Charleston Library Conference

Tip of the Iceberg: Part 2, Discovering What's Hidden

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Remote storage for large collections is becoming common, making those books inaccessible for physical browsing by researchers. The John C. Hitt Library at the University of Central Florida (UCF) has approximately 1.3 million print items on-site. To devote most of the square footage within the existing building to space for student seating and other services, an attached storage facility has been built, which will eventually house about 90% of the print collection.

This Automated Retrieval Center (ARC) is three stories tall and uses robotic forklifts to retrieve 4-foot x 2-foot bins that each contain approximately 100 books. When a researcher identifies and requests a desired book in the online catalog, a signal is sent to the appropriate robot to retrieve the bin in which that book is stored. A staff member then looks through the bin to locate and pull the specific book requested. There are three heights of bins (10", 12", and 15") and books are sorted by height to fit into the appropriately sized bins. When a book is checked out and returned, it goes into the next bin with room for it. The result is that books that previously had been shelved next to each other lose that subject collocation, and physical browsing is no longer possible.

There are various factors that have a positive or negative impact on discovery, including:

- Accuracy of ingestion
- Loss of physical browsing
- Finding tools
- Browsing/searching in catalog
- Bibliographic records
- Subject guides
- Automated versus manual process
- Displays
- Teaching research methods

Remodeling the entirety of the existing UCF library will take place over many years and shelves must be moved out of the way of construction as it progresses. Neither the architects nor the construction company initially understood that moving the initial 400,000 books out of the way involved more than just clearing the shelves and dumping the books into bins. Each book must be tracked so that it can be retrieved. Initially two weeks were allocated to get everything out of the way for the first stage. Once the ingestion details were explained, the process was broken into phases extending over several months, but there was a continuous push to maintain an aggressive schedule.

Training is important. Errors happen. For example, the barcode reader beeped to indicate that it scanned a barcode, but the computer screen had to be checked to determine if the system actually recognized that barcode and knew with which book record it was associated. If a book is placed in a bin but the computer system doesn't attach that action to the appropriate online record, then that book is effectively lost. Even a 0.1% error rate results in over 400 lost items from the initial ingestion. Eventually a periodic inventory of the bins will be established to catch and correct these errors.

The books in storage cannot be physically browsed by anyone. With some books in storage and some on open shelves it can be difficult for researchers to know where to look. The installation of sprinklers throughout the library further complicated the situation; even in subject areas where most of the books remain on open shelves, the top one or two shelves of books had to be ingested. Browsing has become extremely confusing to everyone.

Browsing can be an important methodology for some types of research, particularly in the social sciences. Directed serendipity can be part of a research strategy wherein the searcher has a general idea where the types of books of potential interest may be found, but the searcher has not yet determined any specific titles, authors, or subjects. Even if the searcher cannot determine precise terms to construct a search algorithm in the online catalog, they might be able to identify some topical areas to browse in. Call numbers can pull together books on related topics even if they don't share any keywords or subject headings. Subject adjacency draws on the structure of the call number system, which provides a hierarchy and groups related subjects together.

The visual aspects of a book that might draw attention disappear in a list of titles in the search results on a computer screen. Tall books are more likely to contain illustrations and maps. Some books have sections of glossy pages that can be easily discerned looking at the top of the pages and which usually contain illustrations. If a book is relatively short but very long, then there is a likelihood that it contains panoramic images. Books and booklets that are extremely thin are often useful guides to collections. Fancy spines on some older books often indicate that the contents received special attention as well.

With physical shelves the researcher can quickly pull many books off the shelves to flip through the pages, examine the table of contents and index, and replace them on the shelves. With books stored in the ARC the record for each title must be selected and a retrieval request submitted, one at a time, and then the researcher must await their retrieval. The positive side regarding browsing in the online catalog is that the researcher can quickly explore links for subjects, series, authors, and so on to discover related titles. That functionality exists regardless of whether the books are on open shelves or in storage.

With the loss of physical browsing it became more important to provide researchers with access to finding tools associated with the call number system. The multivolume sets of subject headings and classification schedules from the Library of Congress were placed on shelves convenient to the research assistance desk. Sometimes the volumes are pulled out by a librarian to help a researcher explore a call number area more effectively and become aware of broader content. There is a renewed value seen in print bibliographies and indexes as finding tools; the reference librarians are evaluating how much space to allocate for them in the open shelves. Librarians are also paying more attention to features in online databases that help a user get from the description of a book to having the actual book in hand, such as links to the library catalog from databases like Reference Universe.

Although there is a search form in the online catalog that can be used to browse by call number, users are much more likely to start with a keyword search. Most users are unaware of an existing feature in the online catalog wherein a user can select the call number for an item in the list of keyword search results to bring up the results of browsing that call number. Librarians are considering including an

explanation of that feature in their library instruction tutorials and classes.

The feature to browse a list by call number in the online catalog displays 15 titles per screen, one line per title. Comparing that experience with visually browsing the physical shelves reveals some advantages of working with the physical books where it is easy to look left and right, up and down. In one search of the shelves a three-volume work about the Kikuyu tribe in Kenya was quickly discovered about a dozen volumes to the left of the other books about the tribe. It was assigned the general call number for ethnic groups in Kenya rather than the specific call number for the tribe, which causes it to appear on a different search results screen in the online catalog. The single-line entry for this specific title, *The Southern Kikuyu Before 1903*, does not provide any details about the book. The researcher must open up the individual bibliographic record in the online catalog to discover that it is three volumes and over 1,300 pages long. It is an older record with only the tribe name listed as a subject heading and no mention of Kenya. Another complication with online searches for this tribe is that there are at least nine different names or spellings and the UCF library collection contains at least 15 relevant items, which would not show up in a keyword search limited to the name used as the subject heading.

The bibliographic records in the online catalog for recent publications often include content notes and more subject headings. Can libraries afford to retrospectively enhance older records to add more information? Can images of book covers be added for older titles? The images of book covers in library catalogs are almost always done as a simple front view. If a book consists of multiple volumes, then composing the cover image at an angle to show multiple volumes conveys useful information to the researcher. There may be other visual or text tags that could be added to catalog records to improve quick identification of features about the books.

Although e-books are not arranged on the physical shelves by call number, including an appropriate call number in the catalog record helps integrate them in the search results. Unfortunately, many e-books lack much detail in the call numbers even when they are assigned, and there are many errors. Taking one example from the UCF catalog, there are over 2,000 e-books labeled with the broad call number range of L1–991 instead of being assigned more specific numbers. The call numbers between L1 and L991

cover General Education, and the individual call numbers provide usefully distinct information. Even more troubling in this circumstance was the high rate of error; an examination of the first five titles revealed that none of them fit that subject category and none belonged in that call number range—two belonged in LC, one in ND, one in PS, and one in QA. Vendors should be encouraged to provide more accurate call number information about their e-books, even if the call number is not carried out to the full Cutter number and date.

The decisions at the UCF library about which sections of the book collection would be moved into storage were driven entirely by the construction schedule. The result was that some of the most heavily browsed subject areas were slated to entirely disappear into the ARC. To mitigate that loss of browsing, a collection of online guides was created using LibGuides in the months prior to the first book being moved.

Currently consisting of 44 separate guides and growing, these Browse Call Number guides are gathered together through a single top-level guide at https://guides.ucf.edu/browse. Each call number single letter has its own guide and some letters have multiple guides; for example, there are 14 guides representing D through DX to reduce the complexity of navigating the levels of individual guides. The hierarchical structure of each call number area is laid out in nested outlines. At the most specific call number level links are provided to the library's online catalog to browse that call number to discover individual book titles with links to their locations on the open shelves or in storage.

These browsing guides are intended to lead the user to the holdings of the UCF library, so they do not include any listings for call numbers not available at UCF. Although call numbers are often provided at a very detailed level in the browsing guides, some subject areas only include links at broader levels. For example, the call numbers for individual Florida cities and counties are listed, but most other states only have links for the categories "Regions, counties, etc., A–Z" and "Cities, towns, etc., A–Z." The decisions about granularity were made to represent the anticipated needs of UCF researchers.

The user of a browsing guide navigates through successive menus to locate specific subcategories. For example, Class D—World History leads to a list that includes D 501–728—World War I (1914–1918).

From that list the researcher can select D 529–569.5—Military operations, Western & Eastern, and then select the detailed call number for an individual campaign, for example D542.Y6—Belgian & operations in Belgium, Ypres, 1st battle of 1914. Selecting the detailed call number retrieves browsing search results in the library catalog beginning with that call number.

Top-level directory boxes from the browsing guides are embedded into subject guides for relevant disciplines. For example, the Anthropology & Archaeology subject guide incorporates the browsing directory boxes for call numbers CC and GN; the English & Literature subject guide incorporates the browsing directory boxes for call numbers PR and PS.

Creating these browsing guides for call numbers at UCF has required a tremendous amount of time. Library researchers at UCF have expressed their appreciation for the ability to simulate browsing the shelves by call number, so the effort seems to have been worthwhile. Nevertheless, methods for automating the process are highly desired. Each of the individual call number links for browsing the UCF library catalog will have to be updated when the library switches to a different catalog interface in the coming years. An online catalog system that has features built in for enhanced browsing by call number would be very helpful. To make such features fully cover the library's holdings would require additional investment to retrospectively enhance the bibliographic records of older books, as well as obtaining accurate call numbers for e-books.

At the University of Denver the entire collection of U.S. government documents is in off-site storage. Chris Brown created a similar set of online guides to make it easier to browse their items using the Superintendent of Documents call number system—http://libguides.du.edu/BrowseDocs. His guides provide very detailed lists—each call number stem is displayed to the colon level. The Energy page lists over 400 call number stems for E.

The library catalog at North Carolina State—https://catalog.lib.ncsu.edu/—provides an automated call number facet. Although it doesn't carry the call numbers down to detailed sublevels, it does represent a more manageable approach. When you're looking at the online catalog record for a specific book, you're provided with the option to browse the virtual shelf. The resulting online display includes book cover images and is designed to mimic browsing the physical

shelves. E-books are included on the virtual shelf if they have a call number included in the record.

Another approach to helping researchers discover the library's books is using displays to showcase some of the library's holdings relevant to specific themes or topics. Since 90% of the UCF library's books will be moving into storage, there may be a need for more book displays to uncover what is hidden in the ARC. A librarian worked with a UCF history professor to identify 24 books about World War One that might be relevant for the students' term assignment, pulled them out of the ARC, and placed them on Course Reserves. One idea that has been suggested is to set aside an area for a rotating collection for researchers; a user could identify a short range of consecutive call numbers (maybe 200 titles) and have every book in that range pulled out of the ARC and placed on a section of open shelves for a week so they could physically browse every title.

In the past many researchers have not bothered to conduct a complex search of the library catalog. They would find out enough information to locate the general area for the books and then browse the physical shelves. With the books in storage, how does the library make the discovery process simple and good enough for the casual searcher? What steps might be necessary to conduct a more comprehensive, heavy-duty search?

Researchers may be able to mitigate the loss of browsing by looking at the full bibliographic record in the online catalog to identify features for a specific book. The description field may identify multivolume titles and books with more content than a standard book of 250–300 pages. An oversized book that is more than 30 cm tall may be more likely to contain illustrations or maps. The notes may also indicate illustrations (ill.), maps, and color (col.), although such notes don't necessarily identify how much content fits that description. The catalog records for books in a series often include links to other volumes in the series. Pay attention to the publisher's name to note ones that tend to incorporate special features in their books.

A tip for researchers interested in locating color illustrations when browsing by call number is that "pictorial works" is a recurring category within subject headings; the books usually follow the "general works" in the outline structure of call numbers on a subject.

Researchers can use annotated bibliographies to identify specific books of note and then search the library's holdings for the titles. Digitized collections of older books in projects such as HathiTrust and Google books can be used for discovery even if the print version must then be retrieved from storage to read the full text or to see better quality images.

What are the next efforts that might be undertaken at UCF? Funds need to be identified to obtain more robust library catalog records for older titles. More accurate call numbers need to be obtained from e-book vendors. A process should be developed for grouping retrieval requests from the ARC instead of submitting one request at a time. A routine inventory process of the items in the ARC will be developed to correct errors from the ingestion process.