Practical Digital Preservation: A How-To Guide for Organizations of Any Size. By Adrian Brown. Chicago: ALA Neal-Schuman, 2013. 336 pp. Softcover. $85.00.

"Digital preservation"—two words that can invoke anxiety in even the most veteran archivist, from the lone arranger looking for a cost-effective way to transfer digital files off of obsolete media to curators at large research institutions who struggle to manage increasingly vast and diverse bodies of digital data. As the book's subtitle suggests, and as Adrian Brown states explicitly in the introduction, *Practical Digital Preservation: A How-To-Guide for Organizations of Any Size* was written primarily for current and prospective practitioners in smaller archives, libraries, galleries, museums, and other institutions with an obligation to collect, preserve, and provide access to information resources in digital formats. Brown's central thesis is that "digital preservation is a practical proposition for all," and throughout the book he emphasizes that "it is not only possible but eminently realistic for organizations of all sizes to put digital preservation into practice, even with limited resources and existing knowledge" (pp. 2–3).

The scope of *Practical Digital Preservation* is not limited to "preservation" in the narrowest sense of the word, but rather encompasses all aspects of implementing a comprehensive digital preservation program from pre-preservation strategic planning to final dissemination of curated digital content to end users. However, the book is not intended to be comprehensive, but rather a "starting point" or "initial guide" that points readers to further information, tools, and resources. Due to its formulaic structure, the book is easy to navigate and lends itself to consultation as a ready-reference resource. Case studies are also included at the end of some chapters to provide specific examples of how practical digital preservation has been successfully implemented by smaller institutions.

Chapter 1 serves as the introduction and describes the book's target audience, outlines the goals of digital preservation, and debunks common digital preservation myths. Here Brown also demonstrates a concern for precise and consistent use of digital preservation terminology by thoroughly defining fundamental concepts like *digital object* and *digital repository* and explaining the criteria for including terms in the glossary.

Chapters 2 through 4 introduce requirements and best practices for pre-preservation planning. As archivists and curators of digital content, we can easily become so fixated on the technical requirements for preserving digital records that we neglect some the more fundamental prerequisites like the need for a clearly articulated digital preservation policy and sustainable funding model. For this reason, Brown's decision to devote one-third of the book to pre-preservation planning is a fortunate one for readers and makes this section arguably the most important and useful in the entire book. Chapter 2, "Making the Case for Digital Preservation," outlines strategies for securing resources for a digital preservation program by quantifying the value of digital preservation in a manner that will appeal to decision makers and funders. Brown recommends developing a "digital asset register" that documents all of an institution's digital assets and includes a risk assessment outlining each asset's vulnerability and the potential impact on the institution if the asset were to be lost. A template and detailed instructions for creating a digital asset register are provided in appendix 1. Chapter 3, "Understanding Your Requirements," outlines procedures for defining digital preservation requirements

such as identifying stakeholders and their roles, modeling requirements based on your institution's business requirements, and developing a "requirements catalog" that describes those requirements in detail. Chapter 4, "Models for Implementing a Digital Preservation Service," focuses on steps for selecting an appropriate model for implementing the digital preservation requirements outlined in the requirements catalog. Potential models include developing a custom, in-house solution; using open source software tools; purchasing a commercial solution; and outsourcing to a hosted third-party service provider. Examples of common digital preservation software, tools, and services are provided in appendix 3.

Chapters 5 through 9 outline the principal functions of a digital repository. Chapter 5 covers the steps for selecting and physically acquiring digital objects, while chapter 6 focuses on ingest and accessioning procedures for bringing digital objects under intellectual control. Brown's understanding of the acquisition, ingest, and accessioning of digital objects is heavily informed by the tools and techniques for smaller institutions outlined in the Paradigm Project's *Paradigm Workbook on Digital Private Papers* (2007) and the AIMS Work Group report, *AIMS Born-Digital Collections: An Inter-Institutional Model for Stewardship* (2012), and he does an excellent job of explaining not only *what* should be done to implement a successful digital preservation program, but also *why* each step is important. Chapter 7, "Describing Digital Objects," provides guidance on choosing, acquiring, and storing descriptive, technical, and structural metadata to support a digital repository.

Chapter 8, "Preserving Digital Objects," is the heart of the book and introduces "the strategies and techniques required to ensure that digital information remains accessible and usable over the long term" (p. 193). Here Brown addresses many of the concerns that one would expect to see in any serious overview of digital preservation including potential threats to the reliability, authenticity, and accessibility of digital information such as bit rot and technological obsolescence; preservation strategies including migration and emulation; and security controls and routine integrity monitoring of files. This chapter is rich with information and provides a very detailed yet concise overview of many of the concepts that often reappear in the broader digital preservation literature.

Chapter 9, "Providing Access to Users," focuses on the decisions that institutions must make when providing access to digital objects. Brown believes, and many readers would likely agree, that "access provides the very *raison d'etre* for digital preservation," in that the preservation actions we take should be informed by the anticipated needs of our users (p. 243). User needs, however, must ultimately be balanced with any legal considerations and the technical capabilities of the repository.

In chapter 10, "Future Trends," Brown concludes by considering the future of digital preservation tools, techniques, and ideas. He is well aware of the potential pitfalls inherent in what he refers to as "futurology," but explains that in a rapidly changing field like digital preservation, "There is some value in considering the areas of progress that are most apparent, and how they may manifest" (p. 273). From his perspective, the future of digital preservation will likely include an expanded market for commercial solutions as the private sector looks to "off-the-shelf" solutions for preserving their commercially viable digital assets, as well as the emergence of hosted digital repositories, or

"Preservation-as-a-Service" (PrasS), as a common digital preservation solution that is particularly attractive for smaller institutions.

A central argument reiterated throughout the book is that "digital preservation is an *outcome*, which can be achieved by many different means, and at varying levels of complexity, to suit the needs and resources of the organization in question" (p. 4). To demonstrate this inherent flexibility, Brown has developed a "digital preservation maturity model" as a way for organizations to assess their capabilities in relation to a minimum standard for each of the requirements for planning and implementing a digital preservation program. The maturity levels for each requirement range from 0 to 5, with 3 being the minimum recommended standard. As Brown explains, "The value of such maturity models lies primarily in providing a framework for thinking about digital preservation as a broad spectrum of acceptable capabilities, rather than a single, and almost certainly unobtainable, ideal of curatorial perfection" (p. 90). This maturity model should not only prove to be exceedingly useful for preservation planning purposes, but it also aligns with the *Levels of Digital Preservation* released by the National Digital Stewardship Alliance (NDSA) in 2013. Brown's maturity model is in fact much broader in scope given that it also encompasses policies, staffing, and organizational support—three digital preservation planning requirements that the NDSA explicitly chose to exclude from its recommendations.

Many readers may be disappointed by the lack of attention given to archival arrangement and description in the book. The concept of arrangement is not addressed at all, and the term "arrangement" only appears once or twice in reference to content management systems like Archivists' Toolkit that facilitate archival arrangement. Archival description is only mentioned briefly in reference to *ISAD(G)* and *EAD*, two of many descriptive metadata standards introduced in chapter 7. This omission is likely due to the diversity of Brown's intended audience, which includes a variety of different cultural memory institutions beyond archives. The first book in SAA's new Trends in Archives Practice series, *Archival Arrangement and Description* (especially Module 2: "Processing Digital Records and Manuscripts"), would be a more appropriate resource for readers interested in strategies for processing digital archival records.

One could argue, in reference to the book's cost, that the majority of the information presented in *Practical Digital Preservation* is derived from resources that are already freely available online; however, Adrian Brown has combed through the often overwhelming deluge of information that comprises the current output of the digital preservation community and has extracted, synthesized, and presented the most relevant bits in a highly readable and readily comprehensive format that digital preservation practitioners and researchers will likely consult and cite frequently, well into the foreseeable future. If readers wish to take advantage of Brown's diligent research and thoughtful insights gained through years of practical experience as an innovator in the field, it is going to cost a little more upfront, but doing so will ultimately save them a tremendous amount of time and make the task of practical digital preservation seem much less intimidating.

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