PANEL PRESENTATION

Digital Humanities and Libraries and Archives in Religious Studies

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Clifford B. Anderson, Associate University Librarian for Research and Digital Initiatives at Vanderbilt University
Michael Hemenway, Chief Information Officer at the Iliff School of Theology
Jeri Wierenga, PhD Candidate in History at George Mason University.

ABSTRACT This paper presents brief synopses of four contributors' chapters from the forthcoming edited volume, *Digital Humanities and Libraries and Archives in Religious Studies* (Berlin: De Gruyter, 2020).

INTRODUCTION

This panel brought together four contributors to the forthcoming volume, *Digital Humanities and Libraries and Archives in Religious Studies* (Berlin: De Gruyter, 2020): Richard Manly ("Bo") Adams Jr., Director of Pitts Theology Library at Emory University's Candler School of Theology; Clifford B. Anderson, Associate University Librarian for Research and Digital Initiatives at Vanderbilt University; Michael Hemenway, Chief Information Officer at the Iliff School of Theology; and Jeri Wierenga, Ph.D. Candidate in History at George Mason

University.

The panelists briefly summarized their chapters in the edited book, sharing how digital humanities connects with teaching and learning in religious studies as well as research and practice in theological librarianship. Topics covered during the panel included data mining of religious archives, the library as "interface" to the digital humanities, digital humanities pedagogy, and algorithmic bias and transparency.

In this report, the participants in the panel briefly summarize their presentations. Full versions of their chapters will be available in open access from De Gruyter after the publication of the volume.

DATA MINING OF RELIGIOUS ARCHIVES

What do digital humanities researchers do with digitized archival materials? And how might that change the priorities for a range of work in the digital humanities?

In her talk, Wieringa described how her chapter offers one example of how scholars use digital materials as part of computational analysis in the humanities, drawing on her dissertation, *A Gospel of Health and Salvation: Modeling the Religious Culture of Seventh-day Adventism, 1843-1920* <http://dissertation.jeriwieringa.com>. She argued for less emphasis on cutting edge "tools" in the digital humanities and more on the "slow cultivation" of resources and critical methods.

Seventh-day Adventism is a Protestant denomination that developed in the middle of the nineteenth century in the aftermath of William Miller's 1844 prediction of the second coming. Guided by the prophetic leadership of Ellen White, the denomination is distinguished by their observance of Saturday Sabbath, their embrace of health reform and vegetarianism, and their reliance on print. The denomination has devoted numerous resources to digitizing their historical materials and creating online interfaces for that material, including the Office of Archives, Research, and Statistics and the Adventist Digital Library.

For her dissertation, Wieringa looked at the relationship between end-times expectation, the writings of Ellen White, and the gendered articulation of the work of salvation within Seventh-day Adventism between 1843 and 1920. For this period, and even after limiting the

corpus to periodicals produced within four geographic regions of the United States, the available digitized material consisted of over 13,000 issues and nearly 200,000 pages. At first glance, this abundance of digital materials presented a perfect opportunity for computational analysis.

However, the abundance of these digital objects conceals a fundamental weakness for their use in computational analysis. Created for use by human readers, the digitization process prioritizes digital facsimiles of the original documents in the form of image scans. To add value to the scans, and to help with problems of information retrieval, a text layer is often added to the scans with OCR (Optical Character Recognition) software. As the human reader is most likely to interact primarily with the scanned images, distributed as PDFs, the quality of the OCR-generated text is often a secondary concern.

The problem is that computational text analysis reverses the order of priority. As Wieringa discussed, historical print is difficult for modern OCR software. As a result, the textual layer for most digitized historical content contains a wide variety of errors in character and layout recognition. While most information retrieval tasks can be accomplished despite these weaknesses, studies in computer science and information retrieval have shown that the more complex the computational algorithm applied to the text, the more important the data quality for the accuracy and reliability of the results.

The disconnect between the data available and the data needed for machine learning algorithms presents an under-discussed challenge and opportunity for further collaboration between researchers, librarians, and archivists. In her chapter, Wieringa shows some of the results she was able to achieve with textual data from the SDA periodical literature, part of a general argument for the potential of computational analysis with historical materials. That potential could be greater, however, with better text, more detailed metadata, and the development of algorithms trained with humanities data for humanities questions.

Wieringa's presentation and chapter are not a call for librarians and archivists to do more. Rather, the development of data and methods fitting for computational humanities research requires collaboration between researchers and library professionals. Wieringa proposed that by recognizing the creation of digital editions as well

as the development of datasets and algorithms as forms of scholarship, and by rewarding researchers, librarians, and archivists for that scholarly work, the academic community can begin to create the digital infrastructure necessary for computational scholarship in the humanities to thrive.

LIBRARY AS "INTERFACE" TO THE DIGITAL HUMANITIES

Hemenway offered reflections on the library's role in building an experimental humanities lab at the Iliff School of Theology. Throughout their long history, libraries have embodied the core values of digital humanities, such as collaboration, transdisciplinarity, and attention to the materiality of information. Thus, it is no surprise that libraries would provide a fecund space to develop the necessary capacities needed to move scholarly communications workflows thoughtfully into the emerging technological landscape. The Experimental Humanities Lab (EHL) team at Iliff builds on Johanna Drucker's notion of *interface* as a zone of encounter that provokes probabilistic production and suggests that libraries can become an *interface* for digital humanities. This notion of library as interface foregrounds the collaborative challenges of DH work and attempts to highlight the values of difference and materiality in the process.

Hemenway discussed EHL@iliff as an experiment in library as interface. EHL@iliff is a cross-functional team with team members from different areas of the institution and from outside the institution meeting regularly through synchronous and asynchronous hybrid communication technologies (e.g., Zoom and Slack). Together, they work on digital projects, learn new skills, share resources, and run workshops to get others involved. Hemenway discussed how learning the python programming language in the context of Jupyter Notebooks and natural language processing has helped the team take seriously the different materialities of digital methodologies as scholars partner with machines in the reading, research, and writing tasks of scholarly communications.

DIGITAL HUMANITIES PEDAGOGY

How does the instructional role of the librarian shift in the digital age? In this essay, Adams invited librarians to be more creative in their

approaches to preparing patrons to learn, work, and thrive in a world filled with new digital tools and methods. Adams began by considering definitions of the term "digital pedagogy" and its application in librarianship. For some, the term means teaching the new tools and methods of the digital age. In this view, the work of the instructional librarian is often viewed as a supplement to an existing curriculum, adding workshops focused on the latest digital tools. For others, "digital pedagogy" suggests a shift in the form of teaching, rather than the content. As schools begin to make use of digital tools for the delivery of content, often through hybrid or fully online courses, librarians find themselves in an instructional support role, managing the learning management system or consulting with faculty about how to achieve learning outcomes through new digital platforms. The central argument of the essay is that neither of these understandings of "digital pedagogy," both of which Adams labeled as "buttonology," fully captures the opportunity for librarians in the digital age; to adopt either one is to fail to prepare patrons for the world in which they work. Drawing on philosophies of technology that far preceded the digital age, Adams argued that the real work of the librarian is not simply to teach tools, but to engender in patrons the ability to adapt to new technologies and to think critically about the impact technological shifts may have on teaching, worship, and research. Adams offered practical suggestions for how librarians can embrace critical digital pedagogy, focusing more on the theological reasoning a patron would use for adopting or adapting particular tools, rather than a "buttonology" approach to teaching the tools themselves. The goal of the librarian in the digital age should be to ensure our patrons are equipped not only to build websites, but also to think critically about how their building may impact their work and their communities. The librarian must help patrons live and work in the digital age, but also embolden them to think carefully about why the church or academy may or may not need these tools. This critical digital pedagogy is essential for library instruction, for if the library is not going to do it, it is not going to be done.

ALGORITHMIC BIAS AND TRANSPARENCY

In the concluding presentation of the panel, Anderson spoke about the

problem of algorithmic bias. Algorithms may incorporate the presuppositions and prejudices of the programmers who create them or, in the case of machine learning algorithms, they may develop biases from the streams of data they receive as inputs. Safiya Noble, Associate Professor in Information Studies and African American Studies at UCLA, has recently demonstrated how Google search results reflect and propagate cultural prejudices about black women in *Algorithms of Oppression: How Search Engines Reinforce Racism* (NYU, 2018). The problem of bias also affects theological faculty at universities because research information systems for faculty evaluation can be biased toward the sciences, privileging conference papers and journal articles over monograph publications and also lacking data from denominational publishers, making it seem as if theological scholars are less productive than other faculty members at the same institution.

The causes of algorithmic bias are manifold. The lack of diversity among software engineers leads to bias when programmers make assumptions about users based on their limited and perspectival knowledge. Problems may also emerge from data and metadata. For instance, many researchers in the natural and social sciences have signed up for ORCIDs, making it easier to track their activity across information platforms. Fewer scholars in theology and religious studies have ORCIDs, meaning that efforts to collate their activities may default to string matching on names, which, as any authority librarian can attest, vary between platforms. The messiness of matching on strings rather than with explicit identifiers can lead to missing publications or false attribution. Of course, librarians can help to connect scholars in religious studies and theology to these information systems by assisting them with the creation of ORCIDs, DOIs, and other contemporary identifiers.

Anderson argued that theological librarians should teach faculty and students to recognize and respond to algorithmic bias when teaching critical information literacy classes. He admitted that theological librarians face challenges when addressing algorithmic bias. Proprietary information systems do not provide access to the software code or data sets that, taken together, produce results, rendering it difficult to audit those algorithms for potential bias. Furthermore, theological librarians generally do not have sufficient background in computer science to analyze algorithms, making calls for transpar-

ency at the algorithmic level beside the point. The lack of expertise in software engineering and machine learning does not present an insuperable barrier to auditing information systems for bias. Theological librarians can document incidents of bias by illustrating the divergence between results they get from searches relying on their expertise and results produced by automated searches of information systems. By using such examples (and sharing them with vendors), theological librarians can stand up for the interests of their patrons as well as their discipline in an increasingly algorithm-driven information universe.