Serials Automation
at the Purdue University Libraries

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Introduction

Serials projects, whether automated, converted, or just manually updated to achieve accuracy, seem to have the same fascination for librarians that disasters and catastrophies do for other people. Purdue's Library has actively worked in automation for almost 20 years. During that time it automated its serials, produced microfiche catalogs, and published the Indiana Union List of Serials (IULS). Currently it has completed more than half of a serials conversion project begun in 1979. The experience gained from these projects should greatly benefit other libraries planning and implementing similar programs.

The Serials Automation System

The Library began automation of its serials system in 1962. This system and its general characteristics were first reported by Donald P. Hammer, then Serials Librarian, and later Head of the Library Systems Staff, in an article published in *Library Resources & Technical Services* in 1965.[1] The objectives of this system were to develop an integrated serials system which would provide the following: 1) creation of computer-produced list of serials to replace the numerous, error-ridden card files that existed in the general (main) library and in the 29 branch libraries;[2] 2) checking-in of individual issues; 3) binding; 4) claiming, and 5) all statistical and fiscal accounting. The computer printout (objective 1, above) is affectionately known by the librarians at Purdue as the "Master List," and will be so termed throughout the remainder of this article.

Systems design, programming, and conversion of data to machine-readable form took five years, from 1962 to 1967. Finally, in March, 1968, the Master List system "was declared ready for use and 24 copies were printed for distribution."[3] The system's data bank contained 30,000 titles and another 10,000 cross references and added entries.[4] The Master List system ran parallel to the Library's manual series processing for three years, until 1971. At that time

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manual processing of serials ended and the automated system was on its own.

The Master List was not a total success from the very start. For example, checking-in of periodicals by computer was compared to manual checking-in and the expected savings in time was not substantiated. However, the other objectives of the system were realized, they were performed automatically and, most importantly, with much greater accuracy than in manual processing. William L. Corya, Head of the Catalog Department, describes in detail the problems encountered and solved during the first three years of the Master List system's life.[5] Some problems, all too familiar to librarians and automation "experts" alike, included the usual program "bugs," changes in personnel of library and systems staff, lack of aid and computer time from the university's computing facility, and so forth. Most problems were, in time, overcome and the Master List is today, and will remain until completion of the Serials Conversion Project, the only bibliographic tool for the library's large serial collection available to both librarians and library users alike.

In its 14 years of existence, the Master List has not, if truth be told, become the number-one hit project on campus because of other, unresolved problems inherent in it. These problems include the following: all computer produced catalogs are expensive, and the Master List is no exception; it lacks upper-and lower-case print capability; it is cumbersome to collate and bind, unwieldy to use (the Catalog Department's 30 staff members share one copy of it), wasteful of staff time and patience, and, generally, disliked. To alleviate these unresolved problems, the library turned to microfiche.

The COM Catalogs: Finally, a Success Story

Computer Output Microfiche (COM) catalogs have several advantages over the Master List. First, they greatly reduce the size of the List which, in its hard-copy form is 66 volumes, or 22,376 pages, long. The COM catalog of the complete Master List consists of only 108 microfiche. An abbreviated set of copies of the COM catalog is issued; this set gives only summary holdings statements and omits the volume by volume holdings matrix of the Master List. This set of the COM catalog is only 12 microfiche long.

A second advantage of the COM catalogs is that they cost far less than their hard-copy computer-produced parent. The Master List itself costs $1,670.00 for each copy that is printed; the COM copy of the List costs $674.00 for the original microfiche catalog, and only $50.00 each for duplicate sets of the original catalog. Consequently, only one Master List is printed each year, although the system itself is updated monthly and a list of additions, deletions, and changes to the List is printed monthly. The complete and the abbreviated COM catalogs are issued quarterly; therefore, they are always more current than the List. Thus, being more up-to-date is a

third advantage of the COM catalogs over their computer-produced parent. Generally, the COM catalogs provide a useful, current tool for the bibliographic control of serials, and they are well accepted and preferred by librarians and library users alike.

The Indiana Union List of Serials: More Good News

By 1968 Purdue's serials system was operating successfully and, more importantly, the conversion of 40,000 entries from manual to machine-readable form had been completed. No library worth its salt, having all these converted records burning a hole in its automation pocket, could sit by and do nothing. Purdue sought new uses for its wealth of data and one was soon found: the Indiana Union List of Serials (IULS).

In cooperation with the Indiana State Library and with funding from federal and state sources, Purdue embarked on a four-year project under the direction of Bill Corya, Head of Cataloging, and Don Hammer, Head of Serials. A total of 64 libraries, large and small, including school, business, special, and public, as well as academic libraries, submitted their serials data to Purdue's Library Systems Staff to be converted and integrated into Purdue's files to form the IULS data bank. When published in 1973, the four-volume IULS set contained 100,000 titles and 170,000 holdings statements. The original set was followed in 1974 by a two-volume supplement.

When Purdue joined OCLC in 1975 the IULS was turned over to InCoLSA (Indiana Cooperative Library Service Authority), Indiana's OCLC network, for their use.

The Serials Conversion Project: Current Automation Work

While successful for its time, the Master List had several disadvantages, including lack of upper- and lower-case print capability so dear to the hearts of librarians; also, it had no subject headings, thus no subject access, and it had few added entries. Being a latest-entry catalog, most of these added entries were for previous titles. As these disadvantages and inadequacies plagued users of the Master List, methods to improve it were sought and found in the Serials Conversion Project (Hereafter termed the "Project."). Membership in OCLC provided not only fully cataloged records, but also an easy and economical way, through its retrospective conversion mode, to collect serials data in machine-readable form.

Advantages of conversion from the all upper-case Master List to a bibliographically complete catalog are numerous, and includes the following: 1) to provide subject access; 2) to create added entries for editors, corporate and personal authors; 3) to check existing entries against the Library of Congress authority files; 4) to split-out Master List latest-entry titles to successive entries; 5) to collect onto OCLC archive tapes complete bibliographic data for all of Purdue's serials;

6) to detect monographs in series, many done in the past as serials, and to re-catalog them as monographs; and 7) to build a comprehensive machine-readable data base for future use.

Background of the Project

The Project began in January, 1979, but did not get into full swing until the Project Head was hired in June, 1979. At that time the Project staff employed three full-time clerks in addition to the Head, the librarian in charge. All of these employees, except the OCLC input clerk, were already library workers, so no additional salary funding was required. Two clerks were transferred to the Project, one each from the catalog and acquisitions departments. The Project head took the vacant Serials Head position. At the end of approximately a year, the cataloging clerk had to transfer back to her home department, leaving the Project with only three FTE. This three-person unit has maintained a conversion rate of an average of 500 titles per month when operating full swing.[6] In two years of full swing work, the Project has done almost two-thirds of Purdue's 30,000 titles. We estimate that another one to two years' work will do all titles, current and ceased.

Mechanics of the Conversion Project

A truncated print-out of the Master is the basic tool from which the input clerk searches OCLC for Purdue titles. The "hit" rate for titles matching OCLC copy is almost 90 percent; titles not found are given full cataloging and input new to OCLC. Quality of the OCLC copy varies from very good to very bad. Completing and correcting the latter takes almost as much time as cataloging titles new to OCLC. Also, many of the good records on copy are in latest-entry form. Again, "splitting-out" these titles takes as long or longer than cataloging a new title.

The second tool used by the Project is the Work Slip or Union Periodicals Card Catalog, a file discontinued in 1971. The information in these files is obsolete, incorrect, or missing altogether, so each entry is checked in the Master List or the COM catalog for verification of holdings data, computer sequence number, and so forth.

The third Project tool is the coding sheet. The front of the coding sheet, when completed, provides bibliographic data missing from the OCLC print-out, the Dewey number, LC card number, LC call number, ISSN (International Standard Serials Number), and complete holdings statements coded in ANSI (American National Standards Institute) format; the back gives data such as status code (e.g., "s" for current subscription), corrections to Master List data (these are numerous) and the source of added information, such as National Union Catalog, New Serials Titles, Union List of Serials, Ulrich's, and so forth.

When OCLC copy is found it is attached to the coding sheet with the Work Slip or UPC card (or "cards" if latest-entry) and given to a copy cataloger or to the Project head to be corrected and completed. For complete successive-entry copy, the work of the cataloger is easy; s/he has only to fill in the Dewey class number, the names of the branch library or sublocation holding that title, the ANSI holding statement, and the identification (sequence) number for that entry in the old Master List. Unfortunately, few records found searching the OCLC file prove to be so good as not to need upgrading to a greater or lesser degree. However, as time passed, Project catalogers noted that the quality of records improved, and the number of good quality records rose, as CONSER (Conversion of Serials) Project participants upgraded (or "enhanced" to use OCLC terminology) titles in OCLC's data bank. As a result of "hitting" better quality entries in OCLC, libraries planning to embark on conversion projects may take heart and really believe, as OCLC has said so many times, "Things will get better." They are, slowly but surely.

Evaluation of the Project

The best way to proceed in any automation or conversion project, in this writer's opinion, is to "make haste slowly." The original estimate of time needed to complete the Project was two years. As is usual for such projects, that estimate was optimistic, but not overly so. Factors, both foreseen and unforeseen, slowed Project work. Personnel turnover, foreseen but always underestimated, hindered the Project's first two years. Delay in hiring a Project head also slowed progress.

Coding of holdings in ANSI standards, started one year after the Project began, slowed the Project more. Unexpected requests from Reader Services librarians to include additional data in the converted records created an unforeseen delay. The advent of AACR2 was foreseen, but its impact was, again, underestimated. Therefore, the Project has proceeded slowly but surely, although not by choice. And, as a result of the slower pace, the Project will have not only better quality records, but also 1) holdings coded in ANSI standards, 2) all the extra amenities desired by Reader Services, and 3) many more records cataloged via AACR2 rules than just those done new since January 1081.

To Close or not to Close, That is the Question

As the approach of AACR2 grew nigh, speculation and anxiety abounded. However, some positive action resulted. The Catalog Department's librarians met one afternoon each week to study and puzzle over the AACR2 text and the Library of Congress Information Bulletins in which LC stated how it would adopt, modify or ignore the new rules. The Public Services librarians formed com-

mittees to discuss the pros and cons of closing the card catalog, and if it was to be closed, what would replace it. The catalogers' study group helped dispel some doubt and confusion. Two workshops held in late 1980 by InCoLSA (Indiana Cooperative Library Service Authority) helped some more. But the question to close or not to close the catalog was a thorny one. When faced by a problem, good librarians review the literature. The Public Service librarians did, and they found the call to close was strong. But Purdue had only five years worth of machine readable cataloging (via OCLC), not a very large percentage of its total collection. Conversion, then, of the remainder was too big a task. Also, use of a COM catalog would require purchase of many additional microfiche readers, for which funds were not available. Purchase of a computer system for an on-line catalog would have been even more expensive. And the Purdue librarians remembered only too well the problems encountered implementing the Master List system, in converting a large file, in getting poor support in funding and computer time and programming expertise.

Help was soon forthcoming in the form of opposition to closing the catalog. Articles such as the one by Hewitt and Gleim in *American Libraries* [7] saved the day for opponents to catalog closing. The decision not to close is formalized in the Readers' Services Committee: *Closing the Card Catalog*. [8] In brief, it states that the card catalog is to be continued as is, but "to be supplemented and gradually replaced by an on-line computerized catalog. . .when the on-line system has Boolean search capablilities. . ." and a back-up system. [9] The same committee report rules out use of a COM catalog except as back-up for the on-line system. Perhaps one day, Purdue will join the ranks of libraries with on-line catalogs.

Notes

[1] Hammer, Donald P. "Automated Operations in a University Library - A Summary." *College and Research Libraries*, Vol. 26, no. 1, Jan. 1965, 19-30.

[2] Corya, William L. and Gary C. Lelvis, "The Purdue University Serials Catalog System," *LARC Association, Computerized Serials Systems Series*, Vol. 1, issue 4, 1974, 11.

[3] *Ibid.* 14.

[4] *Ibid.* 14.

[5] *Ibid.* 12-16, & p. 73-80.

[6] "Full-swing" is defined as "full Project staff working full time at the same time as the OCLC system is also running at average or better speed." (The month of December, 1980, was more than half lost to the project because the OCLC terminals were down due to the AACR-2 "flip".)

[7] Hewitt, Joe A. and David E. Gleim, "The Case for Not Closing the Catalog," *American Libraries*, Vol. 10, no. 3, March 1979, 118-121.

[8] R & R Automation Committee, "Closing the Card Catalog," (Final draft of the Committee's report), January 10, 1980, 1-2.

[9] *Ibid.*, [3].