**Mountains to Molehills:
The Past, Present, and Future of
Cataloguing Backlogs**

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Mountains to Molehills: The Past, Present, and Future of Cataloguing Backlogs

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Abstract

While backlogs have existed in libraries the literature that describes them, the decline in the acquisition of physical collections relative to digital resources, as well as the availability of cataloguing copy has called into question the continued viability and relevance of arrearages. Yet, at a time of economic restraint, a rethinking of library operations is timely, if not urgent. What does nearly sixty years of research tell us about materials that are removed from cataloguing workflow pending availability of a bibliographic record? This paper analyses the characteristics of, and reasons for, arrearages, and assesses approaches to reducing or eliminating backlogs.

Keywords: backlogs; arrearages; cataloguing operations; cataloguing process; workflow management; technical services management

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Introduction

As a management issue that has been written about since before the 1950s, the topic of cataloguing backlogs has experienced peaks and valleys in the body of Library and Information Science (LIS) literature. Although the most recent spike of papers occurred in the 1990s, there have been about a dozen journal articles published since 2000 dealing with what are also referred to as cataloguing arrearages. This long-standing publication record on a topic that has become all-too-familiar to libraries prompted an examination of possible patterns in the literature that might provide context for the current state of backlogs, and offer suggestions for the future of this perennial operational management challenge. We were drawn to this exploration, not solely because of the long history of the literature concerning arrearages, but also because of this topic's pertinence to the current economic climate. As with many public- and private-sector entities, financial constraints have also impacted materials budgets, staffing, and operations within libraries. While we acknowledge that achieving the most effective distribution of finite resources across materials and staff is by no means unique to periods of slow to no economic growth, the need to address the issue of backlogs can be heightened by the emphasis that both the public and private sectors tend to place on values, such as restrained spending, and efficiency of operations, during such downturns. To what extent might those responsible for workflow of physical and/or digital resources consider backlogs to be either beneficial or detrimental to the delivery of quality service? An in-depth consideration and discussion of cataloguing backlogs, in this sense, seems all the more relevant and timely.

Prior to the 1960s, library collections consisted primarily of printed materials. As

the number and type of audiovisual media, and other nonbook formats proliferated, cataloguing standards, and, subsequently, machine-readable cataloguing (MARC) formats evolved to accommodate both book and nonbook items. National cataloguing agencies, bibliographic utilities, and cooperative cataloguing networks invested in creating and sharing MARC records, while individual cataloguing units designed and refined workflows for copy cataloguing. In the decades following the introduction of MARC by the Library of Congress (LC) in 1968, the percentage of bibliographic copy rose steadily, while the percentage of materials requiring original cataloguing at the local site decreased correspondingly. Whether obtained from a national agency, bibliographic utility, or network affiliate, or as part of a shelf-ready product from a jobber, or upstream at the source of publication, the availability of copy cataloguing has become more ubiquitous. At the same time, libraries are acquiring a lower proportion of hard copy books and physical media relative to digital resources. Taken on balance, one might wonder if backlogs are, or are becoming a thing of the past.

Seeking Definition

While discussions of backlogs have woven through peer-reviewed papers and countless annual institutional reports for over six decades, there seems little consensus on, or actual definitions of what is equally referred to as “arrearages”.¹ In many respects, a backlog is whatever an individual technical services or cataloguing unit deems it to be. There are no validated metrics or specified timelines or other delimiters that uniquely characterize a backlog, or serve to generalize it across all operational units. George Piternick’s 1969 survey of university libraries in the United States and Canada avoided a

precise definition of arrearages, claiming that, “no definition exists”.² Nonetheless, the study did identify two “types” of arrearages, namely, books “delayed or unduly halted” at any point between receipt and completion of cataloguing, and books intentionally segregated for deferred treatment.³

Sixteen years after Piternick’s landmark study, Grace Agnew, Christina Landram, and Jane Richards revisited cataloguing arrearages, surveying 117 members of the Association of Research Libraries (ARL).⁴ Recognizing that the availability of cataloguing records from bibliographic utilities, and the introduction of library automation systems, had changed the landscape of ARL members since Piternick’s survey, the authors asked two questions: “Has automation reduced or eliminated backlogs? Have arrearages grown as libraries expected, or have libraries learned to control and reduce arrearages?”⁵ Unlike Piternick, they did define arrearages as, “a backlog of uncataloged monographs/books.”⁶ In his article, “Management of Backlogs”, Donald Share stated, simply, that, “A library has a backlog when it cannot cope efficiently with day-to-day cataloging workloads.”⁷

Within ten years of the previous study, two additional definitions of note appeared in the literature. Sally A. Rogers drew a distinction between two types of backlogs, as follows: “‘Normal’ backlogs routinely develop whenever the volume of incoming materials is high and sometimes are used to stabilize the cataloging workflow when the volume is low,” whereas, “‘[h]istoric’ backlogs ... often consist of thousands of volumes that have been awaiting cataloging for years.”⁸ Beth Camden and Jean L. Cooper added to this dichotomous perspective of backlogs, distinguishing between “active” and “inactive” backlogs. As they note, a backlog is defined as active, “...if cataloging is

repeatedly sought in the network databases” [and] ... is one from which books are regularly removed for both copy and original cataloguing.” On the other hand, and of greater concern for cataloguing managers, is the “inactive” or “static” backlog. The authors defined this type as, “... one from which no items are removed, or one that grows excessively.”⁹

A definition of backlogs, more inclusive of multiple formats of material, was proffered by George Gordon Newton in his doctoral research of strategies employed by public libraries in California to address arrearages. These were defined as:

library materials, such as books and nonprint materials, such as audiocassettes, compact discs, microforms, and video cassettes, that represent an unfilled obligation for library technical services treatment. This treatment is the process, which includes the cataloging, machine data inputting, and physical preparation, by which library-acquired materials are prepared, or transformed (i.e., adding value to a product), for eventual use by the library customer or library staff.¹⁰

In a more recent cost analysis study of twenty-six ARL members, Cheryl McCain and Jay Shorten defined a backlog as items held more than 30 days before being processed. While survey questions did not differentiate between backlogs in acquisitions and cataloging units, participant comments indicated that most represented arrearages in cataloguing.¹¹ B. Jean Sibley’s 2008 online survey of serials backlog management in libraries defined backlogs as, “materials for which processing had been deferred”¹² Thus, while we might assume that cataloguing managers share a common understanding

of backlogs, there was no consistent or common definition of arrearages found in a literature extending over fifty years.

[Insert Table 1 here]

Finding a definition that is universally understood and consistently applied is problematic; identifying some common characteristics of backlogs across different types and sizes of libraries is not. A number of large survey studies were cited, above, and are summarized in Table 1. The nine major studies extending over nearly forty years show diversity in the nature and extent of arrearages, as well as their prevalence across academic, public, special libraries. Table 2 provides a profile of fifteen individual case studies of backlogs, primarily in academic library settings, though again illustrating the diversity of formats and languages of materials represented in arrearages that vary considerably in size. Such variability across studies, and particularly across those involving surveys of a large number of institutions, may offer some explanation as to why a common definition of backlogs has eluded researchers.

[Insert Table 2 here]

Causes of Backlogs

The causes of cataloguing backlogs have been many, according to the literature. Some originate from within cataloguing departments, while others lie at points within the technical services workflow beyond the direct control of cataloguers. Few, if any, authors attribute the problem of backlogs to a single cause. Instead, a number of recurring themes resurface throughout the literature, and at varying degrees of complexity. Some consider the uneven distribution of resources within technical services units—be they

technological, operational or budgetary resources—to be the cause of backlogs. Others remark upon administrative decisions that, while recognizing the problem posed by backlogs, prioritize other time-sensitive projects over backlogs reduction. Individual cataloguing decisions have also been considered influential in exacerbating backlog growth.

Technology

In the era of pre-automated libraries, the lack of technology was thought to have been a factor in the development of cataloguing backlogs. Writing in the 1951 special issue of the *Journal of Cataloging and Classification* that featured the topic of cataloguing arrearages, Lela de Otte Surrey observed that the backlog at the Brooklyn Public Library in the 1940s was due in part to obsolete equipment and the lack of machinery for duplicating catalogue records. A re-organization of the library system, in an attempt to find greater efficiency, resulted in the centralization of all cataloguing duties, as well as in the purchase of the Multilith machine for copying records. The machine was considered to have accelerated the duplication of catalogue cards for each of the Brooklyn Public Library's branch libraries. Even so, records had to be typed, staff had to operate the Multilith machine, and the card catalogue assembled by hand.¹³

Considering how libraries catalogued their collections historically, it may be easy to assume that a well-automated library system led to more efficient technical services units. As Smith points out, the move towards automation during the latter half of the 1970s was often driven by the desire of cataloguing departments to tackle their backlogs.¹⁴ Nicola Ward writes that the automation of technical services departments had reduced the time it took for staff to create a new record and process material, and it had

also promoted the sharing of records among institutions through the use of bibliographic utilities.¹⁵ Another benefit of automation has been that, through increasingly sophisticated integrated library systems, acquisitions departments can load order records into the catalogue, enhancing users' discovery of not-yet-catalogued titles, thereby mitigating concerns about inaccessible backlogs.¹⁶ Even so, technology, or its absence, seems not to account sufficiently for the presence of backlogs, for while automation may have brought about benefits to some technical processes, it has not in fact eliminated cataloguing backlogs.

Distribution of Materials and Assignment of Human Resources

In the literature from both before and after the 1980s, backlogs are often attributed to the imbalance between materials budgets and human resources. At the Brooklyn Public Library in the immediate post-World War II era, while the administration raised book budgets, thus permitting the library to increase its acquisitions, unfilled professional vacancies compounded with the lack of funds to hire new cataloguers led to a steady growth of the cataloguing unit's backlog.¹⁷ Cataloguing arrearages at the University of Pennsylvania in the same era also arose as continuous acquisitions, acceptance of sizable gifts to the collection, the inheritance of "local antiquities", and the acquisition of hard-to-catalogue formats such as microfilm, occurred throughout recurring periods of financial constraint. The instability of the budgetary situation impacted the library's "ability to deal adequately with its accessions."¹⁸

Piternick began his study on the premise that backlogs are created when large increases in library resource expenditures outpace increases in the size of cataloguing and processing staff. Although he acknowledged that the availability of LC copy records and

the rise of book prices might have “softened” the impact of staff shortages, he concluded that these two factors alone were not enough to halt the growth of cataloguing arrearages.¹⁹

Similar results were reflected in the Agnew, Landram and Richards study in 1985 of ARL libraries. As with Piternick’s findings seventeen years earlier, respondents most frequently ranked increased acquisitions as an important cause of arrearages, with one library even describing it as the source of “most backlog headaches.”²⁰ Other causes cited by respondents to the Agnew, Landram, and Richards study included inadequacies in staffing levels, cataloguing budgets, automation, the catalogue system, and unfamiliar automation. Some libraries surveyed even considered automation to have *contributed* to backlogs, as more training and skills are required of staff to create machine-readable records that conform to national and international standards. A few libraries noted the “overhasty” administrative decisions to reduce technical services staff size in the 1960s, and the discovery, made too late, that the introduction of machines had not in fact justified the decision to downsize cataloguing units; the result was that these libraries lacked the staff to tackle the growth of their backlog.²¹

The imbalance between the growth of acquisitions on the one hand, and the lack of growth in cataloguing staff numbers on the other can have a negative impact on staff morale and, consequently, on a unit’s ability to tackle backlogs. Agnew, Landram and Richards suggested that the shortage of staff and the lack of staff expertise in special formats can cancel out the benefits of shared cataloguing through bibliographic utilities. Likewise, the acceptance of large batches of gifts on top of the regular incoming acquisitions, without considering the additional demands this decision places on those

handling the actual material, aggravates existing concerns over arrearages.²² MacLeod and Lloyd, writing about music collections in ARL libraries, observed that music backlogs are created whenever a library's acquisitions—including gifts—outstrip its capacity to process the material.²³ Newton also deemed inadequate staff, increased acquisitions and increased budget to be the three most important causes of cataloguing backlogs amongst California public libraries, concluding that arrearages resulted whenever there was an imbalance of resources and acquisitions.²⁴ The backlog at the University of Illinois at Urbana-Champaign was considered to be symptomatic of the high staff turnover, staff reduction, and continuing budget cuts faced by its cataloguing unit.²⁵ In environments where productivity may be measured by the size of arrearages, cataloguers on staff may place further stress on themselves to increase output,²⁶ with or without additional support from the administration. In some cases, a vicious circle may be created, whereby cataloguers, pressured by reference services and management to increase their cataloguing output, feel that they must choose either to produce lower quality records or to resign themselves to the existence of the backlog, thus hampering any real efforts to identify and address the cause of the problem.²⁷

Staff Skills

Just as the imbalance between materials budget and the size of cataloguing staff to tackle the growth of acquisitions and gifts has tended to have a negative impact on a library's ability to control the growth of its cataloguing backlog, so too does the expertise and skills of staff as they relate to the material at hand. In his survey of California public libraries, conducted at a time when libraries in that state were facing budgetary constraints, Newton found inadequate staffing to be considered a "very important"

contributing factor of cataloguing backlogs amongst 60% of the respondents—more frequently cited than factors such as increased acquisitions or inadequate budget.²⁸ Individual comments submitted by some respondents expressed frustration over staff shortages, lack of professionally trained cataloguers, and lack of full-time cataloguers, identifying these as important reasons why materials were not moving. With respect to hiring and retaining highly skilled cataloguers on staff, one library even made this pointed statement: “Inadequate wage structure to attract trained professionals - very important.”²⁹ Libraries must also take care to continuously train staff to current standards, and to changes in tools and local practices, ensuring that work is assigned commensurate with levels of skill and professional qualifications. A mismatch of an individual and a job description can contribute to a cataloguing backlog.³⁰

Specialized skills and experience are often demanded of staff working with nonbook formats, and experience dealing with the material and mastery over the rules governing the cataloguing of these formats can only be developed with time and training. For instance, music scores and parts require not only general cataloguing experience, but also some knowledge of the discipline, ability to read music, and a firm grasp of the rules that deal specifically with the treatment of these formats, such as the rules regarding the creation of uniform titles.³¹

Similarly, non-English language material calls for cataloguing staff with knowledge of the language of the work, in order for subject analysis to be performed effectively. As Charlene Kellsey noted, the main reason for the delay in cataloguing German-language special collections at the University of Colorado library was that none of the professional cataloguing staff had sufficient grasp of the language to provide

adequate subject analysis of the material.³² To address this shortage in staff skills, and to curb the pace of backlog growth, the library created internship positions for graduate students with German language skills to provide the subject analysis. Kellsey writes that the internship benefited both parties: the amount of time it took for a German resource to move from acquisitions to, finally, circulation decreased, and the interns in turn received valuable experience working in an academic library.³³ However, the drawback of hiring student staff is always that the workforce is transitory: professional staff time must be spent on continual training, in order to ensure smooth staff turnover.³⁴

Byrd pointed out in a discussion about Slavic collections that cataloguing units not only had to come to terms with the pressure of keeping up with acquisition receipts, but also struggled with the recruitment and retention of staff with expertise in the many different languages that make up the Slavic language family.³⁵ Byrd wrote that, while exchange agreements and the changing post-Cold War political landscape had made it cheaper and easier for institutions to acquire Slavic language material, their acquisition had created a backlog in cataloguing. Increasing arrearages were attributed to two factors: first, because acquisitions staff conducting pre-cataloguing did not always have Slavic language knowledge; and second, that reliable copy records for Slavic material were rarely available through bibliographic utilities. Byrd also noted that in tough economic times, when fiscal restraint was felt across the board and Slavic language collections were deemed to be of low priority vis-à-vis other institutional goals, cataloguing units were prepared for resource cuts as well as the reassignment of staff to other projects.³⁶

Assigning Priority: Cataloguing versus Special Projects

The imbalance of resources between acquisitions and cataloguing can perhaps be read as a symptom of a larger issue. While administrative decisions recognize the needs of cataloguers and appreciate their concerns over the growth of backlogs, backlogs are left as backlogs because they lack the same urgency as other special projects. For instance, Black and Granskog wrote that the original cataloguer in charge of thesis processing at the Michigan State University library was partly assigned to other responsibilities during the reorganization of the library's technical services department. Thesis cataloguing was suspended as a result of the staff shuffle, and the backlog of theses grew during this period.³⁷ At the Brigham Young University library, changes to the technical processing workflow and new space constraints not only interrupted the cataloguers' regular responsibilities, but new acquisitions had to be stored in a separate physical space away from the cataloguing unit,³⁸ an arrangement that was not necessarily ideal for promoting efficiency from a process management perspective.

"Bibliographic Chicken" and the Misuse of Copy Records

Bibliographic utilities have aided in the sharing of records, and have long been recognized for promoting copy cataloguing as a convenient, time-saving option for libraries. As early as 1901, when the Library of Congress began distributing their bibliographic records on catalogue cards, libraries have relied on copy cataloguing to some degree.³⁹ When dealing with titles that required original cataloguing, Piternick noted that staff sometimes set aside the titles, choosing instead to wait for an LC-produced record to be made available.⁴⁰ MacLeod and Lloyd found that ARL libraries considered bibliographic utilities to have improved not only efforts at speeding up cataloguing by allowing institutions to share records with each other, thereby reducing

the duplication of efforts, but also to have provided much needed authority files that individual libraries might otherwise have found challenging to establish. For the cataloguing of music collections, where the use of uniform titles is frequent and standards require the cataloguing of material in the original language, cataloguers may rely on the Library of Congress to establish the uniform titles, rather than attempt to establish it on their own.⁴¹ Where library staff lacks the requisite language or music skills or the professional staff to handle original cataloguing, this can be an attractive option.

The availability of shared cataloguing through bibliographic utilities has not, however, been without its drawbacks. As individual institutions increasingly rely on copy cataloguing, setting aside titles with no intention of ever tackling them first, fewer and fewer institutions shoulder the burden of providing original cataloguing. Sarah E. Thomas coined this behaviour, “the game of bibliographic chicken.”⁴² Copy cataloguing requires less effort on the recipient’s part than on the original creator’s. As Share observed, many libraries have simply found it more convenient to wait for other libraries to create a record than to contribute original ones themselves, a practice that Agnew, Landram and Richards identified as widespread in their ARL survey.⁴³ While this may be a deliberate strategy for short-staffed libraries dealing with difficult formats and foreign languages,⁴⁴ this practice has repercussions for the long-term success of cooperative cataloguing. First, this waiting game exacerbates existing cataloguing backlogs, as hard-to-catalogue titles are continually and purposefully added to the cataloguing backlog.⁴⁵ Second, libraries that engage in this practice benefit from sharing arrangements without contributing, which increases the burden of original cataloguing for those that do contribute, and thereby undermines the spirit of sharing that lies at the heart of

cooperative cataloguing.⁴⁶ Thomas reported that in the United States, the number of libraries producing original catalogue records had dropped as dependency on Library of Congress cataloguing records increased.⁴⁷

At the opposite end of the spectrum of cataloguing behaviour is what Bolin highlighted in her opinion piece as the “Perfectionist” attitude: the tendency of cataloguers not to use bibliographic utilities to their full advantage, but to focus on editing the details of copy records, moulding records to perfection rather than treating them as finished products.⁴⁸ Newton made a similar statement about the copy cataloguing practices of California’s public libraries, noting that there was a tendency amongst staff to modify imported bibliographic records, even though the modifications did not necessarily enhance the visibility or accessibility of the title.⁴⁹ The assumption that underlies these observations is that the time and effort spent on perfecting copy records might have been better spent on the creation of original records for the harder-to-catalogue materials.

Strategies to Reduce or Mitigate the Impact of Backlogs

Changing how an organization defines backlogs can either increase or decrease the number of titles that languish within the workflow of a technical services operation, generally, and relative to cataloguing processes, more specifically.⁵⁰ Failing such semantic intervention, libraries can adopt a variety of strategies for reducing or mitigating the impact of arrearages. In general, as a review of the literature suggests, these can be summarized in terms of changes to workflow, to numbers and/or levels of staff, to organizational structure, to record content, and to where responsibility for cataloguing

functions is assigned.

Adjusting Workflow Inputs and Resources

At its most basic level, arrearages are the logical consequence of more titles – whether physical or digital – entering than exiting the pipeline of workflow. Robert H. Burger modeled this correlation in his general theory of backlogs.⁵¹ Particularly problematic are language materials requiring specialized expertise,⁵² items acquired as gifts or donations generally considered to have a lower priority or urgency for cataloguing, and media for which cataloguing records are less readily available, thus necessitating time-intensive and costly original cataloguing. Decreasing the number of titles acquired, or increasing the number of titles catalogued/processed seems a simple and effective remedy, however implemented. As Maurice Tauber noted in an early reference to arrearages, “In a library where purchases exceed the ability of the staff to handle them, the answer bluntly is either to employ more staff or drastically change the methods of work.”⁵³ Agnew, Landram and Richards likewise concluded, “... the fundamental cause of arrearages is the disparity between acquisitions and the size and ability of cataloging staff.”⁵⁴ A similar sentiment was voiced by respondents to a survey by McCain and Shorten examining what was needed to eliminate backlogs. Based on responses from 22 of 27 academic libraries surveyed, slightly more than forty-five percent (n=10) expressed a preference for hiring more staff, while 36% (n =7) said they would outsource cataloguing.⁵⁵ Jones recommended striking “a better balance between the resources committed to purchasing materials and accepting gifts, and those resources committed to processing and cataloging them.”⁵⁶

Changing Workflow Priorities and Processes

Approaches to “changing the methods of work” have assumed many forms. Intner addressed arrearages associated with *workflow* suggesting “bibliographic triage” for determining a priority sequence for cataloguing based on balancing costs with benefits of each alternative. Accordingly, Intner recommended that libraries (1) choose materials that are easiest to catalog in order to catalogue the most materials, (2) choose materials that are most important to the library’s clients in order to give the “best” local service, and (3) choose unique materials in order to supply the network with the greatest number of different titles and give the “best” service to the larger library community.⁵⁷ Other reported approaches to increasing workflow efficiencies through changes to procedures and processes included incorporating backlogged items into the regular cataloguing stream,⁵⁸ initiating special projects targeting arrearages,⁵⁹ separating descriptive and subject cataloguing activities,⁶⁰ and utilizing specialized “SWAT Teams” for dealing with languages or other materials requiring original cataloguing.⁶¹ Sung recommended using flowcharts to visualize workflow, and to eliminate redundant and unnecessary operations within the cataloguing process.⁶²

Calibrating Numbers and/or Levels of Staff

Closely related to workflow are changes to the *numbers and/or levels of staff*. While a highly desirable option involves increasing budgets to hire more staff,⁶³ realistic administrators offer a number of alternatives. Several articles speak to utilizing paraprofessionals – including students in academic libraries – as a lower cost solution to employing professional librarians, the majority of whom are assigned original cataloguing responsibilities.⁶⁴ Black and Granskog provided an instructive example of cost-effective deployment of staff. By implementing an “inter-team” approach to the

cataloguing and processing of theses, the backlog associated with these scholarly works was “almost entirely eliminated,” while full record standards were also maintained. Student assistants prepared descriptive cataloguing using templates. The Original Cataloging Team, comprised of professional librarians, then provided subject analysis, name authority work, and “a quality check.”⁶⁵ Different configurations of staffing can also be deployed to mitigating backlogs. Cooperative cataloguing, wherein the expertise of one cataloguing agency can be shared with another,⁶⁶ and the creation of “satellite operations” for engaging public service staff in cataloguing nonbook materials so as to decrease backlog volume,⁶⁷ are two of many examples offered in the literature. Floor plans provided Sung with a useful visual tool for determining more effective physical placement of staff, with the result that cataloguing librarians and assistants were brought together to share knowledge, resolve problems, and expedite workflow with greater immediacy.⁶⁸

Rethinking Organizational Structure

Changes to *organizational structure* are also considered within the management toolkit for reducing backlogs. Within the long lifespan of technical services, a relatively recent approach to configuring workflow has resulted in the merging of acquisitions and cataloguing units. This can be attributed to the greater availability of cataloguing copy early in the collection management lifecycle at the order stage. The bibliographic record for an item not only verifies its existence, but also holds an “on order” place in the public catalogue to be updated when the item arrives in-house. The sharp divisions between acquisitions and cataloguing functions have been blurred, making their administrative integration logical, cost-efficient, and highly effective from the standpoint of

productivity. While predating this trend to departmental merger, per se, articles by Cann Casciato and Slight-Gibney describing how the University of Oregon addressed its “persistent” backlog, foreshadowed a change in both workflow and organizational structure.⁶⁹ By implementing FastCat or cataloguing on-receipt – “the process of cataloging by exporting a record from a bibliographic utility into a local system without editing or review” – library technicians (paraprofessionals at the entry level) in the Acquisitions Department catalogued approximately one-third of all receipts with full records meeting required criteria, leaving copy and original cataloguers to deal with FastCat ineligible materials.⁷⁰ This reconfiguration of workflow and staffing led to significant reductions in the backlog, and also prompted further rethinking of ordering and processing routines.

Changing the Content of Bibliographic Records

While accepting records from trusted national cataloguing agencies and bibliographic utilities for incorporation into a library’s catalogue without further review has become more commonplace, changes to the *content* of records has been adopted as yet another strategy to reducing arrearages. Considerations of minimal level cataloguing as an alternative to costly, time intensive full original cataloguing, or, more germane to the present review, to backlogs of material awaiting bibliographic copy, abound in the literature. These discussions address reductions in the amount of information included in a record,⁷¹ and/or in the level of checking (revision) required in the cataloguing process.⁷² The Core-Level bibliographic record standard, intended to provide an acceptable level of detail while omitting non-essential elements, and developed and maintained by the Program of Cooperative Cataloging at the Library of Congress, was

also directed at reducing backlogs.⁷³ Jones recommended considering “various levels of cataloging and processing for all types of special collections materials, depending on institutional priorities and use of materials—but still following national standards and practices.”⁷⁴

Reassigning Responsibility for Cataloguing Functions

Contract cataloguing or *outsourcing* are for the most part used synonymously to denote a strategy for reducing backlogs. The increasing availability of derived or copy cataloguing since the early 1970s has fostered increasing efficiencies in staff deployment and operational productivity. The goal of universal bibliographic control, to create one record for multiple use, has achieved a level of reality, such that the need for replicating the process in every library has been challenged and, in some cases, reconfigured.

Responsibility for certain technical services functions has been reassigned. Shelf-ready materials from jobbers now include an OPAC-ready record. Distributors for language materials are offering bibliographic copy as a value-added service. OCLC’s Contract CatalogingTM service supports record creation for nonbook and non-English language materials. Outsourcing, or assigning responsibility for all or part of a function to an external agency, has been a mainstay of collections management and acquisitions, long reliant on publishers, jobbers, dealers, or bookstores for assisting with developing collection profiles, and providing resources accordingly through approval plans, firm orders, priority leasing, etc. Since the 1990s, outsourcing or contracting-out cataloguing as a whole (e.g., Wright State), or in part (e.g., cataloguing language materials or special collections) has become more commonplace, particularly as a strategy for avoiding or reducing backlogs.⁷⁵

Backlogs as Strategy

While much of the literature focuses on reasons and strategies for reducing or eliminating arrearages, there are a couple of compelling cases made for maintaining or even encouraging backlogs. The practice of “bibliographic chicken” noted above is one such case; another is the potential for use of a backlog as a cache of materials to fill in what would otherwise be idle time in various parts of the technical services division. Piternick asserted that, “a backlog of some size is desirable in order to minimize the effects of peaks and valleys in the rate of book acquisition and to permit optimum batching and scheduling of operations in acquisitions and cataloguing,” a position that is affirmed later by Slight-Gibney and others.⁷⁶

Perhaps the blending of both the negative and positive aspects of backlogs observed in the literature underlies the equivocation that seems to exist about them. With respect to libraries having backlogs, da Conturbia’s survey of ARL heads of cataloguing found that 51% said that reducing the foreign-language backlog was a priority while 39% said that it wasn’t—hardly an overwhelming rebuke of backlogs.⁷⁷ In MacLeod and Lloyd’s study of music cataloguing backlogs, most libraries surveyed considered the elimination of the music backlog to be only “somewhat” or “not” important.⁷⁸ Similarly, Newton asked California public libraries that reported backlogs in his survey if they were under pressure from their patrons, library staff in other departments, or library administration to reduce or eliminate the backlog. Although 69% were under pressure from at least one of these groups (most from two or more groups), 31% were under no pressure from any of the groups.⁷⁹ A majority of respondents to Sibley’s online survey on

serials processing backlogs elected, "... to have available staff gradually work through the backlog as time permitted, usually during slow times such as summer and winter breaks, or during lulls in the acquisitions cycle. Many said they got to it when they could, because the backlog was considered low priority."⁸⁰

Camden and Cooper go even further and suggest that eliminating backlogs is no longer necessary provided that some access is afforded to them, usually by means of brief entries in an online public access catalogue: "It is our contention that backlogs, once under control and searchable in an online catalog, should be considered a normal, nonthreatening part of the cataloging workflow—not an evil to be eliminated."⁸¹ The literature is silent on how widely this opinion is held.

Backlogs 2010 and Beyond

Characterizing cataloguing as a "high-cost activity,"⁸² Fischer, Lugg, and Boese note that, "In many cases, though not all, backlogs exist because cataloging departments still seek to provide a level of service that is not supported by the institution. Backlogs can be eliminated by changing either the process or the product."⁸³ Offering a "rational paradigm" of ten "standard business principles" that have inspired the trend towards outsourcing the cataloguing and physical processing of English language monographs, the authors encourage the application of these same production-oriented principles to "non-English, music, multi-media formats, serials and rare book cataloging" in order to mitigate backlogs and to reduce costs, without compromising access to new materials.⁸⁴ The ten principles they identify include:

- know current cost structures (i.e., consider options through the lens of cost-benefit analyses);
- control the “Expert Mentality” (i.e., weigh costs against benefits to determine an acceptable level of service);
- adhere to standards (i.e., minimize or eliminate unique, local, non-standard practices);
- maximize use of available resources (i.e., strictly limit the review and revision of available copy);
- design and produce an economically viable product (i.e., minimize or eliminate high cost/low value activities – e.g., restrict review of MARC fields to those affecting user access);
- adjust capacity to match demand (i.e., change either the process or the product to keep pace with demand);
- automate and/or outsource (i.e., particularly for routine work, minimize physical handling, item-specific, and manual procedures);
- establish production goals and measure performance (i.e., establish specific expectations, track productivity, reward high volume, high quality throughput);
- control quality via sampling (i.e., accept an error rate of 2-3 percent on critical fields in records produced in-house, and by third-party vendors); and
- be strategic (i.e., determine and adjust periodically how resources – financial, human and technological – are allocated and what enterprises take priority).

While it is not clear what sources were consulted, or methodologies used to derive the ten-point “rational paradigm”, it is worth noting the heavy reliance on outsourcing as a

business model, a production-oriented exemplar, and a course of action to, “Eliminate backlogs (catch up) and revamp procedures to match the demand (keep up).”⁸⁵

Fischer, Lugg, and Boese offer a set of principles for addressing backlogs; however, their model impresses more on structure and rationality than on novelty or originality. If changing either the product or the process holds the key to slaying the arrearages dragon, then the literature of cataloguing backlogs abounds with a wealth of approaches to doing both, illustrating principles highlighted in the paradigm. Fischer, Lugg, and Boese provide, in essence, a kind of summary – an important “packaging” – of strategies that have been and can be utilized by operational managers to eliminate or reduce arrearages; there have been no definitive studies since publication of their article in 2004, to suggest how or how widely their paradigm may have been applied, and to what degree of success. Clearly the topic and fact of arrearages remain a fertile area for further empirical study.

While there have been changes across time to tools (from Multilith machine to bibliographic networks), to terminology (from contract cataloguing to outsourcing), and to the nature of resources, themselves (from print, to audio-visual, to digital, etc.) there still remain “materials for which processing has been deferred.”⁸⁶ Administrators, managers, and cataloguers have employed various strategies for ensuring that whatever is input to the workflow process is output in a timely and cost-effective manner that supports the access needs of library users. This careful balance has not always been achieved, or maintained; approaches to dealing with the operational challenges of arrearages continue to be fine-tuned.

What can the literature of backlogs suggest about the future of backlogs? Changes in the types of materials libraries acquire are less likely to eliminate arrearages, than to alter their nature. For example, Sibley observed through her survey of serials processing that, while print materials and gifts represented the largest proportion of serials backlogs, individual electronic titles in aggregators were likewise delayed in their cataloguing.⁸⁷ One might anticipate some backlogs in the creation of records as institutions expand digital repositories to facilitate access to specialized, or other local collections. Assigning subject metadata or other values important to repository search and retrieval will be added to the workflow for both physical and digital materials, and will again require a review of priorities for balancing “product and process”.

The anticipated implementation of *RDA: Resource Description and Access* will require staff retraining, and may result in some disruptions to workflow as cataloguers adjust to changes in application and record content. Nonetheless, what RDA will signal is a growing trend towards harvesting metadata at source, and populating record fields in local online catalogues. Information that is marked up at the publishing stage can be reused at various points along the distribution chain. Consistent with historical approaches to redressing backlogs, automated systems – in the form of metadata-enabled electronic resources whose associated metadata can be harvested to populate data fields – can be exploited to facilitate the flow of materials from publisher to reader. Recent work on the development of international cataloguing principles,⁸⁸ on functional requirements for bibliographic and authority records, respectively (FRBR; FRAD: FRSAR), and on widely adopted cataloguing standards, such as the International Standard Bibliographic Description (ISBD), and *RDA*, as well as subject heading and classification systems, will

be important to ensuring consistency in the creation of records that can be shared across bibliographic networks, and that can be accepted with little or no review or revision. As the number and diversity of materials collected by libraries proliferate, the utility of standards to discouraging backlogs caused by unique local, non-standard practices should become even more apparent. This will be of particular importance given the persistent resistance to accepting the work of another library described in Fischer and Lugg's 2009 study of the MARC records marketplace in North America.⁸⁹

Standards that cross cultural domains will also open up a pool of metadata-enabled records which can be used in whole or in part to facilitate access to digital and physical collections. For example, data created to describe a digital object in a virtual museum may be applicable to an e-book dedicated to the provenance of that object. Changing – or in this case, adapting – the content of a bibliographic record is a strategy that has been used historically to minimize backlogs.

The current economic climate foreshadows a decline in public sector budgets, an emphasis on cost-cutting strategies, and probable losses in numbers or levels of staff. At the same time, electronic collections are expanding, and user expectations for ready access to a greater diversity of resources, delivered in the self-directed environment of social networking – think LibraryThing with its tools to support “social cataloguing” – suggests a rethinking of both the concept and reality of backlogs. Whether arrearages continue as an operational challenge, or a deliberate strategy, or some combination of both, may come down to definition, as legacy institutional “problems” themselves undergo scrutiny, or are subject to changes in perspective.

As the distinctions between professionally trained and “social” cataloguers may appear to be blurring – even deliberately when a library elects to add the tagging of its users to the catalogue – so, too, may institutional silos become more porous and blend. During times of fiscal restraint, libraries – and their cataloguing units – have turned to cooperation and collaboration to extend limited resources. Such trends have resulted in some of the more dramatic – and historically significant – strategies for mitigating cataloguing backlogs, including the development of Machine-Readable Cataloging (MARC) and the formation of bibliographic networks (the roots of OCLC), the concept of universal bibliographic control (create once, reuse multiple times; cataloguing-in-publication), cooperative cataloguing at local, state/provincial, and national levels, and consortia of institutional repositories. Where library-to-library partnerships have not developed, private sector initiatives have emerged. Individual and corporate entrepreneurs have seized on opportunities to mitigate arrearages through contract cataloguing, outsourcing, order-to-shelf vendor services, e-resource aggregating, and upstream metadata direct from publisher to online catalogue. It seems probable that current fiscal exigencies within the public sector will spawn new or enhanced private sector products and services, themselves amenable to keeping cataloguing arrearages in check.

Conclusion

As libraries continue to shift their acquisitions towards more digital and fewer physical resources, the nature, type, and size of cataloguing arrearages will also change, and perhaps disappear altogether. As this analysis of the history and literature of backlogs

has suggested, such an end has been the goal of an evolving series of strategies, continuing to elude astute managers even to the present day. Regardless of what a more distant view may portend, cataloguing managers continue to have an immediate need to respond to ongoing, sometimes unpredictable or unknowable changes to the inputs and outputs of cataloguing, as well as to the context and environment surrounding both process and product. The literature of arrearages assures they can rely on a long-standing tool-kit of strategies as guideposts for fine-tuning workflow, numbers and/or levels of staff, organizational structure, record content, and assignment of responsibility for cataloguing functions.

End Notes

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Table 1. Summary of the survey studies

Author(s)	Year	Type of backlogs	Population	Libraries with a backlog	Size of backlogs ^a
Piternick	1969	Monograph books	ARL libraries	67-78%	
Agnew, Landram, and Richards	1985	Monograph books	ARL libraries	77%	500-159,000 (median 16,000)
Behrens and Smith	1987	Open-ended & including at least: books, AV, music. Monographs and serials not mentioned	Academic libraries in the U.S.	85%	mean (deduced) 16,853 37,728 for libraries with 2 million+ holdings 19,659 for libraries with 1.5-2 million holdings 18,035 for libraries with 1-1.5 million holdings 5,165 for libraries with < 1 million holdings
da Conturbia	1992	“Foreign-Language materials”	ARL libraries	94%	< 1,000 to > 10,000 median (deduced) somewhere between 7,000-10,000 Most libraries in the highest category. Not possible to calculate the mean
MacLeod and Lloyd	1994	Music	Academic, public, and special libraries	75%	4,931 scores and sound recordings
Newton	1997	All formats	Public libraries in California	55%	
Panitch	2001	Special collection materials	ARL libraries		
McCain and Shorten	2002	Book and non-book materials	ARL libraries (27)	82%	“average” 9,474 “mean [median?]” 5,000

^aBlank cells indicate the data was not provided by the study.

Table 2. Summary of the case studies

Author(s)	Year	Location of backlog(s)	Backlog characteristics		
			Approximate size	Language(s)	Format(s)
Rogers	1991	Ohio State	23,000+	Slavic	Monograph
			Nearly 21,000	English & Western European	
CannCasciato	1993	U. Oregon	Not stated, but growing by 500 per month		Monograph
Smith	1994	U. Illinois Urbana-Champaign		Wide range	
Erbolato-Ramsey & Grover	1994	Brigham Young U.	16,000	Spanish & Portuguese	
Camden & Cooper	1994	U. Virginia	19,500	88% other than English	
			6,000		
Jung	1994	Indiana U.	20,000	South-Asian & Mideastern	Music
			70,000		
Slight-Gibney	1995	U. Oregon	36,000	58% Western European	Monograph + serial
			4,000-5,000	Slavic, CJK	
Horchler	1995	LC	3,000	Hungarian	
Rankin et al.	1996	U. Nevada	“Hundreds”		Video
Black & Granskog	1997	U. Michigan	650 theses per year	English	Book + microform (50/50)
Tsui & Mushenheim	1999	U. Dayton	10,000		Book
			30,000		
Davis & Thompson	1999	Syracuse U.			Non-print
Lundy	2007	U. Colorado Boulder	350	Book	
			350	Book	
Kellsey	2007	U. Colorado Boulder	100	German	

Note: Blank cells indicate the data was not provided by the study.

When a study provides distinct information for two or more backlogs, each backlog is detailed in a separate sub-row.