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Great Expectations: Technical Services and the Library Director

My return to these pages after an absence of eight years has, in all candor, come with a bit of trepidation. Though delighted to be writing here once again, I have not directly overseen technical services operations since first becoming a library dean in 2015, and my varied duties since have taken me far from the daily operational issues faced by cataloging and acquisitions staff today. The full implementation of RDA, a system migration during my watch, and the panoply of changes to the workforce and workplace catalyzed by the ongoing global pandemic, all of which transpired in the intervening years, have not increased my confidence in my ability to speak to the reader with insight or authority. The thought, therefore, of opining on expectations a library director might have for technical services operations gave me pause, simply because I had not been in the habit of giving much time to it. A recent move to a new role, as dean of a larger institution, has added another length to that span. Yet the move has also re-engaged my interest, if not necessarily added any expertise, in matters around the management and direction of technical services. I have begun thinking with renewed interest about structures, roles, and the future in a different context, and reflecting on where our operations may require restructuring as I collaborate with new colleagues to reposition the library for success in the coming years.

Artificial Intelligence and Machine Learning: Friends or Foes?

Other events have brought these thoughts front of mind. I recently heard an NPR story on ChatGPT¹, an artificial intelligence (AI) tool that has garnered considerable attention with its relative sophistication. The system has been able, with an impressive degree of credibility, to draft essays and journalism pieces, answer questions, solve math problems, and perform other feats that were the purview of science fiction writers only a short while ago. ChatGPT is not perfect. As it stands, the tool would be unlikely to pass the (fictional) Voight-Kampff test used in the 1982 film *Blade Runner* to distinguish the bioengineered humanoid replicants from their human creators. But its abilities are nevertheless both impressive and profoundly disturbing. What would the full development of a tool like ChatGPT mean for library work, including technical services? Would the obsolescence of the cataloger, the library instructor, and the person behind the chat reference service soon follow? What about the professor in the classroom, not to mention hundreds of other jobs filled by millions of people in academia and beyond?

Shortly after my arrival in my current role in early November 2022, I received a request to sign off on paperwork for a major grant from the National Endowment for the Humanities (NEH), led by a librarian working in our moving image archive and in partnership with two computer scientists. The grant seeks

¹ https://media.npr.org/assets/img/2022/12/17/chat-gpt-art-2_custom-d6c322b9069b3953f91013331c1ba97326d112ef-s1600-c85.webp. Accessed December 28, 2022.

to develop Virtual Bench Compute (VBC), a suite of tools that will analyze digitized surrogates of motion picture film to detect specific physical characteristics of a film (like a splice, for example), and the Virtual Bench Research Application (VBRA), an open-source desktop application that presents findings from VBC as if an archivist were viewing it in person, detailing the physical condition and characteristics of motion picture film. These products will enable film archivists to make geometric leaps in productivity, focusing their attention on other matters while machines perform the tedious work of investigating old films frame by frame for condition, edits, and other clues for their interpretation and preservation.

Coincidentally coming so quickly together, these two occurrences focused my otherwise occasional and inchoate thoughts on how we consider AI with new urgency. The tools I note above will, if successful, interpret images contextually and generate metadata accordingly. They thus approach enabling “self-cataloging” in a way first envisioned with the appearance of large-scale digital texts several decades ago. Indeed, discussions about the role of AI in libraries or in cataloging are hardly novel. Articles from the early 1990s anticipated that e-books and other e-resources would be “self-cataloging” and would require little, if any, mediation by human catalogers². Thirty years on, that world has yet to become the norm, so readers who express skepticism around the impact of machine learning on our work may be right to do so. Still, ChatGPT and tools like the ones under development at my institution and elsewhere portend a dramatic shift in the landscape of the work of describing and organizing content for discovery and use. Whatever other twists will follow, the path to which these efforts point is abundantly clear: the role of machine learning in our operations, both in and out of technical services, will be one of the central questions of our profession’s future.

The Impacts of Open Access Publishing and Shifting User Expectations

Acquisitions is hardly immune from significant changes either, even considering how dramatically the landscape has already shifted for those operations in recent decades. Traditional work, of course, centered around the ordering, receiving, invoicing, and claiming of print materials, both monographic and serial. Today, much of that work, though not all of it, has disappeared. The print era in serials long ago shrank to a small, if stubborn, proportion of subscriptions, and the print monograph may be entering its very last days at all but the very largest, richest institutions or for highly specialized materials. Print acquisitions and circulation have both been falling; the pandemic has only accelerated that trend. The median number of initial circulations at Association of Research Libraries member libraries, for example, fell from about 220,000 in 2011 to 25,000 in 2021; e-book acquisitions nearly tripled over the same period³. Indeed, library acquisitions today is primarily about managing licensed content: access problems, managing streaming services, reviewing license agreements, negotiating the purchase of a package of resources. Staffing may have contracted as well, with fewer people involved as the work became more collection-centric rather than a la carte.

Recent developments, however, portend consequences for acquisitions operations that are changing that collection-level management approach, harkening back to the title-by-title management of subscriptions that was formerly the norm. As more institutions break up “big deal” packages, more labor for title-by-title subscription management may once again become necessary—at least

² See, *inter alia*, Dan Dormer, “Cataloging in the 21st century—part 2: digitization and information standards,” *Library Collections, Acquisitions, and Technical Services* 24 (1) 2000. [https://doi.org/10.1016/S1464-9055\(99\)00099-8](https://doi.org/10.1016/S1464-9055(99)00099-8). Accessed December 28, 2022.

³ See <https://www.arlstatistics.org/data/main>.

temporarily. The recent rise of so-called “transformative agreements,” in which libraries negotiate article processing charge (APC) waivers for their faculty authors and open content for their readers, may lead to downstream effects, including cancelling most or even all their subscriptions, packaged or not. As content becomes more freely available and the costs shift more completely to the largest producers of research, acquisitions departments may (or may not) manage the work of managing APCs and APC credits. Likewise, as Open Access monograph publishing expands, the work of ordering, licensing, and paying for content will become unnecessary. While many in the community have forcefully advocated for open content, they have had less to say about the consequences for library budgets and staff. Will activities like paying for content shift away from libraries and into individual departments where faculty live? If much of our content is no longer behind a paywall, is that an unalloyed gain or does it also entail risk and loss to the library, whatever gains come to scholarly communication?

The Worst of Times...

Bleak times, then, for technical services: machines and algorithms quickly replacing us where possible, and other work moving out of the library altogether. Possibly. But I would argue that bleak times will follow only if we choose to frame our work and consider our values in terms of loss rather than of opportunity. In the long history of automation, we have seen occupations disappear, but also entirely new ones emerge. For libraries, and for technical services particularly, a critical distinction will still exist. We will still need people to guide the machines that replace some of our work and perform the tasks that are still beyond, or inappropriate for, automation. The complex interactions of our metadata with discovery tools, for example, requires the active participation of those with deep knowledge of the intricacies of metadata to function effectively. As Philip Schreur notes, the conversion of our metadata to linked open data (LOD) is a key component to making the most complete use of AI and the Semantic Web in our descriptions and discovery layers⁴; that work will fall to experts in bibliographic description before machines can make any sense of it. And the work of Safiya Noble powerfully reminds us that algorithms and machine processes are not neutral⁵; their creators’ conscious and unconscious biases live on through the routines they build. Our increasing reliance on such tools will bring an added need to ensure that equity and inclusion be central considerations in their design and implementation. Moreover, we have the potential to use these very algorithms to right historic wrongs in our use of inaccurate, harmful, or outmoded terminologies that fill our catalogs. The development of tools to identify and update such terms and keep our metadata in line with contemporary use will most certainly fall to the community rather than commercial developers; we can and should embrace this role as part of our broader evolution.

Though the kinds of materials we describe and make available, and how we make them available, will change dramatically in the coming years, commercial entities will not disappear from our landscape. Control of intellectual property will continue to lie largely with creators and distributors, many of whom have not traditionally served the academic market in the ways our users will expect (or we ourselves understand). The rapid acceleration in the adaptation of streaming video and audio services, especially since the onset of the pandemic, bears this out starkly. Negotiating licensing terms, managing access

⁴Philip E. Schreur, “The Use of Linked Data and Artificial Intelligence as Key Elements in the Transformation of Technical Services,” *Cataloging and Classification Quarterly* 58 (5) 2020.

<https://doi.org/10.1080/01639374.2020.1772434>. Accessed January 3, 2023.

⁵ Safiya Umoja Noble, *Algorithms of Oppression*, New York University Press, 2018.

appropriately, and assisting users with finding content and connecting to it will remain needed skills. These needs are evolving, but they are not disappearing. As with so many other things in the library, we are shifting from practices, tools, and techniques of the recent past to quite different modes of interaction with suppliers, users, and content. To succeed, the expectation of leadership will be that all library staff be able to use tools, not fear them, and to ensure that these tools reflect libraries' values.

Another question that necessarily follows is to what extent we should even talk about "technical services" as traditionally conceived. Library organization charts have rarely placed functions like assessment, for example, with cataloging and acquisitions. Yet collecting—and often analyzing—use data has been a significant function in acquisitions departments since the rise of electronic resources and the development of standards like COUNTER.⁶ Bibliometric analyses of the impact of researchers' work are increasingly important to leaders in the research enterprise; professionals in technical services are well-placed to participate in that work too. As units like circulation and interlibrary loan, traditionally considered a front-line public service, see their work with physical resources continue to shrink, what sense does it make to separate the fulfillment function in traditional silos?

... Or the Best?

Potential opportunities for those involved with the work of collections care, however we define those terms for the future, will be neither few nor dull. What leaders of libraries will expect, and require, will be a talented, imaginative group of people from various backgrounds working together to solve problems and fulfill our mission as stewards of information resources. The most successful of these colleagues will pay little regard to today's silos, instead focusing on goals and outcomes. That kind of unmooring will be unsettling, of course, but the alternatives will hardly be more attractive. Technical services operations were among the first to embrace library automation decades ago. Few could imagine (or desire) a return to the world of typewriters, carbon copies, and power erasers. If professionals in the field focus their energies and use technology with imagination and care, we may look back on our work today with similar bewilderment: how did we ever manage?

⁶ For more about COUNTER standards, see: <https://www.projectcounter.org/>. Accessed January 4, 2023.