Introduction

While the specter of environmental catastrophe knocks at the doors of archival repositories, a different threat congests our profession’s sustainability from within: the rising costs of organizational and technological complexity. We employ complexity as a problem-solving tool, which has given rise to impressive high-tech solutions and sophisticated practices to meet record-keeping challenges. Indeed, the archival profession has obtained unprecedented technical and organizational ingenuity.

But the problem with complexity is that it costs. As sustainability expert Joseph Tainter states, “The cost of complexity is the energy, labor, money, or time that is needed to create, maintain, and replace systems that grow to have more and more parts, more regulation of behavior, and more information.”[1]

At the dawn of the modern archival profession, we “plucked” the easy-to-reach solutions first. As easy problems were solved, the profession left with only hard problems, and consequently, hard-to-reach solutions. If preserving the human record is an increasingly costly enterprise, will these costs ultimately outweigh their benefits? Tainter suggests they may: “A prolonged period of diminishing returns to complexity is a major part of what makes problem solving ineffective and societies or institutions unsustainable.”[2]

Low-Hanging Fruit

For most of the 20th century, the archival profession dealt with few challenges. Our profession evolved from relatively simple and cost-effective problem-solving conditions:

- Small set of core values and skills
- Few specialized technologies
- No or few appraisal guidelines
- Minimal educational requirements
- Less professional oversight
- Log archivists
- Passive heating and cooling
- Smaller and simpler collections

Until the 1970s, few archivists received formal training in educational programs, rather most skills were taught on the job. One professional society was sufficient to sustain the professional needs of an archivist, who could thrive in a profession with little formal education or proficiency in specialized technologies. One exception over the past 60 years might be the MARC standard, which gave rise to online delivery of finding aids. While not a perfect fit, archivists could make do within MARC’s limitations.

Our archival forebears had fewer responsibilities and principles guiding appraisal. As Richard Cox states, before the rise of modern appraisal, “It used to be so simple. Archivists and manuscript curators acquired records with historical or continuing value, and researchers came to the repository housing the records and used them there.”[3] If scaled appropriately, a solitary archivist or “lone archivist” could handle most archival responsibilities. Archivists enjoyed the pre-digital benefits of print collections where inaction or benign neglect was a “preservation” option.

Hard-to-Reach Fruit

Over time, costs have crept into every level of the profession, which has taken on complexity heretofore unknown:

- Formal education requirements (credentialing and training)
- Increased flows of information (conferences and journals)
- Specialized appraisal and documentation strategies
- Specialized roles (managers, technologists, hyper specialized archivists)
- Team-based research (big projects, collaborative writing)
- Organizational oversight (standards and bodies and councils)
- Software applications and servers (in-house or hosted)
- Robust rules for professional conduct (ethics and values)
- Larger, bulkier, complex collections
- HVAC and fire suppression

New challenges have given rise to specialized conferences and training programs, which impose travel and registration costs on archivists, in addition to yearend attendance of foundational professional societies. The MLS (equivalent) degree has become the de facto credential, and additional degrees and certificates are deemed necessary to compete. With the advent of archival studies, education professionals have transitioned from part-time practicing archivists to tenure academicians who are burdened by the demands of the profession and academia. Further, educational programs, and their core curricula, courses, and syllabi must meet accreditation requirements.

Our small body of professional literature has evolved into a large corpus that no one archivist could expect to master. Increasingly, rare and file archivists have been replaced by specialists with competencies in areas such as forensics, digitization, metadata standards, and software systems. The beseeched “lone archivist” has the seemingly impossible task of wearing many hats to keep pace with ever changing trends.[4]

Where broad collection, record group, or series level description once sufficed, we now describe, encode, index, and display at the item level. The rise of digitization has raised the costly act of item-level description the norm. The development of our professional theories and practices is not free, it too costs in service (time not spent working), travel, and coordination among stakeholders.

The complexity of today’s metadata standards are increasingly difficult to maintain. The rise of MARC and EAD took place in a comparatively speaking, standards vacuum, where developers were largely free from concerns of interoperability. As problem-solving tools, standards rarely go away; instead, they are stacked on top of each other, and tend to proliferate.

Notes:

[2] Ibid., p. 76.

The MARC standard has solidified through decades of service. Since EAD was envisioned in 1993, it has taken a similar journey, becoming the bedrock of the archival profession. Other standards like PREMIS, METS, MODS, ORG, and MARC exist in harmony with MARC and EAD. Tainter notes, “Such increases in complexity work in part because they can be implemented rapidly, and typically build on what was developed before.”[5] As this web of meta-data standards grows, David Bearman warns, “very tiny technical differences often spell success and failure during the process of creating digital standards for archival materials.”[6] Our collection management, repository, and digitization systems are all increasingly prone to brittleness that undermines our sustainability goals. The growing specificity of our systems and standards dictate that their implementation fit like a glove, not a mitten.

Complexity and Paying for the Future

Forget the romanticized image of the lone wolf scholar: cutting edge research requires grant funding with teams of researchers from disparate fields, and inter-institutional collaboration. Sophisticated archival policies, practices, and technologies increase transaction costs and take longer to move from development to production. Innovation is paid for by cutting money out of our typically static budgets. If we seek grant funding, we incur costs in time spent writing grant proposals, reporting, and reporting. In “Tainter’s Model of Sustainability” shown below, a profession’s complexity that resides at C1 level reaps the most benefits from its problem-solving. Tainter states, “All that is needed for growth of complexity is a problem that requires it.” Since problems always arise, complexity seems to grow inexorably.[7] An agile and productive environment can perceptibly level off at C2 and eventually collapse at C3.

Our repositories have evolved from a simple, loosely coupled ecosystem of roles, functions, and technologies to one that is tightly coupled. Risks are harder to assess, and costs, more difficult to control. If complexity is prone to diminishing returns, we in the archival profession must heed Tainter’s admonishment. Modern record-keeping might collapse as past complex societies have: not for the lack of sophistication, but from the overabundance of it.[8]