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Reconceptualizing Academic Libraries and Archives in the Digital Age

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> I … always imagined Paradise
> To be a sort of library.
>
> —*Jorge Luis Borges, "The Gifts"*[1]

abstract: This paper considers the concept of "the archive" in the digital age and the situation of libraries and archives within the lifecycle of information. After discussing the changing nature of books, records, scholarly communication, and the concept of "the archive," this paper merges book and record lifecycle models into a new archival cycle. To avail themselves of the opportunities and to confront the challenges presented by digital materials, librarians and archivists are beginning to assume new roles and reposition themselves within this archival cycle. As professional trajectories converge, preservation can be linked with creation or distribution and it becomes easier to imagine a viable model for curating the archive in the twenty-first century.

Introduction

Jorge Luis Borges's short story "The Library of Babel" has the potential to open up for a reader the mysterious or even metaphysical power of the concept of the library: "[e]verything is there … ." But if one considers a more technical understanding of a library, as the site of curated collections, one may be inclined to conclude that Borges's chaotic bibliographic universe is not worthy of the name: "[e]verything is there … the faithful catalogue of the Library, thousands and thousands of false catalogues, a demonstration of the fallacy of these catalogues, a demonstration of the fallacy of the true catalogue. …"[2] And yet Borges wrote this story, during a period "of solid unhappiness," when he was earning a living "as a quite junior librarian."[3] Sometimes, there is something to be gained—dystopian in some instances, utopian in others (see the epigraph above)—from more flexible uses of technical terms. The irresolvable tension between technical and popular uses of terms can become a source of creative insight.

Perhaps more so than with the word *library*, popular and scholarly uses of the term *archive*—to refer to an idea, an institution, an accumulation of physical or digital materials, a process, or a service—extend the meaning of the archive beyond what archivists, who typically deprecate the singular form of the noun, understand by the word.[4] At the author's previous institution, current scholarly projects that invoke the term *archive* spanned this semantic range: a classicist's analysis of Herodotus' use of oral sources (which, as a point of inscribed testimony, Paul Ricoeur calls "the birth of the archive"[5]); a writer's imaginative and inscriptive work with his family's archive; a provost's use of institutional archives; literary scholars' use of a commercial virtual archive; a historian's work enhancing a digital archive of correspondence; a designer's creation of a digital photographic archive; and a chemist's development of open pedagogical software and e-textbooks.

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Many academic librarians agree that library services need to evolve to support the creation of such scholarly works, and many academic archivists agree that institutional archives need to evolve to preserve them. By linking more theoretical understandings of the archive, as an initial act or historical manifestation of inscription, with the more technical process of preserving such traces, academic librarians and archivists have the opportunity to build on the recognized value of the library as an archive, to position the library as a site of creation, to confront the reality of digital "archives in the wild," and to reconceptualize their roles within the archival lifecycle.[6]

Marlene Manoff points to "a convergence of interest among scholars, archivists, and librarians" around the term "archive," and she has shown how new theorizations of the archive "enable us to think productively about the nature of digital objects and the ways in which they alter cultural memory and historical transmission."[7] This paper considers one of the most influential and ambitious attempts to understand the archival impulse, Jacque Derrida's *Archive Fever*. It situates Derrida's theoretical perspective of the archive within the history and emerging future of books, records, libraries, and archives and it connects Derrida's musings with a new curatorial model for academic libraries and archives in the digital age. This model, which merges established book and record lifecycle models to create a new archival cycle, can be used to represent how librarians and archivists are beginning to take on new roles and reposition themselves within the lifecycle of information to engage with the opportunities and challenges presented by digital materials. As professional trajectories intersect and converge, and as preservation becomes more closely linked with creation or distribution, it becomes easier to conceive of a viable and sustainable model for curating the archive in and for the twenty-first century.

The New Instability of the Record

For centuries, the book has been the primary means and metaphor for transmitting knowledge. Now, the screen is increasingly eclipsing the book as both means and metaphor. But then what is a book? For the last five hundred years or so, the working—but imperfect—definition has been "a printed codex for public consumption."[8] But before the eventual hegemony of print, a book could be a manuscript or printed codex.[9] Before that, it could be a scroll or a tablet.[10] One bibliographer, taking a long view of writing technologies, defines a book as "any vehicle conveying a message through the symbolic representation of language."[11] This definition is helpful, in that it includes both the material medium and the message it transmits, but it is a rather inclusive definition. If this is a book, then what is a record? In classical Latin, to *re-cor-dare* was to give something "back to the heart and the mind after the passage of time."[12] In early English, "record" first meant an oral testament; later, it referred to a written document.[13] Like a book, a record is now understood to be a material medium that transmits a message across space and time. But distinct from a book, or as a particular type of book, a record is a proximate, persistent representation of some activity for limited distribution.[14] With digital materials, formal distinctions between books and records are becoming harder to maintain.[15]

Books and records are among the oldest artifacts. They are also the commonest: there are more cuneiform tablets than ancient palaces; more Greek and Roman inscriptions than temples; and more medieval manuscripts than cathedrals.[16] Over time, repositories and systems, such as libraries and archives, have emerged to manage the historical archive of published books and the records of individuals

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or institutions. But there are open questions about what will become of books that are digitized or created online, in some cases as evolving networked works, and about what will become of records that exist in new and diverse forms, such as text messages or messages embedded in social networking websites. How will these new messages and media, increasingly in digital form and distributed across global networks, be archived or made persistent?

Scholarly communication has not been unaffected by new communication media and methods. A 2008 Association of Research Libraries report on digital scholarly communication claimed that "new forms of scholarship and scholarly works … are no longer hypothetical but increasingly part of the everyday reality of research and scholarship."[17] In 2007, an MLA report on evaluating scholarship for tenure and promotion found it necessary, in light of such changes, to make this distinction: "scholarship should not be equated with publication, which is, at bottom, a means to make scholarship public. … Publication is not the raison d'être of scholarship; scholarship should be the raison d'être of publication."[18] In the Spring 2010 *MLA Newsletter*, the association's president wrote: "[d]octoral students in the modern languages will increasingly create and use digital archives and invent multimodal forms of scholarly presentation and communication in

the next decade. Why should the dissertation remain inflexibly wedded to traditional book-culture formats?"[19] And in January 2010, the Center for Studies in Higher Education released the results of a three-year study of faculty needs and practices throughout the "scholarly communication lifecycle," from "in-progress scholarly communication" through "archival publication." The study, observing that "[e]xperiments in new genres of scholarship and dissemination are occurring in every field," identified five areas in the current scholarly communication system that "require real attention": (1) tenure and promotion practices; (2) peer review; (3) journal and monograph publishing platforms; (4) new publishing platforms; and (5) "[s]upport for managing and preserving new research methods and products."[20]

Changes in communication media and methods are changing the nature of the cultural and scholarly record: they are changing the materials that constitute this archive as well as the ease with which it can be augmented and accessed. As material forms change, twentieth-century understandings of books, records, and scholarly communication are evolving. Understandings of academic libraries and archives need to evolve as well to support the creation and preservation of new forms of communication and the new "digital materiality of digital culture."[21]

The Concept of the Archive

The long lecture that Jacques Derrida delivered at the Freud Museum in 1994, "The Concept of the Archive: A Freudian Impression," which was later published as a short book titled *Archive Fever: A Freudian Impression*, has been widely commented upon and variously interpreted. Derrida's attempt to deconstruct the concept of the archive—to explore the dynamics of the natural, psychological archive (the memorial archive) as well as the artificial, technological archive (the scriptural archive)—identifies a number of interesting characteristics of the archive or the process of archiving.[22] Derrida's insights about the archive, which in later works he extended more fully into the digital age, can be synthesized constructively with more traditional or technical understandings of archives.

The archive is, traditionally and most basically, a site of documentation. Thus Ricoeur defines an archive "as a physical place that shelters the destiny of … the documentary trace."[23] For Derrida, the archive includes a physical place, such as the Freud Museum, but Derrida is interested in the *process* of archiving that creates such sites—the process of documentation—and in what archived traces forget, remember, and defer.[24] Derrida says, "We are in need of archives" because we are "burning with a [fever]." For Derrida, this is a very Freudian fever, inspired by the possibility of forgetfulness and a sense of finitude, which produces a compulsion to save as well as destroy.[25] We inscribe and then consign a trace to an external location, an archive; but once the trace is externalized, it is at risk of being destroyed.[26] Derrida therefore sees the archive as something "intrinsically unstable."[27]

Another Freudian concept that Derrida brings to the archive is "retrospective causality." Derrida says that "the archive doesn't simply record the past."[28] He says:

> the question of the archive is not … a question of the past … It is a question of the future, the question of the future itself, the question of a response, of a promise and of a

responsibility for tomorrow. The archive: if we want to know what that will have meant, we will only know in times to come. Perhaps.[29]

Later, Derrida says:

By incorporating the knowledge deployed in reference to it, the archive augments itself, engrosses itself, it gains in *auctoritas*. But in the same stroke it loses the absolute and meta-texual authority it might claim to have. One will never be able to objectivize it with no remainder. The archivist [i.e., any user of the archive] produces more archive, and that is why the archive is never closed. It opens out of the future.[30]

Derrida's point is not *just* that the archive continues to grow through accumulation: he is pointing out the way the archive defers meaning, and he is emphasizing the "potentially transformative capacity" of new interpretations.[31] The archive—all that is gathered and guarded, however imperfectly—becomes a conceptual "place of uncovering," opening up the past, present, and future. [32]

In a digression, Derrida refers to an "archival earthquake" caused by electronic media, but he defers that discussion for the most part.[33] Some years after the publication of *Archive Fever*, Derrida himself wondered if all our new machines were creating a different type of archive fever.[34] He saw that the process of archivization—i.e., the "institutional passage from the private to the public"—was breaking down.[35] "What circulates on the internet," he said, "belongs to an automatic space of publication: the public/private distinction is increasingly being wiped out."[36] The archive becomes everything, and a new unnamed fever reigns over it. As the end of his life approached, Derrida was anxious for his own archives to end up in "a safe, institutional place"; he "worried that everything he wrote would simply disappear after he was gone."[37]

Derrida's musings on the archive—as something unstable, incomplete, open, and changing in the digital age—suggest three major characteristics of the archive. First, the archive represents an attempt to negate time. Time, which Marc Bloch described as "an irreversible onward rush," is an annihilating force and a dimension of our "fever" to communicate "across the barriers of time, distance, and experience."[38] We want to preserve documents that, as Plato wrote, "return the same answer over and over again."[39] (Plato ostensibly meant this as a criticism, but what he actually meant is open to interpretation.)

Second, linking and mediating between the past, present, and future, the archive is a repository of temporality. Manuel Castells speaks of museums as "an archive of human time, lived or to be lived" and Brien Brothman says that archives help inform "the human experience of temporality," providing a "sense of temporal continuity" that connects memories of the past with expectations of the future. [40] The archive, which David Carr says has the power to inspire and extend "the unpredictable reaches of personal knowledge and insight," can be a potential place of ongoing temporal revelation.[41] It can be "a site of imagination, creativity, production, as well as of documentary preservation."[42]

Third, if it is to endure and be accessible—especially over the long term—the archive must be curated:

> **…if it is to endure and be accessible—especially over the long term—the archive must be curated: i.e., selected, controlled, and preserved.**

i.e., selected, controlled, and preserved. The archive depends on institutions that possess what Boyd Rayward refers to as a "commitment to time," particularly to the future.[43] Future researchers will have to answer the question that Bloch challenges historians to answer in *The Historian's Craft*: "How can I know what I am about to say?"[44] A theoretical concern about transcending time to understand it leads to a technical need for managing the archive in and through time. These are ancient insights concerning ancient impulses, but now, in the digital age, we are confronted with a new and challenging archive that is prolific, dispersed, and fragile.

The Archive Yesterday, Today, and Tomorrow

The history of the archive is a history of changing communication technologies: from orality to literacy (beginning about six thousand years ago); from scroll to codex (beginning about two thousand years ago); from manuscript to print (beginning about five hundred years ago); and from paper to electronic media (beginning over one hundred years ago). Throughout recorded history archives, libraries, and other repositories have evolved to provide access to and preserve traces of the past for the future. It is important to remember that the current forms and functions of these institutions—and present perceptions of them—were, for the most part, shaped relatively recently. Distinctions between archival and literary documents, in particular, were not clear in antiquity or the middle ages.[45] Randall Jimerson notes that it was the printing press, and the ability to mechanically reproduce texts, that helped divide documents into forms "directed toward a mass audience" and others "grounded in personal interactions and organizational transactions."[46] Professionalization only began to occur in the late nineteenth and early twentieth centuries: the American Library Association was organized in 1876; the American Association of Museums in 1906; and the Society of American Archivists in 1936.[47]

The position of libraries and archives within the lifecycle of information can be represented using established lifecycle models. The book lifecycle, a model developed by two bibliographers as a modification of Robert Darnton's communications circuit, identifies "five events in the life of the book": publishing ("the initial decision to multiply a text or image for distribution"), manufacturing, distribution, reception, and survival.[48]

Within this model (figure 1), libraries, focusing primarily on the products of print culture, are situated as secondary distributors. Libraries also have had important roles in reception and survival, but the reception role is usually a passive one and survival often has been dependent on such factors as physical form, number of copies, popularity, and where books rested (e.g., on library bookshelves).[49] The records lifecycle, the classic textbook model for records management, identifies five stages in the life of a record: creation, distribution and use, storage and maintenance, retention and disposition, and archival preservation.[50]

Within this model (figure 2), archives, focusing primarily on unpublished papers, are situated at the end of the cycle, waiting to receive selected or saved records—or, to borrow from Bacon's definition of antiquities, "some remnants of history which have casually escaped the shipwreck of time."[51]

These two lifecycle models can be merged into an archival cycle, which represents the five major stages in the lives of books and records (however these are defined):
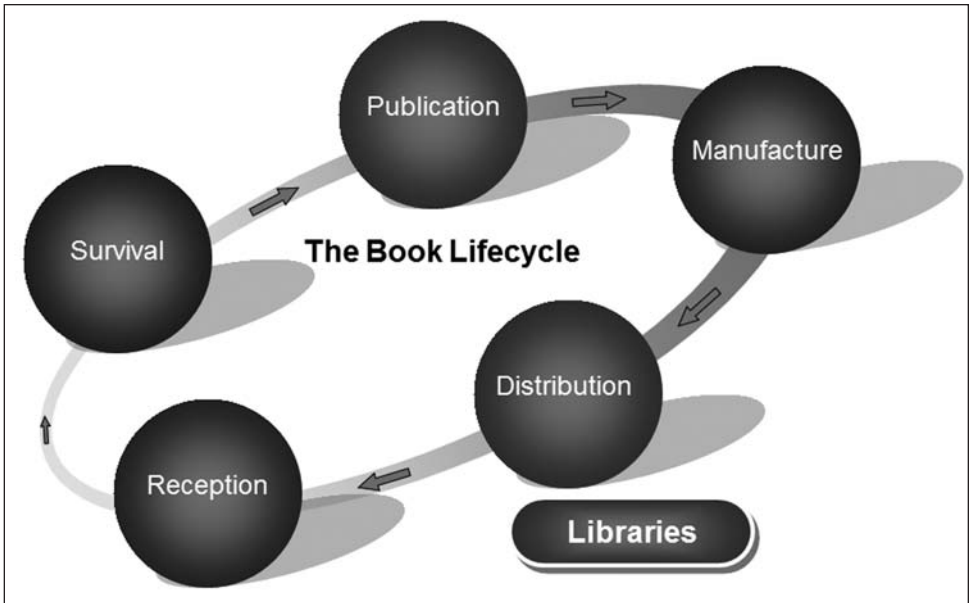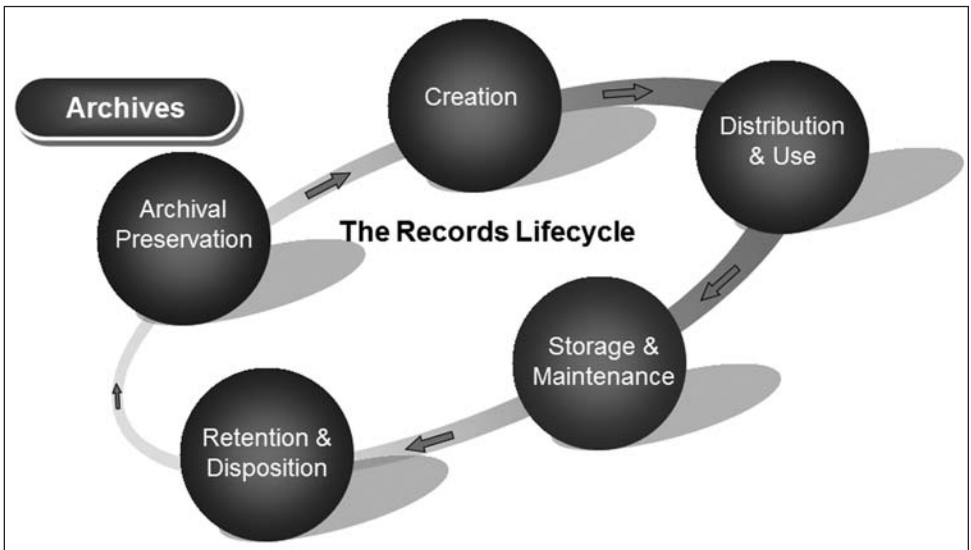
Figure 1. The Book Lifecycle

Figure 2. The Records Lifecycle

creation (including the intention to publish as well as the technologies of manufacturing), distribution (including the act of publication), reception, storage, and preservation (which encompasses selection and survival).

Within this model (figure 3), the situation of most libraries and archives by the end of the twentieth century can be plotted together. Libraries collected mostly published
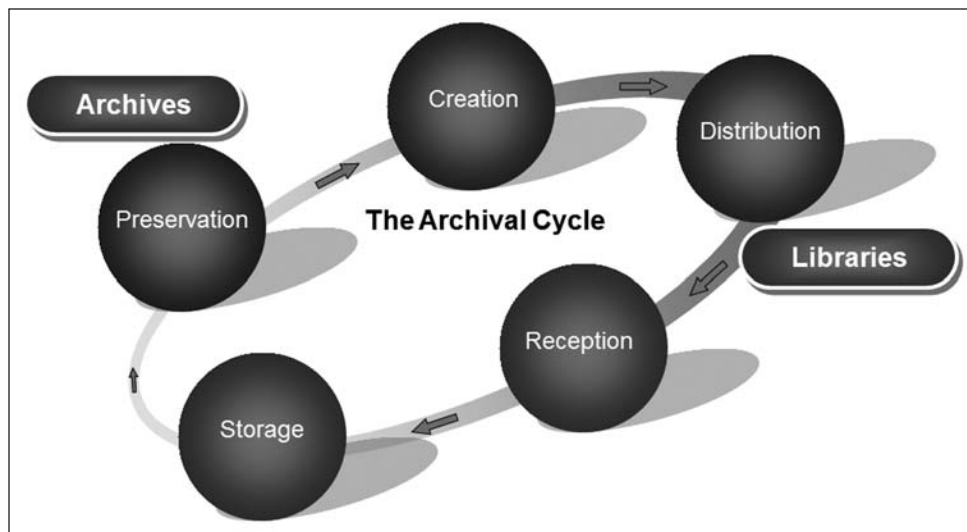
Figure 3. The Archival Cycle

books and journals, which got used, saved, and then more things were created to collect. Archives collected and saved private records, which then got used and records proliferated. Use—immediate as well as long-term access—is the cause of the cycle and its continuing iterations.[52] But now, with the proliferation of digital materials, dispersed and uncurated, the traditional positions of libraries within the archival cycle are problematic. Physical storage media need to be preserved, to maintain the integrity of the bits that reside on them, and the logical ordering of the bits needs to be preserved, to make them "renderable" or readable in the future.[53] There is also the bigger and more basic question of responsibility: who will save what, when, how, and where? Common computer applications and uses do not do much to support long-term access, therefore digital materials are at risk if they are not proactively curated.[54]

But academic libraries and archives have not remained stationary within the archival cycle. Changes in scholarly communication practices are causing academic libraries to broaden their collecting and distribution activities. Often connected with institutional repository services, libraries are becoming interested in collecting new types of digital materials, often institutional, including unpublished faculty works, research data, administrative records, instructional materials, and software.[55] Moving away from a focus on collecting certain types of fixed and final scholarly works, libraries also are becoming more interested in the *process* of scholarly communication and many are involved in developing new models of scholarly communication, such as digital humanities projects, and publishing services to support authors and editors.[56] Because, as Tom Nesmith says, "archives can no longer expect to salvage old records long after their inscription," archivists are becoming involved earlier on in the records-creation process.[57] About a decade ago, in *Scrolling Forward*, David Levy wrote: "we now live with certain deep confusions and uncertainties about the nature of … new [digital] documents, what they are and how they are to be preserved."[58] Confusion and uncertainty continues today, but issues

surrounding the complexity and fragility of digital materials are causing archivists, librarians, and others to focus collaboratively on digital curation.[59] This requires them to become active earlier on in the lifecycle of information, and this is leading toward a convergence between the missions of libraries and archives.[60]

Interests in and activities related to the creation, dissemination, and preservation of digital materials mean that libraries and archives are repositioning themselves within the archival cycle, moving closer to the point of creation, where they are able to influence, guide, or control the management of digital materials to ensure better access to the scholarly and cultural record—both immediately, through distribution, and over the long-term, through preservation (see figure 4).[61]
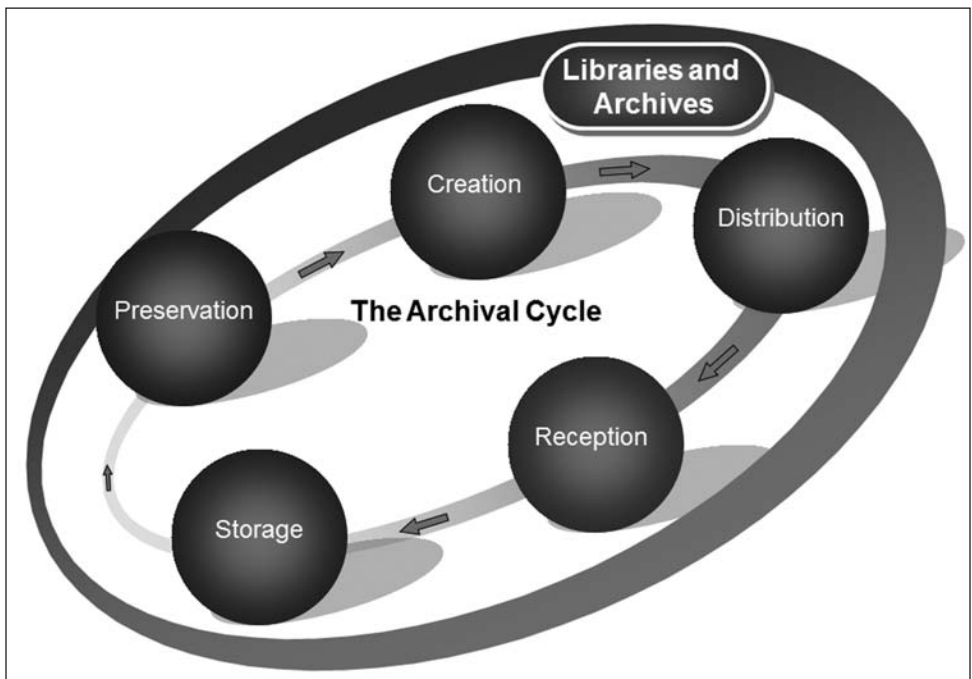

Figure 4. The Archival Cycle

In a *New Yorker* essay that appeared a few years ago, Anthony Grafton pointed out that as libraries become more involved in the creation and dissemination of digital materials, they are returning to an ancient and medieval model of the library as a site of both production and preservation.[62] This ancient-future model, which supports and connects all the stages within the archival lifecycle, positions libraries and archives to support more broadly the organically related activities of collecting, reading, interpreting, creating, disseminating, and preserving information—the whole lifecycle of recorded information.[63]

Conclusion

Changes in the nature of the record, books, libraries, and archives in the digital age present myriad opportunities and challenges for institutions that are responsible for confronting Bloch's "irreversible onward rush" of time and preserving our experiences of it.[64] The academic library, an entity that has modest roots in the nineteenth century and was professionalized during the twentieth century, is extending its traditional services, both technical and public, into the digital domain in the twenty-first century. But as widely replicated content is managed increasingly at the network level, it is not clear how libraries will be defined in the future. Academic archives, which, because of the historical materials they manage, remain more concrete entities, increasingly create and ingest less concrete material and could suffer from the same process of abstraction that seems to be threatening libraries.[65]

The academic library continues to have many unique and critical roles within academia. One of the most enduring of these is the library's role as an archive. This role intersects with the mission of academic archives, the entities (often within a library) that are most qualified to appraise and manage unique, complex, and aggregated material. By becoming sites of creation and dissemination, through digital production and publishing services, libraries and archives can reposition themselves more aggressively within the archival cycle and evolve their institutions to support new forms of communication. And, by linking creation or distribution with preservation, academic libraries and archives can make important advances

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in preserving the archive. Through local, regional, and national collaborations, this can be pursued locally as well as universally. If libraries and archives do not assume greater presence and relevance in the digital age by expanding their activities throughout the archival cycle, then we may one day find ourselves lost in the Archive of Babel.

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Notes

1. Jorge Luis Borges, "The Gifts," in *A Personal Anthology* (New York: Grove Press, Inc., 1967), 194.
2. Jorge Luis Borges, "The Library of Babel," in *Ficciones* (New York: Alfred A. Knopf, 1993), 61.
3. John Sturrock, "Introduction,"in Borges, *Ficciones*, xvii.
4. Carolyn Hamilton et al., "Introduction," in *Refiguring the Archive*, ed. Carolyn Hamilton et al. (Boston: Kluwer Academic Publishers, 2002), 7; Richard Pearce-Moses, *A Glossary*

of Archival and Records Terminology (Chicago: Society of American Archivists, 2005), 29; Richard J. Cox, *Personal Archives and a New Archival Calling: Readings, Reflections, and Ruminations* (Duluth: Litwin Books, LLC, *2008*), 186.

5. Paul Ricoeur, *Memory, History, Forgetting* (Chicago: University of Chicago Press, 2004), 146.

6. Jeremy Leighton John et al., *Digital Lives: Personal Digital Archives for the 21ˢᵗ Century: An Initial Synthesis*, Version 0.2 (2010), vii, http://www.ucl.ac.uk/infostudies/research/ciber/digitallives.pdf (accessed April 1, 2011); Roger C. Schonfeld and Ross Housewright, *Faculty Survey 2009: Key Strategic Insights for Libraries, Publishers, and Societies* (ITHAKA, 2010), 8–11, http://www.ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/Faculty%20Study%202009.pdf (accessed April 1, 2011).

7. Marlene Manoff, "Theories of the Archive from Across the Disciplines," *portal: Libraries and the Academy* 4, 1 (2004): 9; "Archive and Database as Metaphor," *portal: Libraries and the Academy* 10, 4 (2010): 385.

8. Thomas R. Adams and Nicolas Barker, "A New Model for the Study of the Book," in *A Potencie of Life: Books in Society*, ed. Nicolas Barker (New Castle, Del.: The British Library and Oak Knoll Press, 2001), 13. Adams and Barker propose the term *bibliographical document*: "something printed or written in multiple copies that its agent, be it author, stationer, printer, or publisher, or any combination thereof, produces for public consumption. … The size of the audience addressed is not a factor; rather it is the fact that the agent's intention involves the process of duplication, so that more than one person can have access to what is on the paper." In 1877, Librarian of Congress Ainsworth Rand Spofford wrote in a letter to Harper & Brothers: "The statutes regulating copyright have never defined the meaning of the word 'book' as used repeatedly by the law." Quoted in Carl Ostrowski, "'The Choice of Books': Ainsworth Rand Spofford, the Ideology of Reading, and Literary Collections at the Library of Congress in the 1870s," *Libraries & the Cultural Record* 45, 1 (2010): 83.

9. David McKitterick, *Print, Manuscript, and the Search for Order, 1450–1830* (New York: Cambridge University Press, 2003), 1–21.

10. "Book" is used often to translate the Hebrew word *sepher*, a written communication in any form (e.g., a letter, certificate, tablet, scroll), and the Greek word *biblos*, which refers to the inner bark of the papyrus plant and, by implication, a written document (e.g., a record, certificate, notice, scroll). It was not uncommon for an early codex to function as a library or *bibliothecha*, a book repository. The English word "book," in its earliest sense, probably refers to the beech tree from which writing tablets were made.

11. Nicolas Barker, "Libraries and the Mind of Man," in *A Potencie of Life*, 179.

12. James M. O'Toole and Richard J. Cox, *Understanding Archives & Manuscripts* (Chicago: Society of American Archivists, 2006), 4.

13. Geoffrey Yeo, "Concepts of Record (I): Evidence, Information, and Persistent Representations," *American Archivist* 70 (2007): 331.

14. Ibid., 334–342. Yeo develops his definition of a record further in "Concepts of Record (2): Prototypes and Boundary Objects," *American Archivist* 71 (2008): 136. Most records, of course, have only temporary value. One of the most important archival functions is appraisal: determining which records have enduring value for "legal, financial, administrative, personal, and historical reasons … information or associations that we might need in the future." Randall C. Jimerson, *Archives Power: Memory, Accountability, and Social Justice* (Chicago: Society of American Archivists, 2009), 126.

15. W. Boyd Rayward, "Electronic Information and the Functional Integration of Libraries, Museums, and Archives," in *History and Electronic Artefacts*, ed. Edward Higgs (Oxford: Clarendon Press, 1998) 207–226. Archivists are concerned particularly with a record's content, structure, and context, which "are now shattered into separate stores of data and perhaps different software programmes." Terry Cook, "Archival Science and Postmodernism: New Formulations for Old Concepts," *Archival Science* 1 (2001): 22.

16. Barker, "Libraries and the Mind of Man," 179.

17. Nancy Maron and K. Kirby Smith, *Current Models of Digital Scholarly Communication: Results of an Investigation Conducted by Ithaka for the Association of Research Libraries* (Washington, DC: Association of Research Libraries, 2008), 5, http://www.arl.org/bm%7Edoc/current-models-report.pdf (accessed April 1, 2011).

18. *Report of the MLA Task Force on Evaluating Scholarship for Tenure and Promotion* (New York: Modern Language Association, 2007), 24, http://www.mla.org/pdf/task_force_tenure_promo.pdf (accessed April 1, 2011).

19. Sidonie Smith, "From the President: Beyond the Dissertation Monograph," *MLA Newsletter*, Spring 2010, http://www.mla.org/blog&topic=133 (accessed April 1, 2011).

20. Diane Harley et al., *Assessing the Future Landscape of Scholarly Communication: An Exploration of Faculty Values and Needs in Seven Disciplines* (Berkeley: Center for Studies in Higher Education, 2010), i, v.

21. Matthew G. Kirschenbuam et al., "Digital Materiality: Preserving Access to Computers as Complete Environments," (2009), 105, http://mkirschenbaum.files.wordpress.com/2009/10/digitalmaterialityipres2009.pdf (accessed April 1, 2011).

22. Jacques Derrida, *Archive Fever: A Freudian Impression* (Chicago: University of Chicago Press, 1996). The subtitle of the work is important: With "impression," Derrida intentionally evokes the sense of an inscription or recording as well as the senses of a notion and a mark; with "Freudian," Derrida signals his focus on both Freud and psychoanalysis.

23. Ricoeur, *Memory, History, Forgetting*, 167.

24. Verne Harris, "A Shaft of Darkness: Derrida in the Archive," in *Refiguring the Archive*, 65; Brien Brothman, "Declining Derrida: Integrity, Tensegrity, and the Preservation of Archives from Deconstruction," *Archivaria* 48 (1999), 70.

25. Derrida's "fever" is influenced by Freud's "death drive," which introduces "an a priori forgetfulness into the heart of the monument, that which works against itself." *Archive Fever*, 12; see also 19, 91. Later, Derrida explained further: "If there is a passion, it is because we know that not only the traces can be lost by accident or because the space is finite or the time is finite, but because we know that something in us, so to speak, something in the psychic apparatus, is driven to destroy the trace without any reminder. And that's where the archive fever comes from." Jacques Derrida, "Archive Fever: A Seminar by Jacques Derrida, University of the Witwatersrand, August 1998," in *Refiguring the Archive*, 44; see also 66–68.

26. Derrida, "Archive Fever," 42.

27. Harris, "A Shaft of Darkness: Derrida in the Archive," 69.

28. Derrida, "Archive Fever," 40.

29. Derrida, *Archive Fever*, 36.

30. Ibid., *Archive Fever*, 68.

31. Susan van Zyl, "Psychoanalysis and the Archive: Derrida's *Archive Fever*," in *Refiguring the Archive*, 55. Derrida says: "It's always possible to re-interpret an archive. And this future-oriented structure of the archive is precisely what confronts us with a responsibility, an ethical and political responsibility." "Archive Fever," 46.

32. Derrida, *Archive Fever*, 77; Francis X. Blouin, Jr., and William G. Rosenberg, eds., *Archives, Documentation, and Institutions of Social Memory: Essays from the Sawyer Seminar* (Ann Arbor: University of Michigan Press, 2007), 1; Carolyn Steedman, "'Something She Called a Fever': Michelet, Derrida, and Dust (Or, in the Archives with Michelet and Derrida)," in *Archives, Documentation, and Institutions of Social Memory*, 5–6.

33. Derrida, *Archive Fever*, 16.

34. Jacques Derrida, "Machines and the 'Undocumented Person'," in *Paper Machine* (Stanford: Stanford University Press, 2005), 2.

35. Derrida, *Archive Fever*, 2. Derrida said: "there is no private archive. … It belongs to the concept of the archive that it be public, precisely because it is located." "Archive Fever," 48.

36. Jacques Derrida, "The Word Processor," in *Paper Machine*, 32.

37. Thomas Bartlett, "Archive Fever," *The Chronicle of Higher Education* 53, 46 (20 July 2007).

38. Marc Bloch, *The Historian's Craft* (New York: Knopf, 1953), 27; James M. O'Toole, *Understanding Archives and Manuscripts* (Chicago: Society of American Archivists, 1990), 69.

39. Quoted in David M. Levy, *Scrolling Forward: Making Sense of Documents in the Digital Age* (New York: Arcade Publishing, 2001), 25.

40. Manuel Castells, "Museums in the Information Era: Cultural Connectors of Time and Space," in *Museums in a Digital Age*, ed. Ross Parry (New York: Routledge, 2010), 431; Brien Brothman, "Perfect Present, Perfect Gift: Finding a Place for Archival Consciousness in Social Theory," *Archival Science* 10, 2 (2010): 159.

41. David Carr, *The Promise of Cultural Institutions* (New York: AltaMira Press, 2003), 158.

42. Blouin and Rosenberg, *Archives, Documentation, and Institutions of Social Memory*, vii.

43. W. Boyd Rayward, "When and Why Is a Pioneer: History and Heritage in Library and Information Science," *Library Trends* 52, 4 (2004): 673.

44. The full quote is: "Every historical book worthy of the name ought to include a chapter, or if one prefers, a series of paragraphs inserted at turning points in the development, which might almost be entitled: 'How can I know what I am about to say?'" Bloch, *The Historian's Craft*, 71. The question is evidential as well as epistemological. Matthew P. Brown uses the phrase "epistemology of the archive" to encompass both. See *The Pilgrim and the Bee: Reading Rituals and Book Culture in Early New England* (Philadelphia: University of Pennsylvania Press, 2007), 203.

45. Ernst Posner, *Archives in the Ancient World* (Chicago: Society of American Archivists, 2003), xxxi, 14, 27–28; Lionel Casson, *Libraries in the Ancient World* (New Haven: Yale University Press, 2001), 2–3.

46. Jimerson, *Archives Power*, 64, 60.

47. Kenneth E. Carpenter, "Libraries," in *A History of the Book in America, Volume 3: The Industrial Book, 1840–1880*, ed. Scott E. Casper et al. (Chapel Hill: University of North Carolina Press, 2007), 317.

48. Adams and Barker, "A New Model for the Study of the Book," 14; Robert Darnton, "What is the History of Books," in *The Book History Reader*, 2nd ed., ed. David Finkelstein and Alistair McCleery (London: Routledge, 2006), 12, 15. By Adams and Barker's definition, within a networked environment nearly everything becomes a "publication."

49. Adams and Barker, "A New Model for the Study of the Book," 32–34.

50. Mary F. Robek et al., *Information and Records Management: Document-Based Information Systems*, 4th ed., (New York: McGraw-Hill, 1996), 8.

51. Francis Bacon, *The Works of Francis Bacon*, vol. 8 (Boston: Taggard and Thompson, 1864), 423. There are, of course, complications and challenges to the model described here: archival missions and selection criteria vary, as do archivists' roles within the records lifecycle or continuum, which is an alternative model. See Frank Boles, *Selecting & Appraising Archives & Manuscripts* (Chicago: Society of American Archivists, 2005), 39–41.

52. In the 1970s and 1980s, there was a great "access v holdings" debate among librarians. During the same period, resource sharing became increasingly common among libraries and a number of archives developed cooperative documentation strategies. Today, both access and holdings are distributed; most libraries and archives function as components of a larger information infrastructure. See Peter Brophy, *The Library in the Twenty-First Century* (London: Facet Publishing, 2007), 58–62; O'Toole and Cox, *Understanding Archives & Manuscripts*, 110.

53. Abby Smith, "Preservation," in *A Companion to Digital Humanities*, ed. Susan Schreibman et al. (Oxford: Blackwell, 2004), http://www.digitalhumanities.org/companion/ (accessed April 1, 2011).

54. For a discussion of the persistent traces of electronic data, see Matthew G. Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge: MIT Press, 2008), esp. 45–58.

55. Tyler G. Walters, "Reinventing the Library: How Repositories Are Causing Librarians to Rethink Their Professional Roles," *portal: Libraries and the Academy* 7, 2 (2007): 222–223;

Nicholas C. Burckel, "Academic Archives: Retrospect and Prospect," in *College and University Archives: Readings in Theory and Practice*, ed. Christopher J. Prom and Ellen D. Swain (Chicago: Society of American Archivists, 2008), 20–21; Robert P. Spindler, "Electronic Publishing and Institutional Memory," in *College and University Archives*, 63–68; Elizabeth Yakel et al., "Institutional Repositories and the Institutional Repository: College and University Archives and Special Collections in an Era of Change," *American Archivist* 71 (2008): 324, 326, 338, 346; *The Research Library's Role in Digital Repository Services: Final Report of the ARL Digital Repository Issues Task Force* (Washington, DC: Association of Research Libraries, 2009), 5, http://www.arl.org/bm%7Edoc/repository-services-report.pdf (accessed April 1, 2011).

56. Hitoshi Kamada, "Digital Humanities: Roles for libraries?," *College & Research Libraries News* 71, 9 (2010): 484–485; Karla L. Hahn, *Research Library Publishing Services: New Options for University Publishing* (Washington, DC: Association of Research Libraries, 2008), 5–6, http://www.arl.org/bm~doc/research-library-publishing-services.pdf (accessed April 1, 2011).

57. Tom Nesmith, "Seeing Archives: Postmodernism and the Changing Intellectual Place of Archives," *American Archivist* 65, 1 (2002): 39; O'Toole and Cox, *Understanding Archives & Manuscripts*, 136.

58. Levy, *Scrolling Forward*, 152. Levy explains the problem this way: "a digital document, because its perceptible form is *always being manufactured just-in-time, on the spot*, can't ever sever its relationship to a set of manufacturing technologies. It requires an elaborate set of technological conditions—hardware and software—in order to maintain a visible and useful presence." Emphasis is in the original.

59. See, for example, the Library of Congress National Digital Information Infrastructure and Preservation Program (NDIIPP) projects featured in *Library Trends* 57, 3 (2009).

60. Rayward, "Electronic Information," 207–226; Brophy, *The Library in the Twenty-First Century*, 179–180; Richard J. Cox and Ronald L. Larsen, "iSchools and Archival Studies," *Archival Science* 8, 4 (2008): 307–326. On convergence as reconvergence, see Lisa M. Given and Lianne McTavish, "What's Old Is New Again: The Reconvergence of Libraries, Archives, and Museums in the Digital Age," *Library Quarterly* 80, 1 (2010), 7–9, 22; Michael J. Paulus, Jr., "The Converging Histories and Futures of Libraries, Archives, and, Museums as Seen through the Case of the Curious Collector Myron Eells," *Libraries & the Cultural Record* 46, 2 (2011): 185–205.

61. There are a number of strategies for curating digital materials, including regular snapshot accessions, the post-custodial approach, periodic transfer of retired media and hardware, and self-archiving. See *Workbook on Digital Private Papers* (Paradigm Project, 2007), 10–16, http://www.paradigm.ac.uk/workbook (accessed April 1, 2011).

62. Anthony Grafton, "Future Reading: Digitization and Its Discontents," *New Yorker*, November 5, 2007, http://www.newyorker.com/reporting/2007/11/05/071105fa_fact_grafton (accessed April 1, 2011).

63. The ancient model of the library as a site of scholarly production, exemplified by the library at Caesarea, is developed in Anthony Grafton and Megan Williams, *Christianity and the Transformation of the Book: Origen, Eusebius, and the Library of Caesarea* (Cambridge: Belknap Press of Harvard University Press, 2006), see esp. 18.

64. Bloch, *The Historian's Craft*, 27.

65. *No Brief Candle: Reconceiving Research Libraries for the 21st Century* (Washington, DC: Council on Library and Information Resources, 2008), 8, http://www.clir.org/pubs/reports/pub142/pub142.pdf (accessed April 1, 2011).