RBM:

A Journal of Rare Books, Manuscripts, and Cultural Heritage

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CONTENTS

On the Cover:
Collage of domestic science materials. Credit: Bethany G. Anderson, Mary Borgo Ton, and Kristen Allen Wilson.

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Diane Dias De Fazio

Editor's Note: Fact Check

A funny thing happened on the way to the publication, readers. Editing this journal turned me into a kind of legal writer. Kind of. Increasingly, since my tenure's outset, each cycle has provided me with more references to government publications, legislative acts, and case law citations. Who knew that I'd be hunting down executive orders—much less fussing over how to punctuate and capitalize them—more often than I confirm titles and page numbers from SAA publications? Does anyone realistically think there are no politics in special collections anymore? Here we are.

This issue features another thing that I did not anticipate: acronyms. For the record, *RBM* house style applies acronyms sparingly. We will never use "GLAM," neither as a shorthand to connect cultural heritage institutions to libraries and archives, nor even to emphatically declare that something is so glamorous it must be shouted from the rooftops. However, "science, technology, engineering, mathematics, and medicine," as a phrase, is simply a copyeditor's nightmare, and too long to fit neatly within our publishing parameters. Therefore, the acronym "STEMM," highly visible throughout this volume, is one exception.

The board and reviewers read eighteen submissions for this issue and formed a subcommittee that is working to create and provide a policy on generative AI in submissions. We invite everyone to join us for our next open meeting, in January. This editor's note is short for a few reasons, but largely because we remain very busy. Keep checking those sources, friends. This one's for Pye.

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Bethany G. Anderson, Mary Borgo Ton, and Kristen Allen Wilson

Navigating Social Networks at the Margins: Women in Science Archives, Then and Now

"No Longer at the Margins: A Digital Project to Amplify Access to the Archives of Women in Science," draws on feminist approaches and text-mining technologies to surface stories about women in the domestic science movement at the University of Illinois. This article describes approaches used to digitize the domestic science collection in its conceptualization and initial stages. The project was originally funded by the National Endowment for the Humanities in August 2024; the grant's cancellation in April 2025 foregrounds the role of social networks to support archival work in moments of disruption in ways that parallel the strategies adopted by the women represented by the materials digitized.

Introduction

The social history movement of the 1960s prompted a critical awakening in the archival community, drawing attention to the absence of documentation about women's lives. When Eva Moseley wrote "Women in Archives: Documenting the History of Women in America" in the 1973 special issue of *American Archivist*, women's history remained an emergent and marginalized field.[1] Apart from the establishment of women's repositories, such as the Schlesinger Library at Radcliffe College and the Sophia Smith Collection at Smith College, women's personal papers constituted a small fraction of materials in many repositories across the United States. Moseley's article discussed the benefits and limitations of having "women's only" archives, but she saw these institutions as important first steps towards integrating women into mainstream archival representation.

Moseley's article and the 1973 issue of *American Archivist* became a catalyst for conversations about collection development and diversification of the historical record. A few years later, the National Endowment for the Humanities-funded

1. Eva Moseley, "Women in Archives: Documenting the History of Women in America," *The American Archivist* 36, no. 2 (1973): 215–222, https://doi.org/10.17723/aarc.36.2.36744h4q226234j7.

Women's History Sources Survey at the University of Minnesota published *Women's History Sources: A Guide to Archives and Manuscript Collections in the United States*.[2] The survey not only heightened awareness about existing women's archives but it also encouraged archivists to reassess their holdings and collect women's papers.[3] The growing interest in developing and foregrounding women's archives also extended beyond archival repositories. For example, the women's studies journal *Signs* had an "Archives" section, reflecting a broader interdisciplinary commitment to preserving and interpreting women's historical experiences.[4]

Despite these early efforts, and later emphases on the importance of documenting women's experiences through intersectional lenses, women remain underrepresented in archives.[5] This disparity is particularly pronounced for women scientists, who face a dual invisibility in both science and scientific archives. While women have always been part of science, they were pushed to the margins—or excluded altogether—from scientific institutions and teams. Indeed, "[w]omen have long been 'in science,' but not central to science."[6] Nonetheless, women always found a way to engage in the scientific enterprise. Archives, likewise, demonstrate that women have always been part of science; if one looks close enough, they are there. But to say that finding women scientists in the archives is only a matter of looking belies the complexities of archival research and of archives themselves, the societies they document, and the very real and entrenched biases which they evidence, all of which must be disentangled by archivists and archival researchers in finding women scientists in the archives.

Barriers for women in science are not a thing of the past. Women continue facing harassment, discrimination, biases, and marginalization in scientific fields, despite some progress in gender parity. Preserving and making available the archives of women scientists for present and future generations is especially critical; when women do not see themselves reflected in archives, they may conclude that their materials do not belong in repositories, which perpetuates archival silences. Archives are also not neutral spaces, creating and perpetuating their own biases through acquisitions, metadata creation, digitization, and other decisions that may impede access or create and widen

2. Andrea Hinding et al., eds. *Women's History Sources: A Guide to Archives and Manuscript Collections in the United States* (R. R. Bowker Co., 1979).

3. Kären Mason, "'A Grand Manuscripts Search:' The Women's History Sources Survey at the University of Minnesota, 1975–1979," in *Perspectives on Women's Archives*, ed. Tanya Zanish-Belcher with Anke Voss (Society of American Archivists, 2013), 90.

4. Kären M. Mason and Tanya Zanish-Belcher, "Raising the Archival Consciousness: How Women's Archives Challenge Traditional Approaches to Collecting and Use, or, What's in a Name? *Library Trends* 56, No. 2 (2006): 345.

5. Suzanne Hildenbrand, ed. *Women's Collections: Libraries, Archives and Consciousness* (The Haworth Press, 1986), 6–7; cited in Mason and Zanish-Belcher: 346.

6. Mary Frank Fox, "Gender, Hierarchy, and Science," in *Handbook of the Sociology of Gender*, ed. Janet Saltzman Chafetz (Springer, 2006), 444; quoted in Cassidy R. Sugimoto and Vincent Larivière, *Equity for Women in Science: Dismantling Systemic Barriers to Advancement* (Harvard University Press, 2023), 4.

gaps. These biases and gaps may not only go unquestioned but may also become further compounded when researchers bring their own biases and stereotypes, unconscious or not, to the archival materials they use to piece together histories about science. Archives can—and often do—perpetuate such inequities; however, they also have the power to help assuage and contest them.

Taking the latter as a point of departure, the authors created a digital project that seeks to counter misconceptions about women in the history of science and amplify their important contributions and ideas through greater digital access to their archives. Originally funded by the National Endowment for the Humanities (NEH) in August 2024, and subsequently terminated in April 2025, "No Longer at the Margins: A Digital Project to Amplify Access to the Archives of Women in Science" draws on feminist approaches and text-mining technologies to surface stories about women in the domestic science movement at the University of Illinois and University of Minnesota. As an academic field established in the early twentieth century focused on education and training to manage the home and to promote healthy lifestyles, domestic science is a critical field in which to understand women's contributions to science. While women were often pushed to the margins of scientific fields and knowledge production, domestic science and the home itself could be areas where women "participated in science on their own terms."[7] Domestic science was also an important space for science education, particularly at land-grant institutions.[8] By digitizing materials on the domestic science movement, and using technologies to provide information about the women faculty, staff, and students, this project aims to highlight women scientists, science education for women, and the ways they contributed to scientific knowledge. Beyond these aims, this project is also a means to use feminist and digital affordances to unearth the networks in which women exchanged, debated, and developed scientific knowledge. This article demonstrates that documenting and revealing such networks—especially the ways they function as networks of support for marginalized individuals navigating professional precarity—is an evergreen need, as well as one that is also relevant to the authors themselves.

Women in Domestic Science Archives

The University of Illinois Archives' holdings include several records series related to

7. Elisa Miller, *In the Name of the Home: Women, Domestic Science, and American Higher Education, 1865–1930*, PhD Dissertation, University of Illinois Urbana–Champaign (2004); Anna Reser and Leila McNeill, *Forces of Nature: The Women Who Changed Science* (Frances Lincoln, 2021), 137.

8. A land-grant university is "an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 and 1890, or the Equity in Educational Land-Grant Status Act of 1994." See "Land-Grant University FAQ," Association of Public and Land-Grant Universities," accessed, https://www.aplu.org/about-us/history-of-aplu/what-is-a-land-grant-university/. Amy Sue Bix, "Chemistry of Cooking, Chemistry in War: Women in Nineteenth and Twentieth-Century Land-Grant Science and Engineering," *Bulletin of the History of Chemistry* 38, no. 2 (2013): 132–139.

the academic program in domestic science.[9] While there is a rich history of several prominent figures in the field of household science in the University of Illinois Archives, gaps in content persist in what has been preserved, as well as who is represented. Data and information about experiments that led to publications and manuscripts are often missing from the archives. The publications guide women in the best practices for cooking, cleaning, child rearing, etc., but were not written for other academic audiences to replicate the experiments and science. Context about how the ideas that inform these publications were developed can be difficult to locate. There is also context missing from some of the course materials and assignments. These gaps in information often make it challenging to know what was being taught with these items. Another limitation is whose materials are preserved or not. Most of the materials related to the household science/home economics department are from prominent figures in the field, both nationally and at the university level. There is a good deal of administrative and lesson plan information, but less information exists about the students and workshop participants and their experiences. White women are also predominantly represented as creators in these materials.

Eleven cubic feet of materials were selected for this pilot project. Records chosen for digitization encompass the Household Science Department Letterbooks,[10] Home Economics Education Source Materials,[11] Home Economics Alumni Association,[12] and correspondence related to the department.[13] Digitized materials also include papers from faculty members of the department, including one of the leading figures in domestic science, Isabel Bevier.[14] Other faculty members' papers that are a part of this project include Lita Bane,[15] Nellie Perkins,[16] Marjorie Virginia Guthrie,[17] and Janice Smith.[18]

9. The University of Illinois Archives uses "record series" as an intellectual and physical grouping for materials related by "creation, receipt, and use." See https://www.archives.gov/records-mgmt/scheduling/basics.
10. The official title of the record series uses "letterbook" not "letter book," a convention used by the University of Illinois Archives. See Record Series 8/11/2, https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=4594.
11. See Record Series 8/11/10 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=2966.
12. See Record Series 8/11/809 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=4519.
13. See Record Series 8/11/4 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=4596.
14. See Record Series 8/11/20 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=3955.
15. See Record Series 8/11/24 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=3962.
16. See Record Series 8/11/26 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=3959.
17. See Record Series 8/11/25 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=3958.
18. See Record Series 8/11/22 https://archon.library.illinois.edu/archives/index.php?p=collections/controlcard&id=3957.

The dates of these materials range from 1879 to the 1990s, with most of the materials created in the early 1900s. The School of Domestic Science and Art at the University of Illinois was established in 1872 but disbanded in 1881. After alumnae advocated for a new program, it returned as the Department of Household Science under the leadership of Isabel Bevier in 1900. In 1974, the department became the School of Human Resources and Family Studies.[19] Thus most of the materials are from the first half of the twentieth century and document these transitions and the evolution of the program.

These records represent an array of material types: correspondence, scrapbooks, class projects, published papers and books, newspaper articles, job offers, histories about people and the department, reports, photographs, slides, diagrams, and floor plans. Due to their origin in the domestic science program, the physical material used to create these materials is equally diverse. The letterbooks are bound letters on onionskin paper. There are fabric samples that were used to demonstrate different materials, or designs or stitches. Some class assignments had movable paper pieces to demonstrate furniture. By including various materials and formats, this project seeks to identify a diverse array of scientific activities, pedagogical practices, and curricula. At the same time, material, such as those pertaining to alumnae, were chosen to illuminate lesser-known individuals and their contributions.

Designing Feminist Digitization Practices

To create a project that both acknowledges these limitations while also recovering the perspectives of the women who are represented in archival material, the project team turned to interstitial feminist project design. Taking inspiration from scholars like Wadewitz, and Losh and Wernimont, "No Longer at the Margins" challenges hierarchical relationships and exploitative partnerships by prioritizing a lateral leadership model.[20] Bringing together multiple digitization sites and stakeholder groups also required flexibility about digital storage and curation; rather than create one site to serve as a hegemonic representation of the collection, the project brought together multiple sites of preservation and access, including institutional digital collections, non-profit linked data, and code-sharing platforms. The project also took women's bodies into account, in project deliverables, as the team needed flexibility in the digitization timeline to account for two co-principal investigators' maternity leaves—leaves

19. Helen Elliot Davies and Wanda Sward Kreig, "School of Human Resources and Family Studies Home Economics Alumni Association History," 1991, Home Economics Alumni Association History, 1991, Record Series 8/11/809, University of Illinois Archives.

20. See, for example, Adrienne Wadewitz, "Wikipedia's Gender Gap and the Complicated Reality of Systemic Gender Bias," *HASTAC* (2013), https://www.hastac .org/blogs/wadewitz/2013/07; and Elizabeth Losh and Jaqueline D. Wernimont, *Bodies of Information: Intersectional Feminism and the Digital Humanities* (University of Minnesota Press, 2019).

that had not been planned for in the original timeline.[21] This flexibility also made it possible for the principal investigators to pursue professional development, including a PhD in history and an MS in Library and Information Science.

Planning was several years in the making. In 2022, the authors applied for and received an internal grant from the University of Illinois' Campus Research Board. "Democratizing Science for Women: A Digital Domestic Science Project[22]" entailed a literature review and survey, and conducted interviews with researchers, archivists, faculty members, and historians of women in science to learn more about their use of archival materials and how digital scholarship tools would be useful for their research. This research laid the foundation for a grant proposal to the NEH's Humanities Collections and Reference Resources (HCRR) program, submitted in July 2023. The research findings from the Campus Board-funded project revealed that scholars employ a variety of strategies to find archival materials for women scientists. These include learning how to search and interpret results in different databases and content management systems; talking to colleagues and archivists to find out more about materials, and whether any exist for an individual; and reading citations of published papers to learn what archival sources others have found.[23]

Funding for travel to repositories and the cost of digital surrogates are major barriers for access, which was made more evident during the COVID-19 pandemic. Having access to a centralized resource with freely available digitized materials would be incredibly useful for these reasons alone. While many researchers interviewed did not have experience using digital humanities/digital scholarship tools and methods, or used archivally generated data for computational uses, many expressed an interest in learning more about what these tools and methods could offer. Researchers expressed that any tools that could enable them to track down more names of women scientists in materials, learn more about who was corresponding with whom, or who was mentioning another woman scientist, would be extremely valuable. These insights inform the methods employed in the current grant project.

As part of the Campus Board project, the authors also conducted a survey of repositories holding domestic science materials. This survey provided the foundation for contacting institutions in the United States that held papers from important figures and programs in domestic science, including HBCUs, and public and private

21. Because the NEH's review timeline is longer than nine months, digitization projects like these cannot fully account for maternity leaves in proposed project timelines like ours. The feminist framework for this project created room for ongoing conversation about malleable timelines to meet personal and professional goals.

22. Bethany G. Anderson and Kristen Allen Wilson, *Democratizing Science for Women: A Digital Domestic Science Project*, University of Illinois Campus Research Board grant, 2022–2023, $20,948.

23. Interviews for this project were covered by IRB nos. 24080 and 23715.

universities, to amplify the stories of women scientists who are not as well-known. Some repositories expressed interest but were unable to commit staff during the grant period; others did not respond. Ultimately the project team relied on its own networks, connecting with a previous collaborator at the University of Minnesota (UMN). UMN holds some materials that resonated with the materials identified for digitization. At the same time, the partnership with UMN has enabled us to explore the ways land-grant institutions were foundational in the complex history of domestic science.

This partnership parallels the aims of this project: finding networks and collaborations between women scientists to better understand how the field of domestic science developed. Today, email communications arrive more quickly than mailed letters, but there are similarities in waiting for responses and ultimate reliance on personal connections to help the project achieve its goals. Finding participants for the advisory board was easier as it was a smaller time commitment. Modern technology allows for more voices and facilitates international connections to help shape this project, whereas domestic scientists in the past often had to wait—for annual conferences or between letters—for the kinds of conversations the team can now hold every few months over Zoom with the advisory board.

As mentioned, the collaboration with UMN made it possible to look more closely at land-grant institutions and how their domestic science programs developed. Amy Sue Bix notes that,

> many in American society considered it inappropriate or odd for women to pursue science seriously. But at land-grant colleges, female faculty developed pioneering 'domestic science' programs, where ideals of intelligent femininity justified teaching women chemistry, as well as physics, nutrition and household-technology.[24]

Land-grant institutions seek to educate the whole state, not just their students. Domestic science programs were especially important as they reached out to women and helped educate them on scientific principles that could help in what society viewed as a woman's role to take care of the home and family. There are many examples of domestic science programs reaching out to communities and bringing women to the university for a few days for workshops. This outreach is documented in materials related to the Home Economics Demonstration Rail Cars, which were train cars that traveled to rural communities to teach more about home management, food and nutrition, preparation

24. Bix, "Chemistry of Cooking."

and other topics.[25] This project, along with many other University of Illinois Extension Programs, fostered the sharing of scientific knowledge across the state.[26]

Partnerships are critical to this grant project, and to the amplification of women scientists' archives. In addition to collaborating with UMN Archives to digitize materials related to domestic science, this project aims to create multiple access points to amplify materials and stories of women scientists across multiple platforms. One of the deliverables of this project will be the creation of a website that provides access to digitized materials and machine-generated data from them. The project team envisions this website as but one in which these materials will be discoverable in the long-term. A part of this grant project will also include developing resources that can eventually be shared between several allied projects that promote history of science and women in science, namely, the Science Stories Research Collaborative[27] and the Consortium for History of Science, Technology, and Medicine (CHSTM).[28] The CHSTM supports scholarship and engagement with archival materials through a wide variety of programs and resources, and—though it is not focused on the history of women specifically—it does include a working group on women, gender, and sexuality.

As two of the project goals are to develop resources that can be shared and used by other institutions, and to amplify women scientists and their papers, the project team sought to centralize these resources and to develop a project website that integrates and cross-links to content. Science Stories was contracted as a vendor. Working with Science Stories centralizes data, resources, and stories about women scientists in one place where other projects can use and incorporate content generated as needed. Much of the data will be included in Wikimedia Commons, Wikibase, and Wikidata, where it can be used and incorporated into other linked data platforms and wiki projects, thus amplifying discovery.

The project team also developed an interdisciplinary advisory board comprising archivists, librarians, and historians of science. The advisory board advises and provides feedback on project plans and preliminary deliverables. Through convening advisory board meetings, discussions focused on creating access; how they have—or might—use "archives-as-data;" and how the data and stories might be leveraged. Each board

25. Home Economics Demonstration Railcar, 1917, Photographic Subject File, Record Series 39/2/20, Box 38, AGR 11-3. University of Illinois Archives https://archon.library.illinois.edu/archives/index.php?p=digitallibrary/digitalcontent&id=7881.

26. To learn more about these programs see the Household Science Extension Reports in Isabel Bevier's Papers, Record Series 8/11/20, Box 1, University of Illinois Archives.

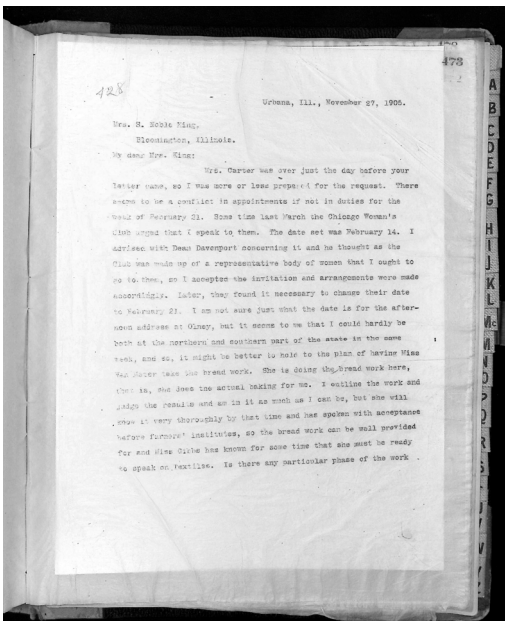
27. Science Stories is a linked data application that generates its own content from Wikidata and other machine-readable open data sources to tell the stories of women in science. "Welcome | Science Stories," http://www.sciencestories.io. Preliminary Wikidata space for the project is available here: https://www.wikidata.org/wiki/Wikidata:WikiProject_No_Longer_at_the_Margins.

28. See https://www.chstm.org/.

meeting entails reviewing project goals and emphasizes the importance of providing multiple ways of participation and the centering of a feminist ethos of care to our collaboration.[29] Members of the board have also expressed interest in adding to the Wikidata and in more actively participating in the project. Engaging our board and finding ways they can meaningfully participate underscores the importance of collaboration to the project goals.

Networks with the Machine Learning and Linked Open Data

To trace social networks in the archival materials at scale, the project aims to enhance digital records through machine learning and AI-augmented techniques. The limited scope of our project enables the team to assess the accuracy of these techniques through human-centered review. Potential benefits and challenges of this approach are exemplified by a typed letter to Mrs. S. Noble King, co-founder of the McLean County chapter of the Illinois Association of Domestic Science, from Isabel Bevier, then head of the Household Science Department at the University of Illinois.[30] A copy of this correspondence, on onionskin, has been preserved in the departmental letter books (see figure 1).



Urbana, Ill., November 27, 1905.

Mrs. S. Noble King,
Bloomington, Illinois.

My dear Mrs. King:

Mrs. Carter was over just the day before your letter came, so I was more or less prepared for the request. There seems to be a conflict in appointments if not in duties for the week of February 21. Some time last March the Chicago Woman's Club urged that I speak to them. The date set was February 14. I advised with Dean Davenport concerning it and he thought as the Club was made up of a representative body of women that I ought to go to them, so I accepted the invitation and arrangements were made accordingly. Later, they found it necessary to change their date to February 21. I am not sure just what the date is for the afternoon address at Olney, but it seems to me that I could hardly be both at the northern and southern part of the state in the same week, and so, it might be better to hold to the plan of having Miss Van Meter take the bread work. She is doing the bread work here, that is, she does the actual baking for me. I outline the work and judge the results and am in it as much as I can be, but she will cope it very thoroughly by that time and has spoken with acceptance before farmers' institutes, so the bread work can be well provided for and Miss Cable has known for some time that she must be ready to speak on textiles. Is there any particular phase of the work

Figure 1. Letterbook 1, Household Science Department Letterbooks, 1903–1913, Record Series 8/11/2, Box 1, University of Illinois Archives.

Optical Character Recognition (OCR) is a well-established method that uses machine learning to identify the shapes of characters in an image of a document and render them as machine-readable text. Because the letterforms in typed material are more consistent, it is easier to apply this technique to print materials. However, due to the onionskin's thinness and the fading type, there is not enough optical information for OCR to

29. See Rachel K. Staffa et al., . "A Feminist Ethos for Caring Knowledge Production in Transdisciplinary Sustainability Science," *Sustainability Science* 17 (2022): 45–63, https://doi.org/10.1007/s11625-021-01064-0.

30. John Capasso, "Samuel Noble King (1834–1913) and Mary Reed King (1842–1928)," McLean County Museum of History, 2023, retrieved from https://mchistory.org/research/biographies/king-samuel-noble.

correctly guess what characters are represented on that part of the page. Large Language Models (LLMs) might offer a way to fill in these gaps. LLMs are mathematical representations of patterns in human-authored text across millions of documents. When used as part of the OCR process, LLMs apply what they know about patterns more generally to make more accurate guesses about what the text might say. In addition, some models are multimodal in that they have been trained on textual and visual material, making them much better at recognizing hand-written material than previous tools. However, LLMs have been trained largely on material from the internet, namely the Common Crawl.[31] Our project would test to what extent this thoroughly contemporary training set would affect different LLMs' abilities to correctly identify the words on the page.

After processing the texts through OCR, the project uses named-entity recognition (NER), a well-established form of linguistic analysis, to create lists of people, places, and institutions mentioned in the materials.[32] The letter above includes references to multiple local and statewide stakeholders, including Dean of Agriculture Eugene Davenport, Domestic Science Instructor Miss Van Meter, and President L. C. Lord of the Eastern Illinois State Normal School in Charleston. This method could also be used to identify organizations (e.g., "Chicago Women's Club"), but it might miss more oblique references to named entities because they are not, grammatically, proper nouns, as is the case with "the department" serving as shorthand for the University of Illinois' Household Science Department.

If the quality of the OCR was high enough, NER could extract these names; however, this method does not provide any information about their relationship to Bevier and Noble King, other than that Bevier name-dropped them in her correspondence. Still, the density of names could help identify the correspondence that has the highest levels of social networking, ultimately pointing to the political stakes of these letters. In this case, Bevier addresses a socially awkward situation: she received two invitations to speak but was unable to attend both events. Her solution was to suggest alternate speakers to deliver presentations on "bread work" or "How to Judge Cloth" at Mrs. Noble King's event in Olney, Illinois, while Bevier would present at the Chicago Women's Club. Bevier portrays her response as a strategic one for the domestic science program: "It has seemed to me best for professional reasons to go to the state

31. Stefan Baack, "A Critical Analysis of the Largest Source for Generative AI Training Data: Common Crawl," in *Proceedings of the 2024 ACM Conference on Fairness, Accountability, and Transparency. Association for Computing Machinery. 2199–2208*, https://doi.org/10.1145/3630106.3659033.

32. NER tools first identify parts of speech, then use that information to extract proper nouns. For an expanded discussion of text mining tools, see Jessica Hagman and Mary Ton, "You are Here: Ou are Here: Mapping TDM Consults Across Disciplines and Infrastructures," in W. Kramer, E. Muzzall and I. Burgos, eds., *Text and Data Mining Literacy for Librarians* (ACRL, 2025), 23–39, https://www.ideals.illinois.edu/items/136076.

meeting . . . I am anxious to have the department represented always, but I hardly see the way to be there myself this year."[33]

Linked Open Data addresses the gap between identifying references to people and interpreting their meaning by connecting names to biographical data through crowdsourced knowledge. Partnering with Science Stories would allow the project to tap into Wikidata to gather more information about the people, places, and organizations represented in our records and to enhance these materials through community-oriented edit-a-thons. Sharing this data openly not only increases the amount of publicly available information about women in science, but it also empowers other projects to reuse the data to better understand the role of women in their own collections. As an extension of open-access information, the text-mining version of the materials, plus all our Python code, will be made available as a code recipe book, which the team hopes will be used in undergraduate and graduate classrooms to teach digital humanities analytical techniques.

Addressing the Federal Situation

Between September 2024 and April 2025, the project established networks for collaboration across institutions, non-profit organizations, and international partners through advisory board meetings and stakeholder conversations. The University of Illinois completed approximately ninety percent of the planned digitization work, which resulted in the training of a graduate student assistant, creating metadata templates, and preparing files for ingest into our digital repository. UMN digitized the Inez Hobart Papers, which would help us pilot collaborative workflows for sharing digitized materials. The project team also laid the foundations for text-mining education and contributions to AI innovation by making progress on linked open data templates with Science Stories, and by hiring a graduate student to support text mining. A member of the project's advisory board, Serenity Sutherland, worked to develop a human-authored list of key words and tags that would serve as a gold standard for future tests of AI-generated summaries. The team continued to carry out the work as planned, despite increasingly distressing news about dismantling the National Science Foundation and the Institute for Museum and Library Services by the United States DOGE Service,[34] acting on behalf of President Donald Trump without formalized congressional support, in January 2025.

33. Letterbook 1, Household Science Department Letterbooks, 1903–1913, Record Series 8/11/2, Box 1, University of Illinois Archives, pp 473–474.

34. EDITOR'S NOTE: Established as the United States Digital Service, the technology unit was so renamed by Executive Order 14158. Its parent department is the Executive Office of the President of the United States, Office of Management and Budget. It is frequently referred to as "doge." See "Establishing and Implementing the President's 'Department of Government Efficiency.'" *Federal Register*. 90 (14). Office of the Federal Register, National Archives and Records Administration: 8441–8442. 29 January 2025.

Like so many projects funded by the NEH, the grant-funded work was cut short as of April 2025. In a message to the University of Illinois's Sponsored Program Administration (SPA) from an @nehemail.onmicrosoft.com account, sent on April Fools' Day, the email notified the team that the grant was terminated, effective the following day, April 2, 2025. The letter stated that the project was no longer funded because "the NEH is repurposing its funding allocations in a new direction in furtherance of the President's agenda."[35] Working with the University of Illinois's SPA, the project team confirmed, through eGMS Reach, that the grant was, in fact, terminated, and that the team could appeal this decision, following protocols described in the letter.[36]

Though left vague in the initial letter, a NEH press release indicated that the agency was taking steps to not fund projects that "promote extreme ideologies based upon race or gender."[37] According to multiple news sources, this review process included screening grant narratives using keywords like "feminism," "women," and "marginalized," all of which were terms used in our project title—and the grant proposal narrative—to emphasize how women had been underrepresented in the history of science.[38] The project ethos is not to advance a particular gender ideology, but to use feminism as a framework for more equitable collaborative practice. The irony is that domestic science materials provide the kinds of interesting challenges that data scientists and computer engineers need to drive American innovation in AI, a stated key strategic priority for the Trump administration.[39] With NEH funding, the project would have created a reusable dataset to train the next generation of data analysts and computer scientists. The project would have also developed language-processing techniques that can be applied more broadly to other digital collections, making materials more easily discoverable and creating better large language models. As an outgrowth of these efforts, the project had planned to host interactive events for middle school and high school students to generate more interest in STEM.

35. Michael McDonald, letter to NEH Grantee, April 1, 2025.

36. All correspondence with project teams is supposed to be routed through this system so that copies of project documentation can be preserved as part of the public record. EDITOR'S NOTE: eGMS Reach is the official electronic grant management system used by several federal funding agencies.

37. National Endowment for the Humanities, *An Update on NEH Funding Priorities and the Agency's Recent Implementation of Trump Administration Executive Orders*, April 24, 2025, https://www.neh.gov/news/update-neh-funding-priorities-and-agencys-recent-implementation-trump-administration-executive.

38. Karen Yourish et al., "These Words Are Disappearing in the New Trump Administration," *The New York Times*, March 7,2025, https://www.nytimes.com/interactive/2025/03/07/us/trump-federal-agencies-websites-words-dei.html; Bruce Y. Lee. "These 197 Terms May Trigger Reviews of Your NIH, NSF Grant Proposals," *Forbes*, March 15, 2025, https://www.forbes.com/sites/brucelee/2025/03/15/these-197-terms-may-trigger-reviews-of-your-nih-nsf-grant-proposals/; A.J. Connelly, "Federal Government's Growing Banned Words List is Chilling Act of Censorship," *PEN America*, May 28, 2025, https://pen.org/banned-words-list/.

39. Executive Order No. 14179, "Removing Barriers to American Leadership in Artificial Intelligence," *Federal Register,* 90 (January 30, 2025), https://www.federalregister.gov/documents/2025/01/31/2025-02172/removing-barriers-to-american-leadership-in-artificial-intelligence.

Like the resilient women in the early days of domestic science, the project team relied on local, regional, and international networks to activate support for scientific progress. The University of Illinois Library marketing team released statements about the impact of grant terminations on the library, and the student newspaper published a piece about our project as well.[40] Expressions of support poured in from the project's advisory board, which included US-based and international scholars.

With this support, the project team fought back through official channels. The University of Illinois filed an appeal within thirty calendar days of the termination, in accordance with NEH's General Terms and Conditions for Awards to Organizations.[41] The letter argued that the project contributed to American leadership in AI through its innovative approach to natural language processing as part of the digitization process, thereby aligning with President Trump's agenda. University of Illinois's campus legal team added "the termination is contrary to law" and that it "appears that the decision to terminate may have been based on a misunderstanding of the Award's objectives, which support congressionally authorized research."[42] This appeal was met with resounding silence; the university never received confirmation that the request for review was received. The NEH sent generic instructions to all cancelled grants through eGMS about close-out documentation, and, under the direction of SPA, the project team filed the final report and financial materials by the June 18, 2025, deadline.

Of more immediate concern was the impact this would have on the project's collaborators. This included two graduate students, one who was already working and expected to have a job through the summer, and another who was starting in May 2025. On such short notice, the project team was concerned that students would be stripped of income and professional development opportunities related to their own research interests. Equally troubling was the sudden withdrawal of support for Science Stories, a non-profit organization. Their opportunities for other sources of income had been limited by their commitment to this project. Finally, finding sup-

40. Heather Murphy, "Impact of NEH and IMLS Cancellations on the University of Illinois Library," *University Library News*, April 11, 2025, https://www.library.illinois.edu/news/impact-of-neh-and-imls-cancellations-on-the-university-of-illinois-library/; Avery Paterson and Riley Shankman, "NEH, IMLS funding cuts drain UI Library," *The Daily Illini*, May 10, 2025, https://dailyillini.com/news-stories/world-news/national-news/us-government/2025/05/10/library-funding-cuts/.

41. "General Terms and Conditions for Awards to Organizations (for grants and cooperative agreements issued between January 1, 2022, and September 30, 2024)," National Endowment for the Humanities, archived via the Wayback Machine on April 8, 2025, https://web.archive.org/web/20250408123138/https://www.neh.gov/general-terms-and-conditions-awards-organizations-grants-and-cooperative-agreements-issued-january-2022. The letter was sent to the email provided by the termination letter, and a copy submitted through eGMS.

42. Paul Ellinger, Comptroller, University of Illinois, email to Michael McDonald, Acting Chairman, National Endowment for the Humanities, re: Appeal of Termination of Grant No. PW29685624, No Longer at the Margins: A Digital Project to Amplify Access to the Archives of Women in Science, May 1, 2025.

port for UMN was challenging, as internal funding streams might be limited to those affiliated with the University of Illinois.

The project team estimated the cost of funds needed to complete the work at $32,245 (USD). While the project team entertained the possibility of reaching out to the University of Illinois's Advancement Office to gauge the possibility of crowdfunding the remainder of the project, funding came through other University of Illinois channels. One project leader used personal research funds to support the digitization graduate student. The Department of History stepped in to jointly fund the other graduate student position in partnership with Funk Agricultural, Consumer, and Environmental Sciences (ACES) Library. This partnership productively expanded the scope of the text-mining work to include related agricultural materials digitized through previous initiatives, and present opportunities for expanding the history department's range of digital humanities training materials. The lion's share of the funding came from the University Library and the College of Liberal Arts and Sciences, which were eager to support pre-tenure faculty. These onetime donations helped the team fulfill funding commitments to grant partners.

Still, long-term implications of the limited availability of federal funding remain. Because the IMLS, NEH, and NSF are key funding agencies for work with archival material related to science, the absence of opportunities will severely limit future research. This not only has implications for library science as a field, but for individuals as well. Two of the principal investigators and one of the team's collaborators at UMN are pre-tenure faculty. NEH grants carry a level of prestige that shapes external reviews of dossiers. Without grant support, it is difficult for project collaborators to produce resulting publications, a key part of our tenure packets.

Beyond potential impact on job stability, the grant termination also required additional emotional labor for all the project's participants.[43] As a field, librarianship has begun to grapple with the emotional dimensions of archival work, from encountering moments of racial violence in materials to navigating organizational policies.[44] In this case, the termination reactivated historic acts of marginalization and silencing. The women represented in the archival materials at the center of this project were often not recognized as scientists because the topics that they researched and taught were seen as solely domestic, and therefore not relevant to the scientific community. Terminating this project represented a triple threat to information science: it downplayed how these women contributed to scientific knowledge historically; it limited

43. Leah Blackwood, "Emotional Labour and Archival Work," *Emerging Library & Information Perspectives* 6, no. 1 (2024): 49–51, https://doi.org/10.5206/elip.v6i1.16752.
44. Cheryl Regehr et al., "Emotional Responses in Archival Work," *Archival Science* 23, no. 3 (2023): 554, https://doi.org/10.1007/s10502-023-09419-5.

opportunities to advance information science and computer science as scientific fields; and it implied that any insights about AI would not be broadly useful due to the nature of the material.

The termination letter posed further emotional harm by stating that the project's research threatened national stability, and so the federal government would undermine the stability of the livelihoods of all our project partners. Accusing the project of undermining the public good fundamentally misunderstands the goals of this project team to increase access to archival materials, lower barriers to computer science, and share broadly applicable research outcomes. The termination letter was designed to inflict emotional harm, enacting a chilling effect on free speech, scientific inquiry, and intellectual freedom. As Regehr et al. have shown, colleagues and supervisors play key roles in alleviating the burden of emotional labor in archival work.[45] The speed at which library administration, the campus legal team, and colleagues across the university provided financial and emotional support mitigated the emotional harm caused by the termination and enabled the project to move forward.

When this article was submitted for copyediting (August 29, 2025), the project team had not received any official acknowledgement that our termination appeal was received by the NEH, nor a final decision regarding our request for review. The team awaits the outcome of a lawsuit filed by Illinois Attorney General Raoul as part of a twenty-one-state coalition to challenge the legality of grant cancellations.[46] A ruling by the Ninth Circuit Court of Appeals suggests that grants might be reinstated.[47]

Conclusion

This research and unexpected loss of funding challenged and shaped the project team's understanding of the archival materials, specifically the ways that networks of researchers shaped the advancement of science. While the project team does not adopt a presentist approach to history, the co-PIs were empowered by the fact that the women of the domestic science program navigated similar moments of programmatic disruption by relying on advocates in their social network. Digitized correspondence speaks to the ways that the domestic science community supported one another historically by answering questions and offering career advice. The grant termination ultimately brought this practice forward into archival practice. The project shifted from a metaphorical buy-in from our colleagues to a literal buy-in, and the documentation of these modern correspondence networks will be represented in

45. Regehr et al., "Emotional Responses."
46. "Attorney General Raoul Files Lawsuit Challenging Illegal Attempts to Terminate Critical Federal Funding," Office of the Illinois Attorney General Kwame Raoul, June 24, 2025, https://illinoisattorneygeneral.gov/news/story/attorney-general-raoul-files-lawsuit-challenging-illegal-attempts-to-terminate-critical-federal-funding
47. *Thakur v. Trump*, 3:25-CV-4737 (9th Circ. 2025).

the final project outcomes in the team's institutional digital repository.

As the project navigates the ways that the archives represent women who were privileged enough to be documented, the project team also acknowledges how our own institutional privilege impacted grant outcomes. Because the project is based at a well-resourced, R1 institution in a "blue" state, the project team has had more resources and momentum to push back against the chilling effect that grant terminations represent. Illinois Governor J. B. Pritzker has frequently condemned the Trump administration's efforts to limit intellectual freedom while also continuing to invest in higher education. The team's institution chose to support the project, and in doing so, supported our international network of collaborators.

The project team plans to use the momentum generated through conversations with collaborators to create shared resources and inspire ongoing digitization projects. With the internal funding, the project work will continue. Priorities for the next year include making the digitized collections available through the institutions' digital libraries, creating a text mining version of the digitized collection, and developing a code cookbook with open-source code and processing techniques that require minimal equipment. Plans include Wikidata edit-a-thons with Science Stories to review machine-generated data and to remediate people, places, and institutions into linked open data. Through these efforts, "No Longer at the Margins" will continue to connect archival materials to broader constellations of data about women in science and the networks that supported and sustained them, empowering new generations of researchers, data scientists, and archivists working at the cutting edge of their fields.

Chad Kamen

Neutrality Unbound: the Value of Rare Book Collections in STEMM Classrooms

Though the book has a storied past as a container for scientific knowledge, a range of challenges exist for asserting its value to coursework in the fields of science, technology, engineering, mathematics, and medicine (STEMM). Much of the information that historical STEMM texts convey is widely available, dated, or peripheral to the curriculum of disciplinary instructors. These challenges are exacerbated by the ways in which prejudiced collecting has created special collections holdings that overrepresent and lionize the contributions of white, wealthy, Western men. To ascertain and assert the relevance of rare STEMM collections to contemporary scholarship, librarians must confront how these materials exist as enduring witnesses to bias in the development of the academic scientific community. In turn, this paper explores pathways for animating STEMM rare books through reimagined instructional practices. Rooted in a collection of rare mathematics and astronomical texts, its case study offers three frames for introducing the book into the classroom: questioning canonization, challenging materiality, and tracing loss. Through sharing results from use of these themes, the paper argues that rare book librarians can champion the value of their collections by committing to instruction on ethical scholarly communication as a core professional responsibility.

Introduction[1]

Of what value is print to science, technology, engineering, mathematics, and medicine (STEMM)? Though the monograph and physical periodical once towered as formats of choice for scientific communication, STEMM[2] research and publishing are now almost exclusively digitally mediated phenomena. This transition in communication history poses a challenge to the temporal breadth of rare book collections, many of which already struggle to assert their relevance to contemporary audiences beyond a sense of novelty. To mark this as a problem of the twenty-first

1. This paper builds on content included in a presentation by the author, "Repair for Whom? Confronting Loss in Two Collecting Histories," delivered as part of the RBMS 2024 conference, https://hdl.handle.net/11213/22771.
2. See Editor's Note, this issue.

century would obscure a longer legacy of concern in rare book librarianship, specifically regarding the overrepresentation and lionizing of white, wealthy, Western men. Any approach aimed at confronting and addressing these collection biases—whether through further development of the holdings or instruction—will require funding and people power, which institutions need incentive to prioritize. In this way, a core responsibility of rare book librarians is finding ways to ascertain and assert the relevance of their collections to contemporary scholarship.

For special collections housed in academic institutions, instruction persists as one of the most widespread practices for connecting researchers with the value of rare books. While increasing digital access to rare texts poses a broader challenge to the meaning of class visits, it is particularly pronounced with respect to STEMM collections. Beyond mismatches between the likely dated information of STEMM rare books and today's coursework, study of the book as an object or vessel for historical analysis often falls outside of the skills students are expected to use in the classroom and their careers. The lack of available perspectives on how rare books can support STEMM scholarship increases the barriers in conducting outreach with faculty. A possible pathway for finding value in STEMM collections emerges through presenting the rare book as an enduring witness to the development of the academic scientific community. Librarians have the unique position to offer historic print materials as evidence of the biases shaping the social history of STEMM disciplines—namely publishing, formatting, and financing research. Supporting students in thinking critically about the ethics of research and scholarly communication offers librarians the opportunity not only to connect their holdings with pre-professional training but also deepen their own reparative approaches to collections.

This paper argues that rare book collections are valuable tools for supporting STEMM curriculum. To do so, this piece analyzes efforts at the University of Louisville to make meaning of a collection of rare mathematics and astronomical texts. In reviewing the history of the collection, as well as subsequent attempts to bring such into the classroom, three instructional frames are proposed: questioning canonization, challenging materiality, and tracing loss. Together, these themes reveal how focusing on source analysis and the limits of neutrality connect librarians with the broader goal of preparing students to be leaders of justice-driven research and practice. Considerations for further scholarship trace the related need for rare book librarianship as a profession to commit to accountability and repair as core tenets of its culture and practices.

Position Statement

The author's experiences as a white, masculine-presenting, early-career faculty librarian based in the borderlands between the South and Midwest of the United States inform this paper. Instructors may receive differential responses from students and

faculty partners alike based on how they look or are perceived. These dynamics may have informed the author-led discussions of bias and justice that are explored within the case study.

Literature Review

A central challenge for approaching bias in rare book collections arises from the divergence of perspectives on why they are valuable. Given the uniqueness of individual repositories, let alone curators and collections, it can be hard to surmise general principles across the field. Nevertheless, it is instructive to trace how scholars such as Oram and Cordes propose a split in practice between the twentieth and twenty-first centuries: from a model of "elitism"[3] to one of "proactive" connection building.[4] In the earlier era of collecting, the idea that certain materials had inherent worth deeply promoted and sustained a culture of self-importance in rare book librarianship. When value is seen as intrinsic to an object, it is easy to equate preservation with access and notability with utility. The epistemic harms resulting from the biased perspective are numerous, as this thinking shaped the rare collections of many libraries into enduring monuments to white, wealthy, Western men. When unchallenged, manifestations of this supremacist thinking narrow the utility of libraries to the forms of knowledge which can be garnered from biased holdings. While scholars such as Annan[5] and Traister[6] differ in their perspectives on the outcomes of failures in inclusion criteria, both associate such with the imagery of the stacks as a place of death or decay.

The challenge of librarians, since these foundations were laid in the field, is the development of a different politic of materiality. While Oram and Cordes both focus on increasing instruction, related philosophical shifts also emerge from challenges to print from a dawning digital age. In his 1996 revision of S. H. Steinberg's *Five Hundred Years of Printing*, Trevitt imagined that a fundamental role of print in the internet age would be to find meaning in the biases and successes of publishing's "enlightened selection and rejection" of voices.[7] That Trevitt would shift to a value of materiality as a process for researchers to gain from, rather than just an end product, reflects a larger disruption caused to the book by competing information technologies. Similarly, Pearson's 2008 *Books as History*[8] looks to context for meaning by highlighting how the

3. Richard W. Oram, "Special is as Special Does," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 1, no. 1 (March 1, 2000): 44, https://doi.org/10.5860/rbm.1.1.177.

4. Ellen R. Cordes, "A Response to Traister," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 7, no. 2 (September 1, 2006): 105–12, https://doi.org/10.5860/rbm.7.2.264.

5. Gertrude L. Annan, "The Rare Book and History of Medicine Department in the New York Academy of Medicine," *Bulletin of the Medical Library Association* 39, no. 1 (January 1951): 8.

6. Daniel Traister, "What Good Is an Old Book?," *Rare Books and Manuscripts Librarianship* 7, no. 1 (1992): 37, https://doi.org/10.5860/rbml.7.1.76.

7. S. H. Steinberg, *Five Hundred Years of Printing*, New ed. / revised by John Trevitt. (British Library, 1996), 249.

8. David Pearson, *Books as History: The Importance of Books beyond Their Texts* (Oak Knoll Press, 2008), 23, http://archive.org/details/booksashistoryim0000pear.

book, in comparison to "cybertexts," physically preserve markers of their own use.[9] Pearson and Trevitt both fundamentally assert a logic that the value of rare books comes from the people that shape them, whether through creating or animating them.

Though rare book collections can be expanded to encompass a larger range of perspectives, justice-driven practices are needed to avoid further othering of oppressed groups through this process. Kramer's work studying collection diversification efforts, warns how identity as a criteria in libraries can reinforce the idea of a group as a "monolith," particularly with regard to their continued positioning as marginal.[10] Championing diversity requires of rare book librarians the clarity with which to confront print's role in the committing of epistemic violence without foreclosing the possibility of more liberated relationships with the medium. To balance the past and the future requires discerning the intent of initiatives confronting canonical thinking in rare books. As part of this, Drake's insights on creating an anti-oppressive archival field are similarly relevant to rare book librarians in his desire to see collections drawn into "complete consciousness about the contours of their oppressions."[11]

Allowing bias to be a meaningful frame for institutional rare book collections will ultimately require a new vision for their value: a conviction that the limits of collections are critical evidence of historical and ongoing forms of loss. In this, rare book librarians are accountable for creating and sustaining ethical practices that do not center the growth of collections and, in turn, institutions. Ghaddar offers an instructive approach to positioning loss as a teacher, documenting how the memory of violence by institutions contains the seeds for their dismantling. In particular, Ghaddar calls upon the "haunting" of records—that is, their perpetual connection to the violence they have enacted materially and epistemically—as an act of defiance by the "ghosts" of the people they aimed to disappear.[12] Though there is often an impossibility for print collections to carry the voices of oppressed peoples due to the medium's historical exclusivity, this too can be its own sort of challenge to the present. How rare book librarians and researchers alike will make meaning of this loss remains to be determined, though scholars like Hartman have begun imagining roles for the pursuit of ethical and care-driven connections with oppressed peoples across the shaky terrain of the stacks' silences.[13]

9. Pearson, *Books as History*, 23.
10. Ruth Kramer, "The Necessity of Embracing Collection Gaps: Moving Towards Diverse, Equitable, and Inclusive Collecting," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 25, no. 1 (June 5, 2024): 96, https://doi.org/10.5860/rbm.25.1.93.
11. Jarrett M. Drake, "Diversity's Discontents: In Search of an Archive of the Oppressed," *Archives and Manuscripts* 47, no. 2 (May 4, 2019): 278, https://doi.org/10.1080/01576895.2019.1570470.
12. J. J. Ghaddar, "The Spectre in the Archive: Truth, Reconciliation, and Indigenous Archival Memory." *Archivaria* 82 (2016): 26, muse.jhu.edu/article/687080.
13. Saidiya Hartman, "Venus in Two Acts." *Small Axe: A Caribbean Journal of Criticism* 12, no. 2 (June 1, 2008): 1–14 https://doi.org/10.1215/-12-2-1.

In the sparse literature that exists on the value of print materials to STEMM history, the book often appears as evidence of efforts to create or reflect a disciplinary canon—that is, a conception of the most important figures in a specific field. Though these canons are often composed of similar demographics to that found in peer collections in other research areas, the focus on attributing scientific achievements to individuals creates unique challenges. Brander's work analyzing the holdings of Becker Medical Library, surfaces how it may be a mischaracterization to view "the global West" as the collection's epistemic center.[14] Though the books are written largely by and for white men, Brander disturbs their authority by exploring how medical knowledge has been built much more fluidly and collaboratively across space and time than books may suggest. This challenge to the claim of men in particular over knowledge is similarly mirrored in astrophysicist Masters' surfacing the role of women in both the creation and readership of popular astronomy texts.[15] While there is a presumption that great scientific discoveries will speak for themselves, the cumulativeness of scientific knowledge poses a challenge to the book in scientific history, as the medium itself purports an idea of authorship and, in turn, ownership. Yale addresses this complexity by tracing how the book has not always been accepted within science as an authority, due to its inability to demonstrate intellectual provenance in the same way as handwriting.[16] This lack of authentication leaves the book vulnerable to being viewed as a secondary resource, rather than a unique or original means of communication. A possible response to this positioning emerges from Fleming's identified need at the 1960 Conference on Science Manuscripts for there to be record of "the transmission of ideas from scientists to laymen."[17] While book history can perform this function in a more general sense, the potential for rare materials to be accompanied by publicly-searchable donor information provides researchers with insight into collecting decisions that reveal how scientists become canonized.

When historical materials are brought into the STEMM classroom, an ongoing challenge is how to invite their lack of neutrality to shape learning outcomes. In the *Guidelines for Primary Source Literacy*, a core tool for rare book instruction, student self-development of "historical empathy" is a learning objective.[18] While this may feel incongruous with the curricular ambitions of STEMM courses, which frequently focus on domain knowledge, STEMM instructors already seek this type of classroom engagement. Kent and Lorenat's work connecting statistics and eugenics in

14. Elisabeth Brander, "Shaping the Past: How Donors Influenced Becker Library's Rare Book Collections," *Journal of the Medical Library Association: JMLA* 110, no. 4 (2022): 527, https://doi.org/10.5195/jmla.2022.1551.
15. Karen Masters, *The Astronomers' Library: The Books That Unlocked the Mysteries of the Universe* (Ivy Press, 2023) 128.
16. Elizabeth Yale, "The Book and the Archive in the History of Science," *Isis* 107, no. 1 (2016): 114.
17. Donald Fleming, "The Ends in View of the Preservation of the Private Papers of American Scientists," *Isis* 53, no. 1 (1962): 120.
18. Anne Bahde et al., "Guidelines for Primary Source Literacy," 2018, 5, http://hdl.handle.net/11213/17218.

an undergraduate math course reveals some of the complications STEMM faculty face in preparing primary-source-based lessons. While Kent and Lorenat report their students' deep engagement with historical use of statistics as a means for promoting and enacting prejudice, the instructors themselves voice trepidation:

> Many of us trained in mathematics and experienced with mathematical pedagogy do not feel as though we have the expertise to handle discussions around racism and discrimination. However, these topics do impact the teaching and practice of mathematics.[19]

The lack of support Kent and Lorenat felt, as well as their cited struggles to meaningfully include historical books in the classroom due to concerns about the time needed to understand them, suggest meaningful collaboration points for rare book librarians. While faculty in STEMM disciplines may face uncertainties and barriers in fostering conversations on injustices in their professions, librarians have a mandate to generate meaningful connections in the classroom across time. In practice, this could look like utilizing historical materials to discern more ethical research practices,[20] or even supporting instructors in finding primary sources that offer students to see themselves in the plurality of scientists that are not just white, wealthy, Western men.[21] Critically, rare book librarians, too, can enrich their own knowledge of the value of their collections and practices from their instructional counterparts. This may include understanding how to better connect resources with students learning where core STEMM concepts come from,[22] or meaningfully surface how the cultural context of scientists shapes the broad applicability of their proposed theories.[23]

The William Marshall Bullitt Collection of Rare Mathematics and Astronomy

What are the greatest works in mathematics history? This question, and its resulting biases, are at the heart of the collection of William Marshall Bullitt, a life-long mathe-

19. Deborah Kent and Jemma Lorenat, "Situating the Statistical Legacies of Galton and Fisher: Multi-Layered Discussions in the Mathematics Classroom," *The Mathematics Enthusiast* 22, no. 1-2 (June 1, 2025): 117–118, https://doi.org/10.54870/1551-3440.1654.

20. Julia R. S. Bursten and Matthew Strandmark, "Better Learning through History: Using Archival Resources to Teach Healthcare Ethics to Science Students," *European Journal for Philosophy of Science* 11, no. 3 (September 1, 2021): 10, https://doi.org/10.1007/s13194-021-00406-0.

21. Abe Edwards et al., "Inclusive Pedagogy in Mathematics via Primary Source Projects," *The Mathematics Enthusiast* 22, no. 1 (June 1, 2025): 104, https://doi.org/10.54870/1551-3440.1653.

22. Uffe Thomas Jankvist, "Students' Beliefs About the Evolution and Development of Mathematics," in *Recent Developments on Introducing a Historical Dimension in Mathematics Education*, eds. Costas Tzanakis and Victor J. Katz, vol. 00078, (Mathematical Association of America, 2011): 129, https://research.ebsco.com/linkprocessor/plink?id=a70873a7-f86a-3624-b9e5-d0fca93ded5c.

23. Costas Tzanakis et al., eds., "History in a Competence Based Mathematics Education: A Means for the Learning of Differential Equations," in *Recent Developments on Introducing a Historical Dimension in Mathematics Education*, vol. 00078, (Mathematical Association of America, 2011), 170, https://research.ebsco.com/linkprocessor/plink?id=a70873a7-f86a-3624-b9e5-d0fca93ded5c.

matics enthusiast and rare book collector. The idea for Bullitt's collection first emerged in the summer of 1936 when he hosted three scholars at his Massachusetts vacation home: astronomer Harlow Shapely and mathematicians G. H. Hardy and Oswald Veblen. Bullitt entered their orbit through his commitment to keeping tabs on emerging scholarship in mathematics. Over the course of the summer, discussions of the greatest mathematicians of all time fueled their time together. Bullitt found in this an opportunity for himself to serve as an adjudicator of his friends' differing perspectives. Excited by the challenge of building a canon, Bullitt began to solicit opinions from other scholars he respected. In October of 1936, Bullitt reached out for advice from mathematician E. T. Bell, author of *Men of Mathematics*. Bell suggested Bullitt use the parameter of "no living men" to assert a stronger sense of historical authority, a rule which compelled Bullitt to focus on crowdsourcing a list of the twenty-five greatest deceased mathematicians.[24] This effort had a specific, material imperative: construction of a collection of the first editions of mathematics' most notable works. The result grew well beyond these parameters during Bullitt's life and in its current state as an endowed collection of the University of Louisville's Archives and Special Collections (ASC). Beyond the library's ability to purchase materials, Bullitt's books were reunited with his correspondence and notes related to this mathematics history project.

Bullitt's materials speak to his initial collaborative approach and reflect the complications of his collecting vision and practices. Beyond the biases of Bullitt and his contemporaries, the meaning of the collection is also complicated by its existence as a monetary asset. In July 1937, Bullitt remarked to Bell that his trusted antiquarian dealer, A. S. W. Rosenbach, shared with him the "rise in value of scientific books," leading Bullitt to want to "get in before they get too high."[25] Bullitt's financial imperative likely shaped his focus on discerning true first editions. Beyond the complication that Bullitt needed to navigate imprecise publishing chronologies, his fixation on using uniqueness to determine books' value promotes the fraught idea of them as the material afterlives of great thinkers. Though Bullitt saw the collection's value for students, his drive to assert his position as steward of these materials embodies a politic of epistemic ownership.

Control over the canon's material traces is further complicated by Bullitt's frugality, as he identified himself to booksellers as "not one of the rich American collectors."[26] Bullitt's desire to drive down prices sits uncomfortably with the reality of his class background. He was an heir to the estate of one of Kentucky's most prominent enslaving

24. Bullitt to E. T. Bell, 27 October 1936, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY.
25. Bullitt to E. T. Bell, 7 July 1937, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY.
26. Bullitt to J. M. Stonehouse, 27 August 1937, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY.

families. The status and connections his family were afforded due to their wealth from enslaving shaped Bullitt's career and access to elite education. His prominent run as a lawyer accrued him an estimated "$200,000 per year from the mid-1930s onwards," a figure which belies any pretense of modesty.[27] Furthermore, Bullitt's attempt to quickly and economically invest in mathematical works directly connects to the fluctuating market in the leadup to World War II. The chronology of Bullitt's purchasing overlaps with a time of panicked selling of rare materials by Jewish people fundraising for their own escape from Central Europe.[28] Further work with Bullitt's provenance records is needed to determine if any formal links exist between the two phenomena, whether through the sellers Bullitt worked with or the materials themselves.

The idea for a justice-driven approach to Bullitt's materials stems from the desire to more directly name, confront, and learn through these tensions. As Bullitt's collection is ASC's most well-known and well-used, the logic of his attempt to create a canon of greatness is often obscured or entirely naturalized through the excitement of working with individual volumes. This is a testament to the enduring success of Bullitt's methods in gauging value-rich books. Students, faculty, and researchers alike continue to find wonder in the illustrations of Copernicus's 1543 *De Revolutionibus Orbium Coelestium* and errata left behind by Sir Isaac Newton on a first edition of his *Philosophiae Naturalis Principia Mathematica*. What remains a challenge is facilitating engagement with the materials that moves beyond novelty to their use as vital research tools, specifically with respect to how their development speaks to cultural biases shaping the history of STEMM research and publishing.

Instruction with the Bullitt Collection: Context

Over two academic years, the author cultivated new instructional practices for working with the Bullitt collection through the annual Bullitt Lecture. This invited speaker engagement is presented by the University of Louisville (UofL) Department of Physics and Astronomy and campus chapter of the Society of Physics Students. A meaningful tradition is a visit, organized by students and Professor of Astronomy Benne Holwerda, to see the Bullitt collection with that year's event speaker. Student groups for both 2023 and 2024 were relatively heterogeneous in terms of age, race, ethnicity, and gender. In 2023, this session was a "show-and-tell" walkthrough of collection material before providing time for individual research. During the fall of 2024, the author partnered with Science Librarian Tessa Withorn and Holwerda to reimagine the session to center a discussion of citational justice and the constraints of canonization. Tessa

27. Kathleen McWhirter, *Bluegrass and Brahmin: The Marriage of Marshall & Nora Bullitt* (Cronin Creative, 2023), 138.

28. For more information on the forced and coerced forfeiture and sale of valuable assets of Jewish families during the Holocaust, please see: Scott M. Caravello, "The Role of the Doctrine of Laches in Undermining the Holocaust Expropriated Art Recovery Act," *Virginia Law Review* 106, no. 8 (2020): 1776–1777.

Withorn and the author created a LibGuide to frame these themes into discussion questions and connect the session more closely with the work of that year's speaker, astrophysicist Karen Masters.[29] An ambition for this model is to utilize it as a part of an outreach strategy to work with other interested student groups and faculty.

Alongside the Bullitt lecture, 2023–2024 included conducting primary source research to consider new ways to tell stories about the collection. Attention was paid to Bullitt's 1936–1943 correspondence, as well as materials on the family's history, stewarded by the Filson Historical Society. The author also reached out to Shirley Harmon, Curator of Oxmoor Farm, to tour Bullitt's Louisville estate, formerly his ancestor's plantation. The experience was shaped greatly by Harmon's care in threading together stories of the Bullitt family and the people whom they enslaved. Though this trip occurred after the most recent instructional session with collection material, Harmon's work inspires and informs this paper's approach to justice.

Three Narrative Frames for Justice-Driven Instruction

Questioning Canonization

At the start of his crowdsourcing of a mathematics canon, Bullitt asked the opinion of George Sarton, editor of the science history journal *Isis*. Sarton directly refused to participate, citing that "mathematical genius is not a measurable quantity."[30] Though Sarton later used collection material, his initial aversion to the project is illustrative, especially with how little criticism of the project is documented in Bullitt's papers. Beyond the inclusion of two women whose contributions were added by ASC's Curator of Rare Books Delinda Buie, the canon that Bullitt created contains almost exclusively Western men, whether or not that was his conscious intention.

For the 2023 and 2024 Bullitt Lecture sessions, non-Western mathematical and astronomical perspectives were brought into the room from other collections to physically challenge the exclusionary depiction of history that lingers in Bullitt's list. The author explicitly approached this through guided group discussion with students on representational bias in the collection and the contemporary fields of astronomy and physics. In response, students asked for more materials documenting mathematical innovation outside of the Western canon, specifically from scientists in Southwest Asia and North Africa. A contributing factor to this sentiment was an interest voiced by students to locate and share data from public domain non-Western texts to diversify sources available to researchers. This idea arose from students considering how findings in print and manuscript materials may not have been preserved digitally and, in turn, left out

29. Tessa Withorn and Chad Kamen, "UofL Libraries: Bullitt Lecture Fall 2024: Home," updated January 15, 2025. https://library.louisville.edu/bullitt-24.

30. George Sarton to Bullitt, 9 June 1937, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY.

of widely used aggregators of contemporary and historical scholarship, such as the Astrophysics Data System (ADS). The ADS itself was also tied to the students' hopefulness for the future of the field, as they saw the database's holistic approach to recording contemporary and historic astrophysics as inclusive and accessible.

An instructional challenge that remains unaddressed is the need to complicate canonization more broadly. During the 2024 session, the author invited students to imagine how continued investment in developing the collection could expand research opportunities. However, little of the discussion touched upon the fraught nature of deciding what constitutes a preservation-worthy important achievement in mathematics, astronomy, or physics. Sarton's larger challenge to the notion of greatness provides a potential pathway for confronting Bullitt's collecting criteria and, in turn, the ways similar thinking can still pervade well-intentioned efforts to diversify histories of the field.

Challenging Materiality

One of the earliest challenges to Bullitt's exclusion of living mathematicians came through his desire to discern and acquire what scientists would consider the first published communication by Albert Einstein of his special and general relativity theories. While Bullitt decided he would consider collecting Einstein's works at the onset of his project, his ambition opposed the lack of precedent for defining what constitutes the most authoritative printings of a living scientist.[31] Knowing Veblen's collegial relationship with Einstein, Bullitt corresponded with Veblen regularly throughout 1938 to discern which book version of Einstein's theories constituted first editions. After checking with both Einstein and his assistant, Veblen reported to Bullitt that what he really sought were copies of the theories' publication in academic journals, as these were closest to the "first communication of [them] to the scientific world."[32] Veblen supported the acquisition of these periodicals over the next year and had Einstein inscribe copies to Bullitt. However, the value of print in this context is further complicated by Einstein's own lack of interest in the potential importance of his work's printed form, keeping a copy of neither article on hand.

In 2023 and 2024, students wrestled with the book's utility as evidence of scientific communication, specifically regarding its ability to offer divergent approaches to formatting. Holwerda and students alike gravitated both times toward a 1570 printing of Euclid's *Elementa* that includes pop-up illustrations. While assembling this interactive component with a bone folder provided a sense of novelty, it also enabled

31. Bullitt to Walter Goldwater, 3 June 1937, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY
32. Oswald Veblen to Bullitt, 7 October 1938, William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY.

students to interrogate how accessibility of a text is shaped by its container, specifically when it is physically malleable. A related interest in style was spurred in students through interacting with one of the works from outside Bullitt's collection: Muhammad Tahir's handwritten reproduction of Musa B. Mahmud al-Rumi Qadizada's astronomical commentary *Sharh Chagmini,* or *Sharh al-Mulakhkhas*.[33] In comparison to the materials Bullitt collected, which are all printed in Latin script on straight horizontal lines, Tahir's copy employs an angled style of marginalia that bends how the reader navigates the page. The flexibility afforded by penmanship and unique stylization of *nasta'līq* calligraphy invite students to consider the potential for the presentation of scholarship to be aesthetically varied and culturally responsive. Given the relatively universal and rigid structural standards of contemporary STEMM research publications, historic print has the capacity to rupture the idea of what STEMM communication can look like. In doing so, rare books are ripe with opportunities for inviting students to consider how they may want to shift the style and materiality of their research outside of the contemporary formatting of a Western journal article. Expanding possible modes for sharing knowledge can not only broaden the accessibility of scholarship to various audiences but also destabilize assumptions about what forms of expression are possible in STEMM fields.

Tracing Loss

Over 300 people are recorded as being enslaved by members of the Bullitt family.[34] The shadow of Bullitt's family's enslaving past intimately shaped his life, including his decision to take up residence in the plantation estate his family left during the Civil War. Bullitt, an ardent student of and advocate for his own heritage, solicited a reprint of his father's memoir from R. R. Donnelly & Sons Company, citing its relevance to scholarship on enslavement in Kentucky.[35] While it is clear that Bullitt was driven to have a holistic account of his family remembered, it is hard to read the intention of Bullitt's fascination. In the broader context of Bullitt's focus on defining the greats of history, his familial pride appears to minimize the harsh reality of what allowed them to amass their wealth and power: the brutality of a system of human ownership and exploitation. That the Bullitt family's class status influenced his access to elite institutions and the hobby of collecting rare materials is a foundational element of the collection. In this way, Bullitt's ability to physically unify his mathematical canon is inextricable from his family's legacy of valuing humans themselves as property.

33. *Sharh Chagmini, or Sharh al-Mulakhkhas. Commentary by Musa b. Mahmud al-Rumi Qadizada (d. 815/1412) on al Mulakhkhas Fi* (N.p., 1049 A.H./1683 A.D.). Qadizada's work is in response to Mahmud b. Muhammad b. 'Umar al-Chagmini al-Kwarizmi's *al-Mulakhkhas fil-Hay'a.*

34. Emma Johansen, "I Scream America: The History of Enslaved People at Oxmoor Plantation," Filson Historical Society, 2022, https://filsonhistorical.omeka.net/exhibits/show/sanders-oxmoor

35. Bullitt to R. R. Donnelly & Sons Co., 27 May 1941 William Marshall Bullitt correspondence collection [unprocessed], Archives & Special Collections, University of Louisville, Louisville, KY. The memoir in reference was originally published as Thomas W. Bullitt, *My Life at Oxmoor: Life on a Farm in Kentucky before the War* (John P. Morton and Co., 1911). A second run was printed privately in 1995.

Since 2024, every instructional session with Bullitt materials has begun with this history. This involves tracing how the university's ability to provide access to a substantial set of rare mathematical works embodies an afterlife of capital accrued through the reduction of human life to its monetary value. Working this into a lesson plan with care has been an iterative process, as its heaviness can quickly sink engagement with the materials. Addressing the wonder of the collection head-on emerged as a promising approach. Students often feel excitement and enjoyment working with these materials, specifically in experiencing a physical connection with scientists they may have studied. Explicitly recognizing the validity of this form of encounter from the start facilitates students in beginning to reflect on how they will engage with the materials themselves. As the joy of being able to experience the works side by side was a core part of Bullitt's project, addressing the meaningfulness of this unification also provides an on-ramp for materializing the impact of the Bullitt family's enslaving on research. Further work is required to channel this aspect of instruction toward justice-driven skill-building. For STEMM students, many of whom may pursue careers in academia, there exists a need for sharpened and liberatory approaches to historical and contemporary forms of violence and dispossession that shape the wealth of research institutions and their donors.

Looking Ahead (by Looking Backward)

Amid his efforts to develop his collection, Bullitt was pointed by Shapley and Veblen toward a cause needing his support. With the disbarring of Jewish scholars in Central Europe in the late 1930s, Veblen secured the refuge of his colleagues at American institutions. Bullitt's prominence, wealth, and commitment to mathematical scholarship made him a potential ally in championing a refugee's placement at UofL. Veblen noted this and planted seeds with Bullitt of the dire situation facing scholars in summer 1938. Through continued efforts by Veblen, on March 2, 1939, Bullitt corresponded with Raymond Kent, then-president of UofL, about offering monetary backing if the university were to invite a refugee Jewish scholar to join the faculty. This proposal came to fruition through Veblen's facilitation and Bullitt's financial commitment: by the end of the year, Charles Loewener escaped then-Czechoslovakia to the United States.

The story of Veblen, Bullitt, and Loewener brings forth a question for rare book librarians and their instructional partners: how can the classroom prepare students to imagine functional and actionable communities of care in academia? This case study explored a few frames for considering how rare book collections can reveal for students the biases in shaping the intellectual, communicative, and financial aspects of their fields of inquiry. However, much remains to be seen of building justice-driven engagements with STEMM students that support them in seeing their agency

through their professions to combat injustices. The fight to provide refuge to Jewish scholars in the late 1930s mirrors many challenges that continue to face students today. Refugees, undocumented migrants, and immigrants increasingly face dehumanization, surveillance, and incarceration at the hands of the United States government. While Bullitt's books and correspondence show little of the practices used by him and others to safeguard vulnerable academics, they speak to the relational infrastructure needed to secure safety for people fleeing persecution.

While each repository carrying rare STEMM books will have their own stories to thread into instruction, librarians share a responsibility to assert the relevance of their collections to the building of more equitable and just communities of knowledge production. By utilizing STEMM materials as evidence of the humanness of knowledge production, rare book librarians gain a new approach for asserting their utility to the classroom. Further scholarship is needed to develop, test, and analyze learning objectives that measurably connect rare book instruction with student growth, specifically with respect to identifying and confronting biased practices. Relatedly, much remains to be explored in terms of how rare book librarianship as a field can be reshaped to address the forms of loss threaded into its history. It will not be enough to reframe or redevelop collections once designed to venerate white, wealthy, Western men. Without confronting the material forces that enable such prejudices, there can be no true accountability.

Although the findings of this paper emerge from a specific instructional context, they suggest that rare books have potential to sharpen research toward the pursuit of justice through serving as evidence of neutrality's non-existence in a still prejudicial world. The power of the book will not come from its witness alone. The stacks must further open themselves to new meanings and values that are durable to the challenges facing print in the twenty-first century and the critical fight ahead for a more inclusive and repair-oriented society.

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Elliott Kuecker, Katie Grotewiel, and Zoe Thomas

"If This Book Should Chance to Roam": the Importance of Children's Marginalia in Rare Books Collections

This article describes why child-created marginalia can serve as an important source within rare books in special collections librarie. Given the general lack of child-created cultural heritage within repositories at large, child-created cultural heritage rare books collections that contain children's marginalia hold a distinctly valuable source for scholars interested in the ideas and lives of children. The authors bring awareness to the complexity of marginalia's status overall, describe the common varieties of child-created marginalia, and provide insight into how to make these sources less elusive to researchers.

Introduction

In an 1877 edition of *Ray's New Practical Arithmetic* housed in the Irvin Department of Rare Books and Special Collections at the University of South Carolina, young Ruth from Lexington, Nebraska, wrote a message on the inside of the cover: "If this book should chance / to roam just box its ears / and send" (see figure 1). Whether this is the whole message, or if she got interrupted before she could create a rhyme, Ruth's meaning is clear—if this book shows up somewhere, it was not due to lack of the owner's diligence, it was because that pesky little book wandered off on its own. Perhaps Ruth is showing that she is a disciplinarian with her books, or maybe she is urging any finder to throw this dog-eared book in a box and send it back to Lexington.

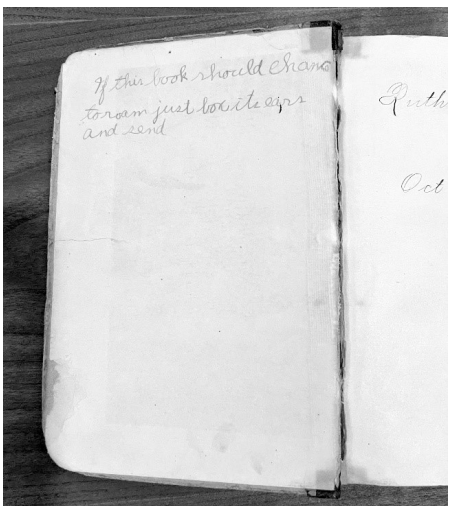


Figure 1. Marginalia within *Ray's New Practical Arithmetic*, 1877, Irvin Department of Rare Books and Special Collections, University of South Carolina Libraries.

Ruth's note is an example of important source material created by children. In conducting this study, we were interested in how rare books collections are full of drawings, ownership markings, idle thoughts, and other traces of children. The importance of children's cultural heritage is a burgeoning topic, at large. Though such marginalia are common, special collections work is more dedicated to collecting things created *for* children—evidenced by the numerous children's literature rare books collections across the US—than it is to locating things created *by* children themselves. This is reasonable, as, even if special collections scholarship and practice wanted to be more inclusive of children's perspectives, children do not write and publish their own books, making it difficult to imagine how child-created materials could have a greater presence in collections of books.

Within archival science scholarship and social science research, scholars have pointed out that, even among collections dedicated to youth culture and life, it is still difficult to find materials created *by* children.[1] While there is no such thing as a universal experience of childhood, we conform, here, to the generally accepted use of the term "child" to refer to anyone who is below eighteen years of age, as described by the United Nations Convention on the Rights of the Child.[2] Scholars note that using archival research to try to understand the history of everyday childhood relies largely on adult proxies.[3] What we do have that has been created by children is difficult to find because descriptive practices and bibliographic standards are rarely useful for age categorization of the creator or annotator.[4] This difficulty is even more pronounced when attempting to find representation of children across particular intersections, such as region or race. Ultimately, some say that if children are not represented in such collections, it creates a sense that children as a category "have never expressed themselves

1. Melissa Freeman and Elliott Kuecker, "Children's Creations and Archiving Practices: Methodological Matters Special Issue Introduction," *Qualitative Inquiry* 30, no. 10 (2024): 755–763; Mahshid Mayar, "'Playes Print the Letter': American Child(Hoods) as Archival Present/Ce," *The Journal of the History of Childhood and Youth* 16, no. 3 (September 2023): 365–367, https://doi.org/10.1353/hcy.2023.a909986; Afua Twum-Danso Imoh, "Researching Colonial Childhoods: Accessing the Voices of Children in the Gold Coast (Ghana) 1900–1957," *Archives & Records* 45, no. 3 (2024): 258, https://doi.org/10.1080/23257962.2024.2407789.

2. United Nations, "Convention on the Rights of the Child," adopted November 20, 1989, https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child.

3. Freeman and Kuecker, "Children's Creations," 3; Elliott Kuecker, "'Somethings About Me': Slanted Conventions in Children's Letters to Beloved Authors," *Journal of Childhood Studies* 47, no. 2 (2022): 50–67, https://doi.org/10.18357/jcs202220256; Kristine Lehew, "Scribbles in the Archives: Records of Childhood in Canadian Archives," Master's thesis, (University of Manitoba, 2020), http://hdl.handle.net/1993/35199; Karen Sánchez-Eppler, "In the Archives of Childhood," in *The Children's Table: Childhood Studies and the Humanities*, ed. Anna Mae Duane, (University of Georgia Press, 2013), 213; Anna Sparrman and Pål Aarsand, "Children's Cultural Heritage: The Micro-Politics of the Archive," *Nordisk Kulturpolitisk Tidsskrift* 25, no. 3 (2022): 201–17, https://doi.org/10.18261/nkt.25.3.4; Shurlee Swain, "Traces in the Archives: Evidence of Institutional Abuse in Surviving Child Welfare Records," *Children Australia* 32, no. 1 (2007): 24–31, https://doi.org/10.1017/S1035077200011433.

4. Karen Sánchez-Eppler, "Geographies of Play: Scales of Imagination in the Study of Child-Made Things," in *Reimagining Childhood Studies,* ed. Spyros Spyrou, et al., (Bloomsbury, 2018), 42.

culturally, or for that matter have never even existed."[5] Indeed, we know that childhood is often thought of with a mystique and innocence that does not match the reality of many childhoods, perhaps partially due to this reliance on imagined childhoods rather than primary sources.

These issues are precisely why children's marginalia are such valuable—though idiosyncratic—source material. Young Ruth's writing demonstrates how books encourage human/material collaboration, manipulations, mutation, and engagement, as well as how a text can be so beloved that it must be claimed with ownership labels, lest it "roam." In this article, we show that rare books collections are already full of children's creations, through the marginalia they left, which we can interpret as a style of child-created cultural heritage. To make sense of this, we first trace some of the discussions surrounding marginalia within rare books and interdisciplinary scholarship, including both the remarkable and the everyday. We move into discussing children's marginalia specifically, noting how scholars have both disparaged and celebrated it. Further, we describe the common tropes of children's marginalia using rare books research at multiple locations, forming themes and characteristics that practitioners can become aware of, which may help in locating the many varieties of child-created marginalia. Finally, we discuss some ideas cultural heritage workers can consider if they would like to help promote child-created marginalia as a valuable and findable source within special collections theory and practice.

Marginalia and Value: A Matter of Context

Special collections libraries have a complex relationship with marginalia. In circulating libraries, marking books is seen as a form of defacement,[6] and how to properly engage with books is part of library policy and informational campaigns.[7] These initiatives help readers avoid improper reader etiquette.[8] Within special collections libraries, marginalia may also be frowned upon for harming a book's condition, or it may increase the value of a book. This is linked to the general tension between a notion that "in the rare books world . . . Condition is all,"[9] and the idea that traces of human activity in a book reveal interesting aspects of ownership beyond the content of the book. Some collectors and curators have preferred pristine condition for books

5. Anna Sparrman, et al. "Archives and Children's Cultural Heritage." *Archives and Records* 45, no.2 (2024): 81–100. https://doi.org/10.1080/23257962.2023.2289140.

6. Richard Edward Mako, "Marginalia, Value and Meaning: A Study." *Community & Junior College Libraries* 23, no. 3–4 (2017): 68; Marcia D. Nichols, "Marginalia," *Early American Studies: An Interdisciplinary Journal* 16, no. 5 (2018): 704.

7. Johanna Eliasson, "Between the Lines and in the Margins: Investigating the Attitudes of Library Staff at Swedish University Libraries Toward Marginalia in Library Books," Degree of Master (University of Boras, 2023), 50.

8. Patrick Buckridge, "The Ethics of Annotation: Reading, Studying, and Defacing Books in Australia," in *Marginal Notes: Social Reading and the Literal Margins*, (2021), 11.

9. Sidney E. Berger, *Rare Books and Special Collections*, (Routledge, 2014), 324.

in their collections so much that they have surgically excised evidence of past readers, "re-mounting every page in a frame of new paper."[10] The famous collection of Sir Robert Cotton—which supplied the foundation of the British Museum—was subjected to Cotton's aesthetic preferences for purity; he instructed his book binder to trim off all the marginalia on the pages.[11] Such methods were practiced as styles of restoration. In some cases, marginalia remain, but a collection note illuminates a disdain for such practices, calling a book "soiled" or "piously used."[12]

More contemporarily, scholars and special collections librarians appreciate how marginalia provide insight into the habits and thoughts of readers, making a book valuable in a particular way. This is especially the attitude toward texts owned by people of importance, whose reading habits seem worthy of study to researchers. In the case of Herman Melville's personal Bible and other books, for example, annotations and underlines of a renowned writer reveal his habits as a renowned *reader,* making them "rare . . . because they clarify what often eludes us in manuscripts and letters."[13] Such a peek provides "an intimate dialogue between himself and the great writers."[14] Similarly, marginalia within Shakespeare folios provide insight into how different versions were revised, ultimately informing scholars of what implications these changes may have on particular plays. From a genre standpoint, "plays are by nature unstable, and the history of performance is a history of revision."[15] The changes in performance cannot be experienced due to the ephemeral nature of live theater, but notes in the margins provide a unique kind of evidence that distinguishes the variations of live performance from written text.

Anonymous marginalia, while less obviously valuable, also provide scholars with insight. Though reading is generally seen as a solitary and still activity, scholars have used marginalia to make the point that it is a communal practice that is wrapped up in the process of writing, rather than separate from it.[16] This also provides a counterpoint to the concept that marginalia are arcane or sacrilegious—rather, the universal quality of marginalia shows evidence that they are part of how a reader "imagines an audience" who will later witness their reading.[17] Becoming this witness by being the one who finds embedded marginalia can be a thrill, offering something to be "excavated and explicated" in the present.[18]

10. William H. Sherman, "'Soiled by Use' or 'Enlivened by Association'? Attitudes Toward Marginalia," in *Working with Paradata, Marginalia and Fieldnotes*, (Edward Elgar Publishing, 2017), 141.
11. Stephen Orgel, *The Reader and the Book: A Study of Spaces and Traces* (Oxford University Press, 2005), 25.
12. Sherman, "Attitudes toward Marginalia," 135.
13. Walker Cowen, "Melville's Marginalia: Hawthorne," *Studies in the American Renaissance*, (1978): 279.
14. Cowen, "Melville's Marginalia," 279.
15. Orgel, *The Reader in the Books*, 75.
16. Patrick Spedding and Paul Tankard, *Marginal Notes: Social Reading and the Literal Margins* (Springer, 2021), 5.
17. Spedding and Tankard, 13.
18. Nichols, 707.

Researchers actively seek out marginalia to learn about social reading practices and literacy needs. For example, historians used a copy of a midwifery book by Elizabeth Nihell to study how male physicians discredited female midwives' intelligence and character. The text studied was shared among doctors at the College of Physicians of Philadelphia. In this communal text, "the white spaces become the location of a drama of embattled masculinity."[19] The men "held a conversation in the margins that worked to discredit not Nihell's critiques, but her character and intelligence, casting doubt on her very ability to write."[20] Thus, the anonymous marginalia creators told us something about how women in healthcare were perceived by their male colleagues. In other cases, through communal reading materials like schoolbooks, scholars can learn about classical education and student opinion. Jensen studied how early modern readers understood the history of ancient Rome by examining the physical volumes they handled alongside their reading practices while undergoing their classical education.[21] This kind of study is made possible only by tracing the marks of past readers on the source texts to which their schoolwork referred.[22]

Some marginalia are not as informative about the reader's ideas related to the text—such as inscriptions, signs of ownership, and family bookplates—and have been subsequently more neglected by scholars. Equally, marginalia showing that the reader used books as scrap paper to form to-do lists, recipes, and crude drawings[23] also receive less positive attention. In such instances, the marginalia may not tell us anything about how a reader responded with a text's contents, but instead illustrate how a book's owner exercised possessiveness and how book-collecting families and networks mark their territory.[24] Marking the pages with mundane information about life may reveal how a book serves as a blank space, or what else is on someone's mind as they read. Bale has called these practices "belligerent literacy" because they are more "acquisitive, assertive, aggressive."[25] A reader "converts the book from one state to another."[26] Annotation like this is "a 'separate' text"[27] from the book entirely. It is similar to graffiti, in that something already created becomes invaded by a new creation.[28]

19. Nichols, 704.
20. Nichols, 707.
21. Freyja Cox Jensen, *Reading the Roman Republic in Early Modern England*, (Brill, 2012), 89.
22. Jensen, 89.
23. William H. Sherman, "What Did Renaissance Readers Write in Their Books?" in *Books and Readers in Early Modern England*, (University of Pennsylvania Press, 2002).
24. Lisa Tallis, "Bibliomania and Marginalia: Unexpected Histories in the Margins of the Salisbury Library, Special Collections and Archives at Cardiff University," *The Welsh History Review* 31, no.1, (2022).
25. Anthony Bale, "Belligerent Literacy, Bookplates, and Graffiti: Dorothy Helbarton's Book," in *Book Destruction from the Medieval to the Contemporary*, (Springer, 2014), 100.
26. Bale, 100.
27. Bale, 105.
28. Bale, 105.

The Trace of the Child in the Book

Given the discussions surrounding taboo reading practices, book etiquette, and what constitutes valuable marginalia, children are at a disadvantage. While much has been said about children's literature collections within special collections libraries, such things do not have that much to do with children themselves—they are created by adults for children. Special collections materials contain annotated children's books, but scholarship on the topic is scant, other than when the child who created it later became a famous adult. For example, the schoolbook containing a poem written in the margins by the thirteen-year-old Charlotte Brontë sold for ninety-two thousand pounds in 2013.[29] Even some who study the marginalia of children are not eager to celebrate it. For many working in childhood studies, however, the markings of the everyday child provide insight into the child's own voice in history and life.

Children are frequent annotators in books, despite being just as frequently instructed not to write in books. Fischer, a literacy scholar, has suggested that children are aware of this taboo, and thus we can look at their annotations as "preconventional communication."[30] Observing how books sitting in libraries and dental offices are always adorned with the marginalia of children, Fischer sought to make some sense of this common practice. Her research involved handing crayons and books to a three-year-old and an eighteen-month-old, filming their marginalia practices, and asking them some questions about it. She found that even these young preschoolers, who are not practiced readers in the conventional sense of the skill, loved engaging with books. Their scribbles were kinesthetic and aesthetic experiences with the text, in which they exchanged information and interacted, just as anyone else does when reading. Fischer argued that what children produce during these moments are "artifacts that should be preserved above all others in commemoration of a child's rich and pleasurable reading experience documented within their pages."[31] Similarly, Lerer, a childhood historian, studied marginalia created by children, fascinated by the fact that such marginalia can be found within book collections regardless of the time period or social context. This suggests that children making marginalia is, in fact, a characteristic of human experience. As Lerer points out, children's annotations are evasive, often illegible, unrelated to the text itself, and weird.[32] In any case, such marginalia show a relationship between the child and the book, which becomes not only content to read, but a reading object to be adorned.

29. Alison Flood, "Charlotte Brontë Poem Manuscript Sells for £92,000," *The Guardian*, April 10, 2013.
30. Sarah Fischer, "Reading with a Crayon: Pre-Conventional Marginalia as Reader Response in Early Children," *Children's Literature in Education* 48, no. 2 (2017): 135.
31. Fischer, 135.
32. Seth Lerer. "Devotion and Defacement: Reading Children's Marginalia," *Representations* 118, no. 1 (2012): 127.

Advocates of children's marginalia are working against what Lerer describes as the "modern culture of librarianship . . . shaped as part of a late nineteenth- and early twentieth-century ideology of cleanliness and citizenship."[33] Scholars like Jackson have argued that, while children do love to create marginalia, their marginalia are not legitimate in a scholarly way. She writes that while children tend to make ownership marks with their name, home address, and school address,[34] most of what they create is just part of the early stages of literacy development. She writes, "Before they can read, children may scribble—pretending to write—or draw pictures in books that come their way."[35] Importantly, the notion that children are *pretending* to write reveals the way in which adultism prevails in many interpretations of children's creations. Jackson expresses the point further, saying, "On the whole, preschool children are not real annotators,"[36] arguing that their coloring in printed illustrations "does not count."[37] What they make, in her view, amounts to using books as random paper. Rather, a generous view toward children as creators would be to say that children are indeed *writing*, in ways that make sense to them.

Interestingly, the child's desire to mutate and interact with texts is well-known as a reading practice among those who make books. In the Victorian era, moving books were created to enhance the "physical, embodied practice"[38] that children and people of all ages enjoy when interacting with texts. These still exist today as flap books, pop-up books, and other varieties. Field has written that when these are found in rare books collections, they are damaged, reflecting how much children loved the "ripping, tearing, coloring-in, and more."[39] She notes that we are often urged to read for the purposes of absorbing information, but that books can also be physical toys.[40] These book makers knew that books are not merely containers for information, but also objects that serve functional play purposes. When such things make it into a special collections library, they typically have served their first lives as reader's objects and will contain the traces of past readers.

Common Children's Marginalia

We have claimed that marginalia created by children is a somewhat common source within special collections units. We have also claimed that despite being common, it is difficult to find when purposefully seeking it out. Thus, our study focused on locating large amounts of this type of marginalia so that we could thematize child-created

33. Lerer, 128.
34. Heather Joanna Jackson, *Marginalia: Readers Writing in Books*, (Yale University Press, 2001), 24.
35. Jackson, 19.
36. Jackson, 21.
37. Jackson, 21.
38. Hannah Field, *Playing with the Book: Victorian Movable Picture Books and the Child Reader*, (University of Minnesota Press, 2019), 4.
39. Field, 4.
40. Field, 9, 27.

marginalia into broad areas that would show common format types and characteristics. Thematizing further helps professionals make sense of how these marginalia may be useful to certain types of researchers and research questions. As standard descriptive practices create a findability issue for locating materials annotated by children, the themes we have identified in this paper may help professionals better understand how to approach and engage in research using children's marginalia. Our method of research, major themes, and recommendations to professionals follow in this section.

Research Method

Locating marginalia is a slow research process, given that it requires requesting hundreds or thousands of books from repositories and then browsing them page-by-page to locate any potential marginalia. Our goal was to collect several hundred instances of marginalia that were—or likely were—created by children. Those sources were then analyzed and tagged to form the themes that make up the common forms of child-created marginalia. Our research was done across four special collections units: Wilson Special Collections Library at the University of North Carolina; the Rubenstein Library at Duke University; the North Carolina Collection at the Durham Public Library; and Irvin Department of Rare Books at the University of South Carolina.[41]

The books that we browsed for marginalia were identified in several ways, largely related to provenance:

1. School textbooks within textbook collections or family papers collections
2. Sunday school books
3. Children's literature, within broad collections, family collections, and writer's collections
4. Books that rare books librarians suggested we look within, because of their familiarity with the collections
5. Books that rare books librarians located, based on internal notes that mentioned markings, drawings, and other marginalia (this was the least common method of locating books with marginalia)

Further, we did not include marginalia in our study that was likely to have been created by adults. While it is sometimes impossible to know who marked within a book, we only included marginalia which contained numerous clues that the markings were, in fact, child-created. Thorpe addressed this issue in her research at the University of Pennsylvania Libraries, where she tried to determine ways for ensuring that drawings in the manuscript collection were indeed made by children.[42] She concluded

41. The latter of these was funded through Kuecker's Karen Alane Robinson Children's Literature Fellowship.

42. Deborah Ellen Thorpe, "Young Hands, Old Books: Drawings by Children in a Fourteenth-Century Manuscript," *Cogent Arts and Humanities* 3, no. 1 (2016): 1–18.

that provenance is the most helpful measure of determining the likely creator of marginalia; however, she also claims that when provenance is not known, there are other ways to tell. Particularly for marginalia that include drawings, there are stylistic choices children have made across centuries and cultures.[43] Our research followed such clues to verify the young creators of the marginalia we include.

For analyzing the marginalia we accumulated, we followed basic qualitative, inductive, thematic analysis. Inductive thematic analysis involves allowing the themes to emerge from the data itself, rather than using a set of predetermined themes.[44] This is a way to help create a sense that, while each instance of marginalia has its own distinct qualities, children's marginalia at large can also be seen as having particular patterns. These patterns help professionals comprehend what they are seeing and understand the significance of various types of traces a child might leave within a book. To make this workable, we photographed all marginalia that we located, and then digitally deposited the images into a collective folder. Each researcher labeled their own findings using themes they selected, and then the lead author analyzed all the findings to settle on a few overall themes that sufficiently described the varieties of marginalia that might commonly be found: drawings; imaginative play; coloring; books within books; short, original writing; and homework notes.

Themes Discussion

Drawings and illustrations were the most common findings among child-created marginalia. In many cases, children's drawings can be detected by the stylistic choices that have been said to be distinct among child artists. For example, a common thing to look for is what known as "tad pole figures," which are human figures reduced to their core parts; large heads; elongated limbs; stiff poses; frontal perspective imagery; and other aesthetic qualities.[45] Drawings featuring tad pole stylistics are quite common, and in most cases, these drawings are located in the inside covers of the book, or on the first few leaves of blank pages, meaning that these drawings are often not related to the text of the book itself. They are also sometimes drawn upside down to the page orientation of the text within the book. An example of this is a drawing found inside an early twentieth-century textbook called *New World Speller: Grade Four to Seven* (see figure 2.) The illustration here, shown directionally oriented toward the way a reader would read the text within the book, exhibits an emphasis on core human body parts and a big head, similar to many other human figure drawing marginalia created by children.

43. Thorpe, 5.
44. Victoria Braun et al., "Thematic Analysis," in *Handbook of Research Method in Health Social Sciences*, ed. Pranee Liamputtong (Springer, 2019), 843–860.
45. Thorpe, 5.

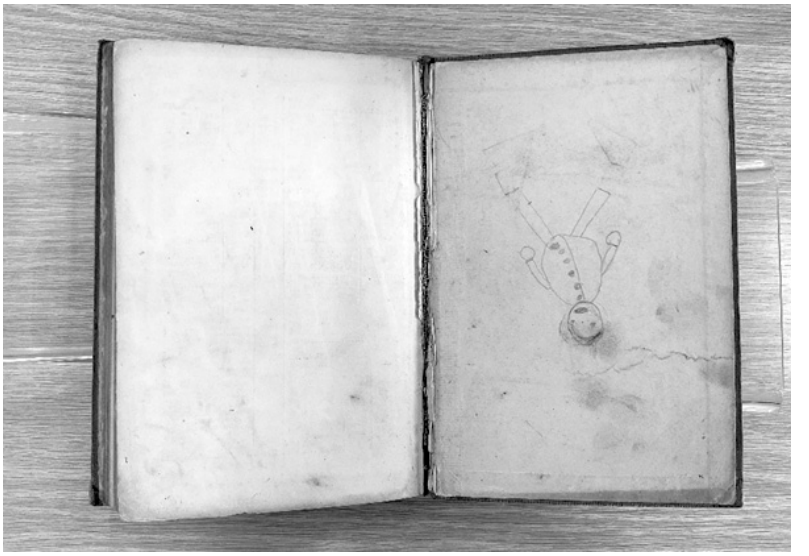


Figure 2. Marginalia within *New World Speller: Grades Four to Seven*, World Book Company, unknown date, The North Carolina Collection, Durham Public Library.

Beyond images of people, children draw a variety of other subjects. A children's book from the early twentieth century called *Good Times* reveals complementary flowers on both the front and back covers, complete with stem and coloration (see figure 3). Like the example from figure 2, these illustrations utilized the covers of the book, rather than the pages within. In another instance, a child created a pencil drawing of a creature in a first-edition copy of *The Book of Mormon*, from 1830 (see figure 4).

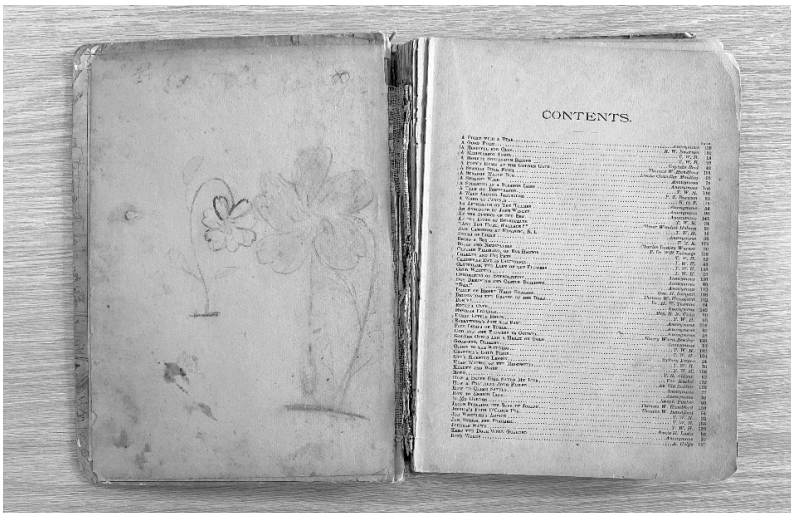


Figure 3. Marginalia within *Good Times*, undated, Belford, Clarke, & Co. Mangum and Latta Family Papers, North Carolina Collections, Durham Public Library.

Figure 4. Joseph Smith, *The Book of Mormon*, 1830, Rubenstein Library, Duke University Libraries.

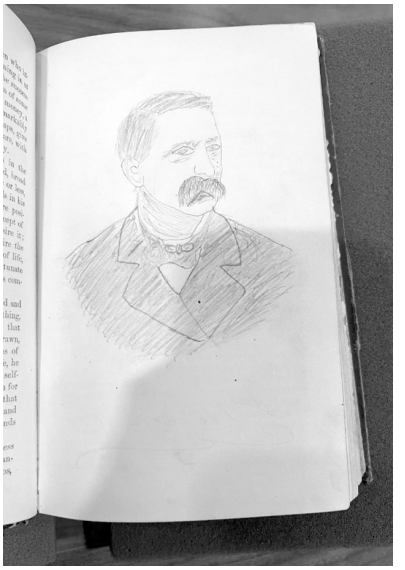


Figure 5. Marginalia *New Normal Fifth Reader*, Albert Raub, 1878, University of South Carolina Libraries.

Drawings formed by tracing was another form of drawing located three times within our marginalia samples, at different repositories. In each case, rare books librarians identified these instances of marginalia as likely being from a child, from what they knew of the provenance and acquisition of the books. Each time, the child utilized the fact that an illustration was featured on one side of a page, but the other side of that page was empty, allowing them to trace the illustrations onto the empty side. Figure 5 shows an example of this, in which a child used the opposite side of a page that had an illustration of the novelist J. G. Holland to fashion their own portrait of him.

These drawings may count as instances of playing with books, and in some cases, marginalia showed direct evidence of exactly that. Lerer notes that simply because the child marks up a book does not mean that she is irreverent toward the literature, but instead that she is invested in the book.[46] In our research, we found that children often played with books in ways that revealed how seriously they took the book itself and its related cultural magnitude. In several instances, children mimicked the norms of librarianship in their marginalia, creating "due date" slips in the books that they personally owned. In a 1938 copy of *Gang Busters in Action!*, a child named John created a due date column in anticipation of possibly loaning his book, or perhaps to make it more like familiar library books (see figure 6).

46. Lerer, "Devotion and Defacement," 129.

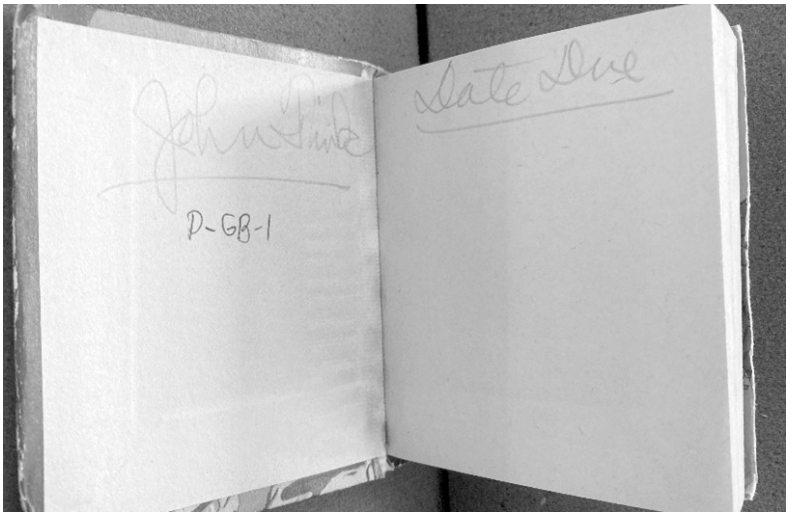


Figure 6. Marginalia within McAnally, Isaac. *Gang Busters in Action!* 1938 Whitman Publishing Company. Wilson Special Collections Library, University of North Carolina at Chapel Hill.

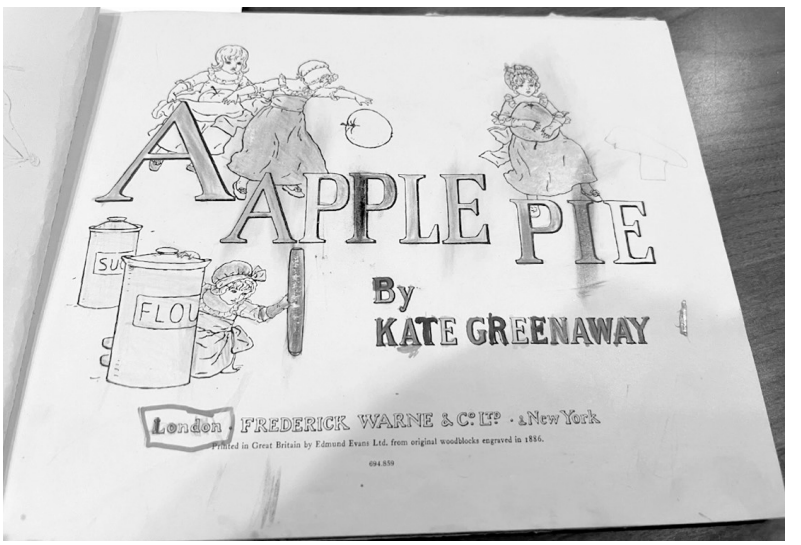


Figure 7. Coloring, using pink, green, orange, red, and yellow, in *A for Apple Pie*, Kate Greenaway, 1886, Irvin Rare Books and Special Collections, University of South Carolina Libraries.

In many cases, children also will enhance illustrations within books by coloring them. Walter Benjamin, the celebrated German cultural critic, noticed this himself and pointed out that children love black and white woodcuts in books, a common illustration style in the nineteenth-century. He writes, "Unlike the colored pictures, the

surface of the black-and-white illustration seems to be incomplete and hence in need of additions . . . children imaginatively complete the illustrations."[47] One of the most common themes among child-created marginalia are instances of children completing illustrations with color, similar to the one shown in Figure 7.

In a few cases, children utilized the form of the bound book to create their own books within a book. Figure 8 shows portions of a child-created flipbook, within a copy of *Mac of the Marines in China*.[48] The child's story, titled "The Pole Vault," is more than ten pages long, and when flipped, accurately animates a pole vaulter getting ready to make his launch, executing it, and landing. There is a big display of splashing sand at the end, when the pole vaulter crashes back to land. This dramatic telling is entirely drawn, other than the written title. Another child-created flipbook was created within a bound book of the same series as this and depicted a Western-style gun fight.

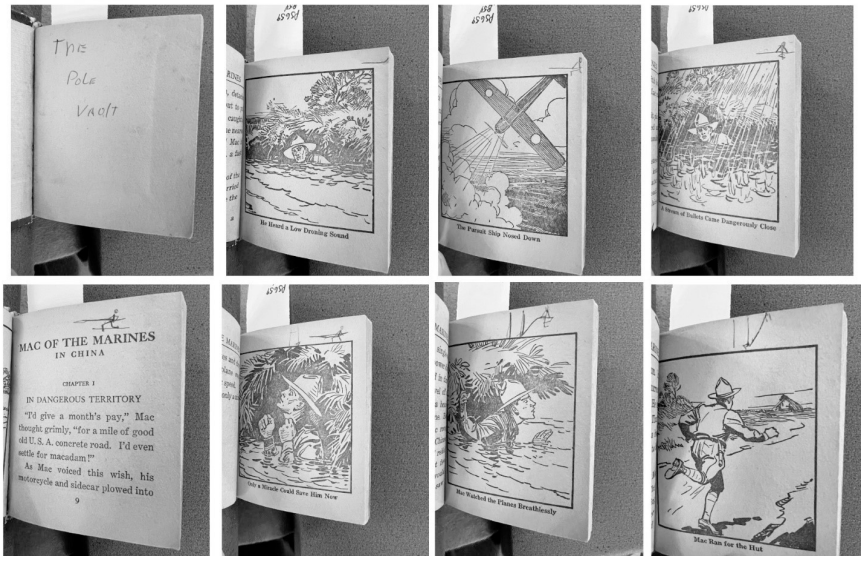


Figure 8. Marginalia in Mark Smith and Frank J. Hoban, *Mac of the Marines in China* (Racine: Whitman Publishing Company, 1938), Wilson, Special Collections Library, University of North Carolina at Chapel Hill.

In some cases, children's marginalia utilize the book space to report on true stories, like those about love and relationships. In the early twentieth century, a thirteen-year-old boy, Walter, used a grammar textbook's back page to record a bachelor-for-life sentiment: "When you and [I] / are married and living / at your ease. / Remember

47. Walter Benjamin, "A Glimpse into the World of Children's Books," in *Walter Benjamin: Selected Writings*, Vol 1(Belknap of Harvard University Press, 1926), 436.
48. Mark Smith and Frank J. Hoban, *Mac of the Marines in China* (Whitman Publishing Company, 1938).

that I am single / and doing as I please" (see figure 9). Perhaps this was some fun Walter had with a grammar lesson, or just a warning for any hopeful brides. Short poems such as these were common among our marginalia findings, especially within schoolbooks. In another, Audrey Hamlett confessed, "Mr. Charlie Markham is my little sweetheart," in her grammar book. This kind of marginalia, which is poetry or writing unrelated to the books themselves, tends to read like the recording of idle thoughts or important confessions.

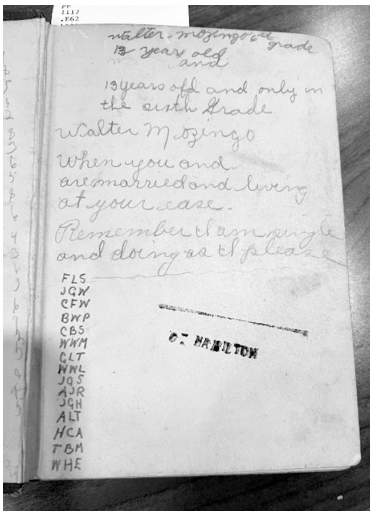


Figure 9. *Elson Grammar School Reader*, Book Two, 1909, Irvin Rare Books and Special Collections Library, University of South Carolina Libraries.

In many cases, though, the marginalia left *is* related to the content of the books. Particularly with children's marginalia, we can find evidence of school curriculum, homework assignments, lesson notes, and the ways children reminded themselves of things or emphasized aspects of the text. Textbook collections are often full of children's notes. Audrey Hamlett, for instance, did not just use her grammar books for declaring her love of Mr. Charlie Markham; she also took notes on where to begin a lesson, perhaps for homework (figure 10). Audrey also recorded things like schedules for her spelling tests, including marks next to certain words in the book's word list, perhaps indicating words Audrey had trouble spelling. Textbook marginalia like these are easy to locate when browsing through related collections, and they serve to inform us of aspects of educational history and notions of literacy. In this way, children's marginalia serve some of the same purposes that adult marginalia serve.

Considerations for Professionals

What did children of the past think about? What did they know? What kinds of things did they do and how did they play? These are difficult research questions to answer because of the obstacles facing those who wish to understand children more on their own terms, rather than through adult proxies. There is simply less children's cultural heritage, and what does exist was often created by adults. While toys, books, and other things created by adults for children may contribute to our understanding of the history of childhood at large, they do not represent the child's making of their own world.

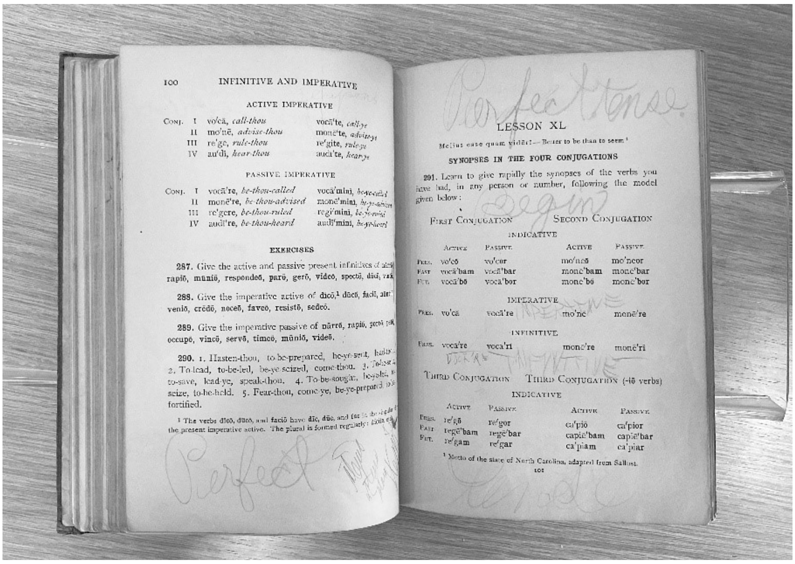


Figure 10. *Elements of Latin*, Audrey M. Hamlett Textbooks and Other Materials, North Carolina Collection, Durham Public Library.

We hope that readers come away from our study seeing that, through the marginalia within book holdings, rare books and special collections units already have much to offer those of us inquiring into what the ideas of children. In conducting our research and spending our own time as both scholars and practitioners in libraries, archives, and special collections positions, we conclude this article with a few ideas for continuing to construct children's marginalia as a valuable style of cultural heritage, particularly by collecting it with greater purpose, and making it more accessible.

Those who find our arguments compelling may allow considerations of children's marginalia to influence acquisition and collection processes, particularly in juvenilia collections. Many children's literature collections already do this by seeking out books used by children, rather than pristine copies; this practice could be more intentionally adopted as part of collection policies to ensure that we have such content for researchers to work with. One option could be for rare books units to specifically build collections of books that have been annotated by children, constructing their "rarity" status on the bases of distinctness and volume of markings made by children within the books. Unconventional in the rare books world, this kind of acquisition could even involve working with area schools and circulating libraries to facilitate donations of well-loved books related to existing collecting areas—such as textbooks, regional fiction, or authors of note—precisely because they are so marked up by children. This would be a new donor/repository relationship that looks different than the kind many are used to within special collections.

In our study, we found that, even when special collections units do house marginalia, researchers face obstacles in identifying source material for study. While cataloging standards exist to help both internal professionals understand their own inventories, and for external users to readily locate books of interest, marginalia researchers are at a disadvantage with these systems as they exist currently. Some researchers will not necessarily be interested in who wrote the book or even the title or year of the book, all of which are assumed as the access points for catalog records. If a researcher is largely interested in who *read* and marked in the book, then our standards are not terribly helpful. The most prominent obstacle, without a doubt, is that our researchers cannot browse rare books collections' stacks, nor can they use most catalog records to locate marginalia. For books that are included within manuscript collections, as some in our study were, the same obstacles remain true within archival description. The name of the creator of a collection is unlikely to be a child, other than in instances of a famous adult whose collection includes items from their childhood. Again, archival description does not emphasize annotation, marginalia, and sometimes does not even include mentions of the age status of those who are implicated within the collection.

Because of these standard cataloging issues, as well as with this particular type of source, alternative measures must be taken to indicate marginalia. In our research, we found that some institutions do indicate marginalia within their internal records, but not within public-facing records. Some places do not indicate marginalia in any records. Many repositories rely on the memories of staff who may have seen marginalia during job tasks. It seems that one of the easiest changes we could encourage is for repositories to record, either internally or in public records, that books contain marginalia. From here, when it is suspected that a child has created the marginalia, professionals might use some of our themes to help better describe the type of marginalia they noticed. In many cataloging systems, a free-text metadata field indicating markings could suffice. Physical markers on pages within the books themselves could also be a low-tech option, as well. Cultural heritage repositories interested in generating more access to child-created records should consider revisiting their existing collections to note where marginalia appear, especially if someone working there has knowledge of instances of marginalia that are not currently recorded anywhere.

We feel that energy is best spent acquiring and cataloging marginalia, rather than an option like digitizing existing marginalia. Marginalia research, like many kinds of research involving rare books or special collections, often requires the researcher to appear in person to handle the materials. Of course, this can only happen if the researcher has been able to identify materials in the first place. In many cases, the children's marginalia appear in such creative, tactile, and dynamic ways—such as the flipbook shown in Figure 8—that it requires in-person research to fully experience. Thus in-person research would remain as best practice for this style of rare books

research. Reliable online catalog records would allow researchers the opportunity to climb into the child creator's world and understand it from the child's perspective, relatively unmediated by additional adult interference.

Overall, we all benefit from more awareness of age status issues in cultural heritage and how they impact special collections. There's a lack of child-created materials being preserved at large, but we have an opportunity to provide traces of past children, on their own terms, to researchers who are after the mundane thoughts and practices of children. Children deserve more than for their cultural heritage to be relegated to traces or breadcrumbs. Our collections should represent children's experiences more wholly, and the mechanisms we develop to access those collections should be aligned with both the specifics of the materials and the needs of researchers interested in engaging with them.

Acknowledgements

Thank you to Eileen Dewitya, Emily Kader, and Michael Weisenburg for helping locate and discussing children's marginalia in preparation of this article.

Book Reviews

RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage reviews books, reports, new periodicals, databases, websites, blogs, and other electronic resources, as well as exhibition, book, and auction catalogs pertaining directly and indirectly to the fields of rare book librarianship, manuscripts curatorship, archives management, and special collections administration. Publishers, librarians, and archivists are asked to send appropriate publications for review or notice to the Reviews Editor.

It may not be possible for all books received to be reviewed in *RBM*, but the reviews appearing in the print journal are supplemented by a larger number of reviews published digitally on the *RBM* digital platform at https://rbm.acrl.org/index.php/rbm/pages/view/reviews. Books or publication announcements should be sent to the Reviews Editor: John Henry Adams, john.henry.adams.41@gmail.com.

Gracen Brilmyer and Lydia Tang, eds. *Preserving Disability: Disability and the Archival Profession.* Library Juice Press, 2024. Paperback, 728p. $75. (ISBN: 978-1-63400-149-6).

"What does it mean to engage with—and participate in—the archives and other institutions that have sought to simultaneously scrutinize and erase sick people," writes Alexandra Pucciarelli in her article "Seeing Sickness: Archival and Embodied Encounters with the Medical Panopticon"(101). How do you exist in a world that sweeps away your living and leaves behind only the dust of your bones and not the fruits of your being? Pucciarelli's quote is what makes books like *Preserving Disability: Disability and the Archival Profession* so important.

This book is divided into three sections: Using Archives and Witnessing Oneself; Navigating Employment; and Doing the Work. Each section contains several stories, whether they be told through autoethnography or case studies; they all highlight what it means for disability to be represented within the archival institution.

The first section, "Using Archives and Witnessing Oneself" recounts various experiences of searching for oneself within the archival institution, as well as the process of doing so, mostly from the perspectives of non-archivists themselves. This section touches on a variety of topics including, but not limited to, the experience of using online collections and their lack of compatibility with assistive technology, and the archival gaze's neutrality resulting in a medical model bias when collecting stories of those with disabilities.

"Navigating Employment" asks many questions such as: "Is my job ad ableist?" "How has the hiring process created a barrier to people with disabilities?" "Should I disclose my disability when I apply or after I'm hired? Should I disclose at all?" and "how do I advocate for myself while employed?" This section primarily highlights how ableism shows within the employment process and offers some alternatives on how to fix and/or improve these problems.

The third and final section highlights how archivists have worked to make the archive a home for people with disabilities, particularly highlighting the importance of having archivists with disabilities do this work. This section details the process of collection development, maintaining the collections and space both physically and digitally, as well as the process of choosing and accepting oneself as a disabled individual within this field. Each one of these sections provides experiences that are important to understand how to make the field more inclusive for disabled individuals, both as workers and for collection development.

To discuss the strengths of this work, I must first mention what this book has done for me. I am a Black queer woman who, according to the voluntary self-IDing disability forms included as part of job applications, has a few invisible disabilities. While I initially would not have agreed with this assessment—as I do not feel that what I experience affects my daily life much—this book not only provided language for me to understand where I fit within the disability community but also showed me other individuals who have similar experiences to my own. While I still do not completely feel comfortable claiming the label "disabled", learning about the complex embodiment model from this book has given me words to explain this feeling, and what that means for me and where I fit within the archival field. Hearing from other intersectional authors in this book has also given me more to think about within my own understanding of myself and how my different marginalizations affect each other. This is more than simply a strength of this book; it makes this book an ally and a companion.

The book has other strengths as well. For example, the collection includes many different voices from the disabled community. These voices represent a wide variety of disabilities, including but not limited to visual impairment, severe eczema and allergies, autism, POTS syndrome (section 1), ADHD, autoimmune diseases, scoliosis (section 2), epilepsy, obsessive compulsive disorder, and anxiety (section 3). The amount of representation that this book provides, while not a complete list, is in its own right, paramount. To add to the representation, the book is intersectional; there are queer and racially diverse authors also represented, sharing their own stories in this collection of writings.

Another strength of the book overall is the solutions that the various chapters

provide. Many of the authors in this book give examples on how to make the environment, materials, and the field in general more inclusive for individuals with disabilities. For example, in section 1, authors Hilary Stace, Susan Martin, and Martin Sullivan suggest giving more public access to the records that include representation of disabled individuals and providing free reproductions of the materials to the families of the individuals represented in the collections. Authors Julia Pelaez and Jen Hoyer suggest creating a social narrative guide and asking professors before class what accommodations their students would need.

If the book has weaknesses, then they are less overt gaps and more a matter of areas that I would like to see included, or to have expanded upon, in another iteration. For instance, outreach was not a focus of this collection and the book did not include much about bringing entire groups of people with disabilities to the archives. What is it like to do outreach to group homes? What is it like for individuals living in these spaces to visit archives? While this book focuses more on the role of archivists in preserving disability narratives and the importance of inclusivity within the field, improving access to, and use of, collections outside of just the academic field are also important aspects of the work. In addition, I would like to see more representation from other countries. There are some articles that included non-American focused collections, as mentioned earlier in this review, but I want to know what it is like for archivists in Africa, Asia, and Eastern Europe. What is disability preservation like in other countries, and what can we learn from each other? Collaboration and communication with other countries, while possibly a bit more difficult to coordinate, could possibly result in more equity and accessibility overall.

Overall, I think this book is rated "E for Everyone" in the archival and library field. Many marginalized groups have had their existence erased, assumed, or their stories only captured through the trauma of their people. "Access is a right: every single person should have the right to go to their local archive and not feel othered by the institution" (Pelaez & Hoyer, 198); this includes in the market, on the job, and in the collections. This book recognizes and shares both the pain and solutions on how to cope with the scars that have been left behind by the archival silence. The authors themselves lead by example, not only through their work in their respective fields, but also by making the articles in this book accessible to those who do not have a background in disability studies, allowing a broader application of its ideas.

Preserving Disability: Disability in the Archival Profession is a reference point, an elegy to the records and people we have lost as systematic oppression has trampled them, and an ode to the people we have discovered and can retrieve. This book is not just a guide, but a memoir of people's stories, lives, and experiences, including the case studies—the collected data. This book is a valuable resource and introduction to

those who are wondering how disability intersects with the archival field, as well as a friend and a testimonial connection to those who have lived the experiences within it. — *Matrice Young, University of Iowa*

Andi Gustavson and Charlotte Nunes, eds. *Transforming the Authority of the Archive: Undergraduate Pedagogy and Critical Digital Archives.* Lever Press, 2023. Print/Open access. (ISBN: 978-1-64315-051-2/978-1-64315-052-9)

Andi Gustavson and Charlotte Nunes' collection, *Transforming the Authority of the Archive: Undergraduate Pedagogy and Critical Digital Archives,* is an instructive tool for any librarian or faculty member seeking to strengthen collaborative, critical archival work using digital platforms. While that may be expected from the title, the collection's structure and wide focus also offers insights into the nature of working across and beyond university structures to offer campus and community members meaningful experiences with primary sources. As Gustavson and Nunes note in their introduction, theirs is the first study to date that "provides a comprehensive study of how critical digital archives and archives-based pedagogy interact, inform each other, and even determine new contours in each of these respective fields" (10–11). The collection is ambitious; it offers a constellation of projects and perspectives that approach critical digital archives from many vantage points and centers many different archival collections. Organized into three parts: "Archives and Trauma," "Confronting Institutional Power," and "Beyond the Campus," each chapter offers an overview of the significant theoretical or critical frameworks that inform the project team's work, as well as information about the institutional context in which the projects are—or are not—situated before moving into specific case studies.

Part 1, "Archives and Trauma," situates the work of critical archival studies in the classroom by acknowledging the realities of working with archival materials that are violent and harmful. Its first chapter (Alpert-Abrams and Gustavson) considers the classroom as a site of "radical empathy," providing tools and steps for instructors to frame archival processes and materials so students can feel empowered to grapple with difficult ethical questions about access, absence, and digitization—a theme that continues throughout the collection. The second chapter (Gianluca De Fazio) reflects on archival amnesty and the *Racial Terror: Lynching in Virginia* project at James Madison University and serves as a testament to the power of how challenging the gaps and silences in archives can transform not just the archives, but state policy (73).

The second section, "Confronting Institutional Power," retains a focus on archival silences, gaps, and opportunities. Here, each of the five chapters (as well as the first and second chapters of the third section) feature reflections from individuals who worked on critical digital archives projects as undergraduate students. Former student

researchers are credited as co-authors in all but one of the chapters in this section. Chapter three (Fuentes and Koreman) focuses on the Historical Accountability Student Research Program at Dartmouth, the only Ivy-League institution represented in the collection; it showcases the archival research process in all its complexity while grappling with the gaps in university archives and histories of student life and activism. Chapter four (Armstrong, Nunes, and Wellnitz) outlines the tensions encountered in creating the Queer Archives Project at Lafayette College. The authors discuss strategies for representing the non-linearity of a complicated history of a campus that has not historically been a supportive or safe place for queer students, and the importance of oral histories to this work. Chapter five (Hardesty, Kumbier, and Miller) considers three connected projects that explore zines, a topic that is increasingly popular in academic libraries and humanities classrooms; however, the authors are quick to trouble any simple or reductive history of zines. The authors outline with great care issues of attribution, copyright, digital accessibility, and network analysis that are unique to zines. This chapter offers a useful overview of thoughtful practices for metadata creation for zines, inspired by the xZINECOREz standard developed by zine librarians and archivists (154).

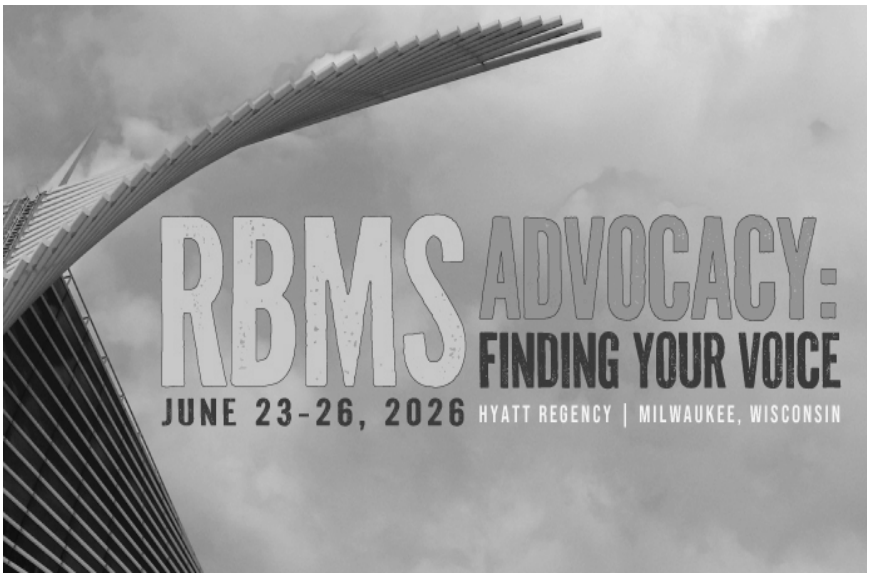
Chapter six (Jones, Rodrigues, Schnepper, and Wolff) continues the exploration of university archives of student life and activism, this time focused on the work being done at Grinnell College to create digital projects that engage in the histories of student life and protest. The chapter's reflections are helpful for instructors seeking to better understand how to create research experiences that work to empower students, particularly when the research projects concern histories of historically marginalized groups on campuses still grappling with legacies of institutionalized racism, sexism, and oppression. Chapter seven (Nacca and Lang) offers an overview of the work done at the University of Texas at Austin to prepare students to design public online exhibits. I found this chapter's inclusion of sample reflections and prompts very useful to my understanding of the authors' pedagogical goals. Additionally, the author's discussion of their use of Omeka and its various affordances for their project was a useful consideration of the more digital-specific aspects of critical digital archives.

Index to Advertisers

The final part of the collection, "Beyond the Campus," includes two chapters that focus on projects not entirely based in university settings. Chapter eight (emswiler) considers the Inside Books Project Archive (IBPA) and provides a moving exploration of the "counter-archive" represented by the IBPA. It does, however, end with a note of warning about barriers that grassroots projects face: IBPA's Omeka site license was revoked, necessitating a transition to a new domain. Unlike the other chapters in this section, chapter nine (Robinson, Earles, and White) considers the work of HBCUs such as Prairie View A&M University and the unique role that HBCUs often play in "as the primary—in some cases, the only—publicly accessible repositories for the Black experience in the local communities and regions in which they exist" (311). The final chapter (Field) explores another community-based project: the Texas After Violence Project (TAVP) and how undergraduate student interns involved with the project engage with TAVP interviews.

Again, the collection is ambitious. I appreciate that not every chapter can accomplish everything, and that there is a general balance across the collection that honors all three pieces of the collection's title. While I appreciate the difficulty of maintaining this balance, I would have liked to learn a bit more about the digital specifics of some of the projects. I am also interested, though not surprised, that oral history projects played a relatively large role in many of the projects. Yet I would have liked to know more about the ways in which oral histories and related information—transcripts, contextual statements, etc.—have been presented on digital platforms. The figures included throughout the collection did an excellent job showcasing how various chapters' critical digital archives projects displayed and described digitized physical materials, but I'm curious about the digitized oral histories or other audiovisual or born-digital materials included in these projects.

As Gustavson and Nunes emphasize in the introduction, the goal of this collection is to offer models of both frameworks and project specifics that colleagues can rework for their own use in other contexts in the effort to transform the authority of the archives. The case study model is exceedingly useful as it provides steps by which other practitioners could implement similar projects in their own institutions. The collection also offers perspectives from a variety of institutions, including two from authors who steward projects that are not primarily affiliated with universities. There is much to learn from this collection, not least because of the wide range of projects that the chapters discuss. I know I will be using keeping my annotated copy of this collection close as I plan my instruction sessions for the semesters ahead, as the work of transforming the authority of the archives becomes ever more imperative. —*Jeannette Schollaert, University of Maryland Libraries*



RBMS 2026 is coming up June 23-26, 2026, in Milwaukee, Wisconsin, and online. Special collections and archives are evolving fast—new technologies, new audiences, new challenges. How do we make our voices heard, tell our stories, and secure the support we need? This year's conference explores advocacy at every career stage, from speaking up as a newcomer to driving change as a leader.

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