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Managing Digital Resources, or, How Do You Hold Electrons In Your Hand?

Anna L. Creech

Central Washington University, creecha@cwu.edu

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namism of electronic resources is also what makes it important for us to collect them if indeed libraries wish to remain relevant in a rapidly changing Information Age.

Earlier I stated that librarians and libraries had reached the tipping point with electronic resources. This is why I think so. Several years ago when the **CONSER Program** developed the Single-Record Approach to help serials catalogers deal with the increasingly common phenomenon of print and online manifestations of a serial expression, there was little question which of the two was considered the primary or "original" manifestation. The print was considered the primary manifestation and therefore serials catalogers used the print bibliographic record as the **OPAC** description and attached the electronic manifestation attributes to it. Today I would say that many serials catalogers and most serials publishers have reversed their opinions and now consider the digital manifestation as primary.

The print-to-electronic dynamic has come full circle during the last ten years and that is exciting. Most publishers and many libraries now consider digital manifestations of resources to be the primary or original content form. However, this does not mean that librarians need to discard everything

we have learned. The coming years represent a period of transition in which libraries and collections will further refine model practices for how best to continue serving our patrons as more and more of our col-

lections become available remotely. Electronic resources simply represent another in the rich array of information media entrusted to librarians and library collections to fulfill that mission. 🌱

Endnotes

1. In fact, the entire cataloging code (AACR2) is currently being revised. The integration of electronic resources within library collections is not solely responsible, but was certainly a contributing factor.
2. The new cataloging code is to be published in 2008, and is tentatively entitled *Resource Description and Access* (RDA). Some people involved in the process are concerned that the Joint Steering Committee for Revision of AACR (JSC) may be rushing to produce a cataloging code to accommodate the publisher's schedule without fully exploring the need to re-examine the code's underlying principles and intentions. This rush to publish seems especially troubling in light of today's publishing and information environment and the changes the publishing world has experienced during the last ten years.
3. Paul Krugman. "State of Delusion," *New York times* Feb. 3, 2006: A-23; see also, Knickmeyer, Ellen. "Baghdad Neighborhood's Hopes Dimmed by the Trials of War" *WashingtonPost.com*, September 27, 2005.
4. I have written an extensive article addressing the ongoing MulVer problem for serial resources in far more detail than presented here. The article has been submitted for publication and I hope to see it published within the coming months.
5. The confusion and frustration experienced by library users of serial resources led the Cooperative Online Serials Program (CONSER) component of the Program for Cooperative Cataloging (PCC) to develop two alternative approaches: the Single-Record Approach, and in response to proliferating online serial manifestations, the Aggregator-Neutral Record.
6. Both approaches circumvent and to some extent undermine the cataloging code. However, such pragmatic solutions are required when ILS systems designers fail so miserably for so long at what should be seen as one of their primary missions: to display library data for users understandably.
7. Amy K. Weiss. "Proliferating Guidelines: A History and Analysis of the Cataloging of Electronic Resources," *Library Resources and Technical Services* 47, no. 4 (2003): 171.
8. *DLF Electronic Resource Management Initiative report*. Washington, D.C.: Digital Library Federation, 2004. Accessed Mar. 9, 2006 <http://www.diglib.org/standards/dlf-erm02.htm>.
9. Ibid.

Managing Digital Resources, or, How Do You Hold Electrons In Your Hand?

by **Anna L. Creech** (Serials & Electronic Resources Librarian, Central Washington University)
<creecha@cwu.edu>

In the 1995 publication *New Automation Technology for Acquisitions and Collection Development*, **Nancy Markle Stanley** wrote a chapter entitled "Purchasing Electronic Resources: an Acquisitions Perspective" in which she outlines the challenges of managing electronic resources. I had to chuckle a bit when I read the book, because at the time of its publication, my undergraduate library was in the process of finally automating their catalog. The evolution of electronic resources in libraries has all of the characteristics of technological innovation. There are libraries with the funding and vision to be early adopters, and there are libraries on the tail end that are constantly struggling to keep up. Most of us lie in the middle, maintaining a balance between what we need and what we can afford.

Over the past few decades, electronic resources have impacted library workflows, staffing, and budgets. Now that most libraries have gotten past the catalog automation phase, our attention has been drawn to the evolutionary transition of print to electronic publication. Computers with CD-ROMs and online databases have replaced reference rooms plagued by multi-volume indexes taking up vast numbers of shelves. Instead of worrying about sagging bookcases and annual accumulations, we spend our time scrutinizing license agreements and troubleshooting proxy server bugs.

While most of us were happy to shed print indexes in favor of databases, there has been more hesitancy with journals and newspapers.

The issues of access versus ownership heighten when dealing with content rather than indexes and abstracts. Serial collections are a long-term investment, and the online editions of journals are still in relative infancy. Again, this is a situation where the early adopters are singing the praises while the rest of the library world waits for the other shoe to drop. We have taken a leap of faith by adding online formats to our collections, but unlike the dusty tomes that still reside in our stacks, no one knows what will happen to them in ten or fifty years. Consortial relationships and Big Deal packages have encouraged many of the more hesitant libraries to acquire online journal packages, and once our users got hooked on instant online access to content, there is no going back to the days of lines at the photocopier. Full text has become the answer to the procrastinator's prayer.

How do you hold electrons in your hand?

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Managing electronic resources has brought about some commercial solutions such as journal A-Z lists, OpenURL, and ERM, but the question that plagues most librarians is staffing and workflow. The kind of technical knowledge needed to manage electronic resources is different from that needed to manage print resources. In most cases we have to do it with the same staff that has been faithfully processing our print journals for years. One person can manage a handful of online journals, but eventually this must be folded into the departmental workflow along with print.

While the functions of managing online journals are similar to print, the process is not. For example, online journals do not arrive via the mailroom. When a print issue is received, there is a system for updating holdings and getting it on the shelf to provide access for users. Similarly, when access to an online journal is activated, there is a process for providing access for users through links in the catalog or A-Z list or OpenURL link resolver. The end result is the same for both, but the way it is done is entirely different.

Professional literature in the field is scattered with articles and survey reports about workflow changes made at various libraries. Zhang and Haslam² offer a brief description of the changes made at the University of Nevada-Reno in their 2005 article that presents options that may be available to larger university libraries. They had the benefit of flexible budgets and staffing. These benefits allowed them to drop tasks associated with print journals, train their staff on tools for managing electronic resources, and add staff positions in electronic resource management where needed.

In 2002, Duranceau and Hepfer³ surveyed libraries to find out how they organized staff activities involving the management of electronic resources. Their survey results indicated that although libraries have increased staffing for electronic resources, they have not done so in proportion to the number of electronic resources acquired. In fact, most libraries are understaffed in this area if one were to look at the statistics alone. Their survey found that electronic collections grew 1,100 percent in five years, but the staff time devoted to those collections grew only 614 percent. Like UNV-R, most of these libraries have managed the increases by distributing the work among existing staff and training them for the additional technical expertise.

Re-designing workflow is not for the faint of heart. It is easy to look at what needs to be done and how a department workflow should be organized, but it is not so easy when one factors in the personality and skills of existing staff. Staff limitations can result in workarounds that may impact how effectively

against the grain people profile

Serials & Electronic Resources Librarian
Central Washington University, Serials Department - Library
400 E. University Way, Ellensburg, WA 98926-7548
Phone: (509) 963-1718 <CreechA@cwu.edu>

Anna L. Creech, MLS

BORN & LIVED: Born in Lexington (KY); lived in Iowa, Ohio, Virginia, Kentucky, and Washington.

EARLY LIFE: Reading books, watching sci-fi, and avoiding bullies.

Family: Two cats named Alex & Pesh.

Education: BA Mathematics, Eastern Mennonite University; MS Library & Information Science, University of Kentucky.

FIRST JOB: Serials/Database Cataloger, Eastern Kentucky University.

PROFESSIONAL CAREER AND ACTIVITIES: Focusing on serials & electronic resources; very active in NASIG.

IN MY SPARE TIME I LIKE TO: Use a GPS receiver and my wits to find containers other people have hidden in a game called Geocaching.

FAVORITE BOOKS: Anything by Agatha Christie; Anne McCaffrey's *Pern Series*; *Walking Home* by Kelly Winters.

PET PEEVES/WHAT MAKES ME MAD: Injustices of any size; leaving the toilet lid up; Bill O'Reilly.

PHILOSOPHY: Do no harm through action or inaction.

MOST MEANINGFUL CAREER ACHIEVEMENT: Writing for *Against the Grain*. Cheesey, but true.

GOAL I HOPE TO ACHIEVE FIVE YEARS FROM NOW: Deciding if I want tenure or a new job.

HOW/WHERE DO I SEE THE INDUSTRY IN FIVE YEARS: I see more dynamic connections between library catalogs and publisher data. Web/Library 2.0 tools and gadgets will be used to create a social community around library resources. Users will be driving the demand for these tools and gadgets, and the industry will be providing them for libraries to implement. 🐼

electronic resources are delivered to users. While parallels can be drawn between print and electronic management, serials librarians must step outside of the box in order to fully address the needs of online journals.

For the most part, print serials are stable creatures that require only a minimal amount of care. On the other hand, their electronic counterparts constantly demand attention. We use a combination of link checkers, publisher notifications, and user feedback to alert us when there are connection problems. An array of spreadsheets, homegrown databases, and manila folders help us keep track of payments and licenses. Vendor-created ERM tools have cropped up in the past few years to replace and improve homegrown solutions, but they are expensive and geared towards large collections.

One workflow concern that gets brought up regularly is the process of receiving issues. Some serials departments have simply transferred the print check in process to the online world by regularly looking to see if new issues have been posted and updating their catalog records accordingly. This is a very intensive process with limited benefit to

users. Either the journal issue is there or it is not. Many medium to large libraries have outsourced this aspect by making arrangements with a vendor to maintain links and update available dates as they receive that information from the publishers.

Another impact on workflow has been the merging of the serials librarian with the electronic resources or systems librarian. Traditionally, the serials librarian was concerned with print only and the electronic resource or systems librarian was concerned with electronic only. This delineation was simpler when a resource came in only one format, but it became less clear when publishers started providing free online access with print. Suddenly the serials librarian had to communicate with the electronic resources librarian about which journals have online access or not, and the lines between respective departments has become a blur. In many libraries, elements of both jobs were merged together into one serials and electronic resources librarian who coordinates the acquisition, administration, and evaluation of serial publications, regardless of format. Each library

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may have a different title for this person, but one glance at a job postings list will verify that there is a demand for librarians in this area.

Electronic resources have infiltrated and taken over almost every aspect of library service, from the catalog to indexes to books and journals. Recent library science graduates have, in general, more experience with electronic resources than their predecessors simply because they were required to use them in their studies. It is possible that in the future, there will be less of a need for an electronic resource specialist.⁴ Aspects of electronic resource management now covered by the electronic resource librarian may eventually be returned to other areas of the library based once again on function rather than form. If workflows for print resources can be merged with workflows for electronic re-

sources, eventually there may be no need to distinguish between the two.

Emery suggests that we need a more holistic view of electronic resources, because the processes of acquisition, access provision, administration, service provision, and evaluation are interrelated and cyclical.⁵ Print serials have similar connectedness, but it is not cyclical in the same way that online serials are. Long before computers and the advent of the Internet, serials librarians managed their collections regardless of the form they came in. This is still true for electronic journals, but unlike the many varieties of micro formats and print mediums, electronic formats are more ephemeral and require a different skill set to manage. The responsibilities of serialists have changed over time to reflect the change in mediums and delivery modes. They will continue to change in the future as technology provides new mediums for information dissemination.

Endnotes

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Serials Cataloging in the Digital Environment: Fast, Faster, Fastest

by **Mary Greci** (Serials Team Leader & Metadata Librarian, University of Oregon Libraries) <mgreci@uoregon.edu>

The digital format has caused major changes in libraries and serials cataloging operations have been affected as much as other areas. But how extensive are the changes? What are the effects on workload? How does the new environment affect production line staff? Finally, what do **Electronic Resource Management Systems (ERMs)** mean for the future of serials cataloging?

What Do Catalogers Do?

The goal of cataloging is to provide users with access to material by creating a surrogate that is accessible via appropriate search terminology. Searches may be via the card catalog, printed catalog, **OPAC**, another database such as **ContentDM**, or any other means. The mission of the individual cataloger focuses on providing access to material their library collects or otherwise makes available. This basic purpose has remained constant from the days of manuscript lists through the integrated online catalog of today. Catalogers organize information. If done correctly, that work facilitates retrieval of the information by those who want to use it. Records may appear in any format, follow any standard, be detailed or brief, and the goal remains the same: provide access to library materials.

Continuity in a Time of Change

The means of achieving this goal have

changed radically through the years. The advent of electronic journals and other online resources, along with how quickly this format was embraced by both libraries and library users, is just one of the more recent impetuses for such change. In many libraries, the purchase of print resources has declined. Libraries increasingly purchase large packages of e-journals and, whenever possible, provide access to these materials via their online catalogs. This access is near instantaneous for the end user. As a result, patrons and library staff have new and ever-expanding expectations of both the catalog and catalogers. Formerly, a search resulted in the retrieval of the surrogate, or catalog record, and a few more steps were required to find the needed document. Now, the search often results in the full-text of the needed materials, and the demand for this level of access is only increasing.

Discussions about e-journals generally focus on what is new and challenging about this constantly changing environment. It is important to remember, however, that much of what has gone before is still valid and useful in the present. In many cases, what is considered "new" would more accurately be termed "changed." For instance, when a new title is received at the **University of Oregon Libraries**, it is processed first in Collection Development & Acquisitions (CDA). If it does not meet the criteria for our "acceptcat"

procedure, it is routed to Metadata & Digital Library Services (MDLS) to be cataloged. A cataloger then goes through a series of steps that results in catalog access to the publication. Until we fully implement our **ERM** (discussed later in this article), the basic workflow and final goal of staff dealing with particular titles remain the same regardless of physical format. The differences — and there are many — appear only in the details.

So What Are the Differences?

Cataloging of electronic journals is, of course, different in several respects from the cataloging of more traditional formats. The difference that most directly affects the production catalogers in my team is the high priority given to electronic journals and the type of catalog access that is provided.

Cataloging Priority

Items received in print or another tangible physical format may be routed to the serials cataloging backlog, the priority shelf, or the problem shelf. The identification of an item as priority depends on the final shelving location, the type of receipt (continuing or one-time purchase, gift, depository, etc.), and whether there is already a record or records in the catalog. Electronic journals are another matter. They are *always* considered priority, with purchased titles ranking higher in the scale than free titles. The primary reason for

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