With the proliferation of next-generation automated library platforms, such as Innovative’s Sierra, OCLC’s WorldShare Management System, and Ex Libris Alma, the clear demarcation between the acquisitions and cataloging duties in most library technical service departments has faded, making broader collaboration not only advisable, but all but required. Entire library workflows have undergone radical restructuring as a result of the new library system designs, which often results in acquisitions staff doing—or at least sharing—the work that catalogers and copy catalogers previously completed. In some libraries, in fact, the divergent roles that once defined the two major divisions in technical services have completely merged.

These changes have transpired rapidly. Looking back to the fairly recent past, when I first started working in my college library as a student worker in 1985, I worked in the cataloging department creating catalog cards for new materials using a programmable typewriter, 3 × 5 index cards, and extensive use of the National Union Catalog. I did not even know the acquisitions librarian. My territory was bounded by cherry-stained wooden card catalogs, rows of NUCs, and shelves of books to catalog. I was not concerned with how those books arrived or from where they came—not did I need to be. My job was solely to catalog and there was no overlap with acquisitions.

Thirty years ago, staff roles in libraries were clear—at least in larger libraries. Physical materials were selected, ordered, received, cataloged, processed, and shelved by separate departments, mostly...
independent of each other. By the time I received my MLS 20 years later in 2006, the integrated library system (ILS) was almost universally adopted, especially in academic libraries. Most ILSs featured discrete modules that reflected and preserved the traditional division of duties, and personnel worked within distinct client modules, such as systems administration, acquisitions, cataloging, serials, circulation, e-resources management, and the online public access catalog (OPAC).\(^1\) Now, just over 10 years later, rapid changes in technology and a tremendous demand for versatility in handling increasingly digital information have caused libraries to reexamine their entire organizational structure and workflows.

**RADICAL CHANGES IN TRADITIONAL TECHNICAL SERVICES DIVISIONS**

Technical services departments have traditionally been charged with acquiring, describing, and making resources ready for patrons. Within most technical services departments, the two main divisions of duties have been acquisitions and cataloging. Acquisitions procured items, cataloging organized and prepared them for inclusion in the collections. Selection and collection development, serials management, gifts, interlibrary loan (ILL), and other subunits may fall within the acquisitions division. The cataloging division may also house bindery/repair, both original and copy cataloging, and physical processing. These two “back-room” divisions in the library “provide the basic material upon which a library’s service program is built.”\(^2\) Essentially, without the acquisitions departments, the library shelves would be bare, and without the cataloging departments, the shelves may as well be bare. Acquisitions populated the library with material, while cataloging allowed library users to find and identify the material they needed.

A significant portion of the acquisition unit’s daily work was spent in the preorder tasks of bibliographic verification, or establishing the existence and quality of a particular item, and identifying a supplier for each. Acquisitions staff were spending a considerable amount of time consulting *Books in Print*, *The Serials Directory*, and *AV Market Place*.\(^3\) Once the existence of the item was established and
details verified, most physical items were ordered directly from the publisher, from a wholesaler or book jobber, or—since 1994—from Amazon. The very fact that the library resources were predominantly physical and were ordered from somewhere else meant that there could be a considerable delay between the time an item was ordered and the time it was received. Additionally, it was usually not until the item actually arrived that staff could apply adequate description. Legacy library systems were designed to accommodate this separation of duties, as well as the inherent time lag between them.

As we approach the end of the second decade of this new millennium, in addition to physical materials, libraries must collect and make accessible information that has no tangible presence and cannot sit on any shelf. In our new web-based world, information is complex and available in every conceivable format. It is increasingly digital, wholly integrated into our lives, and ubiquitous. It is no wonder that the library has undergone radical changes as it endeavors to keep up with the transformation in the way that information is created and becomes accessible to knowledge consumers. The prevalence and expectation of streaming media, e-books and e-journals, and unrestricted Internet-based information has resulted in and allowed for the dissolution of many divisions in the library and has altered the way the library itself is structured. The divisions within technical services have collapsed. Such departments bear little resemblance to those described in my 2002 technical services manual. The lack of compartmentalization and loss of boundaries in the flow of information and the many formats in which it is available have necessitated the transformation from discrete departments to largely integrated workflows within the library.

CONSOLIDATION IN THE INFORMATION INDUSTRY

Libraries certainly aren’t the only entities undergoing tremendous transformation. Publishing companies are merging, a trend that may also be shrinking the diversity of ideas and products. And the giants in the industry that serve libraries are consolidating and converging in surprising ways. For example, companies that originally specialized in the sale of e-books and e-journals are merging with companies that
once sold physical items and, having absorbed those companies, are further merging with or investing in companies that produce ILSs. Marshall Breeding calls this “horizontal and vertical consolidation.” Horizontal consolidation is the merging of competing companies with similar business activities, while vertical consolidation is the merging of companies with diverse products and business strategies that provide opportunities to expand their technological and market reach.  

An example of both vertical and horizontal consolidation is ProQuest, a company that provides electronic scholarly content—such as primary source material, e-books, access to dissertations and theses, scholarly journals, and historical and current newspapers—teaming up with Ex Libris, a company that creates ILSs, and then acquiring a wholesale academic bookseller, Coutts. Another example is EBSCO, a competing company that created a discovery layer designed to index and search across entire library collections. In addition to providing databases, e-books, and e-journals, EBSCO has been investing heavily in open source library services platforms like the new FOLIO initiative, which will be discussed below. OCLC, a global library cooperative celebrated for providing a space for shared cataloging, expanded its reach and enhanced its product by developing its own “integrated suite of cloud-based library management applications.” A profoundly consequential culmination of this robust horizontal and vertical consolidation is something Breeding coined the library services platform (LSP), which describes the new next-generation ILSs that are smashing through the traditional library workflows. These new models were designed to reconcile the library’s complex collections, comprised of increasingly electronic content, and the changing modes of acquiring materials with an emphasis on access over ownership.  

LSPs are designed to “seamlessly handle both print and digital content using ‘unified resource management.’” Rather than focusing on separate and distinct modules installed on desktops, they support numerous interchangeable workflows, which allow for tremendous flexibility. In fact, many of the new LSPs are cloud-based, eliminating the need to deal with servers or install software on designated desktops. This too allows for tremendous flexibility in where and how work is being done. Both the design and the functionality of the next-generation ILS emphasize modularity and extensibility, bringing together functions that were once distinct within the library and preparing for further innovations in the future.
These platforms are being designed to accommodate and promote collaboration within library departments, as well as between libraries. LSPs are being created as a reflection and expression of library consortia, of the collaboration between and merging of departments, and of the collaboration between the library and the publishing industry. They are an acknowledgment of and solution for the ways in which the acquisition, cataloging, and discoverability of information have changed.

**TRANSITIONS IN WORKFLOWS**

To illustrate the ways the next-generation ILSs have impacted workflows within technical services—and in particular the division between the acquisitions and cataloging divisions—let’s look at three academic libraries as they transition from their legacy system to an LSP.

**OCLC’s WorldShare Management Systems**

My first position post-MLS was in the library of a small liberal arts school in Texas. The library had just migrated from Dynix to Ex Libris Voyager. Technical services consisted of two departments: Collection Development and Acquisitions, and Cataloging. The head of Collection Development and Acquisitions supervised two acquisitions clerks. The head of Cataloging supervised a cataloging librarian, a copy cataloger, and a technical services clerk. The head of Systems oversaw an independent department, as did the head of Serials, who also managed the electronic databases and supervised two serials clerks. Interestingly, the clerk in charge of ILL reported to the head of Reference, and there was no coordination between the ILL clerk and Acquisitions on possible purchases to fill requests. As a cataloger, my work was done primarily within the Voyager cataloging module. However, I requested access to the circulation module so I could track holds and requests. I was not given access to the acquisitions module. The acquisitions clerk was given a list of books to order, and she chose a temporary bibliographic (bib) record from OCLC as a placeholder in Voyager. I cataloged all print and media materials in OCLC’s Connexion after they were received, often replacing the record previously chosen by acquisitions staff. There was limited communication between the Acquisitions and Cataloging departments. The cataloging librarian
cataloged serials and continuing resources. The head of Cataloging did most of the original cataloging, all of the special collections cataloging, and all of the e-book cataloging, in addition to importing authority records into the system. The library purchased very few e-books and did not hold any e-book subscription packages. Records for purchased e-books were imported into Voyager after being edited using the MarcEdit utility, and holdings were manually set in OCLC. Notably, even within the Cataloging subunit, cataloging tasks were divided among discrete workers with little access to each other’s work.

The library migrated to OCLC’s WorldShare Management Services (WMS) in 2013, and at that time the organizational structure of the library was turned on its head. A devastating budget cut to the library was the driving factor behind the choice of WMS as it was anticipated that there would be tremendous cost savings both in the price of the system itself and also through a reorganization and reduction of personnel. It was anticipated that the capabilities of this new system would allow the library to combine duties and eliminate staff redundancy. Technical Services was renamed the Library Resources department. The prior head of Serials became head of the department, with the previous head of Cataloging—now the cataloging and metadata librarian—reporting to her. The department head retained her previous duties of serials and e-resources but added systems management and collection development. However, the duties of the cataloging and metadata librarian were transformed. There is now no need to import authority records into the system, as authority control is built into WMS. In addition, the capabilities of WMS substantially changed e-book cataloging. It is no longer necessary to customize URLs or edit e-book records using MarcEdit, as the department head can simply “turn on” the library’s holdings of e-books. Purchased e-books appear through the discovery layer of WMS, alongside the new demand-driven acquisition (DDA) collections that have been activated. The department head is able to increase the depth and breadth of the collection by simply checking a box and turning on an entire EBSCO subject collection in the discovery layer. Not only are the cost savings in terms of time profound, but the library is able to provide access to thousands of books for a fraction of the cost. Library users are blissfully unaware of whether the e-book to which they have access was already owned by the library or was just purchased, triggered through their use.
The cataloging and metadata librarian, freed from e-book cataloging and authority work duties, now completes all of the original and copy cataloging and has been able to take on the additional task of managing the institutional repository. In addition, many of the special collections items that were never cataloged are finally being unearthed and cataloged. The second cataloging librarian was moved out of technical services and into public services. The copy cataloging position was eliminated. With a drastically reduced collection budget, very few books are being purchased, reducing the copy cataloging workload. In addition, the streamlined workflow made possible by WMS enables the acquisitions team and the cataloging and metadata librarian to take care of all the cataloging without the need for a copy cataloger. The ILL clerk position was moved into technical services and works directly with the single acquisitions clerk. The library leverages WorldCat and an ILLiad add-on layer to serve as a DDA for print that allows university community members to request that a book be purchased or borrowed. When a patron request comes in, the ILL and acquisitions clerks work together to determine whether to borrow or purchase the material to fill the request. The acquisitions clerk selects the bib record directly in the platform and adds the library’s holding to OCLC after she orders physical materials that patrons have discovered through WMS and requested. When the item is received, she affixes a barcode, which allows the cataloger to identify the selected record. The cataloger adds a unique call number and sends it over for physical processing. In other words, the technical services department was radically streamlined and consolidated. The department was downsized by half, going from 11 workers to 6. This downsizing and redistribution of duties would not have been possible—or it would have been much more difficult—if the library had not migrated to WMS.

**Innovative’s Sierra**

When my current library was with Evergreen, collection development, acquisitions, and cataloging were all done by separate departments. With the anticipated migration to Innovative’s Sierra, however, I was hired as the cataloging and acquisitions librarian. It is notable that my title combined two roles that traditionally defined the two major divisions within technical services. When I joined the department, there was a head of Technical Services, whose primary roles were systems (especially managing the migration from Evergreen to Sierra),
managing the e-resources, including the link resolver, and cataloging print materials. There was also a part-time original cataloger and a full-time copy cataloger. My primary job was acquisitions of print materials, and acquisitions and cataloging of e-resources. Despite the fact that this umbrella position was created anticipating a consolidation of workflows in the new platform, there remained redundancy in duties once we began operating within the Sierra system. Sierra employs “roles-based desktop staff applications” designed to support the changing workflows in libraries and to eliminate the need to switch between modules when switching between material formats or tasks. The workflow can easily switch between print and e-resources; between ordering, receiving, and cataloging; and between circulation, serials, and electronic resource management (ERM). In this new platform, one individual can easily order, receive, and catalog print and e-resources. The new integrated workflow increased productivity to such an extent that a part-time cataloger was no longer needed. That position was eliminated and a much-needed archivist was hired. Having been trained as a cataloger, the acquisitions and cataloging librarian is able to select and import the best records from OCLC into Sierra at the time she orders books. She is able to include internal messages on the order record with special instructions for the copy cataloger—for example, she might suggest a call number or an added note field or subject heading. She will also indicate whether the text is a course reserve purchase or a rush order for a patron, and the copy cataloger ensures that the book is routed to the proper place. With so much of the actual cataloging done at the time of ordering, the copy cataloger took over course reserves management, a task previously managed by the circulation staff. This change not only allowed public-facing staff more time to work with patrons, but it has resulted in a more efficient path for course reserve texts. Previously, a book ordered as a textbook or course reserve traveled back and forth between the technical services office and the circulation desk, which are on separate floors. Now, the book is immediately entered into the course reserve module in Sierra and processed with the appropriate reserve stickers.

As the current head of Technical Services, my time is entirely devoted to supervisory tasks, systems, e-resources, and the link resolver. Unlike my predecessor, who cataloged physical material, I
catalog all of our e-resources. Our library has chosen to import records into the catalog for all subscription e-books and streaming media, in addition to purchased e-books. This decision was made, in part, because our discovery layer could not display all of our e-books. We subscribe to both ProQuest’s Ebook Central Academic Complete and EBSCO Academic Collection. The discovery layer in Sierra is Encore. It is an EBSCO Discovery System (EDS) product and does not support ProQuest’s Ebook Central. As a result, our ProQuest e-books were invisible in our discovery layer. With records in our catalog, all of our e-books, regardless of vendor, are discoverable in one place. To provide records in the catalog, I edit batches of MARC records using MarcEdit and import them directly into Sierra. When I receive notice that titles have been removed from the collection, I delete the records. Sierra makes it easy to import batches and delete them through the data exchange module so that cataloging 10,000 e-books literally takes minutes.

From Sierra’s Administration Application, workflows can be created for every staff person authorized to work within the Sierra platform—in fact, multiple workflows can be created for each staff member. The acquisitions and cataloging librarian has several workflows to enable her to handle multiple complex tasks, while the copy cataloger has fewer, to accommodate her simpler tasks. This ability to create workflows across the application and to create the workflows that fit unique needs has allowed us to increase productivity and efficiency. With the application’s versatility, we are also able to step into each other’s duties easily without having to load extra modules onto our computers or physically move to different work stations. I have insisted on cross-training everyone in the department so that we are all familiar with each other’s duties. The acquisitions and cataloging librarian can easily receive items, manage the course reserve system, and import e-books. The copy cataloger can also receive items when the part-time acquisitions specialist is unavailable. As mentioned above, this efficiency has had a positive impact on other areas of the library, allowing us to take on additional tasks previously held by circulation staff. At the same time, Circulation is helping with tasks once performed by technical services staff. Circulation staff now process newspapers and journals at the circulation desk. They use the Sierra serials function and fill in the electronic “card” to update our holdings.
They manage the claims right from their service desk, which is directly adjacent to the journal collection in the library.

**Ex Libris Alma**

Another small liberal arts college in Texas recently migrated from Innovative’s Millennium, a traditional ILS, to Ex Libris’s next-generation Alma. A former colleague of mine was hired as the acquisitions and metadata librarian there while the library was with Millennium, preparing to transition to Alma. She shared her experience with me about the migration to Alma, as well as the changes her library has undergone since then. Within months of bringing the new system online, the library reorganized its staff. The old workflow under Millennium followed somewhat traditional roles. The collection development librarian selected materials and provided the acquisitions and metadata librarian with a list of the materials to be ordered. The acquisitions and metadata librarian ordered the materials from a vendor (Midwest Library System or Amazon), selected a bibliographic record from OCLC, uploaded the record into Millennium, attached the order record and item record, and assigned the Library of Congress (LC) Classification call number. When the book arrived, a technical services specialist received and processed the book. Even under Millennium, the traditional separation between cataloging and acquisitions had collapsed into the consolidated role of the acquisitions and metadata librarian. With the adoption of Alma, the boundaries between roles collapsed even further. The staff quickly realized that the positions of collection development librarian and acquisitions and metadata librarian were redundant. They consolidated the work, and the collection development librarian began not only selecting material but also ordering and then cataloging print material immediately in Alma. The technical services specialist still receives the item, assigns barcodes, and finishes processing material. The work was further consolidated when ProQuest purchased Ex Libris and Coutts. The book ordering platform for Coutts, Oasis, is now embedded in Ex Libris Alma, and books can be chosen and ordered through electronic data interchange (EDI) without ever leaving the platform. It is also possible to search Amazon from within Alma and to create a PO, bib record, and order record without having to leave the platform. Alma eliminates the modular thinking altogether.
Alma is a cloud-based LSP with tasks that are completely customizable and integrated. It is also untethered to any one desktop or location. My colleague is able to pull up her Alma interface, configured as she designed it, from anywhere that she has Internet access, allowing her freedom to move around the library, use her desktop or mobile device, or even work from home or while out of town at a conference. The interface itself is customizable, with boxes and widgets. Alma serves as an example of how new LSPs can support traditional task divisions, while at the same time making them unnecessary. Its strength, like that of Sierra, is that it can be configured to meet the needs of almost any arrangement of workflow and staffing. The extreme versatility of the platform makes it possible for technical services duties to be more fluid, for tasks and duties to be realigned or reassigned such that they enhance the strengths and competencies of each staff member. The resulting increase in productivity and efficiency allows technical services staff to spend their energy and resources elsewhere. In this case, my colleague is focusing her considerable talent on the user experience, discovering ways to more effectively connect students with the information they seek.

**RADICAL CHANGES COMING**

The rapid transformation of library technology has had a revolutionary impact on technical services departments over the last decade. This has ultimately resulted in more productive and streamlined workflows and has enabled a greater efficiency in ensuring that information finds its way into patrons’ hands. Collaboration between divisions is made easy by systems that are designed to provide seamless workflows, and the merging of once disparate duties is becoming commonplace. Technical services librarians must recognize that the future of LSPs will require them to expand their repertoire of skills and learn how to manage a process that is integrated along the chain from request to shelving. Technical services managers must invest in cross-training their staff. The emphasis needs to move from duties and tasks to workflow patterns that fit ever-changing library material. Technology is being developed that anticipates the development of technology we have yet to imagine. Marshall Breeding has recently
described an open source library services platform with a completely unique technology architecture. This platform is currently being developed by the Open Library Foundation, led by EBSCO in collaboration with several universities. The new library system, FOLIO, “embraces a highly modular approach in which specialized apps can be developed independently, yet collectively form a cohesive platform.” 14 There is tremendous interest in this project, and the ramifications for libraries are significant. It will offer technical services departments a blank slate and the autonomy to create the workflows that make the most sense for their unique situations.

Libraries all over the country are reorganizing workflows and structures, and library schools are awakening to these important and often radical changes. The top-rated library school in the country,15 University of Illinois at Urbana–Champaign, has a class called Technical Services Functions. It is a “seminar on the principles, problems, trends, and issues of acquiring, identifying, recording, and conserving/preserving materials in all types of libraries and information centers; includes the special problems with serials management; emphasizes service aspects.” 16 My alma mater, Texas Woman’s University, has since introduced the option to choose an emphasis or track, one of which is the “Technical Services/Cataloging Track” for “working in technical services (acquisitions, cataloging/metadata, serials, etc.) in any type of library.” 17 Library schools need to focus on a more holistic approach to technical services duties. Rather than teach a segmented approach to job duties, a technical services class might stress the treatment of each library acquisition, from selection through the process to accessibility of any resource. I would urge emerging technical services librarians and staff to learn all of the workflows.

There is a cost involved in cross-training individuals whose new duties are completely unfamiliar to them. The Association for Library Collections and Technical Services (ALCTS), a division of the American Library Association (ALA), offers both a six-week Fundamentals of Acquisitions18 course and a six-week Fundamentals of Cataloging19 course for under $200 each. Both of these web-based courses provide excellent basic skills. Before full efficiency is realized, technical services divisions may also face workflow slowdowns and logjams while employees are learning new skills and routines, which may be costly in terms of time and productivity. Beyond financial
costs for training, however, there are sometimes hidden morale costs. Personnel are more often being assigned multiple tasks where they have formerly been accustomed to only one. Many catalogers have very little training in acquisitions and know little about many of the business functions involved in the acquisitions process. They are often originally drawn to cataloging because they love the detail-oriented and rewarding process of cataloging itself and are dismayed to be thrust into the completely different realm of acquisitions. Adequate training and open communication will go a long way toward a successful transition.

CONCLUDING THOUGHTS

My initial position was that the next-generation library platforms have forced libraries—and in particular technical services departments—to collaborate in novel ways, collapsing and combining duties and workflows that had been wholly separate for decades. After considerable research and discussions with colleagues, my understanding of this dynamic has become more nuanced. While I maintain that those divisions and boundaries within departments have largely evaporated, there are two modifications I would make to my original understanding. First, innovators of library systems—many of whom are themselves librarians—are reacting to real changes in the information marketplace and are in large part responding to librarians, who are demanding products that will be adaptive to their changing needs and workflows. Instead of librarians scrambling to keep up with ever-changing technology, I now see librarians exerting pressure on industry pioneers to meet the challenges that are widely recognized. Every student or citizen who visits the library and attempts to locate and make sense of information that comes in every imaginable format understands that libraries need better, constantly evolving tools to deliver that information.

Further, before I learned about Alma and the upcoming FOLIO initiative, I had understood the new LSP protocols as enabling staff to skip across the platform and consolidate tasks, with the system administrator able to create tailor-made workflows for each position within each library. I now realize I hadn’t taken my image of the consolidated
workflows far enough. A more complete understanding of the newest LSPs eliminates all externally imposed boundaries or preset workflows. Perhaps future technical services departments will be able to invent themselves, hiring individuals to fill a workflow rather than a static job position. This will have a profound effect on the library job market. The future technical service librarian may be called upon to select, order, catalog, receive, and make accessible print, electronic, and streaming text and media. Future technical service workers will understand metadata and how to work with vendors of print monographs, streaming videos, e-books, and journals.

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