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Electronic Finding Aids: The Power of Presentation

Originating as a collection of diverse materials to aid archivists in the management of their collections, finding aids transformed over time into increasingly more modern & streamlined formats that could be independently accessed by researchers. Though their relative *availability* today is undisputed, the multitude of scholarly papers and articles written decrying finding aids' *usability* reveals a disconnect between what archival professionals consider to be the provision of access and the actual level of access their users experience. This paper provides a brief overview of the history of finding aids as an introduction to further discussion on the ways users interact with finding aids, how data visualizations can support usability, and what the future of finding aids could be.

History of the Finding Aid

According to Wiedeman (2019), the plural nomenclature of finding aids – what now refers to the class or genre of descriptive documents that archivists and researchers use to locate & contextualize archival materials – comes from what was originally a plural collection of diverse materials like "lists, inventories, classification schemes, accession numbers, indexes…" that exposed information about an archival collection (pg. 384). The "single-document" style of finding aids most are familiar with

today is the result of a decades-old compromise by archivists to provide some level of access despite the sheer volume of their collections – not because it was the superior way to help researchers find what they were looking for (pg. 382). Elucidating the power imbalance inherent in this archivist-centered (as opposed to user-centered) compromise, Trace & Dillon (2012) explain that "the purpose of the finding aid was to serve as an internal tool to provide access to a collection…a tool written by archivists *for* archivists (pg. 513). Over time, this style of finding aid led to a format wherein archivists combined description, arrangement, and presentation information into the same document. As internal and external archival information merged, archivists were compelled to take on a tone of greater professionalism in their documents (Wiedeman, 2019). This allowed them to more seamlessly combine documentation intended for two different audiences but also made finding aids more difficult to access for anyone unfamiliar with archival jargon. As finding aids were a compromise based on the constraints that archivists faced, "[user] access was never the sole priority" (pg. 386).

The intervening years between the adoption of the single document format and its current electronic iteration was characterized by international efforts to make archival description more standardized (e.g. MARC for Archival and Manuscripts Control, Electronic Archival Description (EAD). These years saw a high degree of

changeability regarding archival description due to near-constant tension between libraries' and archives' differing approaches to classification, and the archival profession's own varying views on whether archival description was intended for discoverability & access or provenance & arrangement. With the advent and widespread adoption of the Web, finding aids found themselves represented online in the 1990s — appearing as a virtually unchanged digital translation of its physical counterpart (Trace & Dillon, 2012).

User Interactions with Online Finding Aids

Prom (2004) conducted a finding aid user interaction study as he had identified a lack of research, despite existing literature and advice on finding aid redesign, detailing how users were actually interacting with and navigating interfaces as they currently existed. He also concluded that most of the studies that did exist were focused on the effectiveness of improved archival description efforts from the point of view of the archivist, rather than that of archives users (pg. 237). Study participants were asked to visit a selection of online repositories and complete a series of task-based searches, including searches for specific collection IDs and folders of materials. The participant groups consisted of individuals who identified as either a novice searcher, an archival expert, a computer expert, or both an archival & computer expert. One significant finding of the study was that while novice users spent a

noticeably longer amount of time searching when compared to the other three groups, individuals who were computer experts, but not archival experts, had search times almost identical to those with a high degree of archival research expertise (pg. 247). When searching at the collection-level, novice users were the user group most distracted by extra links or sidebars, while expert level users were better searchers overall as they were able to apply Internet-searching skills (attained outside of the archival context) to complete the study's tasks (pg. 254). For folder-level searching, researchers found that for all user groups, maintaining context and multi-level descriptions through hierarchical linking back to the collection-level, for example, was helpful for task completion (pg. 260).

Data Visualization in Finding Aids

Interested in the impact that representing textual archival data as graphic visualizations might have on researchers, Bahde (2017) used two types of data visualization graphics – a geographic timeline and a network graph – to experiment with the dynamic, visual presentation of typically textual finding aid content: biographical/historical notes, subject headings, and related archival materials (pg. 488). Using an open-source tool, the author created a chronological and spatial graphic of biographical events from a selected finding aid. The resulting visualization allowed users to interact with "markers" along a timeline, and on a world map, to view

visual representations of the previously text-only narrative (pg. 489). For the other two types of content, the author selected a *force-directed* type of network graph (also called a *network diagram* or *network visualization*) which "use[d] an algorithm to display a network in which related nodes are placed in closer proximity, while unrelated nodes are farther apart" (pg. 490). Users could zoom in and out to gain different understandings of the data, viewing the largest and most interconnected collections first while zoomed out, but easily interacting with increasingly smaller and smaller nodes as they zoomed in.

Although beginner and intermediate users found that the timeline/map visual "sparked their curiosity," expert users expressed doubt in the completeness of the information as the visual format gave the impression that some elements from the textual narrative could have been overlooked or omitted when represented visually (pg. 496). Participant feedback for the network graph of related archives materials began with low interest and low perceived utility by the beginner group and ended with high interest and high perceived utility by the expert group, indicating that usability is audience specific. One expert user found the graph to be especially useful and asked for it to be immediately added to the department's website because while viewing the demo, "she had seen a previously unknown related collection she wanted to consult for her own research" (pg. 497).

The Future of Finding Aids

Although there are myriad perspectives one can consider for the reconstruction of the finding aid, this paper highlights only a few potential paths toward dismantling the underlying power imbalance of its present format and improving its efficacy. Possible strategies and subject areas for further research as they relate to archives include: reducing archival jargon in finding aids to support user comprehension; encouraging meaningful user interactions with finding aids by including flexible, dynamic visualizations; and improving finding aid usability through the consistent application of human-centered design to the presentation of descriptive information.

As finding aids transitioned from their beginning as a bundle of related materials to the current, single-document format, archivists combined internal collection-related information with user-facing descriptive data — resulting in a finding aid that was only as effective as a user's familiarity with archival language (Trace & Dillon, 2012). Adopting descriptive language that can be more generally understood and is transparent enough for comprehension without the presence of an archivist will improve finding aid accessibility, comprehension, and utility for a wider range of users.

Participants' positive responses to Bahde (2017)'s experimental network graphs provide clues for how graphical visualization can make user interaction with finding aids more meaningful. The graphs featured a few design elements that helped users interact with the dynamic visualizations more easily: arrows showed the direction of the relationship between collections and subject headings (or nodes); the size of the nodes served as a visual representation of its number of related connections; and when a user hovered over a node, the collections or subject headings related to that node were visually highlighted so that they stood out from the larger web of nodes and lines (pg. 490). If contrasted with static data visualizations like bar charts, the author argues that interactive, knowledge-generating visualizations "enable users to participate in the process of analysis, to probe and explore further" which supports researchers as they choose topics, attempt to identify relevant materials, and acquire background information about their research area (pg. 487). Represented visually, at least in this experiment, descriptive data was still relevant at different stages of the research process instead of only during the initial searching & browsing stage.

As defined by the design industry leader Nielsen Norman Group (2012), "usability is a quality attribute that assesses how easy user interfaces are to use." An electronic resource that contains helpful information, but is too difficult or unpleasant to navigate, is not actually helpful. Archivists, in collaboration with developers and

other technology experts, can make finding aids more accessible not by refactoring descriptions or overhauling EAD, but by rearchitecting the interfaces that present archival descriptions in ways that reflect evidence-based design standards. As Prom (2004) clarifies, although many of the users navigating finding aids are unfamiliar with how archives are organized, "they are *highly skilled* at computer search techniques (pg. 238, author's emphasis). The study participants who were able to apply their general Internet skills, gained elsewhere, to archival searching spent less time completing tasks than other users. This result is significant because it suggests that the reverse is also true: electronic finding aids which employ familiar web design patterns, patterns which users are accustomed to from interacting with other interfaces, can help researchers navigate finding aids more efficiently. Fortunately, this emphasis on human-centered design can save time for archival professionals, as well. As Meissner (1997) and his colleagues discovered, making finding aids more transparent for users to understand was a time-saving exercise for their staff, too, as it reduced the demand for them to educate users week after week on how to navigate and understand the aids (pg. 374).

Yet, none of these approaches are without downsides. The intervening thirteen years between some of Prom's participants doubting the completeness of electronic finding aids overall in 2004 and Bahde's expert users expressing doubt in the

completeness of data visualizations of finding aid descriptions in 2017 suggests a trend toward increased trust in electronic finding aids as a whole, but the existence of this uncertainty at all is worth exploring further. What aspect of electronic finding aid representation gives rise to this distrust and why? Is it the interpersonal detachment due to users encountering the material apart from the expertise of an archivist or is it the spatial detachment of electronic description data apart from its physical archives or collection? Trace & Dillon (2012) also discuss this concept of distance, but from the perspective of power, to make transparent the control archivists have over what is written and how accessible it is (or not) to researchers (pg. 514). This documented fear of incomplete electronic information and the power imbalance inherent in archives could complicate the efficacy of dynamic & flexible interfaces, even if users express an interest in them.

Another pitfall is the potential for information overload when certain types of descriptive data are displayed graphically as opposed to textually. The subject headings network graph from the data visualization experiment displayed 425 subject components as compared to the 149 in the related materials graph (Bahde, 2017). Most participants found the subject heading graph more visually overwhelming, invoking fear in some users as they felt it might uncover previously unknown collections when they were already engaged in a later stage of their

research process (pg. 497). The scale of the graph also required more user instruction on faceting and isolating subject terms, a task that would undermine the time-saving benefits of a redesigned interface as previously discussed in this paper.

Conclusion

Although the primary audience and method of access for finding aids has evolved over time, the description and presentation of these assistive documents continue to reflect their origin as an internal tool designed for archival professionals ("a tool written by archivists *for* archivists") not users. Positioned at the top of the archival power hierarchy, access to materials is controlled by archivists so the fault of ineffective finding aids ultimately does not lie with a history of convoluted methodology, technology limitations, or even lack of time. Study after study, paper after paper has called for the reengineered presentation of electronic finding aids as the means to improve their usability. By collaborating with technology experts and employing successful usability principles, archivists can feel empowered to deconstruct the existing intellectual power structure within archives by creating a user-centered finding aid experience. Choosing to maintain the current presentation of archival description as-is, despite available & well-researched literature outlining a different path forward, archivists of the future will have to question whether their professional ethics are truly in alignment with their actions.

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