

**Reimagining the Digital Monograph:
Design Thinking to Build New Tools for Researchers**
A JSTOR Labs Report
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Note: This is a working draft for comment.

We would be grateful for any comments or suggestions on the paper submitted at <https://labs.jstor.org/monographcomment> by January 31, 2017.

Introduction

Scholarly books are increasingly being made available in digital form, joining in the print-to-digital transition that scholarly journals began well over a decade ago. Ten years of innovation have produced tremendous benefits for authors and readers of journal literature, and certainly some of this innovation is applicable to the digital migration of monographs. But the long-form scholarly argument presents some very different challenges, and its online migration is still in many ways in its infancy. The platforms that make monographs available to users often offer little in the way of specialized functionality for the different ways that scholars and students use these books—uses that include both immersive reading of the entire long-form argument and goal-oriented “dives” into a book to read up on a specific topic or to mine citations. The JSTOR Labs group, an experimental product development team at JSTOR (itself one of the scholarly content platforms that host digital monographs), undertook a user research and design process in order to better understand the wide variety of needs, behaviors, frustrations, and ambitions users bring to the task of reading scholarly books online, and to explore possible new paths to unlocking the value of the long-form argument in a digital environment.

This paper is intended to do three things. First, we discuss the kinds of uses that readers have for scholarly books, and the opportunities for improving the usefulness of books for those purposes in a digital environment. These emerged from ethnographic research we carried out with a variety of readers of digital monographs—faculty, graduate students, and others—and with a small working group of scholars, publishers, librarians, engineers, data scientists and user experience designers that we convened in partnership with the Columbia University Libraries in late 2016. Second, we discuss the process that we used to explore the landscape, how the group identified problems to solve, and how together we selected one opportunity ripe for new feature development that the JSTOR Labs team could prototype. Third, we describe the process we went through to develop that prototype, and introduce the tool that we built, which we are calling “Topicgraph.” The JSTOR Labs team employs two related design methodologies—“design thinking” and “lean start-up”—that are popular among commercial technology companies and start-ups. We hope that a description of the product development process could be useful for librarians, publishers, and scholars who work on digital scholarly projects or feature development, or who are simply interested in knowing more about this way of thinking and doing.

The Print-to-Digital Transition for Monographs

Over the past five years, there has been a tremendous increase in the availability of digital versions of academic monographs in the humanities and social sciences. University presses and academic publishers, seeing the excitement around trade ebooks sold via Amazon and Apple, took steps to make more of their front- and backlists available digitally, and to invest in the staff and production tools needed to distribute those digital titles effectively. Academic publishers and aggregators — including Cambridge University Press, EBSCO, JSTOR, Oxford University Press, Project MUSE, ProQuest, and others—launched or greatly expanded programs for licensing university press ebooks to academic libraries.

This expansion in ebook programs started around the same time that academic libraries and university presses were sounding new concerns about the extent to which print monographs were being used. Probably the most prominent example of this is a 2010 study of print circulation statistics by collection development librarians at Cornell University, which found that 55% of the books in the university’s collections that were published after 1990 had not circulated by 2010.¹ Whether this is really a surprise, given the scope of Cornell’s acquisitions, is almost beside the point: in a difficult budget environment for universities, even the academic libraries with the most extensive collecting remits would be unlikely to continue acquiring humanities and social science books at this level if they cannot demonstrate usage and impact.

There was hope that digitizing monographs would be the answer to these troubling indicators of low usage of print monographs, and that the greater availability of digital monographs would help to grow the usage and impact of monographs in the same way that digitization efforts arguably helped to revitalize the usage and citation impact of backfile journals.² Early indicators are beginning to validate that hypothesis. Based on the growing usage of books we are seeing on the JSTOR platform, and anecdotal evidence librarians have shared with us about the usage they are seeing from their ebook collections, we are cautiously optimistic about the possibility of a comparable renaissance in the use and impact of scholarly books, especially if we can overcome the pain points that readers encounter in their research process.

But even beyond the act of digitizing monographs and making them available in search results on scholarly platforms alongside the journals that are already a standard part of scholars’ and students’ online research workflows, there are clearly other opportunities to grow their visibility and usefulness to readers. One such opportunity is to find other ways to expose the impact of scholarly monographs and, for any given monograph, its ‘location’ within the scholarly record. Which works does the book in question cite, and which works, in turn, cited that book? Efforts to map citation and impact chains have a relatively long and sometimes controversial history on the journals side of scholarly publishing—especially in the sciences—but monographs, which were not available in machine-readable form in great numbers until relatively recently, have not as often been included. Could that impact network be visualized in ways that are intuitive to

¹ Kizer Walker et al., “Report of the Collection Development Executive Committee Task Force on Print Collection Usage, Cornell University Library” (November 22, 2010).

http://staffweb.library.cornell.edu/system/files/CollectionUsageTF_ReportFinal11-22-10.pdf

² Alex Verstak et al., “On the Shoulders of Giants: The Growing Impact of Older Articles” [unpublished working paper] (November 4, 2014). <http://arxiv.org/pdf/1411.0275v1.pdf>

readers, and that do a better job of demonstrating the importance of long-form arguments for stimulating long-term debates that are instantiated not just in later books, but also in articles in the usage- and impact factor-obsessed world of scholarly journals? And could scholarly books, by virtue of their length and depth of treatment on a topic, be represented visually online in ways that make them more effective portals of entry to that topic?

Another opportunity is to present scholarly books online in ways that help readers to take advantage of them for different modes of reading. A survey of scholars about their research practices from our colleagues at Ithaka S+R in 2012 highlighted an interesting dichotomy in use-cases for books. The survey found that scholars tend to prefer ebooks over print books for basic research tasks, such as exploring references or searching for specific topics, but when it comes to more immersive reading, they preferred print books. So, a scholar might use an ebook as a sort of quick finding aid before turning to a print copy of the same title to read and digest the argument. (And this use of an ebook might very well take place on Google Books, rather than using a specialized scholarly book platform.) That reading behavior is, however, arguably very poorly provided for in digital books. Publishers of and platforms for digital scholarly books in many cases display the books simply as long PDF or EPUB file (often, it should be noted with digital rights management, or DRM, software attached that restricts uses of the book). Users are arguably ‘locked in’ to a linear, continuous reading experience, without the ease of flipping back and forth between chapters and the index as one can with a print volume.

These are only two broad concepts for improving the usefulness of the monograph—there are many others—but they both point to different modes of visualization or user design as a way of better demonstrating the impact of monographs, and of helping readers with different goals and different levels of sophistication with scholarly materials to navigate them efficiently. This project grew out of that question—what might one different visualization look like, and could we build it?³

Designing the New Monograph

JSTOR (<http://www.jstor.org>) is a not-for-profit digital library of scholarly journals, books, primary sources, and other content that is supported by colleges and universities, museums, archives, public libraries, secondary schools, and other institutions of research and learning around the world. In 2014, JSTOR launched a small product development team to investigate and prototype new and leading-edge tools for researchers, teachers and students. The group, JSTOR Labs (<http://labs.jstor.org>), seeks to partner with publishers, libraries and scholars on these development projects. The team is made up of a user experience researcher and front-end developer, a technical lead, a visual designer, a project manager, and a product owner.

³ While this project deals with efforts to improve the visual presentation of the monograph, we did not focus on the important but related issues around accessibility for impaired and disabled readers. In the United States, purveyors of digital content are required to meet certain standards for displaying text online in order to be eligible for purchase or licensing by public institutions. We started the project with the assumption that if the working group’s recommendations result in any full-scale changes to the way that scholarly books are displayed on JSTOR or other platforms, those changes will need to be consistent with government requirements and other best practices around accessibility.

Given the state of affairs for digital monographs, as sketched above, the JSTOR Labs group wanted to understand whether there were feasible and scalable ways to improve the usability and discoverability of monographs in the humanities and social sciences—and, in turn, to grow the usage and impact of these titles. We wanted to find ways of doing this that are extensible across disciplines and eras of publication, and that could be relatively easily implemented and tested. Perhaps most important, whatever tool or functionality we decided to prototype, we wanted it to work with monographs that have already been published. While there are a variety of innovative initiatives that have created new digital monographs with extensive features that would not have been possible in a print format, we wanted to develop a new way of presenting books that could be generalized to as many monographs published in digital format as possible, without prohibitive investment in each incremental book. On a practical level, this means that we wanted to devise ways of presenting monographs that could be accomplished with only the most basic digital version of a book: a full-text PDF file. Although the kinds of improvements we brainstormed could potentially be extended to journal literature and other textual digital formats, we concentrated our thinking on needs around the monograph precisely because there has been a comparatively greater amount of investment in improving the user experience for journals and journal articles—especially in the STEM fields—but, as far as we can tell, relatively little investment in improving the user experience for humanities and social science monographs.

The JSTOR Labs group’s approach to designing and prototyping tools and functionality draws on so-called “lean startup” principles and “design thinking,” two different but closely related product development methodologies that have become popular with technology companies over the past decade.⁴ Both approaches emphasize the importance of understanding the “big picture” when building a product: the context within which the product sits. As such, they encourage product developers to gather continuous user feedback over the course of the design and prototyping process for a new feature or product. At every stage, the product team should be seeking advice or data derived from users, and that feedback should inform successive iterations of the design and prototype of the product or feature in question. Similarly, the JSTOR Labs group tries to gain a deep understanding of the prospective user for any given project, and to learn rapidly from user feedback through many quick prototyping iterations of a given feature.

For this project, we wanted to get a deep understanding of different use-cases for digital monographs. We chose to focus our initial inquiry on academic users of scholarly books—faculty and graduate students—reasoning that, while there are certainly valuable use cases for undergraduates, professional and casual readers, and even secondary school students for some scholarly books, we would produce the biggest improvements for the greatest number of users if we focused on readers in the academy who are likely to engage with monographs regularly.

To that end, our research process had the following steps:

1. Preliminary user research with scholars and graduate students to get a sense of the ways in which they use scholarly monographs.
2. A workshop with a small working group of scholars, librarians, publishers, data scientists, and visualization experts who could help us articulate a set of principles for the visual design of digital monographs, as well as a set of possible design concepts.

⁴ For more on the design thinking and lean startup product development methodologies, see the bibliography.

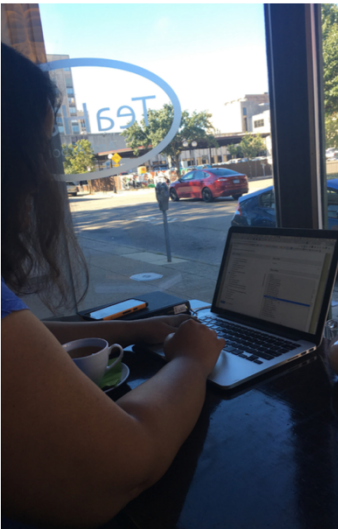
3. The selection of one design concept that would shape the JSTOR Labs team’s subsequent development of a working prototyping

User Research

In order to understand how to improve our targeted researchers’ experience with monographs, we first needed to understand the diverse ways that scholars and graduate students work with them. To achieve this in advance of our group workshop, we selected an ethnographic approach. Ethnographic user research consists of observing users performing their work *in situ*, as they normally would, and pulls together observations made by the ethnographer along with texts, images and other artifacts collected during observation. This approach provides the context needed to understand the “why” and “how” behind scholarly users’ choices and methods for carrying out their research and learning activities. On this project, this approach allowed us to understand the actions that people take with both digital and print monographs, the context within which they conducted their scholarly work, and the goals that their actions support. Having the individual stories of real people and their experiences would, we felt, be an effective way to help us brainstorm new ways of presenting monographs—because we would be ‘solving for’ the use-cases of these specific individuals, rather than trying to focus on our perception of the needs of some abstract user.

We decided to focus this user research on a single discipline that makes ample use of monographs: History. We recruited six participants at various career stages, each affiliated with a college or university in the Midwest or on the east coast of the United States (the two regions where members of the JSTOR Labs group work). JSTOR’s user researcher shadowed and interviewed each participant during an average workday. As part of our time with each of these readers, we collected notes and photos to document their environment, activities, tools for carrying out research, and motivations.

We walked away from this research with several key takeaways, the most salient of which was the diversity of activities and approaches. Each of these historians had developed and honed their own distinct processes. Additionally, we found that while each of these individuals had strong preferences in regards to print and digital formats, that did not necessarily dictate use, as each was required to interact with both formats to complete their work. The final theme across these ethnographic interviews was the laundry list of devices, programs, apps, etc. that each individual used. The combination of these tools and individual processes create a complex web of activity for each individual.



PROFILE

TIFFANY
PhD Candidate
Large Midwestern University
In her final stage of a second PhD, she is finalizing her dissertation focused on 19th century India and job hunting for Fall 2017.

CURRENT WORK
Creating sample undergraduate courses to use as part of her résumé package.

UNIQUE EXPERTISE
She knows how to manage resources for international travel. She scanned 20 books to digital so she could take them to India. “When you travel more you can’t take a lot with you”

TOOLS I USE

APPLICATIONS USED	DEVICES USED	SUPPLIES	WEBSITES USED
Word	Zotero	Laptop	Library website and linked sites
			Ebrary
			Author websites

STUDY LOCATIONS
Downtown café, afternoon at the graduate library. Other locations include her apartment, other cafés and coffee shops.

ARCHIVE TRAVEL
National Archives of India and London

BREAK
PokemonGo
Testing trends

“Change of plan, let’s go back to my apartment so I can get my wallet. This happens all the time.”

The user ethnographies were summarized in simple visualizations.

We compiled these profiles into a single-page data visualizations, one for each participant. These visualizations, along with further detail on each participant, are available in the Appendix.

Workshop: Articulating a Set of Principles for Redesigning the Digital Monograph

In October 2016, the JSTOR Labs group assembled a small working group of scholars, librarians, and publishers to talk about the issues surrounding the user design of digital monographs. Our objectives for the meeting, which was hosted by the Columbia University Libraries, were to understand the challenges and context facing researchers using monographs and to brainstorm a set of hypotheses about ways to improve the digital experience of monographs—hypotheses that the JSTOR Labs team could test with students and scholars in the weeks after the workshop.

In planning the discussion, we sought to include many different viewpoints by bringing together representatives from a variety of scholarly disciplines. We were grateful to have the participation of the following in the workshop:

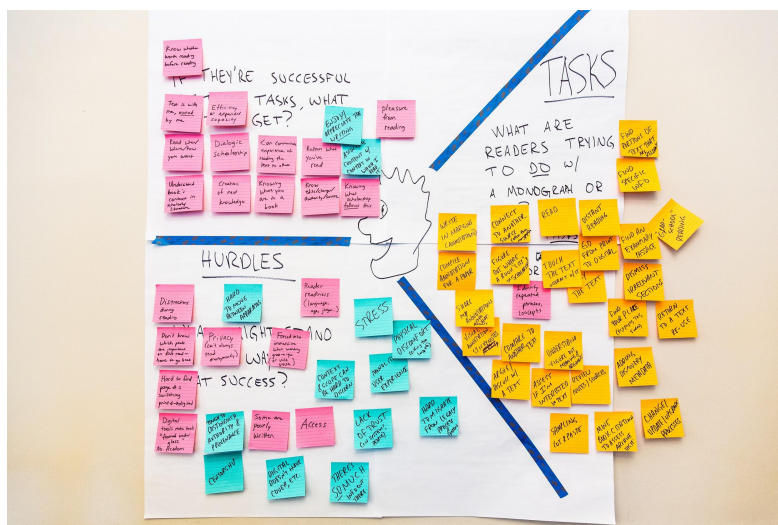
- Amy Brand, Director, The MIT Press
- Robert Cartolano, Associate Vice President for Digital Programs and Technology Services, Columbia University Libraries
- Seth Denbo, Director of Scholarly Communications and Digital Initiatives, American Historical Association
- Kathleen Fitzpatrick, Associate Executive Director and Director of Scholarly Communication, Modern Language Association
- Alex Gil Fuentes, Digital Scholarship Coordinator, Columbia University
- Laura Mandell, Professor of English Literature, Texas A&M University
- Jason Portenoy, Ph.D. Candidate, Information School, University of Washington
- Barbara Rockenbach, Interim Associate University Librarian for Collections & Services, Columbia University Libraries
- Jevin West, Assistant Professor, Information School, University of Washington
- Robert Wolven, Associate University Librarian for Collections & Services, Columbia University Libraries (Now retired)

From JSTOR, Laura Brown, our managing director, and Frank Smith, the director of the Books at JSTOR program and a former editorial director at Cambridge University Press, participated in the working group.

The JSTOR Labs group also consulted Catherine Felgar, former head of production for Columbia University Press, Nicholas Lemann, former dean of the Columbia Journalism School, Jim O'Donnell, University Librarian at Arizona State University, and Jason Rhody of the Social Science Research Council for their advice ahead of the meeting.

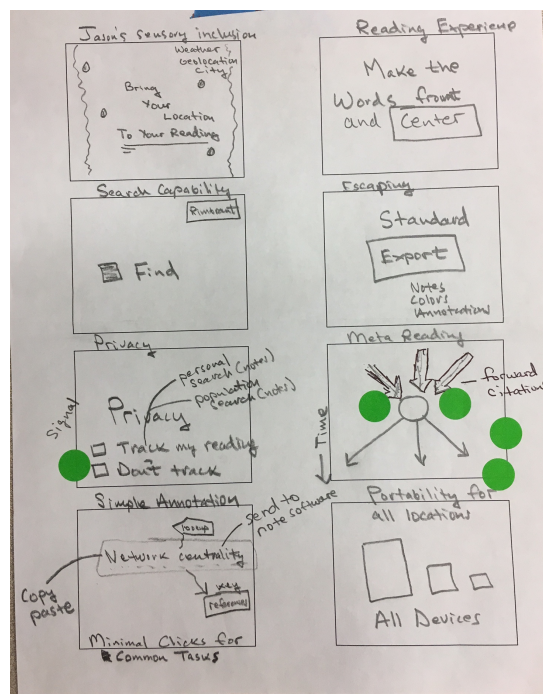
The workshop featured two activities. In the morning, after sharing the results of JSTOR's ethnographic work, we outlined the specific tasks that faculty and graduate students engage in when working with monographs. These tasks ranged from "close reading" and "write in margins" to "find an exemplary passage to use in exams" and "explore the bibliography and

notes for relevant scholarship.” We described the goals of the same monograph readers, including “decide whether the book is worth reading” and “understand the book’s position in the scholarly conversation.” Last, we flagged the hurdles and challenges that these researchers face, such as “poor writing quality and too much jargon,” “difficult to move between print and electronic versions of the monograph” and “digital rights management software forces readers to read a book with it ‘under glass.’” This discussion was intended to help the working group zero in on a broad set of assumptions and principles about the ideal design of a monograph.



Brainstorming readers' tasks and goals

In the afternoon, we brainstormed ways in which we could help a researcher achieve their goals or overcome these hurdles. We accomplished this through a “design jam.”⁵ Participants had ten minutes to sketch as many ideas as possible for improving the visual presentation and navigation of digital monographs. We then shared our ideas with one another, and participants were encouraged to “steal” each other’s ideas and build on them during a second round of sketching. After two rounds sketching over a hundred possibilities, we highlighted the most promising ideas by “dot-voting”: each participant was given three green stickers to place next to the ideas they found most intriguing, giving us a sense of which concepts the working group found most promising for prototyping.



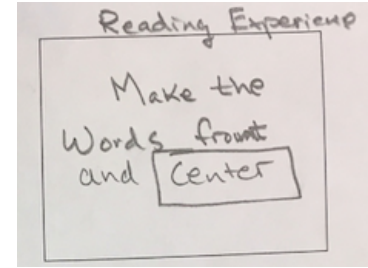
Using dot stickers to vote on promising ideas

Themes and Concepts for the Reimagined Monograph

The conversation and brainstorming surfaced a set of concepts and principles for reimagining the visual presentation of monographs online—principles that would serve the purpose of helping readers to make better use of scholarly books, and concepts that might better expose the inherent value of the decades’ worth of books archived in online databases like JSTOR. The discussion was wide-ranging, but the working group’s comments converged on several key points.

⁵ This activity, which is often used in the product development methodologies nodded to earlier, is sometimes called a “design studio” or an “8x8” (a variation in which the designers are asked to sketch eight designs in eight minutes).

(1) *The importance of great writing is a given.* As one of the working group members put it: “The quality of writing really matters.” It would be difficult to argue that a monograph that is presented in an innovative way online but that is not rigorous or well written would be valuable. Our entire discussion was predicated on the idea that, while changing the design or presentation of digitized scholarly books might help to make them be more easily usable or navigable, the most important thing about the books themselves remains the skill with which the arguments are researched and presented to the reader. No amount of design work can change that, and any design work that the JSTOR Labs team would undertake should, the working group emphasized, respect the integrity of the long-form argument as a complete narrative.



The writing is what matters.

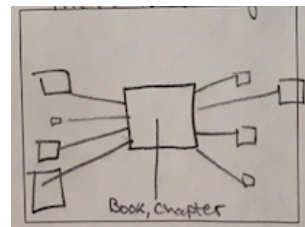
(2) *The ideal digital monograph should allow different kinds of readers to navigate it in different ways.* Many online platforms for digital scholarly books display chapters or entire books as a single, scrolling PDF—a format that (quite reasonably) assumes linear, continuous reading of the entire argument. But we know that scholars and students have other modes of reading. For each of our participants in the ethnographic user research, we tracked four distinct, common user needs: citation mining, extracting specific information, immersive reading, and reusing or revisiting a text (see Appendix). The ideal digital monograph—dubbed during the workshop a “scholarly Kindle”— would be designed in a way that allows users to switch easily from mode to mode. It would also allow for users to engage in the same mode in different ways. For example, a researcher’s home discipline, or their career stage, or simply their technical proficiency may influence whether they prefer to engage in close reading online, in print, or in a hybrid of the two; ideally, a digital monograph would be designed in ways that enable those shifts easily—for example, by allowing a user in immersive-reading mode to flag a paragraph or section for subsequent citation. Similarly, it might seamlessly switch between reading and annotation mode.

(3) *Readers should be given better tools to assess the content of online scholarly books quickly and efficiently.* Readers have been complaining about the flood of books and information since before the invention of the printing press. Unsurprisingly, members of the working group voiced a similar concern about the sheer number of available books on a given topic, and about the extent to which the existing platforms for reading scholarly books online offer readers the necessary functionality to make sense of whether parts of a book are valuable to their research or teaching. “How do I quickly understand whether something is worth reading at length? How do I assess the importance of the work to my own research quickly?” Such tools might take the form of better insights into the topics of a book—a process that could be achieved by text-mining and then applying models to large chunks of machine-readable text—by allowing users to ‘vote’ on or otherwise tag or assess a given book, or through other means.

(4) *Readers should be able to navigate more quickly to the portion of a book they are interested in.* Users sometimes need to home in on extended passages on specific topics or to search for facts to support an argument. Both are goal-oriented approaches that depend on the reader being able to discern the points in a book at which a given topic is discussed—which depends, in turn, on the accuracy and completeness of the book’s index, the likelihood that a keyword search will

be successful, or the quality and specificity the author has used in chapter titles. All of these search and browsing methods are important, but they all have failure points. Finding new ways to help steer readers more quickly to the parts of the long-form argument that are relevant to their needs could be one important part of unlocking the value of these titles for new and broader audiences—even as the group acknowledged that treating a book as a loosely connected set of journal article-length chapters does not sufficiently respect the intricacy of a long-form argument.

(5) *Readers should be given better capabilities for situating a book within the larger scholarly conversation.* Participants in the working group mentioned a quick scan of a book’s footnotes or endnotes as a productive way to understand which historical lines of scholarly inquiry the author addresses in the book. But it can be labor-intensive to mine these citations. It also tells only half the story of the book’s place in the long-term scholarly discussion: a simple scan of citations tells how the book has drawn on past scholarship, but not how the book has itself been influential. “The ability to understand how what you are reading now has been cited *after* its publication seems like a missing piece,” one participant said. “And it is possible with linked data” and citation networks. The ability to position a book — and its constituent parts or arguments — within the scholarly discussion of which it is a part would be quite valuable to researchers.



The book, in the network of scholarship conversation.

(6) *Readers should be able to ‘flip’ between sections of a digital monograph as easily as they can in a print book.* The apparatus of scholarly monographs—endnotes, indices, and other devices—are crucial tools for assimilating a long-form argument. “I actually read the endnotes of a book first [before reading the main text] to understand the concepts being presented,” one participant said. But these tools arguably have not transitioned well to the digital environment: readers find themselves pressing CTRL+F to execute simple keyword searches on a PDF, moving back and forth between the main text and the notes (which might be presented by a publisher or vendor as separate PDF files). “I want,” one participant said, “to be able to shuttle among different aspects of the text” as easily as is possible by flipping pages in a print edition.

(7) *In an ideal world, readers would be able to work simultaneously with both a print and digital edition.* Each of the participants within the user research study, as well as many of the workshop participants, worked with both print and digital books, depending on context, availability and their immediate goal. And many worked simultaneously with both print and digital editions of the same book: for example, a reader might read and annotate a printed book, while cutting and pasting relevant passages of the same material in a digital version into their notes files or a citation management system. It would be ideal if maintaining this synchronicity were not so manual—if, instead, the digital version could “sense” when a page had been turned in the print version of it. This could be accomplished, for example, by using the computer’s or phone’s camera to “read” the physical page and then use fuzzy text-matching to jump to the proper section. (On a very practical note, the



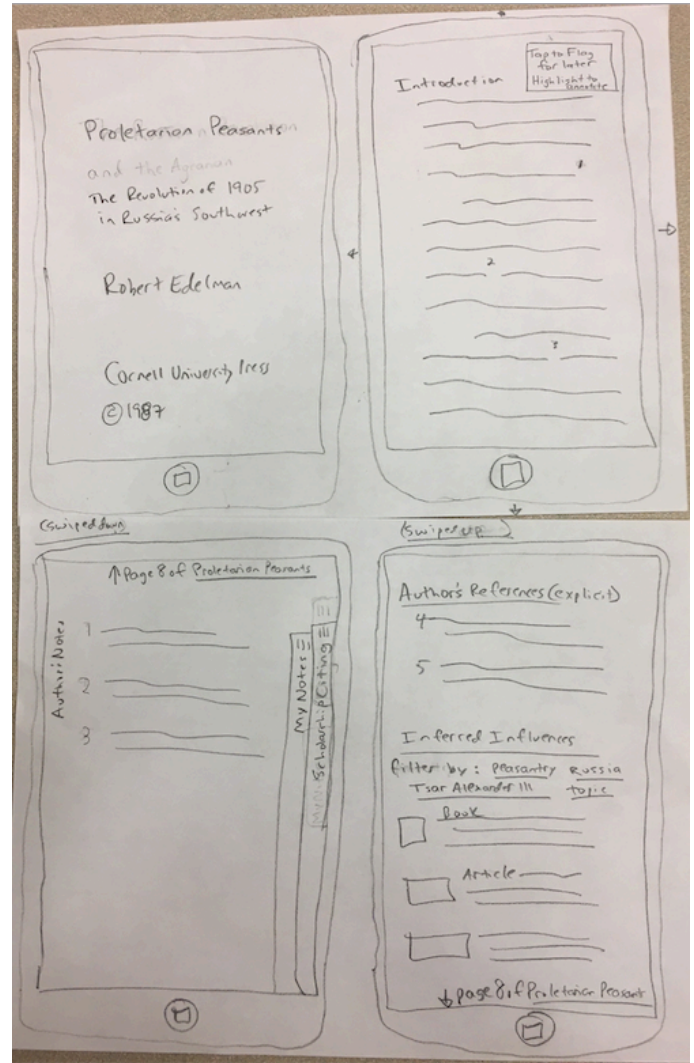
Print and digital synchronicity.

working group noted that standardizing the pagination of digital and print editions of the same book would be a good starting point.)

(8) *Books should be able to ‘travel’ easily from device to device.* It is not just moving between print and digital more easily that would benefit readers, but offering seamless experiences between different devices, and taking advantage of those different digital environments to facilitate different types of research and user behaviors. For instance, the same digital edition could be optimized on desktop screens for comparing and annotating across texts; on mobile devices for swiping and tapping through more goal-oriented tasks; and on tablets for a wonderful immersive reading experience. In general, we think it is fair to say that scholarly content has not generally been formatted or presented online in ways that take advantage of mobile devices.

(9) *Readers should be able to interact with and mark up digital books.* The working group returned several times during the discussion to the importance of being able to interact with a text: by annotating, highlighting, and copying-and-pasting passages. The relative paucity of existing options for annotating digital scholarly books emerged as a particular frustration, especially because scholars may have “grown up” in their career by developing complicated, idiosyncratic systems for marking up print books. “I use,” one participant in the working group said, “different colors for annotations to give myself different kinds of signals about the type of annotation: argumentative, fact-checking, rewriting, and so on.” Despite several initiatives in the scholarly communications community, such as Hypothes.is, that are working to address the challenges around annotation, there is much progress yet to be made. Any technology platform solution for scholarly ebooks annotation should enable: 1) a standard export feature for personal notes; 2) the functionality to support a range of sharing options, from private and group to institution-wide and public; 3) the long-term accessibility and preservation of the annotations. “The annotations,” one participant said, “have to be able to escape the book file.”

(10) *Readers should be able to interact with books in collaborative environments.* Reading is, for good reason, typically thought of as a solitary activity, but the working group returned over and over to the possibilities for sharing—whether with a private and defined group, or with the



“The Scholarly Reader,” supporting multiple modes of engagement.

world at large—readers’ notes and embellishments on digital book files. And the group identified very practical use-cases for collaborative reading. For example, the qualifying exams for graduate degrees require students in the humanities and social sciences to become proficient with a very broad range of foundational literature—adding up to many hours of reading. Shared annotations and other forms of digital “group reading” could help graduate students, who often work in very narrow subdisciplines, to become familiar with the canons of their specialized areas more efficiently, allowing for collaboration “not just among students at the same institution, but among students across institutions,” as one member of the working group put it.

(11) *Ideally, digital book collections and aggregations would offer serendipitous discovery—the “library stacks” effect.* Everyone in the working group had an affection for the experience of wandering through the stacks of an academic library and coming across the book you never knew you needed (a fitting sentiment for a meeting hosted only a few yards from the stacks of Columbia University’s main library). There are a number of highly creative and usable online tools that offer users a more visually engaging browsing experience for ebooks: one of the best, the Harvard Library Innovation Lab’s Stacklife viewer (<http://stacklife.harvard.edu>), allows users to browse ebooks and print books records in different contexts, such as where they sit on Harvard’s physical library shelves, in grouping by subject heading, and in order of most checked out or circulated titles. But the impression of the working group is that few publishers or content platforms in the scholarly world have put similar thoughtfulness into their own browsing and navigation structures for ebooks. Many lack even the functionality to offer automated recommendations of similar books—functionality that is well over fifteen years old for commercial booksellers.

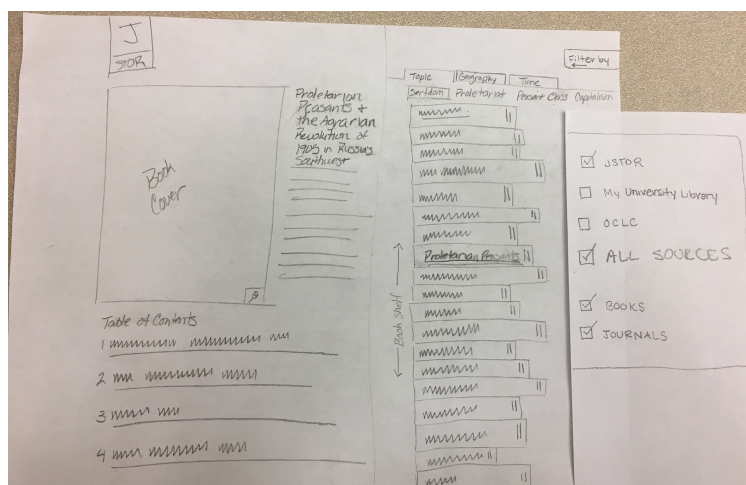
(12) *Digital scholarly book files should be open and flexible.* This is as much a design question as it is a business question for publishers and libraries. The working group returned several times to the importance of scholarly book files being available in non-proprietary formats that allow for a variety of uses and re-uses. “The flexibility of being able to read a book wherever and whenever—even when moving from device to device—feels important to me. I want my books to be genuinely mobile,” one member of the working group said. Another pointed out that the backlist corpus of scholarly books in the humanities and social sciences are an invaluable resource for text-mining, but the ability to carry out that research at scale means that the underlying text of the books has to be easy to extract. “It’s so important to be able to ‘scrape’ the text,” one participant said, using a common term for gathering machine-readable characters from a human-readable artifact (for example, a scanned page image). Another said, they needed a system that didn’t force them to “read the book as if it was under glass.” Many publishers and vendors have been reluctant to distribute digital books—and especially recently published books—without digital rights management software, which restricts the ability of a reader to share a book file or ‘migrate’ it from device to device. Publishers fear that doing so may damage book sales and, over time, seriously erode their ability to recover their costs and support their editorial and peer review activities. As we will discuss in the following section about the design of a prototype, we used books that are hosted on JSTOR and for which publishers have given us permission to make them available without restrictive digital rights management software—albeit in PDF format, a proprietary format that remains standard for reading digital scholarly. Whether a wider group of publishers and technology vendors feels able to enable these more

expansive uses of a book file without damaging the sustainability of the entire scholarly publishing infrastructure system is a larger question than this project sought to answer.

This set of principles covers a broad range of concerns around digital scholarly books—not just their design, but the technical, legal and business concerns that underpin scholarly communications at a system-wide level. There are enough challenges and opportunities identified here to fuel an ambitious agenda of collaborative experimentation for years to come! Where to start? The JSTOR Labs group sought to identify a specific design improvement that could address several (but not all) of these principles, that had the promise of being immediately useful, and that could be implemented and tested with users very quickly in the weeks immediately following the workshop.

Selecting a Concept for Development

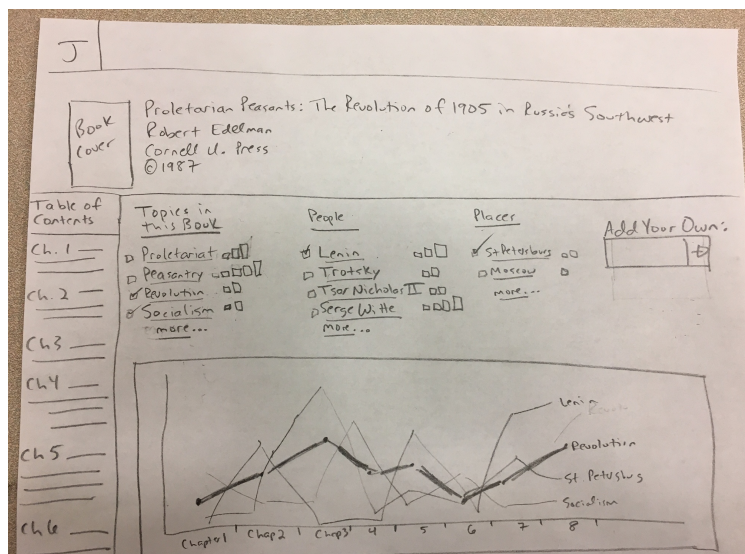
Drawing on the workshop’s scores of ideas, over one hundred individual sketches, and dot-voting exercise results, the Labs group winnowed the list of potential concepts to explore based on the following criteria. We eliminated some because they were ideas that others in the community would be better placed to develop—for example, the many ideas around scholarly annotation might be better addressed by an organization like Hypothes.is. We removed others because we feared that they were technically infeasible or would be challenging to scale. For example, one idea surfaced by the working group about visualizing the citation network leading to and descending from a monograph would likely require a substantial investment in each book’s metadata for it to be effective. We are excited by this idea, and see great promise in taking it up, but for this design sprint we were aiming for a concept that, if proven valuable, could quickly be leveraged across the tens of thousands of monographs available on scholarly ebook platforms.



One workshop idea: “The Book-as-Portal-to-Other-Scholarship”

Even after employing these filters, we were left with a handful of exciting ideas: “The Way-Better Table of Contents”, “The Topic Explorer,” “The Scholarly Reader,” “The Book-as-Portal-to-Other-Scholarship,” and “The Scholarly Influence Graph.” To help us choose among them, we carried out another user feedback exercise at the Columbia University Libraries after the working group meeting. For each of the “finalist” concepts, we put pencil to paper and created simple prototypes. These prototypes had just enough detail to convey the basic idea, but not so much that users would focus on distracting details.

We then showed these prototypes in one-on-one interviews with six Columbia graduate students and faculty in humanities and social science disciplines. These were by no means a representative sample, but we wanted to get an impressionistic sense from a group of researchers about the usefulness and intuitiveness of the various ideas for an experimental interface. Did they understand what was being proposed, and could they imagine it being helpful for their research process? Would it duplicate tools that they already use, or would it improve on them? These users were especially drawn to “The Book-as-Portal-to-Other-Scholarship”, a concept that turned the book into a vehicle for discovering other, related content, and “The Topic Explorer,” which helped users to better understand the topics and subjects covered within a book. Users told us that, while the first proposed prototype could be helpful and better than alternatives, it would meet a need for which they already had solutions, such as using the library’s online catalog search. By the end of the day, we had decided to develop the topic-explorer tool.



Another workshop idea: The “Topic Explorer”

In the following weeks, we proceeded to incubate the topic-explorer concept along two concurrent paths, the first of which was to develop the data and infrastructure needed for the prototype, and the second of which was to develop the actual prototype through iterative testing with users.

Developing the Data and Infrastructure

In developing this prototype, we were able to build on work that JSTOR has had underway for some time now. JSTOR has spent the past few years exploring approaches for algorithmically characterizing texts—that is, to automatically tag or classify texts based on entities associated with those texts: the specific topics that the text discusses, people or places named in the text, and so on. As the vast majority of the content in the JSTOR archive consists of unstructured text (primarily generated via optical character recognition, or OCR, scanning), the ability to analyze and automatically categorize these journal articles or books is essential for building more sophisticated discovery and recommendation tools. One promising approach that we have been developing involves the use of a custom-built, hierarchical, controlled vocabulary of concepts, a rule-based engine for tagging documents with one or more of the concepts, and a topic model⁶ and inference engine. Using these tools, we combine a human-curated thesaurus and rule-set with computer-based text analysis to associate texts (and portions of texts) with concepts from the controlled vocabulary. This allows us to both identify portions of a text which are likely to

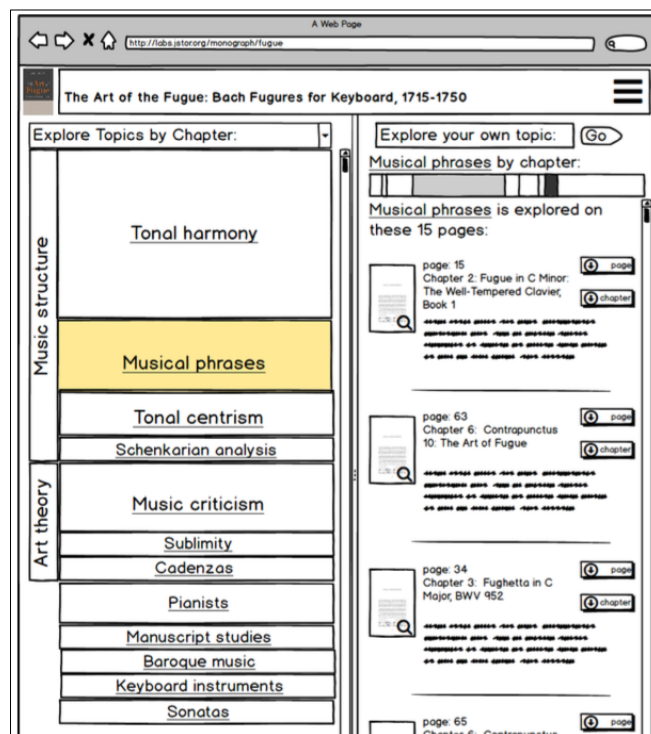
⁶ David M. Blei, “Probabilistic Topic Models.” *Communications of the ACM* (55:4), 2012. <https://doi.org/10.1145/2133806.2133826>

be “about” a given topic, and to name those topics using the terms from the human-curated thesaurus.

In JSTOR’s prior applications of this text analysis approach, the concepts were associated with complete documents, such as scholarly articles. During the technical feasibility stage of this project, we performed some tests to help us understand whether the approach would work on partial texts—in particular, those documents for which there is no markup to delineate sections or chapters. To do this, we segmented a monograph into smaller portions, and then associated topics with each of those portions. In doing so, we were able to identify “hot spots” for a given topic within the larger monograph. Exposing this data in a suitable visualization would, we hoped, provide readers both a bird’s-eye view of the document as a whole and a convenient means for quickly navigating to a specific section of interest.

Building the Prototype Monograph Viewer

The second path involved designing the interface that would expose this data. We knew that we wanted to visualize the topics within a book, and to use those same topics to help readers navigate to relevant pages within the book, but understanding how best to meet those user-needs required further design iterations. Over the coming weeks, we conducted multiple rounds of user testing with an evolving design to home in on an interaction that users would find both intuitive and powerful. These design rounds began with grayscale wireframes, but, as we got closer to something that users both understood and were eager to try out, we switched to high-fidelity mockups (that is, a fully-designed version of several relevant web pages that are not actually live for use). Through these iterations, we explored a variety of ways to visualize the topic data visualizations ranging from treemaps to line graphs.



Early design iteration: Grayscale wireframe

We also tested a variety of ways to navigate from a topic heading to relevant sections in the book. Researchers told us that they usually look at anywhere from five to 20 pages of a monograph online before deciding to download the full book file or acquire a print copy. We decided that our goal for this tool was to make it possible to conduct that evaluation more effectively. The tool should allow users to target the pages they look at with greater specificity than the alternative, and then evaluate the usefulness of those pages to their research more quickly than they might otherwise, allowing them to view more pages in the same amount of time. This led us to two key findings. First, although we originally presented the topic browser as its own set of pages separate from the full-text reading experience (as in the high-fidelity mockup at right), we found in working with users that placing the page-

viewing directly next to the topic visualizations gave users the ability to more easily navigate between them, increasing the number of pages they might use for an evaluation. Second, highlighting within the page helped users to guide the eye and skim through a page more quickly, although this highlighting needed to be “turned off” when users began to close-read. We then worked with the data and infrastructure to implement both these changes. After plenty of trial-and-error, we were able to embed both functionalities in the prototype interface.

With this work completed, the JSTOR Labs team returned to the Columbia University Libraries for a week of rapid development. With the collaboration and support of Columbia University Libraries staff, we conducted more usability testing with scholars and graduate students, further refining the tool by improving the aspects of the user experience—for example, adding the table of contents as an additional means to navigate — and adding more information to help users understand the tool and its topics. By the end of the week, we had a completed tool, with a design that users understood and were eager to use, which we are calling “Topicgraph.”

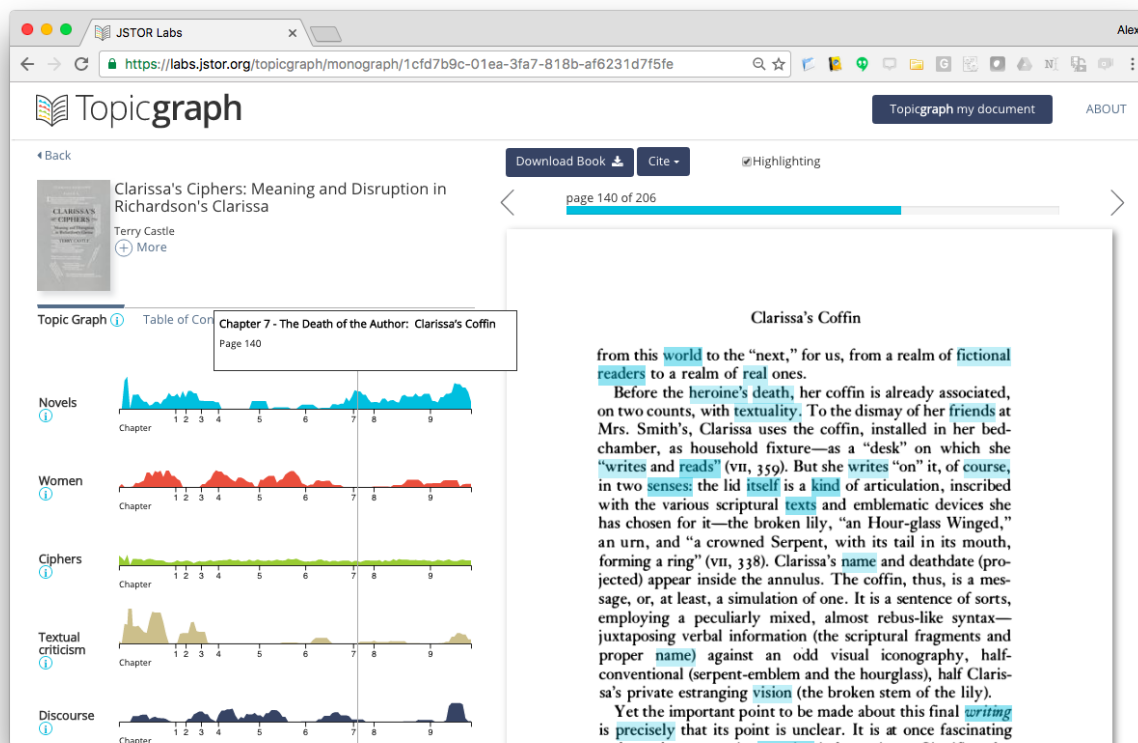


Early design iteration: High-fidelity mockup

The completed prototype, available at <http://labs.jstor.org/topicgraph>, includes a small collection of university press-published scholarly books from a variety of disciplines in the social sciences and humanities. (We are grateful to Cornell University Press, The MIT Press, University of Michigan Press, University of California Press and UCL Press for allowing their books to be part of this experiment.) These books were processed from PDF files. For some newer titles, the books are born-digital files, but the PDF files for many of the older titles were derived from scans of the original print book—which is consistent with one of our goals for this project, which was to engineer a viewing solution for monographs that would not require any special formatting of the underlying book files. For some of the books included in the prototype, we could take advantage of chapter-level metadata, allowing us to show chapter-breaks in the topic graph and to display a table of contents.

Next to each book, the tool displays the top fifteen to twenty-five topics associated with the book, along with a graph that users can click on to navigate to pages associated with each topic. Because we used a controlled vocabulary of concepts and topic-modeling, as noted above, these are not simple keyword matches. Each topic in the topic model is composed of many individual terms that suggest the topic is being discussed. The more these terms are used in proximity to each other, the more likely that a particular topic is being discussed. For example, if the terms “carrots,” “seed,” “harvest,” and “backyard” are used in close proximity to each other, the topic model might suggest that the topic being discussed is “gardening,” even if the word “gardening”

itself is never used in the book. In the interface, these terms—“carrots,” “seed,” and so on—are then highlighted within the page when a user clicks on the “Gardening” graph.



The Topicgraph prototype

Testers found the user experience to be relatively intuitive and a useful augmentation of the means that they currently use for assessing the relevance of books to their research, such as skimming the book’s table of contents or conducting quick keyword searches on the book to understand whether the topics they care about are addressed in the text. They were eager to explore the tool for books and subject areas they were familiar with, in order to evaluate the quality of the topics identified. Reactions there were more complicated: for some books, the topics identified by the algorithm and the associated highlighted keywords met their expectations; for others, there was less of a correlation. The limited content set used for this experiment shows that some topics in our topic model are well-formed and robust, while others are less successful. (These strengths tend to align with the strengths within the JSTOR corpus on which the topic model was based—that is, the more content that JSTOR hosts on, say, the history of capitalism, the better “informed” the algorithm will be in identifying key topics in a book on that subject.) In the eyes of these users, the extent to which the Topicgraph viewing tool is useful depends entirely on the quality of the topics raised. So, an important avenue for future development of a tool like this would be to continue adjusting the algorithm in ways that improve the quality of the key topics it identifies for any given book.

To support this desire of users to evaluate the topic model with content they were familiar, and analyze documents not in the JSTOR corpus, we also developed an experimental “Topicgraph my document” function. With this feature, users can upload PDFs of their own in order to create a topic graph of that document.

We share this work in progress with the community in the hopes that what has already been learned and built will be valuable, and that it might catalyze further discussion and solutions. If there is interest in the community, there are potential next steps to explore for Topicgraph:

1. *Gather community and user feedback.* Over the course of this project, we have collected a great deal of qualitative data from users and the panel of experts assembled at the workshop. We are eager to add to that the feedback and expertise in two ways. First, gathering feedback and insights from the community will help to ensure that this tool can be as broadly applicable as possible. We are also eager to extend the qualitative data we have gathered from users with quantitative data based on the actual usage of the tool. Analytics of the working site will help us to see which features and tools are most used, while social media shares of the site will be a strong indication of overall interest.
2. *Further develop and refine the topic modeling approach.* This tool is only as good as the data that supports it. Early indications are that, for many disciplines and titles, the current implementation, which takes advantage of a topic model based on JSTOR content and metadata, is sufficient but can be significantly improved. For example, it would be beneficial to work with subject matter experts to identify the “training documents” for each topic. It would also be interesting to explore this approach being used with different topic models based on other collections of digital scholarly texts.
3. *Explore incorporating this tool into platforms at the point of evaluation.* If the additional community and user feedback warrant the investment, then we hope that publishers and platform providers will explore incorporating this tool or one like it into their platforms. To facilitate this, we have made all of the application code open source. It may also be worthwhile to explore the creation of other means to integrate this tool on other platforms. For example, an API or embeddable widget may make it easier for platform providers, while a browser plug in may be useful for end users who want this functionality wherever they might go to do their research.

We are eager to hear feedback on the tool, and would welcome comments and suggestions at labs@ithaka.org.

Closing Thoughts

The prototype Topicgraph tool is, of course, just one way that one use-case for scholarly books could be reimagined. There are plenty of other ideas we identified that are ripe for exploration, such as how to visually represent a single monograph in the overall network of citations, and many experiments already underway, such as the system-wide flexible, open annotation solution being developed by Hypothes.is. The working group also pointed to other challenges for the future of the monograph that have little to do with its visual representation in a user interface: what is the long-term business model for monographs, and can we make a greater share of publishing of monographs in a free-to-read open access model sustainable. Another concern is to ensure that monographs that include non-traditional, born-digital elements are evaluated fairly in

tenure and promotion processes. Still another is to ease the process for text-mining across a wide range of the monographic literature without forcing scholars to secure permission from the hundreds of different publishers that populate the scholarly communications ecosystem.

What these challenges have in common is that many, if not all, of them are bigger than any single organization or group. The reimagined monograph—whatever that ultimately means—will not be built in a single step, or by a single organization. Libraries, publishers, scholars, scholarly societies, and others will all have a role to play—in promoting standards, in convening thinkers, in carrying out technology development, and so on—and in doing so, they will be drawing on the wonderful history of collaboration in the scholarly communications community. The Topicgraph prototype, and the design process that informed it, may be just one small piece of what is possible. We look forward to working with others in the community on this and other initiatives that help make the monograph as useful, innovative, and broadly available as it can be in the digital environment.

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Appendix

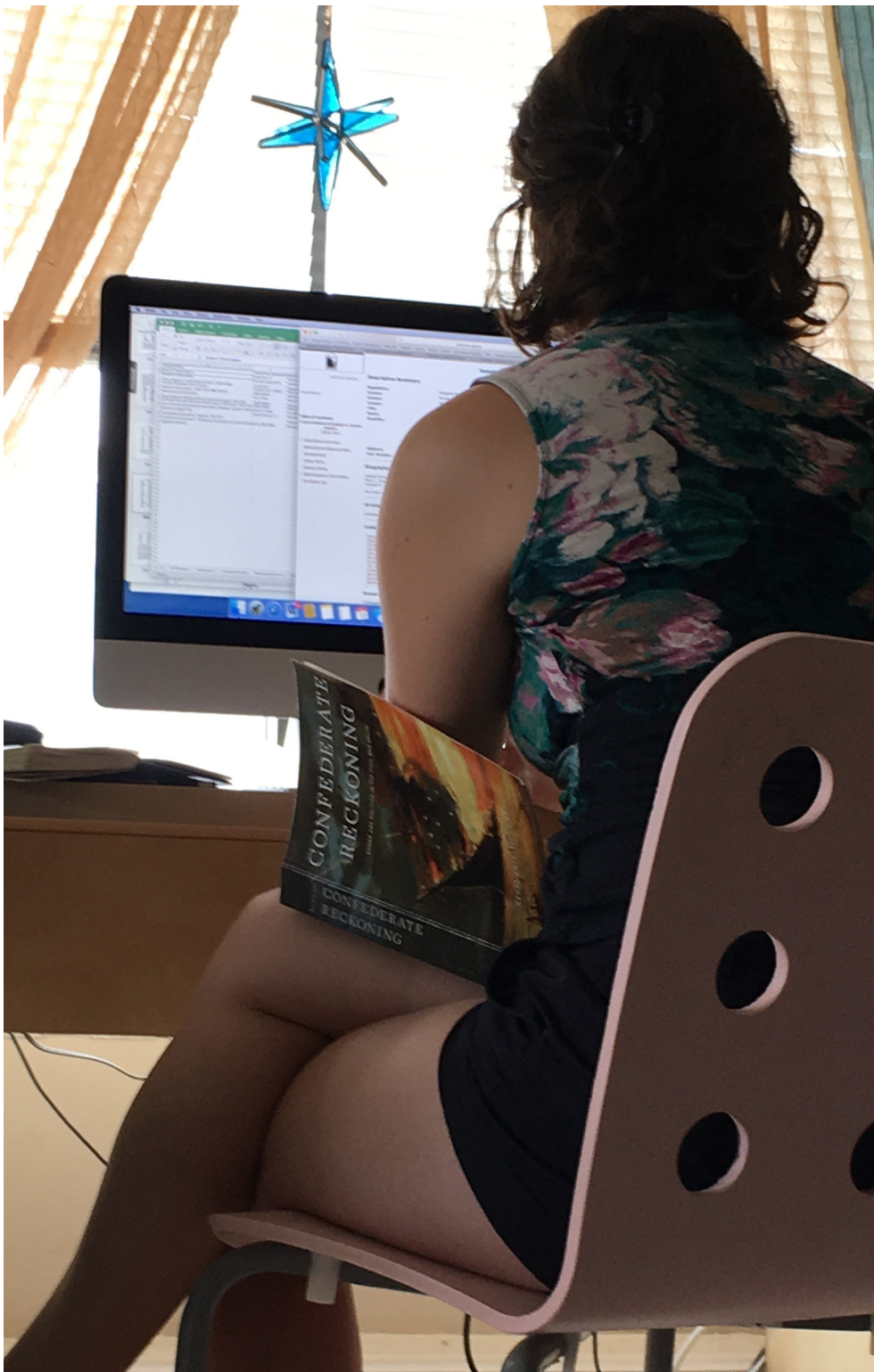
The following user profiles are from a set of ethnographic studies that JSTOR's User Researcher carried out with six scholars and graduate students in the History discipline in preparation for the working group meeting. (Certain identifying details have been changed or omitted from the public version of this report.)

Andrea

Overall, Andrea is organized and intentional about her time and activities. From study to social groups and exercise, she is conscious of planning and executing in effective and consistent ways.

She is very aware and evaluative of the methods she uses to keep herself organized and on track. She utilizes a bullet journal for daily, weekly, and monthly planning, which she refers to as her "analog journal for the digital age," in addition using to Onenote for two-week planning of work on her thesis. She even attended a dissertation boot camp to develop her skills in breaking down and tracking her own work.

During the first half of the day spent with Andrea, she was working out of a single book. While the secondary analysis of the book is not her focus, the timeframe and region are similar to her work. She is using this text to identify which items she will want to view at various archives she will visit this year. She types each citation into Google books and checks the location; if it is available in an archive that she is visiting, she will then look at what was said in the book related to that citation. If the reference is valuable, she adds the citation to an Excel spreadsheet with notes. She also visits the various archive websites to get call/catalog numbers as part of this process. Although it is not her preference for all types of work, she would have preferred to do this in a digital book, but her library didn't own a digital copy of the book in question.



PROFILE

ANDREA

Graduate Student
Large Midwestern University

In the midst of researching for her dissertation she is moving out of her apartment and finalizing plans for an archive trip spanning 3 southern states.

CURRENT WORK

Mining book citations to inform what she will want to see at various archives. Then, she heads to the library in the afternoon with a specific goal of getting more context around Georgia within the timeframe she is studying.

UNIQUE EXPERTISE

She is super organized! She uses several methods to track and manage her productivity, including bullet notebooks and Onenote.

TOOLS I USE

APPLICATIONS USED



Word



Excel



OneNote



OneDrive



DEVONthink Pro

WEBSITES USED

- Various archives
- Google
- Library website and linked sources

DEVICES USED



SUPPLIES



She avoids tools within databases because “you have to pause and think.” It interrupts her process and thought.

STUDY LOCATIONS

Working from her apartment, downtown and university library

ARCHIVE TRAVEL

Various archives
Georgia, and
South Carolina



BREAK



HOW I WORK

HOW I FIND RESOURCES



HOW I EVALUATE



By reading the passage associated with that citation.

HOW I USE A MONOGRAPH



Provides context and a path to follow



As a portal into other relevant sources.

“You can’t beat the searchability of a digital book. Because some sections are not relevant so getting to the relevant section in a large book is important.”

WHAT I CHOOSE

CITATION MINING

She loves when digital copies allow her to click on a citation and jump to the relevant passage in a book



EXTRACTING SPECIFIC INFO

While she likes scanning a physical book, pulling out the quotes and putting them in another document is easier with a digital version.



CLOSE READING

She likes to make notes in the margin and keep her thoughts with the text.

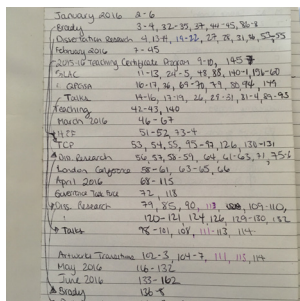
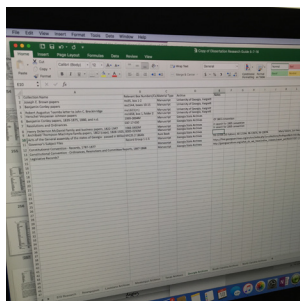


REUSING -OR- REVISITING A TEXT

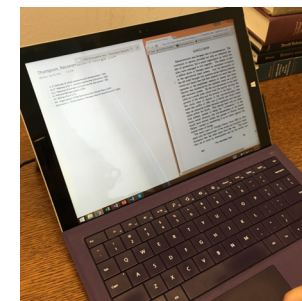
For those books she references again she uses different colored pens and dates to denote each reading.



“The way I use books has changed over time. We don’t really read books”



She mentioned that she likes physical books because “I have a conversation with the book”, writing in the book instead of handwritten notes.

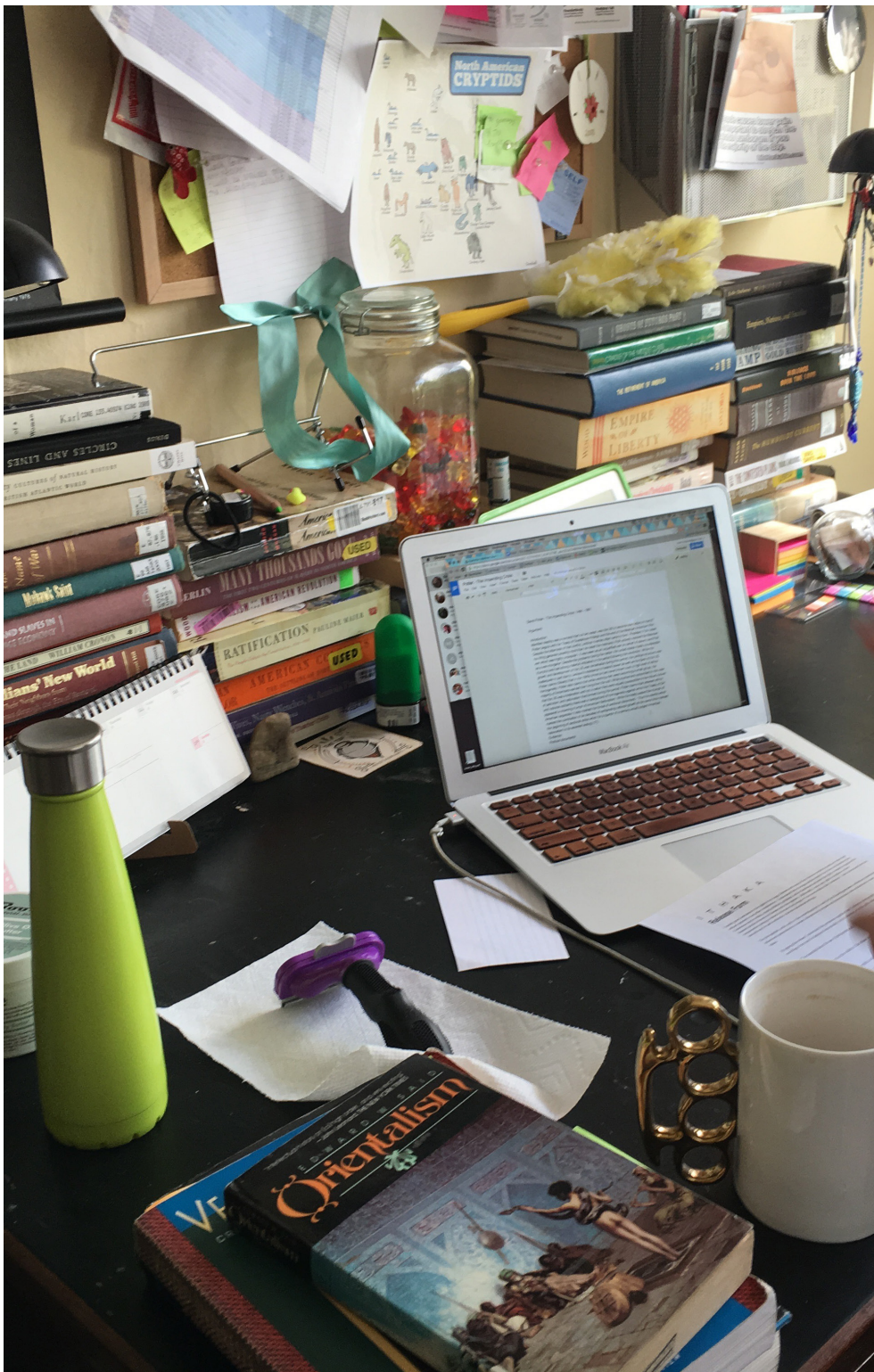


Beth

At the time of interview, Beth was engulfed in studying for qualifying exams in U.S. History, which required her to read and review over 150 books in just three months. She struggles with her desire to read each book end to end, and she finds she does not have enough time to do so. From others in her program, she has learned about the “Grad Student Read,” which she describes as reading a book’s introduction, conclusion, table of contents, and a few chapters. She also referenced “gutting the book,” which is reading just enough to pull out a quote or two. She feels that she might be more successful if she were able to do some of these adjusted reading approaches.

With a need to engage with so many texts, Beth has developed a comfort and competence with many applications that help her navigate different book formats and availabilities. For example, she uses Turboscan to take PDF-like photos, ultimately creating her own PDF versions of physical documents. At times, she will also transform a digital version from a given format to PDF; she prefers a PDF format because it is compatible with many programs.

The stress of preparing for these qualifying exams have taken a physical toll, for both Beth and some of her classmates. She describes knee injuries, teeth grinding, back and vision problems, all stemming from stress and extended study sessions.



PROFILE

BETH

Graduate Student
Large Midwestern University

As a graduate student focused in US history Beth is currently studying 150 books central to US History which she will use in support of her 8-hour qualifying exam, scheduled for the end of the summer.

CURRENT WORK

Studying for qualifying exams, required to read 150 books in 3 months, to draw upon for an 8-hour exam.

UNIQUE EXPERTISE

She knows all the newest applications; she can scan and save from almost any format or provider.

TOOLS I USE

APPLICATIONS USED



Google Drive



Notability



Pomodoro



TurboScan



Zotero

WEBSITES USED

- Library website and linked sites
- Ebrary
- HATHI Trust

DEVICES USED



SUPPLIES



“When I moved I rearranged my bookshelf by color, I don’t know that it’s helpful, but the old way wasn’t helpful either; it was by subject.”

STUDY LOCATIONS

Home in her apartment, on Campus, and Downtown.

ARCHIVE TRAVEL

None yet. As a US Historian she will travel within the US.



BREAK



HOW I WORK

HOW I FIND RESOURCES



Look at past years lists

Discuss with advisor

Search for print purchase online

Evaluate price (\$10 max)

Order online or search university website

Order for pickup from library or scan/save digital version

HOW I EVALUATE



Look at past years lists

Discuss with advisor

HOW I USE A MONOGRAPH

At this stage she is trying to develop her skills in scanning and extracting portions of a book. Success for her would be to read just enough to:



Know the main argument of the text



Be able to reference and reuse a meaningful example.

“Most people who are into digital books are those who have a reader device.”

WHAT I CHOOSE

CITATION MINING

She is not doing much of this at this stage as her resources are already defined.



EXTRACTING SPECIFIC INFO

She is looking for quotes and examples that demonstrate strong points in each book she reads. She needs to collect these notes or quotes in another document so that she can quickly access it during her exam.



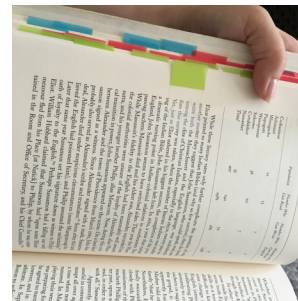
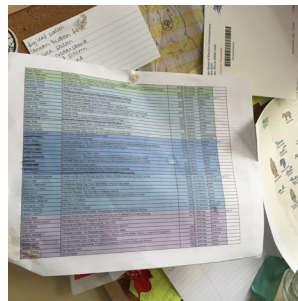
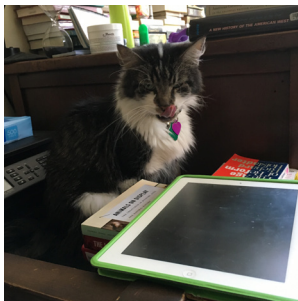
CLOSE READING

She would prefer to read in full all of the books she needs to cover, but that is unrealistic for her current needs.



REUSING -OR- REVISITING A TEXT

She likes print because her notes are in the book, she uses a new color pen to denote one reading from another.



“I was binge watching teamwolf yesterday instead of studying. The other thing that has been messing with my studying is Pokemon Go.”

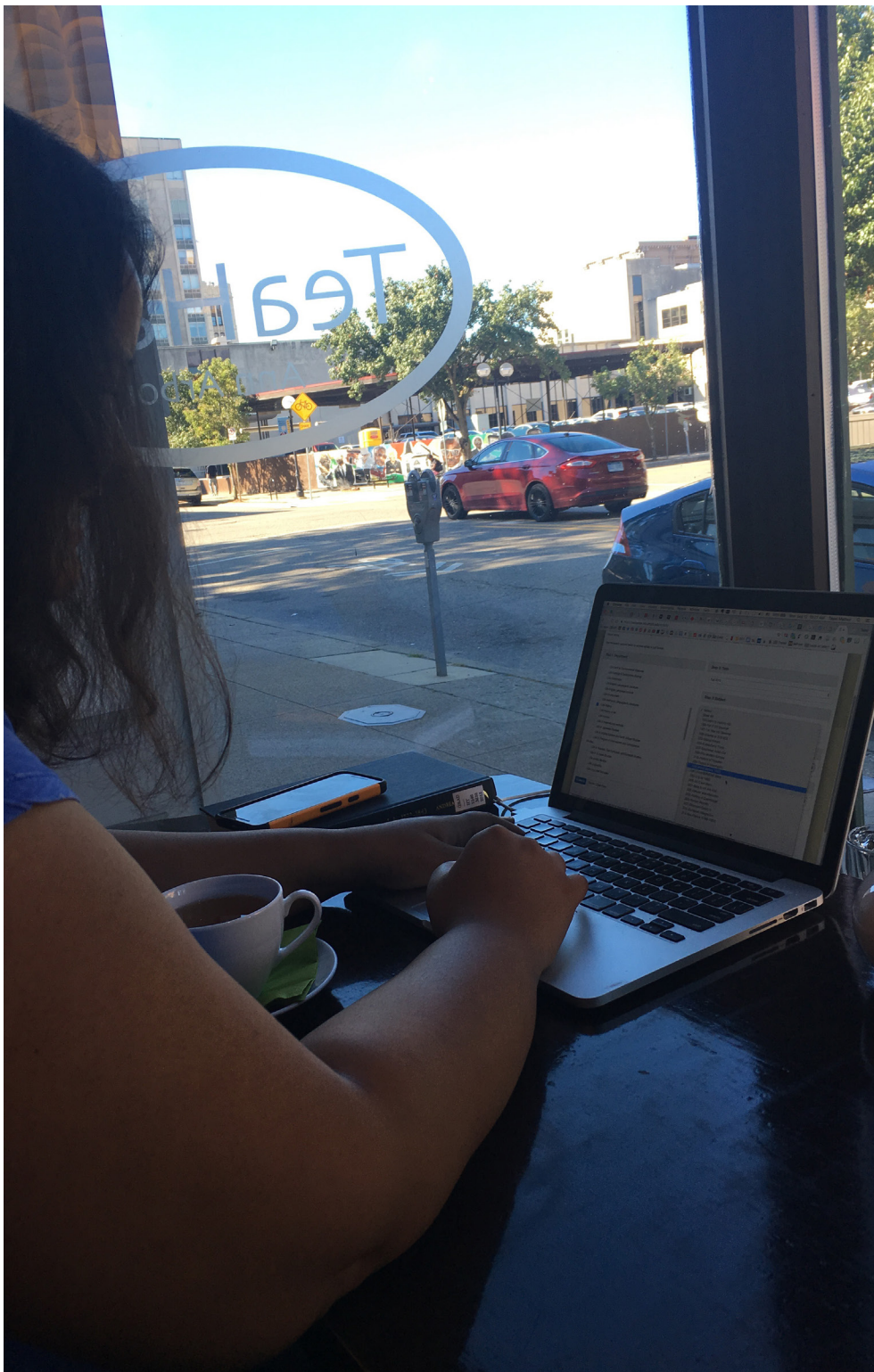


Tiffany

Tiffany is currently working on her dissertation and job hunting for the 2017 fall semester. She struggles with the context-switching needed to finish her dissertation, prepare her resume, and job hunt. At one point in the day she becomes frustrated when an email comes in that she feels she must respond to.

Her primary task for the interview day was creating a sample course to include in her resume package. This helps possible employers to understand the type of courses she would bring to an institution. She was just beginning this work and described that at this early stage she is looking for resources that will help her approach the course by either sparking new ideas or help to refine existing concepts. The content and purpose of the course are still developing in her mind. In her own words: “I’m trying to figure out what I’m trying to put across.” In this process, she bounces around between various websites, google searches and documents. She did not seem to have any formal process, nor was she keeping track of what she had looked at.

This course creation work is contrasted by work to finish her dissertation. While some historians would have a bit of final archive travel as part of this phase Tiffany describes that her archive travel as an international focused historian is different from many U.S. historians. In contrast to many U.S. historians, who take several archive trips over several years, Tiffany describes that she had one year of archive travel, in which she spent time between archives in India and London. This structure means that she had one chance to collect all the archive documentation she needs, which requires being very prepared ahead of travel. Additionally, international travel puts physical space at a premium, one way Tiffany addressed this was by scanning 20 books from the University library in advance of her travel so she could “take” them with her.



PROFILE

TIFFANY

PhD Candidate
Large Midwestern University

In her final stage of a second PhD, she is finalizing her dissertation focused on 19th century India and job hunting for Fall 2017.

CURRENT WORK

Creating sample undergraduate courses to use as part of her résumé package.

UNIQUE EXPERTISE

She knows how to manage resources for international travel. She scanned 20 books to digital so she could take them to India. "When you travel more you can't take a lot with you"

TOOLS I USE

APPLICATIONS USED



Word



Zotero

DEVICES USED



SUPPLIES



WEBSITES USED

- Library website and linked sites
- Ebrary
- Author websites

"Change of plan, let's go back to my apartment so I can get my wallet. This happens all the time."

STUDY LOCATIONS

Downtown café, afternoon at the graduate library. Other locations include her apartment, other cafés and coffee shops.

ARCHIVE TRAVEL

National Archives of India and London



BREAK



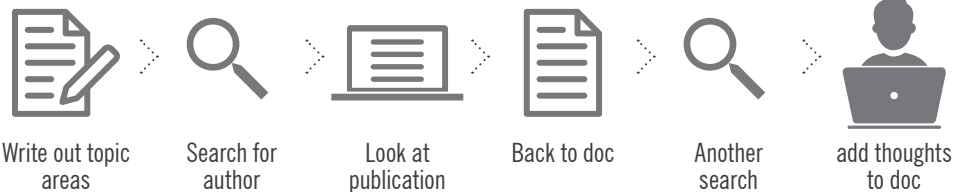
PokémonGo



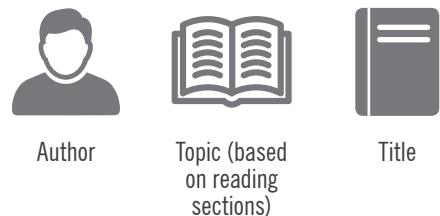
Texting friends

HOW I WORK

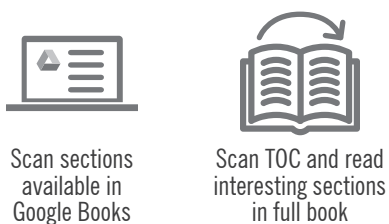
HOW I FIND RESOURCES



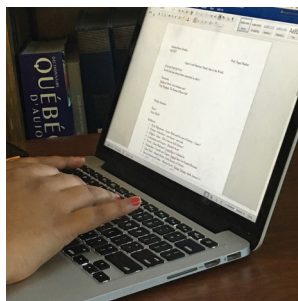
HOW I EVALUATE IMAGES OR TEXT



HOW I USE A MONOGRAPH



“I’m not good at navigating the stacks, some people just instinctively know where to go.”



“I like the most recent book on a topic. Then I mine that for footnotes”



“Oh I forgot my post-its.” She rips her napkin and uses it as a bookmark.
“I’m too lazy to look at the references, but must come back to this page.”

WHAT I CHOOSE

CITATION MINING

She follows citations by searching for the next book online, often finding previews in Google Books. This is best supported by digital format.



EXTRACTING SPECIFIC INFO

Pulling out sections is easier via copy and paste than typing.



CLOSE READING

For close reading, print is easier.



REUSING -OR- REVISITING A TEXT

Digital versions of books allow her to “take the book with her” via computer and quick searching to refind.

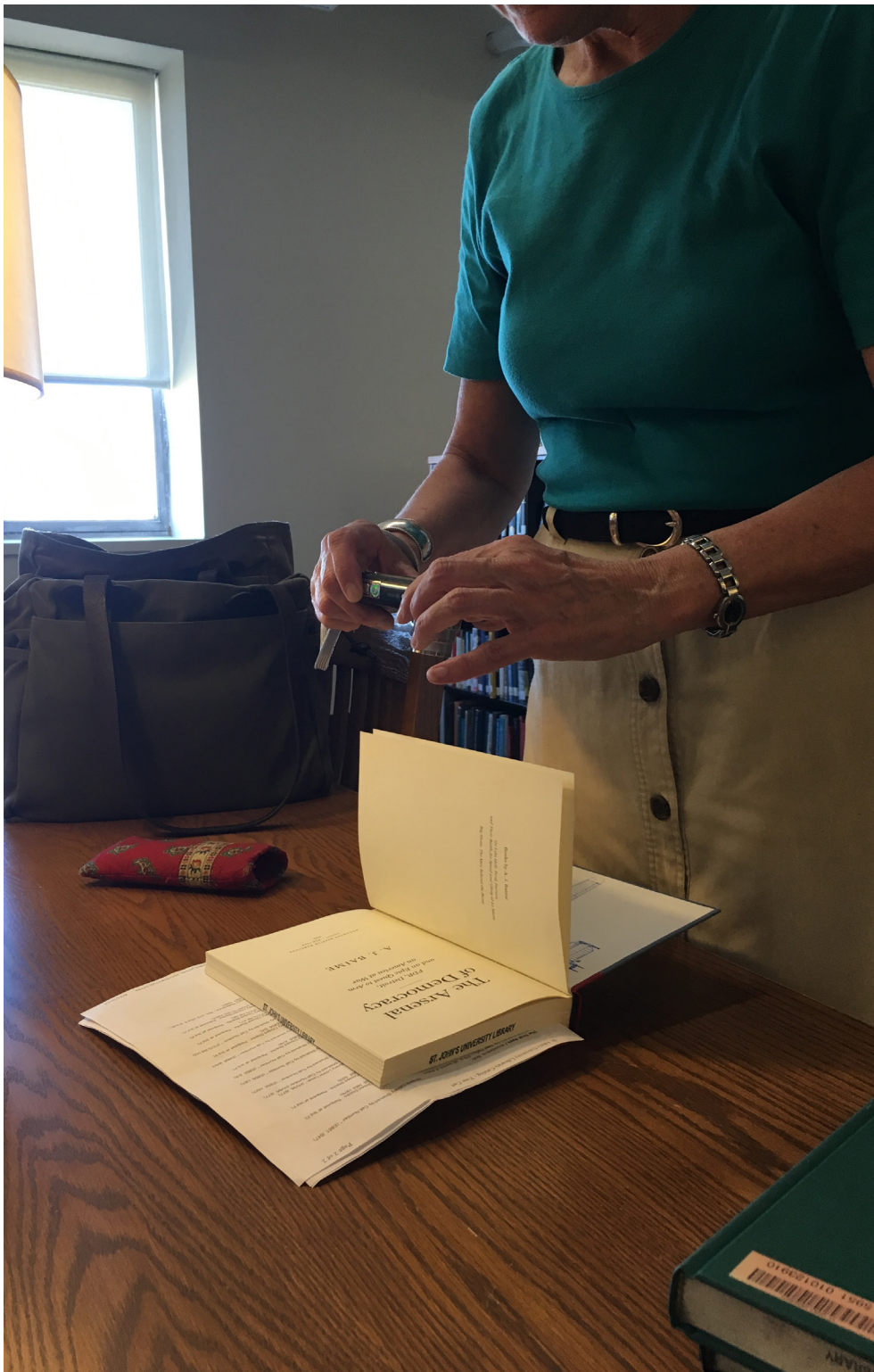


Karen

Karen conducts research in support of the courses she teaches and related to her own work. Within her own work she is beginning to write her second book. In reflecting on process from her first book (which took 30 years to complete) she recognizes that much has changed in regards to technology. She desires to adapt her process from her last book, for example with her previous book she created her own catalog and filed every source within that structure. What it seems will not change for Karen is her reliance on physical paper. She uses paper for all sources, even in cases where she engages with digital resources she always obtains a print off or some physical copy before using the content. At this point she has six full size drawers of printed sections of text, this is even a reduced number or files as she recently downsized to move from the Midwest to the east coast of the United States.

Further highlighting her dependence on paper documents, Karen purchased a specific digital camera to support her in creating these printed materials. The camera has a “text mode” which is designed to take photos of print text. As she is reviewing print materials, when she finds a useful section (which is under 20 pages) she will take photos of those pages, upload them to her computer, print them off, and then delete the photos from the camera and computer. From there she uses the printed copies to read, annotate, and file.

As part of the aforementioned move Karen also moved from a large university to a small private university, she feels impact of that as relates to budget. She describes the move as going “from feast to famine” in regards to financial support of resources and conference attendance. She is now only able to attend one conference a year. She chooses to attend small, topic-specific conferences for networking instead of the larger conferences. She does however still use the large conference documents and catalogs to see who is presenting and track down interesting publications.



PROFILE

KAREN

Faculty, History and Library Science
Small Private East Coast University

After recently publishing a book (which took 30 years to complete), she is now starting work on her next book, focused on Operation Breakthrough, George Romney, and the Detroit Fair Housing movement.

CURRENT WORK

Scanning books about pre-Watergate Nixon for references of George Romney. This is to gain proper context for her study.

UNIQUE EXPERTISE

She knows how to laser focus in on what she needs. She is able to review lengthy books in less than 5 minutes by targeting just the narrow topic she cares about.

TOOLS I USE

APPLICATIONS USED



Preview



Word

WEBSITES USED

- Library website
- WorldCat
- JSTOR
- EBSCO
- ProQuest
- Google

DEVICES USED



SUPPLIES



“I don’t have a smartphone, I have a dumb phone”.

STUDY LOCATIONS

Library and office on campus. Her apartment.

ARCHIVE TRAVEL

National Historical Archive, Washington DC.
State Archives, Michigan and Massachusetts



BREAK

Visit with family in Boston.



HOW I WORK

HOW I FIND RESOURCES



Keyword search in WorldCat Library catalog Scan the stacks



Review of conference materials. (Order forms). Library catalog Scan the stacks

HOW I EVALUATE



Scan TOC and index for topics or people relevant to her focus

Read a few pages

HOW I USE A MONOGRAPH



Take photos of relevant pages

Print pages

Read and mark relevant sections

Add to her writing

File Prints

“When you go to the archive the clock is running.”

She uses newspapers and popular magazines from a given era to “understand what the average person was reading.”

WHAT I CHOOSE

CITATION MINING

She flips from TOC to Index and the select pages. She is comfortable doing this in a physical book.



EXTRACTING SPECIFIC INFO

She marks the book or copies with pen then types out the points to be made in a word document.



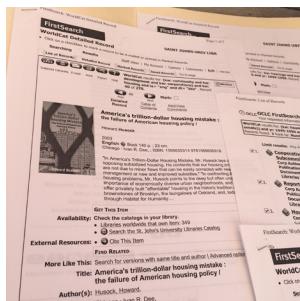
CLOSE READING

She always reads the physical book or a print out of select pages.

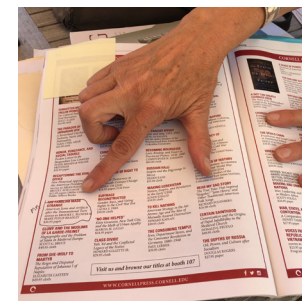


REUSING -OR- REVISITING A TEXT

Physical file cabinets are her primary way of organizing research sources.



Finishing this book was “a herculean effort.”



Aaron

From his home office within a historic east coast neighborhood Aaron conducts the majority of his research. The walls are lined with bookshelves, within which he has categorized sections to his own needs. While he does reference these physical books, and values the context that their covers and texture provide, the majority of his work is done on his computer and within a few select computer programs. He uses ProCite which houses all of his notes, comments, uses and reference information going back over 20 years, this includes thousands of individual entries. Within this program, he has created his own taxonomy and fields (such as journal info, call number, language, and frequency of publication). The program is dated and requires significant work arounds. For example, apostrophes cause the program to delete sections of text, so when he includes text from other sources he copies the work into a word document and replaces the apostrophes with another keystroke by hand. Even with all the issues Aaron experiences with ProCite he continues to use it because he believes he would not be able to retain all the information he has collected over the last 20 years were he to move to another program. When asked if he fears this program becoming unusable, he said, “I try not to think about it”. In addition to ProCite he also uses Adobe Professional and Adobe Acrobat to collect, catalog, and save digital sources. He even takes downloaded book chapters and stitches them together so he is able to save full PDF versions of digital books.



PROFILE

AARON

Full time Librarian and adjunct Faculty, History department
Large East Coast University

With a primary focus on gender and anarchism in Spain he spent 18 years completing his dissertation. He now conducts his own research between the few courses he teaches and full time librarian work.

CURRENT WORK

Adding some resources into his personal database, reviewing another author's book.

UNIQUE EXPERTISE

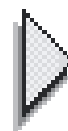
Searching for Spanish-language sources (e.g. searching authors by both mother's and father's surnames, etc.)

TOOLS I USE

APPLICATIONS USED



Word



ProCite



Adobe Acrobat



Dropbox



Excel

WEBSITES USED

- University library website
- EBSCO
- JSTOR
- ProQuest
- World Cat

DEVICES USED



SUPPLIES

None

“I worry with the print books, how will I ever move?”

STUDY LOCATIONS

Working at his home. While he works at the university Library he does not do his own study there, he has too much Librarian work to do.

ARCHIVE TRAVEL

Barcelona, Spain



BREAK



HOW I WORK

HOW I FIND RESOURCES



TOC alert
email

Follow link



Stay in touch
with scholars in
his field through
societies and
friendships

HOW I EVALUATE



Author



Title



TOC

HOW I USE A MONOGRAPH



End to end reading
for books valuable
to his research



categorize sections
or excerpts

“Searching is like food, you have to eat it
(look at it), to see if it tastes good.”

WHAT I CHOOSE

CITATION MINING

He quickly and easily copies and pastes
interesting citations into various lists for
future research with a digital version.



EXTRACTING SPECIFIC INFO

He hates having to retype quotes that he
finds in print books, he much prefers copying
and pasting from a digital version.



CLOSE READING

The context provided by a physical book,
such as the cover image, are of interest
and value to he when reading.

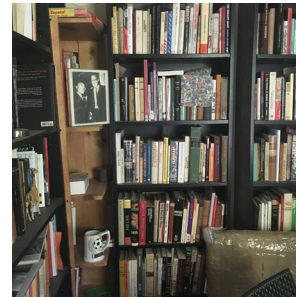
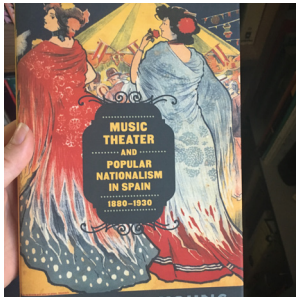


REUSING -OR- REVISITING A TEXT

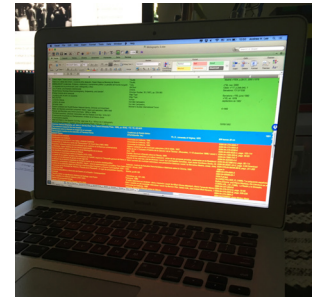
He has invested a huge amount of time and
effort into cataloging information about
books digitally it is the easiest and best way
for him to revisit.



“I never go to JSTOR and search”



“A lot (of
books) in my
field are not
online, not
digitized”

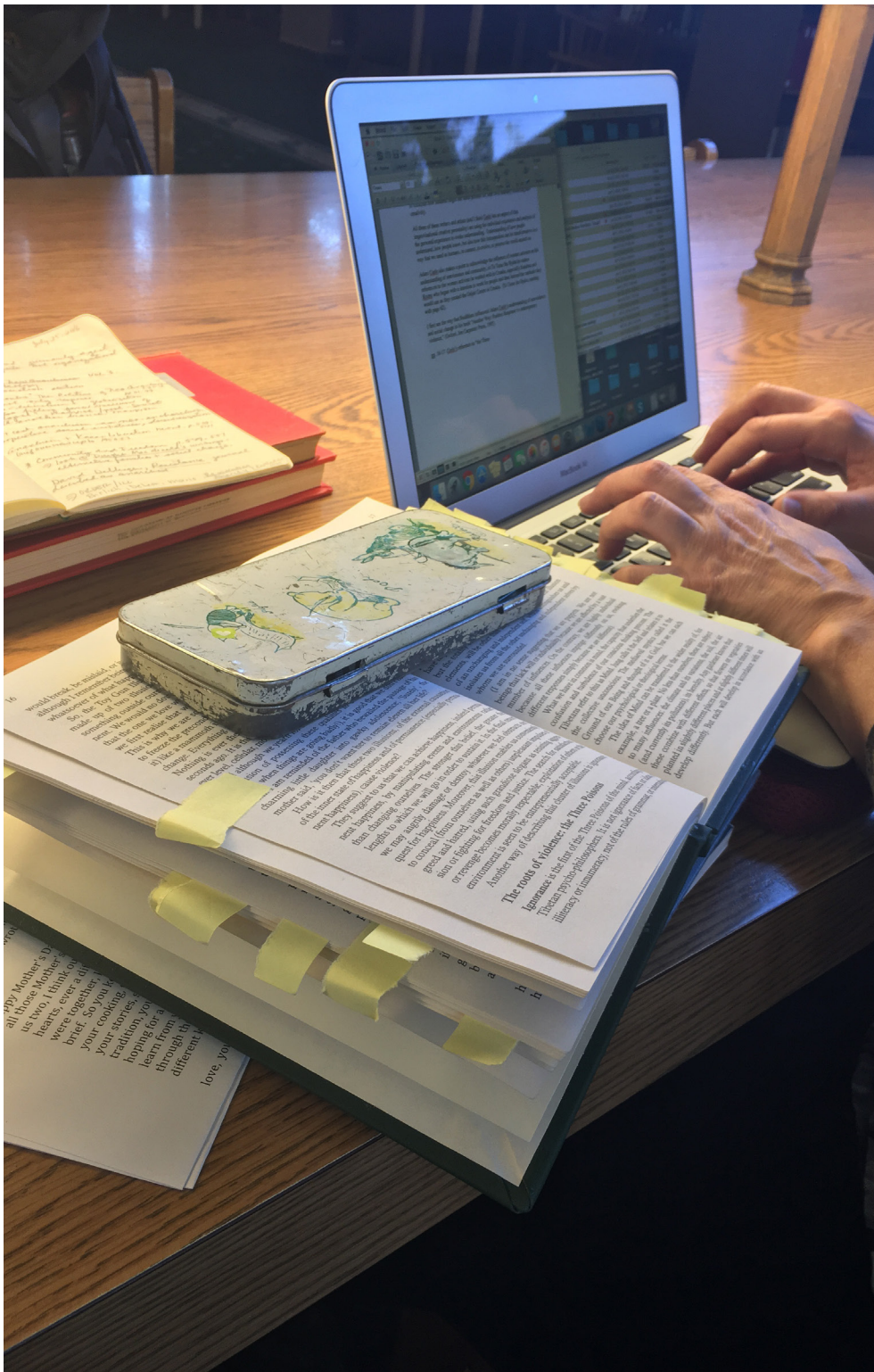


Angela

As an affiliated scholar, Angela has no financial compensation included with her role at this midwestern university. She has been at various universities for two-year stints as an adjunct faculty member. She describes that lifestyle as stressful and taxing, with very little pay. She is currently working in a university cafeteria to support herself.

With these frequent moves and transitions between institutions, Angela has several times found herself without access to academic resources. At one point she even shifted what social movements she was studying to be more current, which meant she could use open web and news sources.

On the interview day, Angela began her work with free writing, which she often does to begin her day. As she describes it this process is intended to function as inspiration, and ultimately turn into a conference presentation or publication. To do her free writing she uses one continuous word document. She scrolled to the bottom of the 70 page document, enters the date, and begins writing. The writing is fairly unstructured, sometimes she adds specific notes and citations from books, other times she is expressing her thoughts or ideas not tied to any other source. The document she was working on this day represents three years of writing. She describes that at times she will revisit notes from previous dates; there is no method for this, she just scrolls and scans the document.



PROFILE

ANGELA

Affiliated Scholar
Large Midwestern University

This is not a paid position so she has also taken up work in one of the university cafeteria kitchens. In the past she has worked as an Adjunct Professor. Her work is fairly interdisciplinary including History, Peace Studies, Sociology, Religion, and Philosophy.

CURRENT WORK

Adding to general thoughts, comments, and sources on how non-violence and individual views impact society.

UNIQUE EXPERTISE

She knows how to get her grounding in a new city. She joins a few churches and volunteers with a local charity. Valuable when you move every two years.

TOOLS I USE

APPLICATIONS USED



DEVICES USED



SUPPLIES



WEBSITES USED

- Google
- Abebooks.com

“There was a time when all my books were in storage, physical and mental space divided.”

STUDY LOCATIONS

The undergraduate Library, in the reference room. She used to have an office, but now she goes to other locations within the library. She feels most comfortable in a library setting.

ARCHIVE TRAVEL

Labadie special collections, Michigan and Peace Collection, Philadelphia



BREAK

“Good question, that is one I have not solved for myself”

HOW I WORK

HOW I FIND RESOURCES



Invited to speak at conference



See who is being featured at that conference



Request from the library all books by that author



Read

HOW I EVALUATE



Scan introduction and chapters



Look for topics or authors that are familiar

HOW I USE A MONOGRAPH



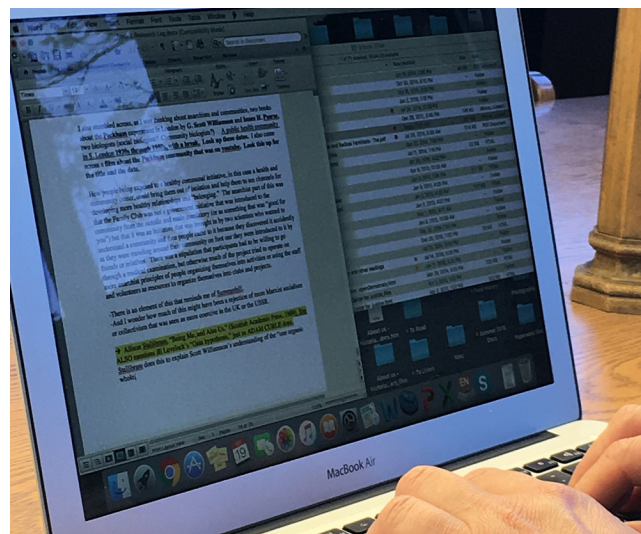
End to end reading



Mark pages with sticky notes



Use those marked pages as inspiration for free-form writing



“When I start a project I do free writing and take notes on things so that they are in one place.”

WHAT I CHOOSE

CITATION MINING

As she reads she makes notes in her word document of interesting citations.



EXTRACTING SPECIFIC INFO

When she finds interesting quotes she will mark it with a sticky note and type it out in her word document later.



CLOSE READING

She tends to read books in full, end to end.



REUSING -OR- REVISITING A TEXT

She feels a connection with her physical books, she was upset when her books were in storage during one move.

