

Archival Robustness

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A major part of the archival enterprise is conveying meaningful information between contexts over time.¹ This process is never free. It requires resources (human, technical, financial). Ensuring a steady flow of resources over time is difficult.

At any given time, dedicated individuals and informal groups play vital roles in the provision of resources that perpetuate our documentary legacy (collecting, organizing, storing, and sharing information in which they have an interest). Commercial providers of information systems also play a major role, by furnishing the platforms upon which consumers create, manage, and share information.

It is risky to rely solely on individuals, informal groups, and commercial information system providers for the long-term stewardship of archival materials because those parties often do not have the capability or incentive to effectively allocate resources over long periods. The two primary responses to this issue are:

1. Systematically channel resources through the individuals/groups/providers (e.g., training, donations, new business models). This category includes what the archival literature refers to as “community archives.” In addition to the potential practical benefits of caring for records close to where they were created or received, community archives can also advance the autonomy and sense of identity of specific communities.²
2. Transfer responsibility for stewardship of the information to third parties. Traditionally, those third parties have been “memory institutions,” including libraries, archives, and museums (LAMs).

Whoever is responsible for records must deal with an ever-changing social and technical environment. It is impossible to predict what the specific changes will be, especially over long time periods. This makes it dangerous to optimize approaches to a particular set of assumed conditions. Instead, it is wise to aim

for robustness, meaning not only effectiveness in the short term but also sufficient flexibility to remain effective in a wide range of possible future contexts.

Robust action involves making choices that do not unnecessarily lock someone into a narrow path of future choices.³ “To escape a dependency on choice, action must be invariant to a wide range of preference judgements. This flexible kind of action, called local action, buys more time to observe opportunity context.”⁴ Considering chess as an example, the strongest players tend to prioritize moves that leave their options open and give them time to see what their opponent does, rather than launching into a sequence whose success depends on their opponent doing something specific.

Similarly, robust design is based on recognizing both immediate (better-known) and future (less well-known) needs. A “design is robust when its arrangement of concrete details are [sic] immediately effective in locating the novel product or process within the familiar world, by invoking valued schemas and scripts, yet preserve the flexibility necessary for future evolution, by not constraining the potential evolution of understanding and action that follows use.”⁵

Robustness is particularly important in dynamic and unpredictable environments. According to a RAND Corporation report:

The future of archiving and preservation is highly uncertain. . . . A robust strategy will have to anticipate these uncertainties and prepare for future trends that are foreseeable.⁶

. . . by using multiple scenarios, it becomes possible to test policy recommendations for their robustness. If an option appears to be effective in several, highly different scenarios, this implies that the option is robust. For options that are not robust, it is equally significant to understand under which circumstances they are not effective.⁷

Once again, robustness does not come for free. Studies in various settings show that “it is not possible to simply increase general robustness of the system without a sacrifice in performance and increased resource demands.”⁸ A major part of the archival enterprise is making the case for robustness along various dimensions. This involves foregrounding long-term adaptability in the face of pressure to solely prioritize short-term optimization.

Two fundamental factors of robustness are diversity and redundancy. All else being equal, it is beneficial to approach problems in multiple ways and to keep multiple copies (ideally, in different places). The best way to apply these two factors is a question of professional judgment. For example, an archives could decide to apply a diverse and redundant set of practices and storage options to each of the records under its care, thus advancing robustness along one dimension. However, this relatively resource-intensive approach would prevent the archives from collecting as wide a range of records as it might otherwise.

Alternatively, the archives could focus primarily on increasing the extent and diversity of its holdings, so that no single record is likely serve as a “single point of failure.” Frank Boles and Mark Greene address these dynamics within the context of archival appraisal, stating, “For many American archivists the concept of interrelatedness is an extraordinarily robust idea. These archivists trust that the plethora of records in existence establish multiple ways to document the same interrelationship and thus the destruction of some documents can take place with little or no risk of destroying the only available evidence of a particular interrelationship.”⁹

One way to support sharing and reuse of information across space and time is the adoption of standards. This can help to minimize dependence on a specific system or local conventions. Developing and promulgating standards is not just technical work. In his study of the history of networking technologies, Urs von Burg argues that one standard (Ethernet) was more successful than another (Token Ring) largely because the latter effort “interfered with the formation of a robust technological community. Such a community must be nurtured and constructed.”¹⁰

Even when archives can insist on strict conformance to standards internally and are able to convince other institutions to do the same, they must also interact with actors (creators, users) who pay little (if any) attention to those standards. Almost forty years ago, within the context of Internet interoperability, Jon Postel argued that implementation of standards should be robust, meaning that those who build systems should strictly conform to standards when generating information, while at the same time being tolerant of variability in the information that they receive.¹¹ Postel’s Law, stated more simply, is “be conservative in what you do, be liberal in what you accept from others.”¹²

Archival robustness can range from low-level considerations, such as the robustness of file formats,¹³ to higher-level organizational strategies, institutional structures, and attention to larger societal issues. The articles in this issue of *American Archivist* make important contributions toward the robustification of the archival enterprise.

In her presidential address, Tanya Zanish-Belcher discusses numerous activities of the Society of American Archivists (SAA) over the past year related to advocacy, diversity, the SAA Foundation, membership, and professional development. Her article can serve not only as a cause for celebration of professional progress, but also as a catalyst for further expansion and engagement. According to Zanish-Belcher, “Wherever archivists focus their attention and effort can expand the number of stories told.” She concludes with recommendations for SAA’s future, elaboration of challenges, and a call for members of the profession to take on leadership roles.

A vital component of any profession's viability is education. Edward Benoit and Donald Force analyzed archival education curricula and the courses offered in the previous three years to determine if and how the courses were applying elements of the Society of American Archivists' *Guidelines for a Graduate Program in Archival Studies* (GPAS). They also conducted a survey to elicit the perspectives of program directors on the usefulness and relevance of the GPAS. Based on the findings, the authors propose recommendations for "steering the ongoing archival education conversation in a more productive direction."

Another contribution related to profession-level issues is by Alexandra Orchard, Kristen Chinery, Alison Stankrauff, and Leslie Van Veen McRoberts, who summarize what they call the "archival mystique," which is "the duality of being a demographically female-dominated profession while women archivists still face traditional gender limitations." The authors discuss leadership and professional development issues, the historical treatment of women within the profession, and issues of professional identity. To thrive into the future, it will be essential for the archival professional to recognize and confront the issues raised in this article.

Youngok Choi and Emily Nilson conducted a survey to investigate the status of Catholic archives. The results indicate shortages of staff, financial resources, and information technology investment. Choi and Nilson provide recommendations related to collaboration, leadership, and ongoing discussions among Catholic archivists.

Human documentary traces can take many different forms, and archival robustness requires a repertoire of skills and procedures to address the variety of materials. Alice Pearman provides a case study of a pilot digitization project for twenty-one oral history cassettes and associated transcripts at the Lamson Library at Plymouth State University in Plymouth, New Hampshire. The materials document "personal experiences of the development of K-12 education in New Hampshire." Pearman discusses scoping of the project, legal and ethical considerations, the digitization process, metadata, incorporation into the institution's collection management system (CMS), digital preservation considerations, and challenges faced within the project.

In recent years, the modalities through which archivists can engage with others have dramatically increased. A variety of information and communication technologies (ICTs) not only offer new types of direct interaction but can also help to steer individuals into more traditional channels of interaction. A robust strategy is one that does not excessively privilege one modality at the expense of all others. Scott Pitol reports on an Archival Research Preparation Online (ARPO) Index, which addresses website components that can enable researchers to prepare for on-site visits to archives. He describes the index's nine components and how archivists can use the index to evaluate a website.

After applying the ARPO Index, institutions can use the results to justify and guide potential redesign of their websites.

Another important modality of interaction—especially for college and university archives—is research embedded within student coursework. Derek Webb describes a sequential multicourse collaborative research project in upper-level history courses at the Mississippi University for Women (MUW). Students investigated and documented the history of MUW’s desegregation and racial integration, while also generating materials for the archives. This project demonstrates how sequential multicourse collaborative research projects can advance both pedagogical and collection-building goals.

Archival robustness requires not only dedicated individuals, well-run organizations, and thriving professional associations, but also attention to the larger environment in which archives are embedded. Keith Pendergrass, Walker Sampson, Tim Walsh, and Laura Alagna make a case for “environmentally sustainable digital preservation,” which “requires critically examining the motivations and assumptions that shape current practice.” They argue for a “paradigm shift in digital preservation practice in the areas of appraisal, permanence, and availability.” This article introduces an important conversation to *American Archivist*. It is my hope that it will instigate further submissions that elaborate, test, and critique the authors’ questions and claims.

This issue concludes with eleven reviews of publications (books and reports) addressing a wide range of issues that should be of interest to readers of the journal. As usual, Reviews Editor Bethany Anderson provides an informative summary of the reviews in her introduction to that section.

Jean-Pierre Wallot states, “archives, as fundamental (but not exclusive) components of the world’s memory, are one of the most appropriate means of contributing to the sustainable development of any society.”¹⁴ In turn, it is vital to sustain the archival enterprise itself. A rich, multifaceted professional literature is a key element of its robustness.

NOTES

¹ Christopher A. Lee, “A Framework for Contextual Information in Digital Collections,” *Journal of Documentation* 67, no.1 (2011): 95–143.

² Michelle Caswell, Marika Cifor, and Mario H. Ramirez, “‘To Suddenly Discover Yourself Existing’: Uncovering the Impact of Community Archives,” *American Archivist* 79, no. 1 (2016): 56–81.

³ John F. Padgett and Christopher K. Ansell, “Robust Action and the Rise of the Medici, 1400–1434,” *American Journal of Sociology* 98, no. 6 (1993): 1259–319.

⁴ Eric Matheson Leifer, *Actors as Observers: A Theory of Skill in Social Relationships* (New York: Garland, 1991), 10.

⁵ Andrew B. Hargadon and Yellowlees Douglas, “When Innovations Meet Institutions: Edison and the Design of the Electric Light,” *Administrative Science Quarterly* 46, no. 3 (2001): 479–480.

⁶ Stijn Hoorens, Jeff Rothenberg, Constantijn van Orange, Martijn van der Mandele, and Ruth Levitt, *Addressing the Uncertain Future of Preserving the Past: Towards a Robust Strategy for Digital Archiving and*

- Preservation (Santa Monica, CA: RAND Corporation, 2007), 2, https://www.rand.org/pubs/technical_reports/TR510.html.
- ⁷ Hoorens, Rothenberg, van Orange, van der Mandele, and Levitt, *Addressing the Uncertain Future of Preserving the Past*, 76.
- ⁸ Hiroaki Kitano, "Biological Robustness," *Nature Reviews* 5 (2004):827–37.
- ⁹ Frank Boles and Mark A. Greene, "Et Tu Schellenberg? Thoughts on the Dagger of American Appraisal Theory," *American Archivist* 59 (1996): 307.
- ¹⁰ Urs von Burg, *The Triumph of Ethernet: Technological Communities and the Battle for the LAN Standard, Innovations and Technology in the World Economy* (Stanford, CA: Stanford University Press, 2001), 9.
- ¹¹ Jon Postel, "DOD Standard Internet Protocol," RFC 760, 1980, <https://tools.ietf.org/html/rfc760>.
- ¹² Information Sciences Institute, "DOD Standard Transmission Control Protocol," RFC 761, 1980 <https://tools.ietf.org/html/rfc761>.
- ¹³ Judith Rog and Caroline van Wijk, "Evaluating File Formats for Long-term Preservation" (The Hague: National Library of the Netherlands, 2008), https://www.kb.nl/sites/default/files/docs/KB_file_format_evaluation_method_27022008.pdf.
- ¹⁴ Jean-Pierre Wallot, "Archival Oneness in the Midst of Diversity: A Personal Perspective," *American Archivist* 59 (1996): 14–29.