Storing and Preserving Digital Materials:

An Annotated Bibliography

Asogwa, Brendan E., and Ifeanyi J. Ezema. “The Challenges of Preservation of Archives and Records in the Electronic Age.” *PNLA Quarterly* 76, no. 3 (Spring 2012): 115-125. <https://libproxy.library.unt.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lls&AN=108827121&scope=site>.

This article discusses generally the challenges faced by archives and record hold institution in preserving their digital and physical collections. The focus is primarily on digital materials, however. It is especially useful for understanding the challenges of preserving digital collection in developing countries.

Bhat, Wasim Ahmad. “Long-Term Preservation of Big Data: Prospects of Current Storage Technologies in Digital Libraries.” *Library Hi Tech* 36, no. 3 (2018): 539-555. <https://doi.org/10.1108/LHT-06-2017-0117>.

This is a good article for understanding the current state of big data storage in the digital library space. There is a discussion of various digital storage mediums and their viability for long term storage of large digital collections.

Gerrard, Maynard David, James Edward Mooney, and Dave Thompson. “Digital Preservation at Big Data Scales: Proposing a Step-Change in Preservation System Architectures.” *Library Hi Tech* 36, no. 3 (2018): 524-538. <https://doi.org/10.1108/LHT-06-2017-0122>.

Similar to the previous article, this piece discusses the challenges of storing and managing large digital collections. Digital preservation systems, like Artefactual’s Archivematica and ExLibris’s Rosetta, and tools, like DROID and JHOVE, are looked at and analyzed to determine their potential usefulness for big data preservation.

Iraci, Joe. “Blu-Ray Media Stability and Suitability for Long-Term Storage.” *Restaurator* 39, no. 2 (2018): 129-155. <https://doi.org/10.1515/res-2017-0016>.

This is a great resource for understanding why current optical media storage mediums are not really viable for long-term preservation of digital collections. This particular article focuses on testing the potential use of Blu-Ray media for digital collection storage, but it does touch on other optical mediums as well.

Keller, Shannon. “Demystifying Digital Preservation: Recommendations for Organizations, Libraries, and Information Professionals.” *The Serials Librarian* 78, nos. 1-4 (2020): 57-63. <https://doi.org/10.1080/0361526X.2020.1697591>.

This article looks at the general feelings and thoughts about digital preservation in the information profession. It also ends by providing some general advice for institutions and information professionals who are interested in supporting or initiating digital preservation programs.

Kosciejew, Marc. “Digital Vellum and Other Cures for Bit Rot.” *Information Management Journal* 49, no. 3 (May/June 2015): 20-25. <https://libproxy.library.unt.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=102623442&scope=site>.

This article presents a deep look at the possibility of a long-term storage format or medium that could be used to ameliorate the problem of bit rot. The issues with current storage mediums are discussed and a theoretical solution is presented that could potentially supplant all of them. This theoretical solution is called digital vellum which is a play on how vellum is a very resilient and long-lasting material. The hope is that digital vellum will allow digital records to be endlessly preserved for the future.

Magama, Blessed. “Strategies for Preservation of Digital Records in Masvingo Province of Zimbabwe.” *ESARBICA Journal* 37 (2018): 18-38. <https://libproxy.library.unt.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lls&AN=133357083&scope=site>.

This is a great resource for understanding the digital preservation challenges faced by the underfunded and understaffed libraries and archives in Zimbabwe. The findings in this article can also be applied to institutions in most developing countries.

Masenya, Tlou Maggie, and Patrick Ngulube. “Adoption and Implementation of Digital Preservation Strategies by Academic Libraries in South Africa.” *Mousaion* 38, no. 1 (2020): #7123. <https://doi.org/10.25159/2663-659X/7123>.

Although focused on academic libraries in South Africa, this article presents information that is generally applicable to academic libraries around the world. Preservation challenges specific to South African academic libraries are a major focus of the paper, however.

Nagy, Andor, and Péter Kiszl. “Personal Digital Legacy Preservation by Libraries.” *Journal of Librarianship and Information Science* 53, no. 3 (2021): 382-397. <https://doi.org/10.1177/0961000620948574>.

The article discusses the opportunity for libraries and archives to get involved in the personal digital legacy service industry. It discusses the importance of, and challenges involved in, preserving people’s digital legacy. It also discusses the potential funding opportunities presented by digital legacy preservation services.

Pendergrass, Keith L., Walker Sampson, Tim Walsh, and Laura Alagna. “Toward Environmentally Sustainable Digital Preservation.” *The American Archivist* 82, no. 1 (Spring/Summer 2019): 165-206. <https://libproxy.library.unt.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lls&AN=138647390&scope=site>.

This is a good resource for understanding the impact of current digital preservation methods. It also discusses potential environmentally sustainable options for long-term digital preservation. Potential changes to appraisal and acceptable loss are mentioned as well.

Prater, Scott. “How to Talk to IT about Digital Preservation.” *Journal of Archival Organization* 14, no. 1-2 (2019): 90-101. <https://doi.org/10.1080/15332748.2018.1528827>.

This article discusses various vocabulary and concepts that are important for archivists to know and understand before and when they talk to their institutions IT staff. The goal of the articles is to teach archivists how to effectively communicate with IT staff what the preservation needs of their institutions’ collections are and what digital resources they need to meet those needs.

Rosenthal, David Stuart Holmes. “Format Obsolescence: Assessing the Threat and the Defenses.” *Library Hi Tech* 28, no. 2 (2010): 195-210. <https://doi.org/10.1108/07378831011047613>.

This article discusses how information professionals can identify and avoid media formats that may become obsolescent. It also details how to migrate or otherwise transfer data from formats that are already obsolete. Virtualization as a preservation strategy is also discussed.

Rosenthal, David Stuart Holmes. “The Medium-Term Prospects for Long-Term Storage Systems.” *Library Hi Tech* 35, no. 1 (2017): 11-31. <https://doi.org/10.1108/LHT-11-2016-0128>.

In this article, Rosenthal discusses how long “long-term” storage systems might actually last. The various current types of storage media are discussed including their pros and cons for long-term digital preservation. Potential future storage mediums are also discussed, including the use of DNA as a storage medium.

Tripathi, Sneha. “Digital Preservation: Some Underlying Issues for Long-Term Preservation.” *Library Hi Tech News* 35, no. 2 (2018): 8-12. <https://doi.org/10.1108/LHTN-09-2017-0067>.

This is a good article for understanding the general issues inherent to digital preservation. Issues related to metadata, proprietary file formats, and natural disasters are just a few of the topics discussed.

Vries, Denise de, and Melanie Swalwell. “Creating Disk Images of Born Digital Content: A Case Study Comparing Success Rates of Institutional Versus Private Collections.” *New Review of Information Networking* 21, no. 2 (2016): 129-140. <http://dx.doi.org/10.1080/13614576.2016.1251849>.

This article is useful for understanding how disk images can be created for some magnetic and optical media formats and what kind of problems may arise during the process. During the research undertaken for the article, the authors discovered that media in private collections was far more likely to suffer from copying errors than those stored in archival institutions.

Weisbrod, Dirk. “Cloud-Supported Preservation of Digital Papers: A Solution for Special Collections?” *LIBER Quarterly* 25, no. 3 (2016): 136-151. <https://doi.org/10.18352/lq.10114>.

This article looks at how cloud technologies could be used to enable creators to self-archive their digital papers. It also explores the viability of the cloud as a digital preservation platform.

Zhu, Bing, Richard Marciano, Reagan Moore, Laurin Herr, and Jurgen Schulze. “Digital Repository: Preservation Environment and Policy Implementation.” *International Journal on Digital Libraries* 12 (2012): 41-49. <https://doi.org/10.1007/s00799-012-0082-3>.

This article discusses digital distributed repositories and how systems like the integrated Rule-Oriented System (iRODS) can be used to manage such repositories. Some key concepts that are mentioned are policy mapping and micro-services.

Zierau, Eld Maj-Britt Olmütz. “A Holistic Approach to Bit Preservation.” *Library Hi Tech* 30, no. 3 (August 2012): 472-489. <https://doi.org/10.1108/07378831211266618>.

In this article, Zierau analyzes the various methods for bit preservation and how institutions can determine what method(s) will work best for their digital collections while taking into account important factors like confidentiality, availability, and costs. It touches on notable topics like the IR-BR model and the LOCKSS system (Lots Of Copies Keep Stuff Safe).