

## Complete, Accessible, Now

### *What Is Living and What Is Dead in the Research Library*

▼ **PREVIEW ARTICLE** in *Entangled Temporalities*

▼ **ABSTRACT** The history of the research library represents a series of negotiations over the spatio-temporalities of knowledge. This article focuses on debates over the nature and organization of university research libraries triggered by Harvard president Charles W. Eliot's 1902 proposal to partition "living" and "dead" books based on usage statistics, relocating "dead" books to offsite storage inaccessible for browsing. I use the Eliot debate to explore attempts to reconcile shifting ideals, institutions, and practices of research itself at the dawn of the twentieth century. Two intertwined ideals lie at the heart of my analysis: completeness and access. At the start of the debate, Eliot's opponents associated research with an ideal of *accumulative* completeness that was generative of access, then understood as the browsing of physical stacks. By growing indefinitely under one roof, research collections would remain physically accessible to browsers. Over the course of the next decade, however, as storage pressures mounted, ideas of access came to be detached from onsite browsing and attached to logistical concerns over communications and transport infrastructures. An accumulative ideal of completeness thus came to be replaced by what I call *communicative* completeness, wherein scattered, partial collections physically inaccessible were made virtually accessible by central bureaus of information. This redefinition of the relationship between access and completeness, I argue, is foundational for contemporary attempts to revive the dream of the universal library, e.g., the Internet Archive.

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Addressing, in the spring of 1912, an audience assembled to celebrate the opening of Berkeley's Doe Library, Librarian of Congress Herbert Putnam (1861–1955) turned his gaze to the “manifestations of the permanent” before his eyes. For Putnam, the “everlasting hills” which encircled the “ceaseless sea” of San Francisco Bay found echo in the “persistent will of a community”—the university—which sought “consistently to enforce to the present the lessons of the past.” This served ultimately to foreground a new edifice: a library that would conserve all that had been “recorded by man himself throughout the ages.” On that day, brought together in northern California, was the “enduring in nature, and even the enduring in man.”<sup>1</sup>

Less than a decade earlier, on the other side of the continent, Putnam had beheld a different situation. Along with the astronomer Edward Pickering (1846–1919), New York Public Library director John Billings (1838–1913), and Harvard chief librarian William Lane (1859–1931), Putnam had been tasked to evaluate a library past its time and at risk of collapse. The number of books in Harvard's central library, growing at an average rate of 34,024 volumes per year, had exceeded the capacity of Gore Hall, the building designed to store them. Far from being a “manifestation of the permanent,” Gore Hall, since its opening in 1838, had twice undergone reconstruction due to storage problems: first in 1877, with the addition of a new wing, and then from 1895–6, when existing shelves were gutted and replaced by iron stacks.<sup>2</sup> By 1915, the entire building would be demolished, henceforth vanishing from Harvard's landscape. In 1903, Gore Hall still stood, but barely—“crammed for space and harassed in operation,” with books “crowded off the shelves” and piled in “blocks, boxes, etc., on stairways.”<sup>3</sup> As Pickering confided to Putnam, “the injury to the University is a very serious one, and daily becoming worse.”<sup>4</sup> Of concern to Pickering was not only the state of Gore Hall itself, but university president Charles Eliot's (1834–1926) intention, if left unchecked, “to destroy the books now considered worthless.”<sup>5</sup>

Eliot would have objected to the characterization. “Policy as to accumulation” had dogged his administration in the closing years of the nineteenth century. Over a series of lectures and writings in the spring of 1902, he claimed to have found a solution. “Thousands or millions of dead books,” he proposed, could be identified by collating borrowing slips and ranking volumes based on

1 Putnam, “The Quick,” 235.

2 Lane, “Plain Facts”; Battles, *Widener*, 1–48.

3 Report of the Committee to Visit the Library, May 1903, HUA.

4 Pickering to Putnam, 18 Jan. 1904, HUA.

5 Pickering to Putnam, 18 Jan. 1904, HUA.

annual frequency of use. These dead books were to be relocated to “inexpensive buildings on cheap land” outside of the city—a “receiving-tomb”—where they would be arranged on high-density shelving by size instead of subject classification, and unavailable for browsing.<sup>6</sup>

Eliot’s scheme for a partition between bibliographical life and death is regarded as the inaugural moment of “remote” or “offsite” library storage familiar to academics today.<sup>7</sup> And in our own time, offsite storage continues to arouse controversy: as acquisitions policies turn to e-books and physical volumes are removed to make way for more computer terminals, once-great libraries, Anthony Grafton laments, are transforming into “vast internet café[s].”<sup>8</sup> Yet even before Eliot, similar ideas had been floated. Arguments that librarians engage in “weeding” or “sifting,” prioritizing space for books oft used while relocating those which were not, had already stirred tensions at the 1893 summit of the American Library Association (ALA). “Has not our accumulation of books been somewhat promiscuous?” asked Samuel Green (1837–1918), former president of the ALA, and one of weeding’s most ardent defenders.<sup>9</sup> Libraries “should not try to contain everything,” but adopt a stance of “restricting the book capacity.”<sup>10</sup> Reactions on the spot were overwhelmingly negative. William Poole (1821–1894) of Chicago’s Newberry Library denounced the notion as nothing short of “heresy.”<sup>11</sup> In response, proponents of weeding made clear that the practice would be limited only to those institutions which served “not the scholar and special investigator, but the general reading public.”<sup>12</sup> Large research libraries such as the Newberry were never intended to fall within the scope of discussion. The specific novelty of Eliot’s 1902 proposal thus lay not in the claim that some books should be entombed, but in the extension of entombment to libraries “whose primary objective is to provide the means of research.”<sup>13</sup> Put differently, at the core of the debate which Eliot’s proposal unleashed were questions of how to reconcile shifting—and at times antagonistic—ideals, institutions, and practices of *research* itself at the dawn of the twentieth century.

Indeed, American notions of research had been undergoing a sea change, from the antebellum stirrings of “big science” to the founding of German-modeled Johns Hopkins University at the end of Reconstruction. As U.S. doctoral programs exploded in number during the closing decades of the nineteenth century, university collections and facilities expanded, powered

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6 Eliot, “Division,” 52–3, 55.

7 Schnapp and Battles, *Library Beyond the Book*, 130–31; Seyffert, *Magazinierung*.

8 Qtd. in Pogrebin, “New York”; see also Darnton, “In Defense.”

9 Green, “Adaptation,” 19.

10 [Adams], “Sifting,” 107, 118.

11 Green, “Adaptation,” 19–20.

12 [Adams], “Sifting,” 107.

13 William Coolidge Lane, “Treatment,” 9.

financially by Gilded Age capitalism.<sup>14</sup> Eliot's library proposal played out against this backdrop starting in the early spring of 1902. By revisiting this moment, my goal is to demonstrate how debates over living and dead books redefined the spatio-temporalities of research in ways that continue to resonate with present institutional controversies. What patterns governed the rate of research obsolescence in different disciplines, and how did the entanglement of disciplines under the single roof of a central university library complicate these patterns? How did the push to relocate obsolete books offsite alter existing epistemic virtues governing libraries, such as completeness and speed of access, and reshape mundane scholarly practices such as waiting and browsing?

In the context of the emerging research university, these questions possessed particularly fraught stakes. The university library at the dawn of the twentieth century had to define itself through and against a spate of proliferating laboratories and museums that alleged to represent new, "modern methods" of research in contrast to prior practices of "dogmatic instruction."<sup>15</sup> This contrast between "disciplines steeped in history versus those oblivious or even hostile toward it, of the curators of the library [...] versus those of the laboratory and the observatory,"<sup>16</sup> grew all the more complex insofar as the university library claimed to serve all researchers—humanists and scientists alike. The university library thus faced the task of coordinating divergent disciplinary temporalities into multidisciplinary coexistence, and even interdisciplinary cooperation.

The thorniness of such coordination was evident already in the principal actors of the debate. Eliot had taught chemistry at MIT prior to taking up Harvard's presidency; Pickering was an astronomer; Putnam had led a successful career in medicine before turning to librarianship. And then there was Lane, librarian by trade but self-fashioned as an amateur historian. Ultimately, Lane, Pickering, and Putnam came together against Eliot around a single ideal: completeness.

As an epistemic virtue, "completeness" has been linked by historians to the nineteenth century's triumphant positivism, waning thereafter in the twentieth century.<sup>17</sup> The ramifications of the Eliot debate suggest a wrinkle in the fabric of this history. For librarians at the start of the twentieth century, completeness went hand-in-hand with *access* to physical stacks. Specifically, completeness and access were paired together in an *accumulative* model of the library: the indefinite growth of collections unified under one roof allowed for immediate access to as many books as possible in open stacks for browsing, the latter a practice seen as essential for generating new research. It was this model, in the years following the Eliot debate, that was gradually revised. As discourse

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14 The literature here is vast, but see, for instance, Kohlstedt, *Formation*; Bruce, *Launching*; Reingold, *Science, American Style*, esp. 24–53; Numbers, "United States," esp. 648–77.

15 "What should be the policy," ca. early Feb. 1904, HUA; Hopkins, "Organization."

16 Daston, "Sciences of the Archive," 161.

17 Kahlert, *Unternehmungen*, 40–49, 328–28. Thanks to Christian Flow for pointing me to this work.

shifted from libraries as sites for physical books to libraries as “bureaus of information,” understandings of access were detached from onsite stacks browsing and attached to concerns over communications and transport infrastructures that might link spatially dispersed libraries into a single information “system.” Accumulative completeness gave way to what I call *communicative* completeness—an ideal of the library rooted in the logistical efficiency of information networks, rather than situated collections. It is this model of communicative completeness that, as I discuss in the conclusion, continues to hold sway today, e.g., with the rise of consortium collecting and virtual libraries. The more lasting impact of Eliot’s proposals therefore lies less in the distinction itself between books living and dead, than in the way this distinction prompted a reworking of ideas of completeness and access relative to the production of academic research.

### Contemporaneity and Discipline

“Old editions of scientific text-books,” “old editions of many standard reference works,” “antiquated medical books”: it was volumes such as these which Eliot proffered as the most obvious corpses to be interred in offsite storage.<sup>18</sup> In drawing up his roster of the deceased, Eliot aimed not only to institute statistical tracking of use as a basis for measuring bibliographical value, but to articulate periodicities of contemporaneity relative to scholarly discipline as well as literary and bibliographic genre. How long did certain genres of texts remain relevant depending on their discipline? That is, how quickly, in different fields, did authoritative new knowledge arise to replace the old, and how were these changes reflected at different rates across the periodicals, pamphlets, textbooks, and reference works of those fields?

On the surface, these questions reinforced a growing divide between the sciences and the humanities. Book production in the sciences was portrayed as “another world” where “nothing remains still”: “Promptly the first edition becomes ‘out of date,’” and “a constant success of editions is turned out year after year, and newer and newer.”<sup>19</sup> A closer look, however, reveals that the literature from which Eliot drew, stemming largely from weeding in public libraries, encouraged finer-grained distinctions of disciplinary temporality and genre. Definitive for the Anglophone sphere was James Brown’s (1862–1914) *Manual of Library Economy* (first ed. 1903), with its advice on how books “become stale through effluxion of time.”<sup>20</sup> It was suggested, for instance, that the applied sciences, in particular engineering, as well as the social sciences, changed faster than other fields, and thus warranted re-evaluation at far briefer

18 “What should be the policy,” ca. early Feb. 1904, HUA.

19 Clarke, “Scientific Text-Books,” 164–65.

20 Brown, *Manual*, 224; on Brown’s influence see Doubleday, “Weeding-Out”; and Young, “Book Selection.”

intervals.<sup>21</sup> These stood in opposition to anatomy, systematic botany, geology, and zoology, where contemporary research continued to rely substantially on older works.<sup>22</sup> Mathematics, most of all, exhibited long continuous periods, and behaved in the same way as philosophy: little truly died.<sup>23</sup>

Distinctions were also made between genres according to varied literary and bibliographical criteria. Regardless of discipline, greatest disdain was reserved for “recapitulations,” a category that in practice tended to designate textbooks and textbook-adjacent survey works deemed to contain no “original” research. “Original” research, in contrast, was most frequently associated with journal articles, and new issues were to be given priority when allotting shelf space.<sup>24</sup> Yet journals posed their own nuanced dilemmas, spawning a large subfield of specialized controversy of which only brief treatment is possible here. “Long sets of periodicals” had long been a key culprit in the ballooning of library collections, and the use of cheaper paper in many instances posed a problem of storage due to accelerated physical deterioration.<sup>25</sup> On the plus side, Eliot reasoned, knowledge changed faster in journals, meaning that issues might be taken off shelves in as short a time as three months, and certainly within one year. However, librarians pointed out that certain individual articles and issues remained in active use for far longer. “Would President Eliot retain only the volumes frequently used and relegate the others to the limbo of dead books?” a representative from Cornell University asked. And if so, how would this impact the ability of researchers to trace the frequent cross-references that occurred in articles?<sup>26</sup> Finally, librarians argued that illustrations, particularly large copperplate prints and lithographs, merited special treatment. While later editions of the texts in which these illustrations featured ostensibly contained more contemporary knowledge, prints from first editions, made with fresh plates, were of a higher quality, and thus retained longer living relevance compared with their accompanying texts.<sup>27</sup>

Understanding how long knowledge in different disciplines and genres remained contemporaneous was important to Eliot’s proposal for at least two reasons. Most directly, it offered guidelines regarding the intervals at which books should be evaluated to determine whether or not they should be housed in the central stacks. Brown, in his *Manual*, estimated twenty years as a maximum period for scientific disciplines overall; Eliot suggested half that.<sup>28</sup> This served to counter detractors who complained that books

21 Brown, *Manual*, 222; Axon, “Weeding Out,” 266–67.

22 Clarke, “Scientific Text-Books,” 165; Axon, “Weeding-Out,” 267.

23 Brown, *Manual*, 222; Lane, “Treatment,” 15.

24 Brown, *Manual*, 222; Clarke, “Scientific Text-Books,” 166–67; Juntke, “Magazinierung,” 398.

25 Report of the Committee to Visit the Library, May 1903, HUA; “Harvard University Library,” 261.

26 Eliot, “Living and Dead,” 220; Putnam to Canfield, 16 Nov. 1903, HUA; Lane, “Treatment,” 15.

27 Clarke, “Scientific Text-Books,” 166; Axon, “Weeding-Out,” 267; Aldred, “Book Selection,” 153; Brown, *Manual*, 222.

28 Brown, *Manual*, 222; Billings, “Some Library Problems,” 7; on even shorter periods for chemistry and biology, see Doubleday, “Weeding-Out,” 332.

sent to Eliot's "receiving-tomb" would be consigned to oblivion. Periodic re-evaluation, correctly timed, ensured the possibility of resurrection. As one cycle of contemporaneity gave way to another, volumes from offsite storage frequently called on might find their way back into the central stacks. In this manner, the problem of storage *space* resolved itself into rhythmic practices for coordinating *times*.

Continual renewal, in turn, served a higher purpose: the maintenance of a 'living' library. Here, Eliot closely echoed the views that Brown had first laid out on the direction of twentieth-century "library progress." The definition of the librarian as "custodian or collector of books," Brown predicted, "must soon undergo a radical change." That older librarian was a relic of a "sentimental museum idea," an "*omnium gatherum* method" that, while aspiring to emulate the universality of Enlightenment national libraries like the British Museum and the Bibliothèque Nationale, had resulted in so many "dumping-grounds." In their place, the "modern" librarian would transform the library into a "practical *workshop* [emphasis in original]." A "utility ideal" of active making and doing— not accumulation—was the goal. The library could no longer remain a static "collection of books," but was to be mobilized into "an instrument for use."<sup>29</sup>

Brown's "practical workshop" for action rather than accumulation coincided with Eliot's broader vision of the ideal of cultivation to be pursued by research universities. What constituted cultivation had, in Eliot's view, "undergone substantial changes during the nineteenth century." The most pointed of these changes was the "recognition of natural science as a fundamental necessity in liberal education."<sup>30</sup> Natural science's rise was not a rejection of the humanities—a fear floated in discussion with Eliot by Andrew West, dean of Princeton's Graduate School.<sup>31</sup> It was instead an injection into the humanities of an urgent scientific spirit. That scientific spirit demanded a reorientation of scholarship from a practice of "stillness or isolation," immersed in the "stream that was flowing centuries ago," to a practice of active engagement situated in the "quick-flowing tides" of the present.<sup>32</sup> It was this "constructive" ethos that fueled "the great power of the man of science, the investigator, and the natural philosopher." It was this constructive ethos that "the book-worm, the monk, the isolated student" lacked.<sup>33</sup>

The eradication of the "book-worm" was already taking place through a metamorphosis of Harvard's physical landscape. Its mid-nineteenth-century rumblings were the creation of the Lawrence Scientific School and its laboratories; the creation of an astronomical observatory which, under Pickering and

<sup>29</sup> Brown, "Library Progress," 5, 9–10; Brown, *Manual*, 90–91, 204–5.

<sup>30</sup> Eliot, "New Definition," 4, 6.

<sup>31</sup> West, "Present Peril to Liberal Education."

<sup>32</sup> Eliot, "New Definition," 10–11.

<sup>33</sup> Eliot, "New Definition," 9, 18. On the bookworm as a normative figure for bad readership in Antiquity, see Lambert, "Ancient Entomological Bookworm."

an army of female assistants became the world's "star-classification factory."<sup>34</sup> Later in 1879, museum and laboratory were brought together, transforming the former into the latter, through the Agassiz Museum of Comparative Zoology. In the humanities, the seminar room, nothing less than a practical workshop, was given priority over the lecture hall and its one-sided model for the transmission of accumulated tradition from lecturer to audience. A recommended shift in library usage accompanied the new ethos of these seminar rooms: rather than "being handed results" from a handful of aged textbooks, undergraduates were enjoined in seminars to engage in "more advanced research" by consulting the latest publications available, becoming in their own right creators of new knowledge.<sup>35</sup>

Laboratory, observatory, museum, seminar room: the library stood as the last remaining haven for "book-worms." Reporting on the university budget in the spring of 1901, Eliot noted that "a certain distrust [was] apt to exist between the humanities and the sciences" due to imbalanced spending on "laboratories of pure and applied science" compared with the library. That year, only seven percent of Harvard's budget had been allocated for the University Library, whereas museums and laboratories enjoyed thirty-three percent.<sup>36</sup> This discrepancy was an evident point of tension as the Putnam Committee deliberated its response to Eliot's proposal. In an internal draft circulated to committee members, Putnam wrote:

If the prospect of a collection of books growing without limit causes apprehension, why does not the prospect of a similar indefinite growth in other departments of the university? [...] The apparatus in a physical laboratory should seem much more capable of being kept within the limits than a collection of books, for, as we have noted, physical apparatus improved upon is superseded and may be discarded. Yet we have heard no proposal to limit for all time the area of our physical laboratories, although we suppose that in every college and university in this country they occupy more land today than does the library, and they are expanding faster. Why should no limit be proposed for these which aid but one department of instruction, and yet be proposed for the library which aids all?<sup>37</sup>

Pickering, writing from his observatory, was quick to object. Strategically, the comparison seemed "rash," serving only to "antagonize." At a deeper level, Pickering refused the comparison. Laboratories, while spending more than libraries, did regularly discard superseded equipment. "Indefinite growth," at least in terms of "great and ever increasing space," was not part of their model. On that front, museum collections might offer a better analogy for growth,

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<sup>34</sup> Numbers, "United States," 684.

<sup>35</sup> Owens, "Pure and Sound"; "What should be the policy," ca. early Feb. 1904, HUA.

<sup>36</sup> Harvard University, *Annual Reports*, 17.

<sup>37</sup> "What should be the policy," ca. early Feb. 1904, HUA.



although the Agassiz Museum, Pickering noted, restricted itself to specialized acquisitions.<sup>38</sup> The final draft of the Putnam Committee report submitted to Eliot omitted all mention of laboratories, mentioning only that “museum exhibits devour space.”<sup>39</sup>

The disagreement was telling, not only for what it flagged, but for what went uncommented. Libraries differed from the laboratories with which they competed in the pursuit of “indefinite growth.” Museums were a partial comparison, but they dealt with targeted special collections. In contrast, as Putnam put it, the library was a central institution for “all,” rather than for any “one” department. While the Putnam Committee’s final report offered no further elaboration, this point had been one of the prime foci of discussion when, in June 1903, the ALA College & Reference Section debated Eliot’s proposal. Periods of contemporaneity might differ between disciplines, calculated by the rate at which knowledge in a given field underwent fundamental changes. However, the neat division of these periodicities failed to account for demand by researchers not only for books of their own discipline or “allied” disciplines, but for those that “lay outside the group to which they belonged.”<sup>40</sup> Remarking that bibliographical demands of this sort had been proliferating of late in his own field of theology, Ernest Burton (1856–1925) of the University of Chicago argued that the collection of a university’s books together “into one great building,” preserving integrally rather than separating, served to “guard against the evils of over-specialization and correspondingly narrow intellectual horizon.”<sup>41</sup> Determining temporalities of contemporaneity for any single discipline was therefore insufficient. A central library that sought to provide for all had also to provide for the shifting, entangled interaction of temporalities of contemporaneity across disciplines. And this cross-disciplinary entanglement of temporalities found expression in the virtue of completeness.

## Completeness and Access

Asked by Eliot what defined the “University Library as distinguished from that of a large Public Reference Library,” Lane referred to a paradoxical but necessary quest to “draw in and arrange under its own roof everything that is likely to be of real, though remote service in any branch of scholarly investigation, even though (1) its collections must thus expand indefinitely, and yet (2) they can never be complete.” As a result, “The Harvard Library should attempt to

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38 Pickering to Putnam, 4 Feb. 1904, HUA.

39 “Final draft of the majority report,” ca. late Feb. 1904, HUA.

40 Burton, “Treatment,” 20.

41 Burton, “Treatment,” 21.

cover *all* [emphasis in original] fields of knowledge” in a manner “as nearly exhaustive as possible.”<sup>42</sup>

This vision ran directly counter to Brown’s call for libraries to abandon accumulation and model themselves as practical workshops. Underlying the conflict were two different understandings of the temporal horizon of research. Eliot and his supporters saw little value in catering to “vague future possible demands,” trusting the capacity of statistical data on usage to identify books “certainly obsolete.”<sup>43</sup> In contrast, for a central university library wherein disciplines coexisted and intermingled, the future seemed a more unpredictable rupture from the present. There was no reason to think that the current generation could “choose more wisely for our successors of another century than would our predecessors of the last century have been able to choose for us.”<sup>44</sup> Experience proved that books might be left untouched for years, “and suddenly a demand comes for them.”<sup>45</sup> The only true way to provide for research was to assume an unknowable time to come. Accordingly, “the only library that is ready to respond to research” should be founded on “accumulating whatever was within its reach and assuming that the demand for it would come sooner or later.”<sup>46</sup>

The future unpredictable thus made completeness a core virtue of the research library. Further epistemic considerations dictated the specific form that this constant continued accumulation was to take. In particular, it was imperative that accumulation be maintained at a single site, “keeping at one place, under one roof,” in Putnam’s words, a collection in its entirety.<sup>47</sup> Classification was one factor motivating insistence on the spatial integrity of collections. Classificatory systems such as the Dewey Decimal, then held as the crowning achievement of the American library movement, mapped epistemic structure onto space, assigning to each volume a shelf position based on subject heading. To relocate certain volumes from their classified location to a more distant storage facility—moreover one that, in Eliot’s proposal, would be organized according to format and size rather than subject—seemed “a backward step from the principles of system and order that now distinguish American libraries.”<sup>48</sup>

Yet there was another principle that required completeness at one physical site: access to the stacks for browsing. Already in 1891, Putnam had defended “free access to the shelves” as an essential feature of libraries. Much as one should be “turn[ed] loose in an open field” in order to appreciate “the fresh

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42 Undated draft by Lane, ca. early Feb. 1904, HUA; see also overlapping statements in “Harvard University Library.”

43 Billings to Putnam, 16 Dec. 1903, HUA.

44 Lane, *Third Report*, 214.

45 Putnam to Canfield, 16 Nov. 1903, HUA.

46 Committee to Charles W. Eliot, 1 Feb. 1904, HUA.

47 Hill et al., “Library Co-ordination,” 161.

48 Putnam to Canfield, 16 Nov. 1903, HUA.

and delicate individuality of each appealing flower,” so too was it vital that library patrons be turned loose in the stacks.<sup>49</sup> This theme emerged again with force in critiques of Eliot. For Eliot, use was defined by borrowing frequency. Detractors pointed out that use need not be so targeted. First, frequency of borrowing did not necessarily correlate with importance; a book borrowed once might, in the hands of the right reader, have a greater effect than a book that passed through many hands. Second, use was not synonymous with borrowing; stacks access meant that volumes were often consulted and replaced without formal lending. More generally, use was not confined to seeking specific volumes, but involved browsing through adjacent stack spaces. In this way, one was “sure to find volumes for which he would not have thought of asking.” Serendipitous discoveries in the stacks allowed a researcher “to follow out some new line of inquiry, to establish relations between certain facts not hitherto studied in connection, and to draw fresh conclusions.”<sup>50</sup> Columbia University librarian James Canfield (1847–1909), writing to the Putnam Committee, was emphatic: “I should fight for shelf access as long as possible!”<sup>51</sup>

Celebratory pronouncements of stacks browsing stoked Eliot’s ire. For that practice he had nothing but disdain, condemning it as an “unscientific method.”<sup>52</sup> At worst, the browser would “become the victim of casual knowledge.”<sup>53</sup> At best, the browser would simply achieve results identical to what could be gained from repeated catalog requests: one could call for all books within any given classification, provided one was willing to wait. This latter caveat, according to Eliot, stood at the crux of the matter. Access to the stacks was merely a disguise for a more basic “impatience in readers.”<sup>54</sup> To push his point, Eliot again invoked his much-hated “book-worm,” symbol of an obsolescent approach to scholarship, contrasting this figure with the “man of science.” “Your book-worm wants his book in three minutes,” Eliot sneered, “but what do we mean by accessibility?” He continued:

No man of science expects to find such a ready furnishing of material in any other field of inquiry. If the botanist wants to investigate the life of a plant he waits patiently while the plant grows, and so through every department of the natural sciences the investigator is willing to spend much time in patiently waiting for conditions favorable to his study.<sup>55</sup>

Eliot’s charge of impatience was not wholly incorrect. During earlier ALA debates over weeding, it was pointed out that “from the reader’s point of view,”

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49 Putnam, “Access,” 63.

50 Lane, “Treatment,” 10, 12, 16.

51 Putnam to Canfield, 16 Nov. 1903, HUA.

52 Eliot, “Living Books,” 257.

53 Eliot, “Living and Dead,” 220.

54 Eliot, “Living Books,” 257.

55 Eliot, “Living and Dead,” 220.

the two most important features of a library were *ease* and *completeness*. “Ease” was parsed, in unequivocal terms, as “the saving of time,” achieved through providing “easy access” and “free access” to at least some sections of the shelves, and “quick transmission of books from shelves to readers” in cases of closed sections.<sup>56</sup> Lane’s own 1903 survey of Harvard Library users regarding their views of Eliot’s proposal, revealed delay as a frequent anxiety. Graduate students in particular feared that should Eliot’s proposal succeed, they would “los[e] a vast amount of time in waiting” and that earning their degrees would take “double the time.”<sup>57</sup>

Yet impatience alone fails to capture the debate. Rather, opponents articulated two varieties of waiting based on divergent ideals of research. Eliot’s ideal researcher was a practitioner of directed inquiry, waiting with singularity of purpose for specific conditions to manifest. But this was not the only form that waiting might take. Putnam had also, in his earlier article on access to the shelves, invoked analogy to the field. His, however, was a model of research as undirected inquiry: the researcher set “loose in an open field” to explore. Putnam followed this with an extended metaphor to communication. “When we speak of the companionship of books,” he wrote, “we speak of books that are our friends and intimates.” If so, he continued, then “surely we could not call that man an intimate in whose ante-room we must sit and wait and send up cards.” Browsing, for Putnam’s researcher, was a sustained dialogical engagement without fixed end. Rather than waiting *for* books, the researcher waited *with* books, conversing through a “drop in,” a “jog about,” and the “exchange [of] a look or a word” until knowledge emerged.<sup>58</sup>

Communication—and, with it, talk of the library as a site where messages were sent back and forth—would play an ever more prominent role in the years following the Eliot debate. For as Eliot himself warned, ease of access and completeness seemed at odds with one another as virtues of the research library. Eliot had been adamant: “Completeness is out of the question.” But should librarians be unwilling to relinquish an ideal of growth “commensurate with the increase in the number of books in the world,” they would at least need to abandon demands for easy access, formulating new standards of the “reasonably accessible” and recalculating “reasonable expenditure of time.”<sup>59</sup> Choose access or choose completeness. It was this challenge which set the stage for a shift in understandings of both concepts.

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<sup>56</sup> Ford, “Libraries,” 218–19.

<sup>57</sup> Lane, “Treatment,” 13–16.

<sup>58</sup> Putnam, “Access,” 63.

<sup>59</sup> Eliot, “Living and Dead,” 220.

## From Accumulative to Communicative Completeness

Although Eliot's proposal gained traction among public libraries, the majority of university librarians, joined by custodians of large national libraries, proved unwilling to abandon an ideal of completeness. The unpredictable and ever-changing horizon of desires, muddying the timelines of disciplinary contemporaneity, generated use that could not be anticipated. Unanticipated use generated original research. Well into 1924, Chauncey Tinker (1876–1963), Keeper of Rare Books at Yale, would declare, "A university is a collection of books [...] a library of millions of volumes, with strange books in it, out-of-the-way books, rare books, expensive books." And this was so because the university was not merely "a fine body of teachers," but a site for the "investigation and advancement of learning."<sup>60</sup> Research necessitated a library which aimed at completeness.

Nevertheless, the problem of storage could not be ignored. While pushing for library expansion, Lane and others simultaneously recognized the desirability of a more permanent solution to collection growth. Eliot's proposal had set the workshop against the museum: libraries should be active sites for the living rather than accumulations of the dead. However, the subsequent years witnessed the rise of a third figure: neither museum nor workshop, but *system*. "The library world," wrote ALA President Charles Henry Gould (1855–1919) in 1908, "has hitherto been occupied with the evolution of single libraries. Is not the twentieth century to see the welding of all these separate entities into one complete system?"<sup>61</sup>

Based on his experience as head librarian at McGill, Gould concluded that lack of a complete system was the crucial flaw of the "library corresponding to the great university."<sup>62</sup> What such a system might entail became the main theme of the ALA's annual conference in 1909. In his presidential address, "Co-Ordination, or Method in Co-Operation," frequently cited as the origin of formal Interlibrary Loan (ILL) policies, Gould began by acknowledging Eliot's work on living and dead books as the impetus for his thoughts. Erecting a "tomb for useless books" per Eliot's proposal was "repugnant" to Gould. But so too was "overcrowding and congestion." Exit from this impasse lay in rethinking the very nature of the library. Both Eliot and his detractors had been unable to see beyond the impasse of storage, insofar as they remained trapped within a conception of "libraries as *final* terms in a series." Instead, it was necessary to conceive of libraries "as *first* terms in a new series of larger proportions." With "combination and organization" as "the very watchwords of the age," the task that lay ahead was one of "evoking method and order *among* rather than *within* libraries [...] welding them into a complete system [...] a single

<sup>60</sup> Tinker, *University Library*, 5–6.

<sup>61</sup> Gould, "Regional Libraries," 219.

<sup>62</sup> Gould, "Regional Libraries," 218.

comprehensive organization.” This single comprehensive organization would be undergirded by “unrestricted cooperation [...] in matters of exchange, loan, [and] purchase,” with the understanding that individual libraries would cease hoarding books, and instead treat them as shared resources in a network. First came the unification of libraries at a national scale, placing the “literary resources of the whole country at [readers’] disposal.” Expansion to international coordination was the next step.<sup>63</sup>

Multiple models existed as to the form this “system” might take. Gould had originally envisioned a network of “regional libraries,” overseen by the Library of Congress, which would serve as central points of collection and distribution for a given geographic area. Willard Austen of Cornell countered that one major university from each region be nominated as a hub, with national-level organization administered by a council of these universities’ librarians.<sup>64</sup> Further contributions at the conference suggested regional libraries choose different specialties as targets for collection, allowing for a “differentiation of function” that would further alleviate any individual’s storage burdens.<sup>65</sup>

Key to all these proposals was, in the words of Princeton’s librarian Ernest Richardson, “the matter of information.”<sup>66</sup> As part of one complete coordinated system, the new library would have as its primary duty not the storage and preservation of physical books, but the provision of information.<sup>67</sup> Libraries were to become, put simply, “information bureaus.” In claiming this, Richardson and others looked back to Samuel Green, albeit not his controversial defense of weeding. In 1896, three years after the weeding debate, Green had published an article on libraries as “bureaus of information.” “The ideal library,” Green wrote, “is one which invites everybody who has a question to ask, which books contain answers to, to come to the library and put his question, with the assurance that he will be kindly received, his question sympathetically considered, and every effort made to find the answer desired.”<sup>68</sup> Tellingly, in Green’s formulation, books occupied an incidental position as carriers of information. Green’s article notably sidelined any discussion of books themselves in favor of descriptions of communications—phone calls to the medical library of Boylston Place; a telegram sent to the Commissioner of Education in Washington, D.C.; express mail from Harvard. Although Green did not outline a single nationwide system for these communications, he did champion an ethos of informal gentlemanly trust through which “libraries at great distances help one another.” The librarian’s foremost task was to mobilize networks of distinguished “sympathetic friends” and acquaintances

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63 Gould, “Co-ordination,” 122, 125–26; Gould, “Regional Libraries,” 219.

64 Austen, “University Branch Libraries.”

65 Hill et al., “Library Co-ordination,” 155; Hill, “Storage Libraries.”

66 Hill et al., “Library Co-ordination,” 164.

67 Hill et al., “Library Co-ordination,” 165.

68 Green, “Libraries as Bureaus,” 324.

across the country—from Chicago and Denver to Philadelphia and New York—in order to answer patrons' questions.<sup>69</sup>

Green's invocation of a "bureau of information" came at a moment when the concept of 'information' was itself undergoing a fundamental shift, designating increasingly an "abstract" object of management rather than "particularistic" knowledge of specific facts, subjects, or events.<sup>70</sup> At the broadest level, librarians' calls for coordinated information systems echoed the emergence of new practices in commerce and imperial governance for administering the global mobility of capital and persons.<sup>71</sup> Indeed, explicit analogies were drawn between the new coordinated library system and the systematic information-sharing of police.<sup>72</sup> At a more specific level, attendees at the 1909 ALA conference looked to "European experiments in Belgium, Germany and England," having in mind Henri La Fontaine and Paul Otlet's *Répertoire Bibliographique Universel*, the Berlin *Auskunfts-bureau*, and Sydney Webb's plan for London libraries.<sup>73</sup> Webb had urged the formation of a central library office in London, equipped with "one gigantic interleaved" catalog of the city's two hundred some libraries, and connected to these same libraries by telephone banks. Callers could then be directed to the relevant library holding a desired book.<sup>74</sup> One year later, a similar service—without telephones—would emerge in Berlin. For a ten pfund fee, inquirers could write to the *Auskunfts-bureau* with either a book's title or approximate title and a search would be made to locate the volume in German libraries.<sup>75</sup> La Fontaine and Otlet, meanwhile, had since 1895 been at work constructing a universal classified card catalog of questions with bibliographical citations as to where answers could be found. Again, for a fee, those who sent in questions would receive in return copies of the relevant reference cards.<sup>76</sup>

Despite their earlier vehemence against Eliot's vision, Putnam and Lane showed themselves sympathetic to information bureaus. Lane recommended that universities pool resources and establish "a central agency, gathering and dispensing information as to where books may be found, and arranging loans of books from one library to another."<sup>77</sup> The existence of this central agency would in turn allow for a reduction in future acquisitions, with universities heading toward complementary rather than overlapping collections.<sup>78</sup> This still had the disadvantage, Putnam complained, of rupturing the "at one place,

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69 Green, "Libraries as Bureaus," 325–26.

70 Nunberg, "Farewell," 108–15.

71 Robertson, "Documents."

72 Webb, *London Education*, 176.

73 Gould, "Co-ordination," 123. Another model may have been the *International Catalogue of Scientific Literature*; see Csiszar, *Scientific Journal*, 241–79.

74 Webb, *London Education*, 175–76, 179–82.

75 "Auskunfts-bureau der deutschen Bibliotheken"; Fick, "Das Auskunfts-bureau."

76 Wright, *Cataloging the World*; Csiszar, *Scientific Journal*, 275–79.

77 Lane, "Central Bureau," 431.

78 Lane, "Central Bureau," 433.

under one roof” ideal of a “complete and organic” library. Yet promised in return was the possibility of a different kind of completeness.<sup>79</sup> From the demise of the centralized accumulation of books would rise the multi-sited communication of information.

This shift from accumulative to communicative completeness also redefined the virtue of access. Once, access had been a matter of physical proximity: the immediate free handling of books in stacks that allowed for Putnam’s intimate conversation between friends. Within the model of the library as a networked information bureau, access became a function of logistical efficiency.<sup>80</sup> Discussion of the stacks-browsing reader gave way to discussions over “lines of communication [and] distribution.”<sup>81</sup> Lane, for instance, worried about the appropriate means “that letters may be promptly answered [...] that books borrowed and lent may be safely packed, quickly dispatched, and carefully followed up, that insurance be properly adjusted, and transportation charges kept at a minimum.”<sup>82</sup> Green, meanwhile, reiterated the need for “telephones everywhere” and a dedicated fleet of automobiles “to run between the libraries to carry the books.”<sup>83</sup> A technical infrastructure of circulation rendered obsolete the old figure of patience invoked by Eliot—the naturalist in the field waiting and slowly observing. In its place emerged a simulacrum of instantaneity premised on the logistical time of communications technologies. After all, Green asked rhetorically, “What difference, with all the modern contrivances, does it make if special libraries [...] are not close to users of books?”<sup>84</sup>

## Conclusion

Across the bay from Berkeley where Herbert Putnam once beheld manifestations of the permanent stands the Internet Archive, housed by founder Brewster Kahle (1960– ) in a former church of Christian Science. Addressing, in the summer of 2006, the Society of American Archivists, Kahle tells his audience, “We could actually make the dream of the Library of Alexandria a reality—the dream of having it all.” This dream seems enabled by a revolution in storage. Gesturing excitedly to the space in front of him, Kahle explains the process by which the approximately twenty-eight million bound volumes held by the Library of Congress can be compressed into twenty-six terabytes and stored on a computer smaller than his lectern. “Pretty cool,” he enthuses.<sup>85</sup>

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79 Hill et al., “Library Co-ordination,” 161; Putnam, “The Quick,” 244.

80 Schnapp and Battles, *Library Beyond the Book*, 33, 130.

81 Gould, “Co-ordination,” 125.

82 Lane, “Central Bureau,” 431.

83 Hill et al., “Library Co-ordination,” 163.

84 Hill et al., “Library Co-ordination,” 163.

85 Kahle, “Universal Access,” 24.



It is no coincidence that Kahle frames “having it all” not in terms of completeness itself, but as a project of “universal access.” For what at first appears a feat of accumulation through the affordances of digital compression soon reveals itself to be a phenomenon of communications infrastructures. “Having it all” relies on rapid messages passed by network protocols between one’s device and the Internet Archive’s servers—as of 2006, in California, Egypt, and the Netherlands.<sup>86</sup> Behind a virtual experience of on-sitedness stands logistical fine-tuning, communicative efficiency approximating the accumulative ideal of collections browsable “under one roof.”

The seeming triumph of communicative completeness makes it easy to forget how time was once contested in research libraries, focusing our energy on a drive to engineer instant access—to make information always accessible *now*. However, by resurrecting earlier debates around Eliot, we can perhaps better interrogate the plural temporalities of research at work still in the seeming *now*-ness of today’s libraries. Eliot’s living-and-dead attack on accumulation had been premised on the idea that each discipline and bibliographic genre possessed a measurable rate of change that could be used to determine the relevance and obsolescence of library materials. Proponents of accumulation accepted this claim, but countered by arguing that it was the unpredictably complex entanglement of multiple disciplinary temporalities which generated unanticipated connections, and in turn allowed for the best new research. They moreover expanded Eliot’s definition of use by pointing to different temporalities of waiting among researchers. Where Eliot contrasted patient “men of science” with impatient “book-worms,” defenders of accumulation saw browsing itself as a form of patience—an exploratory conversation between intimates with no definite goal in sight.

We might thus wish to ask: how has the *now*-ness of virtual access altered temporalities of relevance and obsolescence, not only in individual disciplines, but across those disciplinary entanglements once deemed so essential for the emergence of unexpected research? What are the epistemic consequences of browsing through “miscellaneous” keyword searches across dispersed collections, rather than browsing as a practice that occurs in single well-classified collections?<sup>87</sup> And whither waiting? If, once, patient waiting with books was seen to be generative both for research itself and the formation of the researcher’s persona, then how has the ostensible reduction of waiting reconfigured the temporal experience of research—from a calm dialogue with friends to rapid-fire chatter? What, today, constitutes a “reasonable expenditure of time” spent waiting before one’s research must move on? For us, forgetful heritors of debates over books living and dead, these questions remain alive.

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<sup>86</sup> Kahle, “Universal Access,” 29.

<sup>87</sup> Weinberger, *Everything*.

### **About the Author**

Hansun Hsiung works at the interstices of history of science and medicine, and media and book history. His manuscript, *Learn Anything!: Cheap Print and the Diffusion of Western Knowledge*, examines the construction of “communicability” as an epistemic and infrastructural ideal through print networks between Japan and Europe ca. 1750–1900.

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