowledge technologies and Web technologies allows us to provide interesting data to the right users, in the right context, anytime, anywhere)."[299] For instance, "crowdsourcers" might engage in correction and transcription, contextualization, classification, curation, and crowdfunding.[300] Terry Cook advocated for archivists' public engagement as coaches, mentors, and partners.[301]

Crowdsourcing qua peer production would likely thrive if contributors chose the projects they worked on and determined how much time to invest.[302] Should this succeed, "The archives of the people (as they have always been, but only in the abstract) thus become the archives by the people (who contribute and add value) and for the people (who now can actually use them)."[303] In this vein, archivists could collaborate with historians to promote initiatives such as History Harvest, which encourages citizens to contribute for education and research digitizations of their documents and artifacts.[304]

Yet ensuring contributors are consistent and knowledgeable given their lack of training is a central challenge, as is maintaining an appropriate level of quality and accuracy of their products.[305] (And who will determine what is appropriate?) Marc Parry asked, "Will enough volunteers participate to sustain these projects? Will the crowd care about less-sexy subjects, beyond war and famous individuals? And could transcribers' political beliefs skew their work on documents related to sensitive history topics?"[306] These are useful questions for scholars to unpack. "How well we meet that challenge for more democratic,

inclusive, holistic archives may determine how well we flourish as a profession in this digital century," Terry Cook prognosticated.[307] How might archivists encourage citizen participation in such endeavors?

Digital Curation

Digital curation centers on "planned, systematic, purposeful, and directed actions that make digital information fit for a purpose."[308] Future historical research will depend upon the born-digital materials that digital curation addresses.[309] Archives and digital curation work are complementary.[310] Areas of knowledge overlap, including ownership, donor relations, intellectual property, appraisal, provenance and *respect des fonds*, the context of creation and use, authenticity, evidence, the life cycle, descriptive hierarchy, access and use restrictions, transfer of ownership, permanence, and metadata.[311]

A recent survey found that more than half (57%) of respondents, all of whom were college or university archivists, were involved in campus conversations about curation. Nearly half of respondents collected institutional or research data in their repositories. Nonetheless, institutional size mattered: the largest institutions saw the most archivist involvement. Most striking, the vast majority of participants (86%) believed archivists should be involved with digital curation on some level, but only 54% of these respondents felt capable of fulfilling their perceived roles.[312]

For their part, historians demonstrated an inconsistent level of engagement with digital curation.[313] Roland and Bawden underscored historians' potentially conflicting priorities: "While digitization of analogue collections is recognized as progressive in that it increases access to historical resources and knowledge, as well as enabling a more democratic, alternative history to be told, others regard the digitization of born-digital material such as blogs and datasets as more pressing due to its fragile and vulnerable nature."[314]

In the digital as in the analog world, however, not everything can or should be preserved. Appraisal and selection remain stumbling blocks. Indeed, one study's respondents wanted the selection criteria for digital data to mirror those of analog materials. Hence their sample favored archivists making final appraisal and selection decisions.[315] "The meaningful preservation of digital information will determine the stories future historians will (or will not) tell, the information they will (or will not) access, and the knowledge available (or not) for future generations to build upon."[316] How can archivists make historians more aware of the need for and benefits of digital curation? Can they work together to develop criteria for selection and appraisal?

Activist Archivists and Social Justice

Historian Howard Zinn insisted in 1970, "The archivist, in subtle ways, tends to perpetuate the political and economic status quo simply by going about his ordinary business."[317] "The rebellion of the archivist against his normal role is not, as so many scholars fear, the politicizing of a neutral craft, but the humanizing of an inevitably political craft," he maintained.[318] But many archivists seemed slow or reluctant to heed Zinn's exhortation. One United Kingdom archivist observed, "Thirty years on from Zinn's comments, there clearly remains a need to take up his call to become 'activist archivists.'"[319]

Though some archivists may view activism as "controversial, even inappropriate," Anne Gilliland justified such activism.[320] "With this agency and activism," she stipulated, "comes a responsibility that needs to be informed by supporting evidence and appropriate technical and methodological expertise; broad critical consciousness; cultural awareness and sensitivity to the needs and rights of individuals who are the creators, subjects, or users of archival materials; robust and relevant professional ethics; and . . . strong self-reflection and public disclosure of the personal motivations behind one's actions."[321]

A recent exchange between Mark A. Greene and Randall C. Jimerson showed that the debate over the appropriateness or the nature (or both) of archival activism continued to thread professional discourse. Greene asserted, "Pursuing 'social justice,' as high minded and as universal an aspiration as it may sound, risks overly politicizing and ultimately damaging the archival profession."[322] He favored documenting controversial issues rather than participating in them.[323] Jimerson, on the other hand, remarked, "What the call of justice asks archivists to accept is a responsibility to level the playing field. The archival profession as a whole—but not necessarily each individual archivist or repository—should assume a responsibility to document and serve all groups within society."[324]

The Society of American Archivists weighed in on the issue in 2015 and seemed to lean toward Greene's position. The organization concluded:

> Although some—or even most—of SAA's leaders, members, and staff may hold similar views on social issues and matters of social justice, the organization as a whole does not have the resources or knowledge of a consensus to comment or act on every social issue that emerges. To choose to comment or act on one issue to the exclusion of others would raise concerns about how SAA reaches a decision about when to become involved and when and how the broader membership is consulted (or even polled) about their individual positions on a given social issue.[325]

The profession, it seems safe to say, remains divided on the issue of activism and social justice. Might soliciting input from the historical profession given

its own efforts in this area past and present enrich the conversation among archivists as well as among archivists and historians?

Diversity and the Changing Demographics of the Archival Profession

Nearly 20 years ago, Kathryn M. Neal urged archival professionals to recruit minorities into the profession.[326] Interest in diversity and inclusivity soon burgeoned.[327] Younger archivists increasingly hoped to shed light on marginalized populations by unearthing and publicizing previously overlooked documentary materials.[328] A diversity agenda that embraces multiculturalism should encourage multiple perspectives while highlighting the relationships among them.[329]

In the late 2000s, the archival profession foregrounded three facets of diversity: within the profession at large, within the Society of American Archivists, and in the historical record.[330] Elizabeth Adkins averred, "After a long and somewhat tortuous journey, diversity is now a front-and-center priority."[331] Greene subsequently cautioned, "Unless and until archivists of the so-called majority culture immerse themselves in the challenging, sometimes harsh, frequently perplexing, and usually nuanced world of diversity issues, it is unlikely that our profession, our institutions, our collections, and our researchers will achieve truly fundamental and enduring successes in achieving the goals—unclear as those often may be—of multiculturalism in archives."[332] How can the archival profession recruit and retain archivists of color? How can collecting policies be developed to preserve the diversity of the cultural record? How can archivists ensure such diverse materials are made available and accessible to historians?

Education and Training

Archivists, historians, and librarians still differ over the place of archival education in the curriculum.[333] Dissatisfaction with the graduate education of historians dates at least to the mid-twentieth century, as Philip C. Brooks, for one, lamented.[334]

Matters scarcely improved in the late 1960s. As one study noted, professors, themselves ignorant of research methods, often refused to admit their own limitations and insisted that students effectively teach themselves.[335] Two decades later, stasis still obtained.[336] A team of historians and archivists soon weighed in: "Nothing better illustrates both the uncertainty about teaching archival principles and the inadequacy of historical and archival cooperation than the state of graduate history courses in research methodology."[337] Students relied upon trial and error, a strategy both expensive and time consuming: Bridges et al. lobbied for a synthesis of historical and archival research methods.[338]

Nearly two decades later, many historians remained ill informed about the need to train their students to understand archival contexts.[339] One study found that doctoral students' training depended largely upon their advisers and that the process of learning to work with primary sources remained informal. These students received scant support for learning new research methods; they struggled to narrow the scope of their research, to refine their arguments, to manage their sources and notes, and to locate technological support.[340] "Current historical scholars do not really engage with the conceptual impact of the digital age despite using digital resources in their work," Weller recently asserted, "and consequently current students of history are often not taught to think about these conceptual issues or to apply traditional historical methodologies to their everyday digital and online experiences."[341]

Historically, archival instruction for undergraduates was circumscribed to orientations, tours, and displays. There existed neither competencies nor learning objectives nor standards for undergraduate archival education; trial and error prevailed.[342] But students often needed considerable guidance in using archival materials, and such guidance was rarely forthcoming. One study found a great deal of variation regarding how faculty members addressed archival research: for instance, some targeted it only toward history majors and others only for upper-level students.[343]

But archivists now have a prime opportunity to educate undergraduate and graduate students, exposing them to "Clio in the raw."[344] An archives can serve as a "laboratory in critical thinking" that trains students to select authentic and credible evidence as well as to analyze and interpret primary sources.[345] Archivists can introduce students to archival holdings and help them to discern research topics and to learn key skills.[346]

Familiarizing students with primary sources in particular not only integrates archives specifically into the curriculum, but also introduces students to or reinforces research methods based upon an understanding of finding aids and archival concepts such as provenance. Such instruction can also connect students to historical artifacts both emotionally and physically.[347]

For instance, Xiaomu Zhou found that most students in her sample struggled to use primary sources. As such, she found that the teaching of basic archival skills was the most vital part of the orientation.[348] Similarly, Magia G. Krause found that even rudimentary archival education improved students' abilities with respect to critical thinking and to grasping historical context. As important, archival education appreciably improved students' ability to use primary sources.[349] Third, Wendy Duff and Joan Cherry's study found undergraduate students' confidence in using archival materials increased over the course of a semester following an archives orientation. On a 10-point scale, these students' confidence in their ability to locate archival materials (mean) went from 4.1 to

6.0. More than three-quarters (77.8%) of the students thought the session provided "essential" or "generally good" knowledge, and the professors involved found the orientation both positive and impactful.[350]

Doris J. Malkmus also explored primary sources and undergraduate education, but examined a digital component as well. Two challenges remained: searching effectively in digital collections, not merely accessing them, and critically analyzing Web resources instead of falling prey to the Web's easy gratification.[351] More archivists than ever graduated from library and information science programs in the 1990s and 2000s; these graduates were increasingly technologically literate.[352] Archivists are well placed to instruct students on using Web resources in particular.

To address archival education for students, Sammie Morris, Lawrence J. Mykytiuk, and Sharon A. Weiner proposed the concept of "archival literacy," "the knowledge, skills, and abilities necessary to effectively and efficiently find, interpret, and use archives, manuscripts, and other types of unique unpublished materials."[353] Archival literacy included understanding and locating primary sources; developing a research question and an argument; soliciting feedback and guidance from archivists; showing increasing familiarity with archives; adhering to publication standards; and progressively refining these skills.[354]

Perhaps most important, studies pointed to the potential for increased collaboration both among historians and archivists and among archivists themselves. For example, Zhou determined an opportunity for collaboration among archivists and faculty, primarily in assessing students' pre-existing knowledge before the orientation and thereby ensuring the orientation is tailored to student needs.[355] Similarly, in teaching students about online archival sources, archivists and faculty might collaborate in developing an online tutorial, as Malkmus and Morris et al. suggested.[356] Determining outcomes for archival education and methods for evaluating their success are crucial in informing optimum training programs.[357] How can the sorts of collaboration noted by these scholars be refined and extended?

Conclusion

Despite concerns over mutual incomprehension among archivists and historians, their relationship may well be more symbiotic than ever. As suggested by the examination of previous findings and of possibilities for collaboration, notions of archival divides and foreign countries seem unduly alarmist.

Archivists should resist being "society's footnotes"; collaborating with historians in new and more proactive ways constitutes a crucial way of doing so.[358] In this vein, more archivists should investigate historians' work practices and should publish their findings.[359]

"The past may be an undiscovered country," Toni Weller asserted, "but the digital age demands its own bold historical exploration."[360] E. H. Carr's sage observation remains true: "There is no more significant pointer to the character of a society than the kind of history it writes or fails to write."[361] In this, historians and archivists alike bear a heavy responsibility.

Notes

The author would like to thank Helen R. Tibbo for her comments on an earlier draft of this article.

1 Terry Cook, "The Archive(s) Is a Foreign Country: Historians, Archivists, and the Changing Archival Landscape," *The American Archivist* 74 (Fall/Winter 2011): 603.

2 Lena Roland and David Bawden, "The Future of History: Investigating the Preservation of Information in the Digital Age," *Library and Information History* 28, no. 3 (2012): 224.

3 Kristen Nawrotzki and Jack Dougherty, Introduction, in *Writing History in the Digital Age*, ed. Kristen Nawrotzki and Jack Dougherty (Ann Arbor: University of Michigan Press, 2013), 6.

4 Jennifer Rutner and Roger C. Schonfeld, "Supporting the Changing Research Patterns of Historians," Ithaka S+R (2012), 11, http://www.sr.ithaka.org/research-publications/supporting-changing-research-practices-historians.

5 Wendy Duff, Barbara Craig, and Joan Cherry, "Finding and Using Archival Resources: A Cross-Canada Survey of Historians Studying Canadian History," *Archivaria* 58 (2004): 52.

6 Fredric Miller, "Use, Appraisal, and Research: A Case Study of Social History," *The American Archivist* 49 (Fall 1986): 374.

7 Ian Anderson, "Are You Being Served? Historians and the Search for Primary Sources," *Archivaria* 58 (2004): 81–129.

8 I use the term "archivist" in the broadest sense, consonant with the definition offered in the Society of American Archivists *Glossary of Archival and Records Terminology*: "n. ~ 1. An individual responsible for appraising, acquiring, arranging, describing, preserving, and providing access to records of enduring value, according to the principles of provenance, original order, and collective control to protect the materials' authenticity and context. –2. An individual with responsibility for management and oversight of an archival repository or of records of enduring value," http://www2.archivists.org/glossary/terms/a/archivist.

9 Cook, "The Archive(s) Is a Foreign Country," 600–32; Francis X. Blouin Jr. and William Rosenberg, *Processing the Past: Contesting Authority in History and the Archives* (New York: Oxford University Press, 2011).

10 Cook, "The Archive(s) Is a Foreign Country," 607, 606.

11 Cook, "The Archive(s) Is a Foreign Country," 609–10.

12 Blouin and Rosenberg, *Processing the Past*, 10.

13 Blouin and Rosenberg, *Processing the Past*, 185.

14 Maygene Daniels, "On Being an Archivist," *The American Archivist* 59 (Winter 1996): 9.

15 Andrew Abbott, *The System of Professions: An Essay on the Division of Expert Labor* (Chicago: University of Chicago Press, 1988).

16 Marlene Manoff reflected, "Interest in the archive is growing despite—or perhaps because of—the recognition of the holes in the historical record, the problems of its arbitrariness and lack of transparency." See Marlene Manoff, "Theories of the Archives from across the Disciplines," *portal: Libraries and the Academy* 4, no. 1 (2004): 17. In *Fashioning History: Current Practices and Principles* (New York: Palgrave-Macmillan, 2008), Robert Berkhofer probes the role of archives and archivists in historiography. See especially chapter 3.

17 Cook, "The Archive(s) Is a Foreign Country," 601.

18 On this ambivalence, see William Birdsall, "The Two Sides of the Desk: The Archivist and the Historian, 1909–1935," *The American Archivist* 38, no. 2 (1975): 159–73; Patrick Quinn, "Archivists and Historians: The Times They Are A-Changin'," *Midwestern Archivist* 2, no. 2 (1977): 5–13; Luke

Gilliland-Swetland, "Provenance of a Profession: The Permanence of the Public Archives and Historical Manuscripts Tradition in American Archival History," in *American Archival Studies: Readings in Theory and Practice*, ed. Randall Jimerson (Chicago: Society of American Archivists, 2000), 123–41. On the "Founding Brothers," see Richard J. Cox, Charles Dollar, Rebecca Hirsch, and Peter J. Wosh, "Founding Brothers: Leland, Buck, and Cappon and the Formation of the Archives Profession," *The American Archivist* 74 (2011/supplement): 1–27.

[19] Birdsall, "The Two Sides of the Desk," 165.

[20] Albert R. Newsome, "The Archivist in American Scholarship," *The American Archivist* 2, no. 4 (1939): 220.

[21] J. Frank Cook, "The Blessings of Providence on an Association of Archivists," *The American Archivist* 46 (Fall 1983): 377.

[22] Philip C. Brooks, "Archivists and Their Colleagues: Common Denominators," *The American Archivist* 14, no. 1 (1951): 44.

[23] Philip C. Brooks, "Archives and the Young Historian," *Historian* 14 (March 1952): 134.

[24] Donald McCoy, *The National Archives: America's Ministry of Documents, 1934–1968* (Chapel Hill: University of North Carolina Press, 1978), 269.

[25] Lester J. Cappon, "The Archival Profession and the Society of American Archivists," *The American Archivist* 15, no. 3 (1952): 196.

[26] Karl L. Trever, "*The American Archivist*: Voice of a Profession," *The American Archivist* 15, no. 2 (1952): 151.

[27] John Edwards Caswell, "Archives for Tomorrow's Historians," *The American Archivist* 21 (October 1958): 416.

[28] Lester J. Cappon, "Tardy Scholars among the Archivists," *The American Archivist* 21, no. 1 (1958): 3.

[29] James B. Rhoads, "The Historian and the New Technology," *The American Archivist* 32, no. 3 (1969): 210.

[30] W. Kaye Lamb, "The Archivist and the Historian," *American Historical Review* 68, no. 2 (1963): 385.

[31] Walter Rundell Jr., "Relations between Historical Researchers and Custodians of Source Materials," *College and Research Libraries* 29, no. 6 (1968): 466, 476. He appealed to historians' self-interest too: "Historians can only profit by establishing amicable relations with custodians of original sources necessary for their research," 475.

[32] Quinn, "Archivists and Historians," 11.

[33] Quinn, "Archivists and Historians," 10–11.

[34] Philip P. Mason, "Archives in the Seventies: Promises and Fulfillment," *The American Archivist* 44 (Summer 1981): 205.

[35] Frank G. Burke, "The Future Course of Archival Theory in the United States," *The American Archivist* 44 (Winter 1991): 46.

[36] George Bolotenko, "Archivists and Historians: Keepers of the Well," *Archivaria* 16 (Summer 1983): 7.

[37] Mattie U. Russell, "The Influence of Historians on the Archival Profession in the United States," *The American Archivist* 46 (Summer 1983): 283.

[38] William L. Joyce, "Archivists and Research Use," *The American Archivist* 47 (Spring 1984): 131.

[39] Miller, "Use, Appraisal, and Research, 392.

[40] Barbara C. Orbach, "The View from the Researcher's Desk: Historians' Perceptions of Research and Repositories," *The American Archivist* 54 (Winter 1991): 40–41.

[41] Edwin Bridges, Gregory Hunter, Page Putnam Miller, David Thelan, and Gerhard Weinberg, "Toward Better Documenting and Interpreting of the Past: What History Graduate Programs in the Twenty-First Century Should Teach about Archival Practices," *The American Archivist* 56 (Fall 1993): 731.

[42] Wendy Duff and Catherine Johnson, "Accidentally Found on Purpose: Information-Seeking Behavior of Historians in Archives," *Library Quarterly* 72, no. 4 (2002): 484–85.

[43] Catherine Johnson and Wendy Duff, "Chatting Up the Archivist: Social Capital and the Archival Researcher," *The American Archivist* 68 (Spring/Summer 2005): 127.

[44] Johnson and Duff, "Chatting Up the Archivist," 119.

[45] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 66. "Historians profit from the archivists' extensive knowledge and the history of the records on both sides of the archival threshold. Archivists profit from the historians' focus and topic interests which can reveal new connections among sources and may turn up additional knowledge that strengthens description," 70.

[46] Johnson and Duff, "Chatting Up the Archivist," 127.

[47] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 10, 38.

[48] Doris J. Malkmus, "Teaching History to Undergraduates with Primary Sources: Survey of Current Practices," *Archival Issues* 31, no. 1 (2007): 37.

[49] Cook, "The Archive(s) Is a Foreign Country," 605.

[50] Blouin and Rosenberg, *Processing the Past*, 93. David Lowenthal, *The Past Is a Foreign Country* (Cambridge: Cambridge University Press, 1985).

[51] See, for instance, Mary Speakman, "The User Talks Back," *The American Archivist* 47 (Spring 1984): 164–71; Paul Conway, "Facts and Frameworks: An Approach to Studying the Users of Archives," *The American Archivist* 49 (Fall 1986): 393–407; William Maher, "The Use of User Studies," *The Midwestern Archivist* 11 (1986): 15–25; Roy Turnbaugh, "Archival Mission and User Studies," *The Midwestern Archivist* 11 (1986): 27–33; Bruce Dearstyne, "What Is the Use of Archives?: A Challenge for the Profession," *The American Archivist* 50 (Winter 1987): 76–87.

[52] Donald Case, "The Collection and Use of Information by Some American Historians: A Study of Motives and Methods," *Library Quarterly* 61, no. 1 (1991): 61–62.

[53] Mark A. Greene and Dennis Meissner, "More Product, Less Process: Revamping Traditional Archival Processing," *The American Archivist* 68, no. 2 (Fall/Winter 2005): 212.

[54] Donald Kelley, *Frontiers of History: Historical Inquiry in the Twentieth Century* (New Haven: Yale University Press, 2006), 189.

[55] Peter Novick, *That Noble Dream: The "Objectivity Question" and the American Historical Profession* (Cambridge: Cambridge University Press, 1988), 572.

[56] Tom Nesmith, "Archives from the Bottom Up: Social History and Archival Scholarship," *Archivaria* 14 (1982): 5. "Fundamental to social history is a search for a determinative context, a respect for the cultures of different groups, and a recognition of the power of diversity." See Alice Kessler-Harris, "Social History," in *The New American History*, ed. Eric Foner (Philadelphia: Temple University Press, 1997), 249.

[57] Fredric M. Miller, "Social History and Archival Practice," *The American Archivist* 44 (Spring 1981): 120; Nesmith, "Archives from the Bottom Up," 8.

[58] Miller, "Social History and Archival Practice," 122. Dale C. Mayer agreed: "Both records groups and personal papers share organizational characteristics and descriptive practices which are not responsive to the needs of researchers in general and social historians in particular." See Dale C. Mayer, "The New Social History: Implications for Archivists," *The American Archivist* 48 (Fall 1985): 396.

[59] Mayer, "The New Social History," 398. So multiple are the survivals of interest to students of history today that it is difficult to find a classification for them. See Berkhofer, *Fashioning History*, 6.

[60] "Cultural history, once a Cinderella among the disciplines, neglected by its more successful sisters, was rediscovered in the 1970s." See Peter Burke, *What Is Cultural History?* (Malden, Mass: Polity, 2008), ix.

[61] Burke, *What Is Cultural History?*, 130–31. Burke reflected in 2008, "Almost everything seems to be having its cultural history written these days."

[62] Peter Burke, "The New History: Its Past and Its Future," in *New Perspectives on Historical Writing*, ed. Peter Burke (University Park: Pennsylvania State University Press, 2001), 1–24.

[63] H. White and K. McCain, "Bibliometrics," *Annual Review of Information Science and Technology* 24 (1989): 164; Graham Sherriff, "Information Use in History Research: A Citation Analysis of Master's Level Theses," *portal: Libraries and the Academy* 10, no. 2 (2010): 165.

[64] White and McCain, "Bibliometrics," 164.

[65] Orbach, "The View from the Researchers' Desk," 30.

[66] Linda C. Smith, "Citation Analysis," *Library Trends* 30, no. 1 (1981–1982): 183–206.

[67] Miller, "Use, Appraisal, and Research, 376.

[68] Arthur McAnally, *The Characteristics of Materials Used in Research in United States History* (PhD diss., University of Chicago, 1951).

[69] Annie May Alston, "Characteristics of Materials Used by a Selected Group of Historians in Their Research in United States History" (master's thesis, University of Chicago, 1952).

[70] Clyve Jones, Michael Chapman, and Pamela Carr Woods, "The Characteristics of the Literature Used by Historians," *Journal of Librarianship and Information Science* 4 (July 1972): 137–56.

[71] Clark Elliott, "Citation Patterns and Documentation for the History of Science: Some Methodological Considerations," *The American Archivist* 44, no. 2 (1981): 131–42.

[72] Miller, "Use, Appraisal, and Research," 371–92.

[73] M. Sara Lowe, "Reference Analysis of the American Historical Review," *Collection Building* 22, no. 1 (2003): 13–20.

[74] Jana Brubaker, "Primary Materials Used by Illinois State History Researchers," *Illinois Libraries* 85, no. 3 (2005): 4–8.

[75] Sherriff, "Information Use in History Research," 165–83.

[76] Donghee Sinn, "Impact of Digital Archival Collections on Historical Research," *Journal of the American Society for Information Science and Technology* 63, no. 8 (2012): 1521–37.

[77] Beattie, "An Archival User Study," 34. Questionnaire-based studies assume that what is being measured is equivalent to the information need of the scholar making the demands, a potentially misleading assumption. See Charles Cole, "Inducing Expertise in History Doctoral Students Via Information Retrieval Design," *Library Quarterly* 70, no. 1 (2000): 86–109.

[78] Beattie, "An Archival User Study," 34.

[79] Earl Babbie, *The Practice of Social Research* (Belmost, Calif.: Wadsworth/Thomson Learning, 2004).

[80] Michael Stevens, "The Historian and the Archival Finding Aid," *Georgia Archive* 5, no. 1 (1977): 64–74.

[81] Peter Uva, *Information-Gathering Habits of Academic Historians: Report of the Pilot Study* (Syracuse: State University of New York, Upstate Medical Center, 1977), http://files.eric.ed.gov/fulltext/ED142483.pdf.

[82] Margaret Stieg, "The Information Needs of Historians," *College and Research Libraries* 42 (November 1981): 549–60.

[83] Beattie, "An Archival User Study," 33–50.

[84] Helen R. Tibbo, "Primarily History in America: How U.S. Historians Search for Primary Materials at the Dawn of the Digital Age," *The American Archivist* 66 (Spring/Summer 2003): 9–50.

[85] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 51–80; Wendy Duff, Barbara Craig, and Joan Cherry, "Historians' Use of Archival Sources: Promises and Pitfalls of the Digital Age," *Public Historian* 26 (Spring 2004): 7–22.

[86] Susan Hamburger, "How Researchers Search for Manuscript and Archival Collections," *Journal of Archival Organization* 2 (2004): 79–102.

[87] Alexandra Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," *The American Archivist* 76, no. 2 (Fall/Winter 2013): 458–80.

[88] Duff, Craig, and Cherry, "Finding and Using Archival Resources."

[89] Duff, Craig, and Cherry, "Historians' Use of Archival Sources."

[90] Herbert Rubin and Irene Rubin, *Qualitative Interviewing: The Art of Hearing Data* (Thousand Oaks, Calif.: Sage, 2005), 14.

[91] Donald Case put it skeptically, "Interviews are time-consuming and are based on unreliable self-reports of thought, motivation, and action." See Case, "The Collection and Use of Information by Some American Historians," 80.

[92] Raymond Vondran, "The Effects of Method on the Information-Seeking Behavior of Academic Historians" (PhD diss., University of Wisconsin–Madison, 1976).

[93] Orbach, "The View from the Researcher's Desk," 28–43.

[94] Case, "The Collection and Use of Information by Some American Historians, 61–82; Donald Case, "Conceptual Organization and Retrieval of Text by Historians: The Role of Memory and Metaphor," *Journal of the Association of Information Science and Technology* 42 (October 1991): 657–68.

[95] Charles Cole, "Information Acquisition in History PhD Students: Inferencing and the Formation of Knowledge Structures," *Library Quarterly* 68, no. 1 (1998): 33–54; Cole, "Inducing Expertise in History Doctoral Students Via Information Retrieval Design," 86–109; Charles Cole, "Name Collection by PhD History Students: Inducing Expertise," *Journal of the American Society for Information Science and Technology* 51, no. 5 (2000): 444–55.

[96] Roberto Delgadillo and Beverly Lynch, "Future Historians: Their Quest for Information," *College and Research Libraries* 60, no. 3 (1999): 245–59.

[97] Duff and Johnson, "Accidentally Found on Purpose," 472–96.

[98] Vondran, "The Effects of Method on the Information-Seeking Behavior of Academic Historians."

[99] Beattie, "An Archival User Study," 33–50.

[100] Helen Tibbo, *Abstracting, Information Retrieval and the Humanities: Providing Access to Historical Literature* (Chicago: American Library Association, 1993).

[101] Deborah Lines Andersen, "Academic Historians, Electronic Information Access Technologies, and the World Wide Web: A Longitudinal Study of Factors Affecting Use and Barriers to that Use," *Journal of the Association for History and Computing* 1, no. 1 (1998), http://quod.lib.umich.edu/j/jahc/3310410.0001.101/--academic-historians-electronic-information-access?rgn=main;view=fulltext;q1=deborah+lines+andersen.

[102] Suzanne R. Graham, "Historians and Electronic Resources: Patterns and Use," *Journal of History and Computing* 5 (September 2002), http://quod.lib.umich.edu/j/jahc/3310410.0005.201/--historians-and-electronic-resources-patterns-and-use?rgn=main;view=fulltext.

[103] Anderson, "Are You Being Served?," 81–129.

[104] Margaret Stieg Dalton and Laurie Charnigo, "Historians and Their Information Sources," *College and Research Libraries* 65, no. 5 (2004): 400–25.

[105] Donald Case, for instance, advocates coupling interviews with examination of behavioral artifacts or observations of scholars at work ("The Collection and Use of Information by Historians," 80).

[106] "Because what people do often fails to match what they say—a behavior pattern to which historians were considered unlikely to be an exception—perception and reality can be two different things." See Dalton and Charnigo, "Historians and Their Information Sources," 401.

[107] Even Annie Marie Alston's study, completed one year after McAnally's and aimed directly at juxtaposing findings, found that results were "seen to deviate in varying degrees in almost every analysis." See Alston, "Characteristics of Materials Used by a Selected Group of Historians in Their Research in United States History," 66.

[108] Duff, Craig, and Cherry, "Finding and Using Archival Resources."

[109] Duff, Craig, and Cherry, "Historians' Use of Archival Sources."

[110] Duff, Craig, and Cherry asked participants to rank these sources as very important or somewhat important; the figures in this table represent the aggregation of these two categories.

[111] I was unable to discern exact numbers from Duff , Craig, and Cherry's figure.

[112] Orbach, "The View from the Researcher's Desk," 36.

[113] Duff and Johnson, "Accidentally Found on Purpose," 481.

[114] Daniel V. Pitti, "Encoded Archival Description," in *Encoded Archival Description: Context, Theory, and Case Studies*, ed. Jackie Dooley (Chicago: Society of American Archivists, 1998), 21–22.

[115] Helen R. Tibbo and Lokman I. Meho, "Finding Aids on the World Wide Web," *The American Archivist* 64 (Spring/Summer 2001): 61–77. They stressed that users needed to learn the search engine's searching protocol, to employ phrase searching, and to search for materials using more than one search engine.

[116] Tibbo, "Primarily History in America," 27–29.

[117] Dalton and Charnigo, "Historians and Their Information Sources," 411–12. Those who did use electronic resources deemed comprehensiveness their highest priority.

[118] Anderson, "Are You Being Served?," 100–111.

[119] Duff, Craig, and Cherry, "Historians' Use of Archival Sources," 14.

[120] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 60.

[121] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 18.

[122] Daniel Cohen, "Is Google Good for History?" (talk, American Historical Association Annual Meeting, January 7, 2010), http://www.dancohen.org/2010/01/07/is-google-good-for-history/.

[123] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 458–80.

[124] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 16.

[125] Sinn, "Impact of Digital Archival Collections on Historical Research," 1533.

[126] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 466–67.

[127] Duff and Johnson, "Accidentally Found on Purpose," 475.

[128] Andersen, "Academic Historians, Electronic Information Access Technologies, and the World Wide Web."

[129] Sinn, "Impact of Digital Archival Collections on Historical Research," 1535.

[130] McAnally, *The Characteristics of Materials Used in Research in United States History*.

[131] Clyve Jones, Michael Chapman, and Pamela Carr Woods, "The Characteristics of the Literature Used by Historians," *Journal of Librarianship and Information Science* 4 (July 1972): 141.

[132] Uva, *Information-Gathering Habits of Academic Historians.* Elliott, "Citation Patterns and Documentation for the History of Science," 131–142.

[133] Miller, "Use, Appraisal, and Research, 380. In rank order, Stieg's historians favored books, periodicals, manuscripts, newspapers, microcopies, and theses/dissertations and government publications.

[134] Miller, "Use, Appraisal, and Research," 388.

[135] Helen R. Tibbo, *Abstracting, Information Retrieval, and the Humanities: Providing Access to Historical Literature* (Chicago: ALA, 1993).

[136] Orbach, "The View from the Researcher's Desk," 35.

[137] Beattie, "An Archival User Study," 42.

[138] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 66; Tibbo, "Primarily History in America," 19.

[139] Graham, "Historians and Electronic Resources."

[140] Tibbo, "Primarily History," 19.

[141] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 62, 70–71. Duff and Cherry noted, "Many users stated that they liked the original paper format most because it was the easiest to read and to navigate; it also provided a sense of the whole document. They highlighted the importance of the physical attributes of the original paper and commented on its authenticity, accuracy, trustworthiness, and completeness." See Duff and Cherry, "Use of Historical Documents in a Digital World."

[142] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 9. Along these lines, Jones, Chapman, and Woods found that two repositories accounted for a full 55% of all manuscript references, perhaps an indication of the difficulty of accessing archival materials physically. See Jones, Chapman, and Woods, "The Characteristics of the Literature Used by Historians," 141.

[143] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 14–22.

[144] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 468–69.

[145] "Thus digital images of actual documents and the highest resolution of images may not be a necessary condition for the use of digital collections. What matters more seems to be the uniqueness of the content." See Sinn, "Impact of Digital Archival Collections on Historical Research," 1531; Fred Gibbs and Trevor Owens, "Building Better Digital Humanities Tools: Toward Broader Audiences and User-Centered Design," *Digital Humanities Quarterly* 6, no. 2 (2012), http://www.digitalhumanities.org/dhq/vol/6/2/000136/000136.html.

[146] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 470–71.

[147] Stieg, "Information Needs of Historians," 551.

[148] Stieg, "Information Needs of Historians," 551–52.

[149] Then again, photographs appeared only in one-fourth and oral histories in less than one-tenth of the citations she examined.

[150] Beattie, "An Archival User Study," 42–43.

[151] Dalton and Charnigo, "Historians and Their Information Sources," 405.

[152] Duff, Craig, and Cherry, "Finding and Using Archival Resources," 62.

[153] Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 14. On the other hand, these historians expressed concerns about properly capturing, presenting, and citing these materials.

[154] Sinn, "Impact of Digital Archival Collections on Historical Research," 1521–37.

[155] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 468–69.

[156] Valerie Harris and Peter Hepburn, "Trends in Image Use by Historians and the Implications for Librarians and Archivists," *College and Research Libraries* 74 (May 2013): 278. "While the availability of images online has grown steeply, the number of images in history journals has remained more or less level during the decade between 2000 and 2009," 278.

[157] Harris and Hepburn, "Trends in Image Use by Historians," 280.

[158] Stevens, "The Historian and Archival Finding Aids," 73.

[159] Uva, *Information-Gathering Habits of Academic Historians*, 23–24.

[160] Lowe, "Reference Analysis of the American Historical Review," 19.

[161] Vondran, "The Effects of Method on the Information-Seeking Behavior of Academic Historians."

[162] Stevens, "The Historian and Archival Finding Aids," 73.

[163] Case, "The Collection and Use of Information by Some American Historians," 79.

[164] Delgadillo and Lynch, "Future Historians," 245–59.

[165] Stieg, "The Information Needs of Historians," 553.

[166] Hernon, "Information Needs and Gathering Patterns of Academic Social Scientists," 410.

[167] Dalton and Charnigo, "Historians and Their Information Sources," 415.

[168] Stieg, "The Information Needs of Historians," 559.

[169] Miller, "Use, Appraisal, and Research," 390.

[170] Orbach, "The View from the Researcher's Desk," 32.

[171] Herbert A. Simon, "Rational Choice and the Structure of the Environment," *Psychological Review* 62, no. 2 (1956): 129–38; Donald O. Case, "The Principle of Least Effort," in *Theories of Information Behavior*, ed. Karen E. Fisher, Sandra Erdelez, Lynne McKechnie (Medford, N.J.: Information Today, Inc., 2005): 289–92.

[172] Orbach, "The View from the Researcher's Desk," 33. Orbach's 10 historians behaved pragmatically: 8 of 10 interviewees knew their intended end product before they began, and 7 of 10 had an embryonic thesis upon beginning research. Factors that caused them to stop seeking information included their intended audience, impending deadline(s), the discovery of contrary evidence, or the exhaustion of themselves or of their resources.

[173] Duff and Johnson, "Accidentally Found on Purpose," 486. Along these lines, Johnson and Duff suggested that electronic systems would need to mimic the archivist's contextual knowledge of his or her collections. See Johnson and Duff, "Chatting Up the Archivist," 129.

[174] Case, "The Collection and Use of Information by Some American Historians," 74.

[175] Cole, "Information Acquisition in History PhD Students," 50–51.

[176] Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 458–80.

[177] Orbach, "The View from the Researcher's Desk," 37–38.

[178] Cole, "Name Collection by PhD History Students," 447.

[179] Duff and Johnson, "Accidentally Found on Purpose," 493.

[180] Hamburger, "How Researchers Search for Manuscript and Archival Collections," 84. All the same, 89% of her sample ultimately found what they sought.

[181] Gereben Zaagsma, "On Digital History," *Low Countries Historical Review* 128, no. 4 (2013): 3–29; William G. Thomas III, "Computers and the Historical Imagination," in *A Companion to Digital Humanities*, ed. Susan Schreibman, Ray Siemens, and John Unsworth (Oxford: Blackwell, 2004), http://www.digitalhumanities.org/companion/view?docId=blackwell/9781405103213/9781405103213.xml&chunk.id=ss1-2-5&toc.depth=1&toc.id=ss1-2-5&brand=default.

[182] Dagmar Horna Perman, "Bibliography and the Historian," in *Bibliography and the Historian: The Conference at Belmont of the Joint Committee on Bibliographic Services to History*, ed. Dagmar Horna Perman (Santa Barbara, Calif.: CLIO, 1968), 19.

[183] Robert P. Swierenga,"Clio and Computers: A Survey of Computerized Research in History," *Computers and the Humanities* 5 (September 1970): 5.

[184] Rhoads, "The Historian and the New Technology," 211.

[185] H. J. Hanham, "Clio's Weapons," *Daedalus* 100 (Spring 1971): 512.

[186] Ian Anderson, "History and Computing," (2008), Making History, http://www.history.ac.uk/makinghistory/resources/articles/history_and_computing.html.

[187] Swierenga,"Clio and Computers," 19. "The first halting steps are now in the past and the way is open," 20.

[188] Joel H. Silbey, "Clio and Computers: Moving into Phase II, 1970–1972," *Computers and the Humanities* 7 (November 1972): 79.

[189] Uva, *Information-Gathering Habits of Academic Historians*.

[190] Charles Dollar, "Quantitative History and Archives," *Archivum* 29 (1982): 49. Perhaps more important, he explicitly linked development in history with the relationship among historians and archivists: "The on-going revolution in computer and telecommunications processing virtually brings the future into the present, a situation which can be ignored only at great loss to archives and archivists throughout the world," 52.

[191] Richard Jensen, "The Microcomputer Revolution for Historians," *Journal of Interdisciplinary History* 14 (Summer 1983): 111. Jensen offered a striking parallel: "The impact of the microcomputer revolution is analogous to the impact of the personal automobile on the passenger transportation system," 111.

[192] Thomas III, "Computers and the Historical Imagination." For instance, historians probed how database tools affected their interpretations and whether such tools could handle nontabular data.

[193] Slatta, "Historians and Microcomputing, 1989," 447.

[194] Zaagsma, "On Digital History," 9.

[195] Helen R. Tibbo, "Information Systems for the Humanities," *Annual Review of Information Science and Technology* 26 (1991): 322.

[196] Igartua, "The Computer and the Historian's Work," 78.

[197] Case, "Conceptual Organization and Retrieval of Text by Historians," 663; Case, "The Collection and Use of Information by Some American Historians," 75.

[198] Case, "The Collection and Use of Information by Some American Historians," 75.

[199] Gilmore and Case, "Historians, Books, Computers, and the Library," 672–80.

[200] Tibbo, "Information Systems for the Humanities," 322.

[201] Michael O'Malley and Roy Rosenzweig, "Brave New World or Blind Alley? American History on the World Wide Web," *Journal of American History* 84 (June 1997): 134.

[202] Robert Darnton, "A Historian of Books, Lost and Found in Cyberspace," *Chronicle of Higher Education,* March 12, 1999.

[203] Pamela Pavliscak, Seamus Ross, and Charles Henry, *Information Technology in Humanities Scholarship: Achievements, Prospects, and Challenges—the United States* (Washington, D.C.: American Council of Learned Publications, 1997), http://archives.acls.org/op/37_Information_Technology.htm.

[204] Andersen, "Academic Historians, Electronic Information Access Technologies, and the World Wide Web."

[205] Deborah Lines Andersen, "Historians on the Web: A Study of Academic Historians' Use of the World Wide Web for Teaching," *Journal of the Association for History and Computing* 3, no. 2 (2000),

http://quod.lib.umich.edu/j/jahc/3310410.0003.201/--historians-on-the-web-a-study-of-academic-historians-use?rgn=main;view=fulltext.

[206] Andersen, "Historians on the Web."

[207] Cole, "Inducing Expertise in History Doctoral Students Via Information Retrieval Design," 87.

[208] Delgadillo and Lynch, "Future Historians," 245–59. Nevertheless, Delgadillo and Lynch thought it unclear whether students used technology more frequently than their mentors.

[209] That is, "original work that is responsibly based on primary sources, is intelligently informed by relevant scholarship, and makes a clear argument or group of arguments." See Carl Smith, "Can You Do Serious History on the Web?," *AHA Perspectives* (1998), RRCHNM, http://chnm.gmu.edu/essays-on-history-new-media/essays/?essayid=12.

[210] O'Malley and Rosenzweig, "Brave New World or Blind Alley?," 134.

[211] O'Malley and Rosenzweig, "Brave New World or Blind Alley?," 154.

[212] Dennis Trinkle, "Computers and the Practice of History: Where Are We? Where Are We Headed?," *Perspectives: American Historical Association Newsletter* (1999), http://www.historians.org/perspectives/issues/1999/9902/9902NOT2.CFM.

[213] They cited concerns such as rapid technological obsolescence, a lack of appropriate training, students' resistance, a negative effect on tenure and promotion, and uncertainty about technology's potentially deleterious effect on teaching.

[214] Trinkle, "Computers and the Practice of History."

[215] Duff and Cherry, "Use of Historical Documents in a Digital World."

[216] Graham, "Historians and Electronic Resources."

[217] Roy Rosenzweig, "Scarcity or Abundance? Preserving the Past in a Digital Era," *American Historical Review* 108, no. 3 (2003): 757.

[218] Roy Rosenzweig, "Digital Archives Are a Gift of Wisdom to Be Used Wisely," *Chronicle of Higher Education*, June 24, 2005, http://chnm.gmu.edu/essays-on-history-new-media/essays/?essayid=32. William Turkel and his colleagues returned to this point in 2013, announcing, there is "no substitute for close and critical reading, for careful citation, or for reasoned judgment." W. J. Turkel, K. Kee, and S. Roberts, "Navigating the Infinite Archive," in *History in the Digital Age*, ed. Toni Weller (London: Routledge, 2013), 63.

[219] Anderson, "Are You Being Served?," 83.

[220] Dalton and Charnigo, "Historians and Their Information Sources," 412.

[221] Dalton and Charnigo, "Historians and Their Information Sources," 413.

[222] Tibbo, "Primarily History in America," 23–24.

[223] Dalton and Charnigo, "Historians and Their Information Sources," 413.

[224] Daniel Cohen, "The Future of Preserving the Past," *Journal of Heritage Stewardship* 2 (2005), http://www.dancohen.org/files/future_of_preserving_the_past.pdf; Anderson, "Are You Being Served?," 95.

[225] David A. Bell, "The Bookless Future: What the Internet Is Doing to Scholarship," *New Republic* 232, nos. 16–17 (2005): 30; Gilmore and Case, "Historians, Books, Computers, and the Library," 679.

[226] Daniel Cohen, "History and the Second Decade of the Web," *Rethinking History* 8, no. 2 (2004): 295.

[227] Alexander Maxwell, "Digital Archives and History Research: Feedback from an End-User," *Library Review* 59, no. 1 (2010): 24.

[228] Maxwell, "Digital Archives and History Research: Feedback from an End-User," 26, 28.

[229] Robert Townsend, "How Is Digital Media Reshaping the Work of Historians?," *Perspectives on History* (2010), http://www.historians.org/perspectives/issues/2010/1011/1011pro2.cfm.

[230] Sinn, "Impact of Digital Archival Collections on Historical Research," 1528.

[231] Sinn, "Impact of Digital Archival Collections on Historical Research," 1533.

[232] Fred Gibbs and Trevor Owens, "Building Better Digital Humanities Tools: Toward Broader Audiences and User-Centered Design," *Digital Humanities Quarterly* 6, no. 2 (2012), http://www.digitalhumanities.org/dhq/vol/6/2/000136/000136.html.

[233] Onno Boonstra, Leen Breure, and Peter Doorn, *Past, Present and Future of Historical Information Science* (The Hague: Data Archiving and Networked Services, 2006), 13–14.

[234]Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 3.

[235]Weller, "Introduction: History in the Digital Age," 3–4.

[236]Nawrotzki and Dougherty, Introduction, 5.

[237]Turkel, Kee, and Roberts, "Navigating the Infinite Archive," 63. "Technology is often used to make the traditional methods a little bit easier without challenging standards or creating alternative procedures and tactics."

[238]Gibbs and Owens, "Building Better Digital Humanities Tools."

[239]O'Malley and Rosenzweig, "Brave New World or Blind Alley?," 155.

[240]"Above all, the archivist in the internet age needs to stay ahead of technology." See Laura Millar, *Archives: Principles and Practices* (New York: Neal Schuman, 2010), 221. Helen Tibbo insists, "Archivists of all stripes must understand technology issues including information system architecture, the nature of electronic records and databases, content and digital asset management systems, record migration, digitization, and Web design and creation." See Helen R. Tibbo, "So Much to Learn, So Little Time to Learn It: North American Archival Education Programs in the Information Age and the Role for Certificate Programs," *Archival Science* 6 (2006): 234.

[241]Douglas Seefeldt and William G. Thomas, "What Is Digital History? A Look at Some Exemplar Projects," *Perspectives on History* (May 2009). "On one level," Seefeldt and Thomas claimed, "digital history is an open arena of scholarly production and communication, encompassing the development of new course materials and scholarly data collection efforts. On another level, digital history is a methodological approach framed by the hypertextual power of these technologies to make, define, query, and annotate annotations in the human record of the past."

[242]Daniel J. Cohen, Michael Frisch, Patrick Gallagher, Steven Mintz, Kirsten Sword, Amy Murrell Taylor, William G. Thomas III, and William J. Turkel, "Interchange: The Promise of Digital History," *Journal of American History* 95, no. 2 (September 2008): 454.

[243]O. V. Burton, "American Digital History," *Social Science Computer Review* 23, no. 2 (2005): 207, 210.

[244]Boonstra, Breure, and Doorn, *Past, Present and Future of Historical Information Science*, 13.

[245]Rosenzweig and Cohen, *Digital History*.

[246]Shawn Martin, "Digital Scholarship and Cyberinfrastructure in the Humanities: Lessons from the Text Creation Partnership," *Journal of Electronic Publishing* 10 (Winter 2007), http://quod.lib.umich.edu/j/jep/3336451.0010.105?rgn=main;view=fulltext.

[247]Thomas III, "Computers and the Historical Imagination." Useful works on GIS include Joanna Guldi, "What Is the Spatial Turn?" (University of Virginia Library, Spatial Humanities, Institute for Enabling Geospatial Scholarship, 2011), http://spatial.scholarslab.org/spatial-turn/; Anne Kelly Knowles, ed., *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship* (Redlands, Calif.: ESRI, 2008); Anne Kelly Knowles, ed., *Past Time, Past Place: GIS for History* (Redlands, Calif.: ESRI Press, 2002); and Richard White, "What Is Spatial History?," Stanford University, Spatial History Project, 2010, http://www.stanford.edu/group/spatialhistory/cgi-bin/site/pub.php?id=29.

[248]William G. Thomas III, "Blazing Trails toward Digital History Scholarship," *Social History* 34, no. 68 (2001): 425.

[249]Maxwell, "Digital Archives and History Research," 34.

[250]Fred Gibbs and Trevor Owens, "The Hermeneutics of Data and Historical Writing," in *Writing History in the Digital Age,* 159.

[251]National Endowment for the Humanities, "Railroads and the Making of Modern America," Grant number: HJ-50028-10, https://securegrants.neh.gov/publicquery/main.aspx?f=1&gn=HJ-50028-10; National Endowment for the Humanities, "Using Zotero and TAPoR on the Old Bailey Proceedings: Data Mining with Criminal Intent," Grant number: HJ-50048-10, https://securegrants.neh.gov/PublicQuery/main.aspx?f=1&gn=HJ-50048-10.

[252]Christa Williford and Charles Henry, *One Culture: Computationally Intensive Research in the Humanities and Social Sciences, A Report on the First Respondents to the Digging into Data Challenge* (Washington, D.C.: Council on Library and Information Resources, 2012), 21.

[253]Anderson, "History and Computing."

[254]James Crossman, "'Big Data': An Opportunity for Historians?," *Perspectives on History* (March 2012).

[255]American Council of Learned Societies, "Our Cultural Commonwealth: The Report of the American Council of Learned Societies Commission on Cyberinfrastructure for the Humanities and Social Sciences" (New York: American Council of Learned Societies and the Andrew W. Mellon Foundation, 2006), 16.

[256]Zaagsma, "On Digital History," 16.

[257]Donald T. Hawkins, Introduction, in *Personal Archiving: Preserving Our Digital Heritage*, ed. Donald T. Hawkins (Medford, N.J.: Information Today, Inc., 2013), 2.

[258]Clifford Lynch, "The Future of Personal Digital Archiving: Defining the Research Agendas," in *Personal Archiving*, 276. Catherine C. Marshall warned, "The very same characteristics that make personal digital assets attractive—the ease with which they are created, edited, copied, and shared; the fact that they don't take up real space; and the long tail phenomenon, to name a few—also make digital stewardship a far greater burden." See Catherine C. Marshall, "Rethinking Personal Digital Archiving, Part 1: Four Challenges from the Field," *D-Lib Magazine* 14 (March/April 2008), http://www.dlib.org/dlib/march08/marshall/03marshall-pt1.html.

[259]Susan Thomas, "PARADIGM: A Practical Approach to the Preservation of Personal Digital Archives" (Oxford: Bodleian Library, 2007), 1.

[260]Neil Beagrie, "Plenty of Room at the Bottom? Personal Digital Libraries and Collections," *D-Lib Magazine* 11 (June 2005), http://www.dlib.org/dlib/june05/beagrie/06beagrie.html; Thomas, "PARADIGM," 1.

[261]Jordan Bass, "A PIM Perspective: Leveraging Personal Information Management Research in the Archiving of Personal Digital Records," *Archivaria* 75 (Spring 2013): 50.

[262]Thomas, "PARADIGM," 4.

[263]Tim O'Reilly, "Web 2.0: Compact Definition?," *O'Reilly Radar*, October 1, 2005, http://radar.oreilly.com/2005/10/web-20-compact-definition.html.

[264]Kate Theimer introduces the notion of "Archives 2.0," which pivots on openness, transparency, flexibility, experimentalism, user-centeredness, technology, measurement, assessment, efficiency, advocacy, proactivity, interpretation, shared standards, iterative products, and innovation. See Kate Theimer, "What Is the Meaning of Archives 2.0?," *The American Archivist* 74 (Spring/Summer 2011): 60–64.

[265]Terry Cook, "'We Are What We Keep, We Keep What We Are': Archival Appraisal Past, Present and Future," *Journal of the Society of Archivists* 32 (October 2011): 184. Roland and Bawden advocated forcefully for saving Web 2.0 materials. See Roland and Bawden, "The Future of History," 225.

[266]Mary Samouelian, "Embracing Web 2.0: Archives and the Newest Generation of Web Applications," *The American Archivist* 72 (Spring/Summer 2009): 44, 62.

[267]Sean Heyliger, Juli McLoone, and Nikki Lynn Thomas, "Making Connections: A Survey of Special Collections' Social Media Outreach," *The American Archivist* 76 (Fall/Winter 2013): 375; 398. For example, "Special collections' use of social media platforms closely follows the conventional format and usage of each: short, frequent tweets on Twitter; somewhat less frequent, slightly longer updates on Facebook; and infrequent, semiregular, lengthy posts on blogs" (397).

[268]Samouelian, "Embracing Web 2.0," 62–65.

[269]Heyliger, McLoone, and Thomas, "Making Connections," 398.

[270]J. Gordon Daines and Cory L. Nimer, "Web 2.0 and the Archivist," Society of American Archivists, The Interactive Archivist, May 18, 2009, http://interactivearchivist.archivists.org/.

[271]Max J. Evans, "Archives of the People, by the People, for the People," *The American Archivist* 70 (Fall/Winter 2007): 390.

[272]Catherine O'Sullivan, "Diaries, On-line Diaries, and the Future Loss to Archives; or, Blogs and the Blogging Bloggers Who Blog Them," *The American Archivist* 68 (Spring/Summer 2005): 67.

[273]O'Sullivan, "Diaries, On-line Diaries, and the Future Loss to Archives," 65.

[274]O'Sullivan, "Diaries, On-line Diaries, and the Future Loss to Archives," 70–73.

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[276]Blaha, "Preserving Facebook Records," 125.

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[279] Arnold and Sampson, "Preserving the Voices of Revolution," 522–25.

[280] Joshua D. Hager, "To Like or Not to Like: Understanding and Maximizing the Utility of Archival Outreach on Facebook," *The American Archivist* 78 (Spring/Summer 2015): 18–37.

[281] Hager, "To Like or Not to Like," 35.

[282] Adam Kriesberg, "Increasing Access in 140 Characters or Less; Or, What Are Archival Institutions Doing on Twitter?," *The American Archivist* 77 (Fall/Winter 2014): 545–52.

[283] Katy Lalonde, Chris Sanagan, and Sean Smith, "The War of 1812 in 140 Characters or Less: 'SuperCool or Super un-Tweet Worthy?,'" *The American Archivist* 77 (Fall/Winter 2014): 558–68.

[284] Roland and Bawden, "The Future of History," 232.

[285] Carl Becker, "Everyman His Own Historian," *American Historical Review* Vol. 37, no. 2 (Jan. 1932): 234.

[286] Douglas Greenberg, "'History Is a Luxury': Mrs. Thatcher, Mr. Disney, and (Public) History," *Reviews in American History* 26 (March 1998): 297–98.

[287] "The Road to Xanadu: Public and Private Pathways on the History Web," *Journal of American History* 88 (September 2001): 553.

[288] Rosenzweig, "Scarcity or Abundance?," 759.

[289] Rosenzweig, "The Road to Xanadu," 556.

[290] Rosenzweig and Cohen, *Digital History*.

[291] Weller, "Conclusion: A Changing Field," 202.

[292] Greenberg, "'History Is a Luxury,'" 302.

[293] Weller, "Conclusion: A Changing Field," 203.

[294] Rosenzweig and Cohen, *Digital History*.

[295] American Council of Learned Societies, *Our Cultural Commonwealth*, 40.

[296] "The practice of obtaining information or services by soliciting input from a large number of people, typically via the Internet and often without offering compensation," *Oxford English Dictionary*, s.v. "crowdsourcing," http://www.oed.com/view/Entry/376403?redirectedFrom=crowdsourcing.

[297] David Ferriero, "Cultivating Citizen Archivists," National Archives, *Aotus Blog*, April 12, 2010, http://blogs.archives.gov/aotus/?p=144.

[298] Ferriero, "Cultivating Citizen Archivists."

[299] Johan Oomen and Lora Aroyo, "Crowdsourcing in the Cultural Heritage Domain: Opportunities and Challenges," *Proceedings of the 5th International Conference on Communities and Technologies, June 29–July 2, 2011* (Brisbane, Australia), 147.

[300] Oomen and Aroyo, "Crowdsourcing in the Cultural Heritage Domain," 139–45.

[301] Cook, "'We Are What We Keep, We Keep What We Are,'" 182.

[302] Evans, "Archives of the People, by the People, for the People," 398.

[303] Evans, "Archives of the People, by the People, for the People," 400.

[304] William G. Thomas, Patrick D. Jones, and Andrew Witmer, "History Harvest: What Happens When Students Collect and Digitize the People's History," *Perspectives on History* 51 (January 2013), http://www.historians.org/publications-and-directories/perspectives-on-history/january-2013/history-harvests.

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[306] Parry, "Historians Ask the Public to Help Organize the Past."

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[308] National Research Council of the National Academies, *Preparing the Workforce for Digital Curation* (Washington, D.C.: National Academies Press, 2015), 10.

[309] Boonstra, Breure, and Doorn, *Past, Present and Future of Historical Information Science*, 19.

[310] Alex H. Poole, "How Has Your Science Data Grown? Digital Curation and the Human Factor, a Critical Literature Review," *Archival Science* 15, no. 2 (2015): 1–39.

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[312] Daniel Noonan and Tamar Chute, "Data Curation and the University Archives," *The American Archivist* 77 (Spring/Summer 2014): 201–40.

[313] Roland and Bawden, "The Future of History," 223.

[314] Roland and Bawden, "The Future of History," 224.

[315] Roland and Bawden, "The Future of History," 227.

[316] Roland and Bawden, "The Future of History," 232.

[317] Howard Zinn, "Secrecy, Archives, and the Public Interest," *Midwestern Archivist* 2, no. 2 (1977): 20.

[318] Zinn, "Secrecy, Archives, and the Public Interest," 20.

[319] Ian Johnston, "Whose History Is It Anyway?," *Journal of the Society of Archivists* 22, no. 2 (2001): 227.

[320] Anne Gilliland, "Pluralizing Archival Education: A Non-Zero-Sum Proposition," in *Through the Archival Looking Glass: A Reader on Diversity and Inclusion*, ed. Mary K. Caldera and Kathryn M. Neal (Chicago: Society of American Archivists, 2014), 240.

[321] Gilliland, "Pluralizing Archival Education," 240–41.

[322] Mark A. Greene, "A Critique of Social Justice as an Archival Imperative: What *Is* It We're Doing That's All That Important?," *The American Archivist* 76 (Fall/Winter 2013): 303.

[323] Greene, "A Critique of Social Justice as an Archival Imperative," 328.

[324] Randall C. Jimerson, "Archivists and Social Responsibility: A Response to Mark Greene," *The American Archivist* 76 (Fall/Winter 2013): 337.

[325] Society of American Archivists, "SAA's Criteria for Advocacy Statements," http://archivists.org/statements/saa%E2%80%99s-criteria-for-advocacy-statements. "As an organization that values social responsibility, the public good, and the completeness of the public record and that understands the importance of advocacy, SAA encourages its members to engage with social issues to the extent that they, as individuals, are able."

[326] Kathryn M. Neal, "The Importance of Being Diverse: The Archival Profession and Minority Recruitment," *Archival Issues* 21, no. 2 (1996): 152.

[327] Mary K. Caldera and Kathryn M. Neal, Introduction, in *Through the Archival Looking Glass*, xix. Terry Cook was perhaps less impressed: "Look around the conference rooms of every archival conference I've ever attended in the Anglo-Saxon world for over three decades now, and you see a white, middle-class, well-educated, and not very diverse group—the only significant change in that time is the male-gender demographic domination has been replaced by a female one." See Cook, "'We Are What We Keep, We Keep What We Are,'" 175.

[328] Valerie Love and Marisol Ramos, "Identity and Inclusion in the Archives: Challenges of Documenting One's Own Community," in *Through the Archival Looking Glass*, 15.

[329] Rabia Gibbs, "The Heart of the Matter: The Developmental History of African American Archives," *The American Archivist* 75 (Spring/Summer 2012): 199.

[330] Elizabeth Adkins, "Our Journey Toward Diversity—and a Call to (More) Action," *The American Archivist* 71 (Spring/Summer 2008): 21–49.

[331] Adkins, "Our Journey Toward Diversity," 39.

[332] Mark A. Greene, "Into the Deep End: One Archivist's Struggles with Diversity, Community, Collaboration, and Their Implications for Our Profession," in *Through the Archival Looking Glass*, 25.

[333] Joseph M. Turrini, "The Historical Profession and Archival Education," *ACA News* 58 (Summer 2007): 3.

[334] Brooks, "Archives and the Young Historian," 128.

[335] Walter Rundell Jr., "Researching the American Past for Relevance," *The History Teacher* 4, no. 4 (1971): 45.

[336] Orbach, "The View from the Researcher's Desk," 41.

[337]Bridges et al., "Toward Better Documenting and Interpreting of the Past," 734.

[338]Bridges et al., "Toward Better Documenting and Interpreting of the Past," 730–49.

[339]Blouin and Rosenberg, *Processing the Past*, 210.

[340]Rutner and Schonfeld, "Supporting the Changing Research Patterns of Historians," 39.

[341]Weller, "Introduction: History in the Digital Age," 2.

[342]Sammie Morris, Lawrence J. Mykytiuk, and Sharon A. Weiner, "Archival Literacy for History Students: Identifying Faculty Expectations of Archival Research Skills," *The American Archivist* 77 (Fall/Winter 2014): 395–98.

[343]Doris J. Malkmus, "Teaching History to Undergraduates with Primary Sources: Survey of Current Practices," *Archival Issues* 31, no. 1 (2007): 34.

[344]Hugh A. Taylor, "Clio in the Raw: Archival Materials and the Teaching of History," *The American Archivist* 35, (July/October 1972): 317. "The current emphasis on active learning provides a unique opportunity for archivists to reshape their traditional role in the education of undergraduates." See Malkmus, "Teaching History to Undergraduates with Primary Sources," 39.

[345]Marcus C. Robyns, "The Archivist as Educator: Integrating Critical Thinking Skills into Historical Research Methods Instruction," *The American Archivist* 64 (Fall/Winter 2011): 373, 367–68.

[346]Xiaomi Zhou, "Student Archival Research Activity: An Exploratory Study," *The American Archivist* 71 (Fall/Winter 2008): 493.

[347]Michelle McCoy, "The Manuscript as Question: Teaching Primary Sources in the Archives—The China Mission Project," *College and Research Libraries* 71 (January 2010): 60.

[348]Zhou, "Student Archival Research Activity," 487, 483. In such teaching, the archivist leads by example, that is, she shows the students archival materials and offers her interpretation in real time.

[349]Magia G Krause, "Undergraduates in the Archives: Using an Assessment Rubric to Measure Learning," *The American Archivist* 73 (Fall/Winter 2010): 528.

[350]Wendy M. Duff and Joan M. Cherry, "Archival Orientation for Undergraduate Students: An Exploratory Study of Impact," *The American Archivist* 71 (Fall/Winter 2008): 515–21.

[351]Malkmus, "Teaching History to Undergraduates with Primary Sources," 31–32. As Rosenzweig argued, "Thus far we have done much better at democratizing access to resources than at providing the kind of instruction that would give meaning to those resources." Roy Rosenzweig, "Digital Archives Are a Gift of Wisdom to be Used Wisely," *Chronicle of Higher Education*, June 24, 2005, http://chnm.gmu.edu/essays-on-history-new-media/essays/?essayid=32.

[352]Bridges et al., "Toward Better Documenting and Interpreting of the Past," 733; Turrini, "The Historical Profession and Archival Education," 3. LIS programs have also hired more archives-focused faculty: at the end of 1970s, there were 3 faculty members in LIS and 4 in history; by 2000, however, LIS programs had 26 and history departments only 10. Archival education came into its own as field of education and research only in the 1990s. See Kelvin L. White and Anne J. Gilliland, "Promoting Reflexivity and Inclusivity in Archival Education, Research, and Practice," *Library Quarterly* 80 (July 2010): 233.

[353]Morris, Mykytiuk, and Weiner, "Archival Literacy for History Students," 397.

[354]Morris, Mykytiuk, and Weiner, "Archival Literacy for History Students," 404–7.

[355]Zhou, "Student Archival Research Activity," 485.

[356]Malkmus, "Teaching History to Undergraduates with Primary Sources," 34.

[357]Wendy M. Duff, Amy Marshall, Carrie Limkilde, and Marlene van Ballegooie, "Digital Preservation Education: Educating or Networking?," *The American Archivist* 69 (Spring/Summer 2006): 203; Morris, Mykytiuk, and Weiner, "Archival Literacy for History Students," 409–10.

[358]Cook, "The Archive(s) Is a Foreign Country," 615.

[359]"The archival profession will not make significant inroads against its marginality without also encouraging its own scholarship." See Nesmith, "Archives from the Bottom Up," 22.

[360]Weller, "Introduction: History in the Digital Age," 2.

[361]E. H. Carr, *What Is History?* (Cambridge: Cambridge University Press, 1961), 53.

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