

June 2012

Forward Into the Past-Offsite Book Depositories: The Future of Libraries

John D. Riley

BUSCA, Inc., jdriley@comcast.net

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Recommended Citation

Riley, John D. (2012) "Forward Into the Past-Offsite Book Depositories: The Future of Libraries," *Against the Grain*: Vol. 24: Iss. 3, Article 10.

DOI: <https://doi.org/10.7771/2380-176X.6269>

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In concluding, the OCLC report notes that the network of organisms within an ecosystem contributes to its growth and expansion by facilitating adaptation, change, and contribution. A critical balance between cooperation and competition generates energy and motivates the evolution of the ecosystem toward higher function, nourishing the entire community. In a Web-scale world, collaborations must both promote sharing and drive innovation.⁶ As demonstrated in the NISO and NFAIS instance, this will require establishment of shared values and principles that can support cooperation and commerce through partnerships that co-create a vision of the future with content publishers and their platform providers, libraries and their service providers, library consortia, and national and international standards initiatives. "A Web-scale world makes this conversation urgent — and exciting."⁷ 🌱

Endnotes

1. **Somerville, M. M., Schader, B. J., & Sack, J. R.** Improving the Discoverability of Scholarly Content in the Twenty-First Century: Collaboration Opportunities for Librarians, Publishers, and Vendors. A White Paper commissioned by SAGE. Thousand, Oaks, CA: SAGE, 2012. <http://surveys.sagepublications.com/Survey.aspx?surveyid=3431>
2. **Walker, Jenny.** NISO launches new Open Discovery Initiative to develop standards and recommended practices for library discovery services based on indexed search. NISO Press Release, October 25, 2011. http://www.niso.org/news/pr/view?item_key=21d5364c586575fd5d4dd408f17c5dc062b1ef5f
3. **Lawlor, B.** email to list.niso.org, February 1, 2012. For full text, see: <http://info.nfaais.org/info/codedraftintroduction.pdf>
4. *Libraries at Webscale: A Discussion Document.* Dublin, Ohio: OCLC, 2011, p. 31. <http://www.oclc.org/ca/en/reports/web-scale/default.htm>
5. *Ibid.*, p. 32-33.
6. *Ibid.*, p. 33.
7. *Ibid.*

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of his wonderful Celtic music out. I listen to them frequently when I get stressed.

Speaking of stressed, I see that someone on my Facebook page noted that Stressed is Desserts spelled backwards! I love palindromes, don't you?

And there was even more music involved in the **Penthouse Interviews!** One of our interviewees was the brilliant **Scott Plutchak** who plays with the **Bearded Pigs**, a band of librarians! We are hoping to get the **Bearded Pigs** to the **Conference** for a small gig in 2013! Unfortunately, **Scott** will not be with

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Forward into the Past: Offsite Book Depositories, The Future of Libraries?

by **John D. Riley** (Eastern Regional Sales Manager, BUSCA, Inc.)
<jdriley@comcast.net> www.buscainc.com

Open stacks are a fairly recent development that can be traced back to nineteenth-century English and American public libraries when their library collections began to exceed the size of the reading room. Book stacks quickly evolved into a fairly standard form in which the cast iron and steel frameworks supporting the bookshelves also supported the floors, which often were built of translucent blocks to permit the passage of light (but were not transparent, for reasons of modesty).¹

Previous to open stacks, archival storage was the norm. The current practice of offsite storage can just as easily be thought of as archival storage. Books and other materials are kept in a secure, climate-controlled environment with access limited to individual requests filled by librarians or other library personnel. Archives have been a major component of libraries since their inception, and offsite storage has been used ever since the first libraries were created. Most libraries in Europe still keep books in storage with access only allowed by request after searching a catalogue of their available materials. Perhaps their holdings of incunabula and other rare books or simply the scarcity of many books encouraged the practice.

We have reached a similar situation today with an explosion of information and an inability to house all of it comfortably within reach. In addition, mass digitization has quickly converted tens of millions of books to electronic format resulting in less demand for the printed versions. Between these two irresistible forces libraries now find that returning to the archival model for storage, not just of little used items, but current materials as well, is a viable way to continue growing the collection while re-purposing precious space in the heart of their campuses or in urban settings.

I am one of those people who initially was horrified at the idea of storing most library books offsite or in compact shelving. Roaming the stacks was a pleasure I relished in my college years, but it is not something I do very often nowadays. It has become a rarefied pleasure that has possibly been outweighed by the benefits of "archival" storage: secure and safe storage, climate-controlled atmosphere, and easy location of needed items. Some libraries report that up to fifty percent of books searched in open stacks cannot be located, whether because the item was checked out or, more disconcertingly, because it was stolen or simply misshelved. One archive that I visited recently, the Harvard Depository, has lost only two books in its twenty-six-year history!

In fact, my interest in the subject of archival storage came about from a talk I attended given by **Matthew Sheehy**, Head of Access Services of the **Harvard University Libraries**, where he gave a detailed history and tour of the facility using slides and pictures. The size and scope of this project so amazed me that I later asked **Matthew** for a personal tour. He turned me over to the capable hands of **Patrick O'Brien**, Systems and Special Projects manager of the Depository. **Lee Anne Hooley**, Dark Archive Project and Document Delivery Librarian, was a great resource for details about the journal archiving function of the Depository.

I visited the **Harvard Depository** on a cool March afternoon, and it was a good preparation for entering the temperature and humidity-controlled warehouse that is kept at a constant fifty degrees and thirty-five percent humidity. The Depository is also pressurized from inside to create an outgoing breeze when doors are opened to keep out unwanted intruders such as flying insects. So a cool gust of air greeted us as we entered the towering stack area. Summer is the hardest time for the Depository with the infamous New England humidity forcing the air conditioners and dehumidifiers to run twenty-four hours a day.

On this day the Depository was handling its usual hundreds of requests from the **Harvard Libraries** and many from its Borrow Direct partners: **Brown, Columbia, Cornell, Dartmouth, New York Public, University of Pennsylvania, Princeton, and Yale.** The partners have access to each others' catalogues, and patrons can "borrow direct" from participating libraries simply by requesting items from their catalogue screens. The books in the Depository are all in the library's catalogue and can be delivered anywhere on campus within a day. Books ordered by 6:00 p.m. are delivered first thing in the morning. Same-day delivery is also available if ordered early enough in the day. The Depository circulates about 2.5% of its holdings annually, around 215,000 items.

The Depository also acts as a "Dark Archive," not unlike a "Seed Bank" which stores seeds against the possibility of some future calamity. By storing runs of journals for **JSTOR** and others, the Depository provides a physical backup to online journals. In spite of the mass digitization of journals, workers at the Depository deliver many articles electronically after scanning the appropriate journal.

The **Harvard Depository** has found that human rather than robotic retrieval of books works best for them. Employing forklifts fitted with work stations, they can go directly to the box they need and retrieve a single book. Books are grouped by size after bar coding and the

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box is bar coded as well. Robotic book retrieval typically brings back a whole box of books that contains the required material. Because of the size of the facility, **Harvard** has found that individual-item retrieval works best.

I got to ride along on one of the lifts with **Patrick**, and I got to see firsthand how easily it can be positioned exactly where the driver wants it. Boxes are stored on shelves that have been polished with bowling alley wax to make sliding the boxes onto steel work trays practically effortless. I asked **Patrick** what other techniques they employed for long-term storage, and he told me, “The ‘tray’ boxes in which we store books upright are made with PH-neutral paper. The air circulated in the storage area is filtered mainly for particulates. Lighting in the storage area is UV-filtered and switched on by motion detection, so overall exposure is reduced as well as saving power. Pest control is managed on a regular basis with ‘bug lights’ and periodic cleaning.” We also discussed earthquake preparedness, and **Harvard** is beginning to take action on that front. Depositories in higher-incidence earthquake zones, such as California, have built earthquake-mitigation details into their construction from the ground up. It cost **Stanford University** millions of dollars simply to re-shelve all of the books that came down in their main library during the 1989 Loma Prieta earthquake.

The **Harvard** Depository is built in a “modular” format that has been extended several times since its inception in 1986. The Depository was the first facility specifically designed for library storage. Previously, older warehouses or factories were retro-fitted for library use. This modular design will allow for continued growth in a facility that is absorbing nearly a half-million items per year. The Depository now contains over nine million items including books, media, photographs, and manuscripts. It houses more books than the combined holdings of the myriad other **Harvard** libraries. Because of overcrowded shelves on campus and the Depository’s effective delivery system and limitless storage capacity, most of the new books purchased for the library are going directly to the Depository. This has freed up a lot of space in the **Harvard** libraries for use as teaching and meeting facilities.

Another **Harvard** library, the **Baker Library** at the Business School, has developed a “virtual browsing” window on their catalogue that allows patrons to view books stored off-site as if they were on a shelf. For an added benefit the books are color-coded by frequency of circulation.

Harvard Digital Archive

“In **Cambridge**, the Digital Repository Service (DRS) is a rapidly growing, 109-terabyte online library of 14 million files representing books, daguerreotypes, maps, music, images, and manuscripts, among other things, all owned by **Harvard**. In a facility that also serves other parts of the University, a two-

person command center monitors more than a hundred servers. Green lights indicate all is well; red flashes when environmental conditions such as temperature or humidity exceed designated parameters. There are at least three copies of the entire repository — one in, and two outside of, **Cambridge**. One of them, secured by thumbprint access, is constantly being read by machines at the disk level to ensure the integrity of the data, a process that takes a full month to complete.”

“Several times a year,” says **Tracey Robinson**, who heads the library’s office for information systems, “we detect data that have become corrupted. We engage in a constant process of refreshing and making sure that everything is readable. Any damaged material is quickly replaced with another copy from the backup.”²

Robotic Storage Depositories

The first time I visited a shelving facility for “little-used” books that employed robotic technologies, I also got a personal tour of the **Jean and Charles Schulz**, of Peanuts fame, Information Center at **Sonoma State University** in Rohnert Park, California. When it opened in 2000 theirs was the third such facility built in the U.S. (**Cal State Northridge** was the first in 1996). Even though many other industries had been utilizing the same robotic technology for years, libraries only started taking advantage of them comparatively recently. The first warehouses to employ robotic storage were aircraft manufacturers who needed “just-in-time” access to the hundreds of thousands of parts required for assembling even one airplane, let alone hundreds of others. Library compact storage is actually one of the smallest uses of compact storage in a field where industrial warehouses may cover many acres.

I also got to visit the robotic storage facility at **Colgate University** that, like **Sonoma State**, has decided to keep archival storage as part of the library building. Both libraries found that quick retrieval was paramount in convincing faculty and students of the effectiveness of storing books away from the open stacks. **Colgate** also found that storing current DVDs and other media gave them another layer of security for items that had a habit of “walking” from more public spaces.

In some ways this new view on managing library materials is a return to the past, almost Medieval in its outlook. In Europe and elsewhere books are not kept on open shelves for browsing. Most books are kept in an archival setting and are retrieved only on request. This gives much more security to the collection and allows for compact storage. Once upon a time books were even chained to library desks for greater security. On a similar note, computer use for reading has been compared to more ancient modes of interacting with texts: scrolling, bookmarking, and using tabs.

One thing I think we need to keep in mind is the tension between curatorial demands and the desire to “save everything.” When visiting **Sonoma State** the librarians joked about the depository as “a monument to deferred disposal.” When seeing some of their holdings I couldn’t help but agree, even though they

were probably referring to future digitization of those holdings. Libraries need to work closely with faculty and students to make sure that what is sent off to storage is not material that is needed as reference materials. And librarians need to exert their curatorial control over what is being saved. One added benefit of sending materials to offsite storage is that it must be catalogued beforehand. This has led to more cataloging efforts resulting in more easily locating items in the collection.⁴

I would like to close with an observation regarding the curatorial aspect of storage from the **Cornell University** synopsis of offsite library storage:

I turn readers’ attentions to the work of **Jorge Luis Borges**, who knew a thing or two about libraries, and much more about speculation. Writing of an infinite “Library of Babel,” **Borges** describes two types of intruders. The first are inquisitors, always on the alert for material that offends orthodox sensibilities. “Other men, inversely, thought that the primary task was to eliminate useless works. They would invade the hexagons [**Borges’** library shelves], exhibiting credentials which were not always false, skim through a volume with annoyance, and then condemn entire bookshelves to destruction.” (**Borges** 1962, 84-85)³

Much of what offsite storage reminds me of, and not just the robotic part of it, is a science fiction tale. In fact, such sci-fi movies as “The Book of Eli” directly address the possibility of a loss of books, archives, and, thus, of our species’ memory. Science fiction has proven to be a good predictor of future realities. I am glad to see that depositories such as **Harvard’s** are addressing this issue of preservation and re-invention in the real world. 🌍

Endnotes

1. “Library” (<http://en.wikipedia.org/wiki/Library>).
2. “Gutenberg 2.0” **Jonathan Shaw**; *Harvard Magazine* (May- June, 2010).
3. <http://www.library.cornell.edu/colldev/storagehistory.html>
4. “Debate at N.Y. Public Library Raises Question: Can Off-site Storage Work for Researchers?” **Jennifer Howard**; *The Chronicle of Higher Education* (April 27, 2012; page A20).

For further reading:

<http://blog.archive.org/2011/06/06/why-preserve-books-the-new-physical-archive-of-the-internet-archive/>
<http://www.bbc.co.uk/news/uk-england-oxfordshire-16325727>
http://www.libraryjournal.com/lj/home/891734-264/robot_visions.html.csp
“Superpostapocalypticexpialidocious” **John Riley**, 2010; Benjamin Press; also available on Kindle; (title story of the book is about the **Harvard** Depository in a post-apocalyptic world).
To see pictures inside a high-density book storage facility, go to YouTube “Views at Duke: Library Service Center.”