

Shutting it down: questioning maintenance of institutional repositories

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Background

Amherst College maintains an institutional repository in support of Amherst's faculty open access resolution. With limited article submissions since launching the system several years ago, we are assessing the value of our institutional repository, the budget and staff effort needed to continue to maintain the repository, and whether resources would be better spent in turning it off to make space for other initiatives. As the head of the department in the library overseeing the maintenance of the repository, the question of turning off the system causes me some professional and personal angst, and this paper serves as a vehicle to help explore the reasons for these feelings as well as for understanding reasons for maintaining repositories.

Professional and personal angst

I supervise a talented staff doing the work of maintaining our institutional repository and other digital repositories for our archives and special collections, and I see this work as important. The question of whether to maintain our institutional repository is not necessarily a criticism of our priorities or contributions, but rather stems from valid concern over managing resources and wanting to enable the library to do the work most needing doing. Our institutional repository is not perfect and in some cases it isn't great in terms of adoption, user interface, or submission workflow; however, we do have an institutional repository and some resources to support it, as well as valuable institutional knowledge stewarded in the system in support of the college's open access mandate.

A secondary area of angst for me concerns the importance of the open access mandate and the value of open access, the role libraries have in supporting it, and what having this mandate says about the college. If we turn off the institutional repository, what unintentional message is made about the value of open access? A separate line of inquiry for this presentation could have reviewed open access maintenance and the work done in libraries that extends beyond the scope of system maintenance to outreach efforts, rights review, and more. I will focus on what I see as one of our library's and my department's primary ways of supporting open access through maintaining an open access institutional repository.

The view from Amherst, and why I wrote this

I value the meaningful collaborations amongst staff in the Amherst library and colleagues on the Fedora and Islandora projects about how to best to deliver software systems that support stewardship of knowledge. From this collaborative work I can see that designing and maintaining digital repositories

requires developing expertise that crosses boundaries of librarianship and technology, and when done well, allows libraries to have a modicum of control over the fates of digital objects. It requires staff and financial resources, and any institution endeavoring to host a digital repository ought to spend time considering the real costs of this type of work, and recognize that once you create a digital repository, turning it off has implications beyond budget, particularly the potential loss of knowledge.

Hosting an institutional repository requires expertise in data curation and organization of information, both of which are essential in libraries. Repository work also engages those with experience specific to software development and system administration. Despite the high level of intellectual engagement and disciplinary expertise needed in delivering a digital repository and curating digital knowledge, the work is often largely unseen by other departments in the library, and by the college as a whole. The invisibility of the work in designing and maintaining these systems obscures the value repositories hold for libraries and institutions in maintaining and curating digital forms of knowledge.

I am centering this presentation and paper specifically around maintenance and an ethic of care in repository work as a way to help myself with the angst I am feeling, and as a way to consult with what others have done and thought. Also, I feel compelled to look at this work, and even the prospect of turning a system off, through a lens of maintenance. I want to think about the work I do as an element of maintenance of knowledge, and apply what I can from other disciplines to thinking about my work and considering the choices around mending, transforming, or retiring digital systems.

Visibility and a holistic approach to institutional repository work

The question of turning off a repository suggests a larger question about the need for staff resources and ongoing budget for institutions planning for and managing digital projects. Often digital projects are conceived in ways that fail to consider the commitment of resources for stewarding digital content and systems. In part this failure to account for resources up front comes from and the invisibility of digital work compared with physical library materials. Repository work needs to be seen not just as picking the right technology, but as a holistic approach to organization of information. Zabel and Furlough capture this well in addressing the term *repository*, which obscures and constrains the imagination about the various problem spaces digital repositories work to solve, and a digital repository is both infrastructure and “a set of organized methods for content management” (2009). A lack of attention to the maintenance work of repositories factors into the challenges institutional repositories face in competing with commercial options and failing to engage faculty around their research needs.

And at Amherst the question of turning off the repository system is worthwhile because of the low submission rates and the need to best utilize limited staff and budget resources most effectively. We are not unusual in having both a faculty-supported open access mandate, while also having faculty not using the institutional repository. While not reassuring, it is helpful to see that even large institutions like the University of California experience similar low-submission rates in their institutional repository, despite an open access policy (Hoban, 2018). Further investigation of the reasons, and working to make visible the possibilities, will help in determining future paths.

Repositories and the intellectual work of libraries

Part of the challenge in surfacing the work of maintaining digital repositories is weaving together the disciplines of librarianship, software development, and system administration. A common shared understanding of how each of these disciplines work together is needed, so the technology doesn't feel magical and the library organization and curation work becomes more deeply embedded in the code. And further, across institutions we need to do more to build systems and standards that better meet our faculty needs so they can understand the value. As Aaron Tay discusses in a blog post about institutional repositories as possible dead ends, a need for coherent standards, user experience design, and better usage statistics contribute to skepticism about whether institutional repositories are the best option for scholarly infrastructure (2016). Similarly, in analyzing faculty awareness of open access publishing, researchers at Texas A&M University report that faculty are skeptical of the value of open access in comparison to other traditional modes of scholarship, despite widespread efforts on campus to promote open access (Yang & Li, 2015). Being able to draw attention to the value of institutional repositories in relation to open access and faculty research is a critical need, and delivering quality software and user experience essential.

The work required to maintain repositories and especially open access systems is an area of expertise that crosses disciplines, but is often largely unseen to those outside of these departments in libraries. As Lee and Stvilia discuss in their research, we in the library field need to capture the data curation activities that embody the work of institutional repository maintenance as a way to surface and validate this work (2017). Better articulation and acknowledgement of the work, building overall understanding of how repository work relates to and is the same kind of work as other areas of libraries is critical for long term sustainability and care of digital knowledge curation.

Paying attention to the objects and systems, and manifesting the repository's role in knowledge creation

An ethic of care is a good lens to view the challenge of making visible the expertise of repository work, and Bethany Nowviskie's discussion of care in relation to digital humanities, based on presentations she gave and published on her blog, provides inspiration. Nowviskie characterizes repair as it relates to an ethic of care as being part of collective performance of the various activities involved in care work, citing Joan Tronto's *Moral Boundaries* (2015). Tronto identifies *attention* as critical aspect or foundational behavior exhibited in an ethic of care (1993). Also highlighted in Nowviskie's post is an article by Steven Jackson about how repair relates to care and particularly with technology. Repair represents "the subtle acts of care by which order and meaning in complex sociotechnical systems are maintained and transformed, human value is preserved and extended, and the complicated work of fitting to the varied circumstances of organizations, systems, and lives is accomplished" (Jackson, 2014). Deliberately valuing practices around attention and repair in the maintenance work of repositories will help to surface the people and the work, as well as the technology and forms of digital knowledge.

These ideas of attention and repair resonate with the work of building, maintaining, and shutting down digital repositories, and form a ground for future conversation about how to frame the work, the community, and the interrelatedness of the many aspects. First, care in the form of attention to the work, underlying systems, and resources allocated will provide visibility, enabling informed decision-making around shutting down, maintaining, or retiring systems and code. And second, as a way to counteract the tendency to see technology as more ephemeral, developing an ethical relationship to our technological things in the form of digital objects and the repositories themselves will allow for more thoughtful planning at all stages of the process.

When fully seen, repositories are a digital manifestation of the curation of knowledge, and are a remarkable accomplishment joining the disciplines of software development and maintenance with library curation and knowledge. As more of our knowledge creation happens digitally it is critical to have repository systems that meet needs for curating knowledge, represent our values at the code level, and persist over time through ongoing maintenance and resource support. Seeing repositories as core functionality of libraries and not as bespoke projects is essential to making visible the ongoing maintenance work and honoring the knowledge stewarded by these technologies.

Attention in the form of sustainable funding, staffing, and long-range programmatic planning are key. In reporting on the life cycle of a consortial digital repository service in Colorado, Robin Dean advises on the importance of assessing ongoing sustainability costs to maintain systems as they grow over time, and planning for end-of-life service at the outset of projects (Dean, 2016). Based on findings from a study interviewing repository managers, a crucial point of consideration for administrators is that commitment to preserving the scholarly record without adequate ongoing funding is fraught (Sterman, 2014). Libraries, and particularly repository practitioners, need to be able to articulate the work activities, and ask for and plan budgets well in advance of implementing such systems to ensure support, attention, and program sustainability.

At Amherst we are in a position to review our current institutional repository work and can begin to articulate the budget, staff time, and expertise invested in supporting open access in this way, opening up conversation with campus stakeholders. As we plan for migration to a new platform for our archives and special collections digital repository, we can identify ongoing resources required to maintain systems in a programmatic way. What started as more of a tinkering project in building digital repositories has become an established aspect of our library's work, and now we need to catch up in terms of our overall budgetary and resource strategic priorities. Regardless of what happens in the future, the exercise of bringing attention to the work and valuing the technology and digital objects in our institutional repository will help with what comes next.

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