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Retrospective Conversion of a Medium-Sized Academic Library

Mary K. Bolin

Harley B. Wright

SUMMARY. Even a successful retrospective conversion project requires a great deal of time, money, staff and problem-solving. The University of Idaho Library is a medium-sized academic library and a member of WLN. This article describes the methods the library used to convert its collection, and examines the problems encountered with each method.

INTRODUCTION

Retrospective conversion (recon), the building of a MARC database from manual cataloging records, is one of the fundamental activities on the road to library automation. The literature emphasizes careful planning and consideration of the long-term implications of decisions which are made.¹ Even the most careful planning probably will not allow a library to avoid all problems, however, and even the most well-

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organized project may be plagued by unforeseen difficulties. The University of Idaho (UI) Library accomplished its database conversion in a fairly short time and with a minimum of difficulties; nevertheless, there were problems, some of which we are still discovering. Moreover, recon is expensive, no matter what method is chosen, and while the benefits of having our holdings in MARC format are incalculable, the cost of conversion, in library staff time and vendor charges, was considerable.²

The UI library is a medium-sized academic library with nearly 2,000,000 total volumes, which has been a member of WLN (formerly the Western Library Network) since 1979. At the time the library joined WLN, we closed the card catalog but continued to maintain a paper shelflist. Until 1983 the library used WLN's Resource Directory, a microfiche version of the WLN database, as its public catalog. From 1983 until 1988, we produced a microfiche catalog of UI holdings only. The Cataloging Department now has four librarians and eleven paraprofessional staff. During the time of the recon project, we had 4.5–5.5 librarians and 14 FTE paraprofessionals. Cataloging is centralized, and we normally catalog 15-20,000 titles per year, including books, serials, scores, sound recordings, computer files, and some maps and government documents.

The UI library has converted virtually all of its holdings, has discarded its card catalog and relies on machine-readable records. The card catalog was disposed of in the fall of 1988, when non-serial recon was finished. At that time we stopped producing a COM catalog, and adopted WLN's LaserCat CD-ROM catalog as our public catalog. At least four years of hard work and considerable expense led to that very desirable step.

EARLY ATTEMPTS

At the UI library, we began retrospective conversion in the mid-1980s, taking a number of different approaches. The first recon technique we tried was WLN's WYLBUR text-editing system. Library staff input information for unconverted items into the WYLBUR system using WLN terminals, and WLN then created a magnetic tape which it ran against its database four times a year, looking for matching records. When a match was found, the library's call number was attached to the

holdings records for that item. Once run, a tape could be held and run again. The cost was \$.27 per hit. On the first pass, the hit rate was as high as 80% for parts of the general collections and 30% for our special collections. Each subsequent match found fewer and fewer records until we felt it was no longer worth trying again. This first step to recon was a logical and inexpensive approach, and from September 1980 until March 1986, we converted 119,202 records this way. At the height of this project, the entire library was involved. Volunteers from all departments signed up for one-hour time slots, and the terminals were busy from 8:00 a.m. to 6:00 p.m.

GRANT TO CONVERT REGIONAL MATERIAL

In 1985, an LSCA grant to convert the 5,400 titles in the library's Day-Northwest (Day-NW) collection (materials of regional interest) got us started on the systematic recon effort which would last for a number of years. The grant request was for \$11,750, plus approximately \$20,000 in local matching funds, making the entire amount for the project approximately \$32,000. A temporary, high-level paraprofessional position was created to oversee the project. A library assistant who had worked in cataloging for several years was hired to fill that position. In addition, another temporary library assistant job was created specifically for the recon project, and one permanent library assistant position from cataloging was dedicated to the project. As much as eighty hours per week of "irregular help" (student and other hourly workers) were also devoted to recon. The recon project was housed in a small, separate office, on the same floor of the library as the Cataloging Department, but at a short distance from it. The office had its own WLN terminal, printer and high-quality photocopier.

CONTRACTING WITH SAZTEC

The library contracted with the Saztec Corporation of Eugene, Oregon to create MARC records for the 5,400 Day-Northwest items. As part of the planning stage, Saztec created a 35-page data conversion

specification document giving specific instructions for tagging and keying the records.³ UI library staff reviewed and responded to that document. When the conversion specifications and service agreement (which dealt with the schedule, price and quality of the project) were completed and signed, UI library recon staff began photocopying shelflist cards for unconverted monographic items. They searched the WLN database, finding matching records for 35% of the material. Holdings for these were attached via WYLBUR. Photocopies of the remainder were mailed to Saztec. Saztec staff in the Philippines created records which WLN loaded into a separate input file, to be edited and verified into the WLN database. After these records were converted, the library received more funding for recon and contracted with Saztec to convert more of the collection, and 8,000 more records were keyed and loaded. Several catalog librarians began to spend some time helping to verify these records. Although Saztec's work was timely and accurate, there were a number of problems with the records they created. The information was exactly as it appeared in the shelflist, so that name, subject and series headings had to be changed to AACR2 forms before the records entered the database. In addition, there were fill characters in some parts of the records which had to be removed. Moreover, since the records were converted by Saztec employees who were unfamiliar with the elements of a catalog record, and who were not necessarily native speakers of English, some information, especially from Library of Congress printed cards, was transcribed incorrectly. (For example, a cross reference from a Library of Congress (LC) printed card, e.g., "Full name: John Robert Martin Smith" might be erroneously transcribed and tagged as a note or an added entry. When information appeared on both sides of the hole in the bottom of the card, it was sometimes transcribed with a large space in the middle.)

In addition to the editing which had to be done to these records, there were a number of initial problems with loading the tapes into WLN's input file which caused delays. Some of these were problems with the data on the tapes. For example, one large group of records was input with the wrong library location; another group had the wrong encoding level for records with LC card numbers; and another the wrong country of publication code in the fixed field. One large group of records was

entered using record identifier numbers (a unique access point) which had already been used and yet another group was created with an incorrect subfield "a" in the 984 (holdings) field. Saztec recreated all of those records except for the last group, and gave the library a reduced charge for the "trouble factor" involved in fixing the incorrect 984's. Despite the company's cooperative attitude, however, there were delays. Other problems were the result of WLN's tapeloading program. (Considerable work has since been done on that program to correct these.) For example, when records were loaded into WLN, those with LC card numbers always sorted first. This meant that UI recon staff could not review records in shelflist order. Further, subject headings and added entries on each record were rearranged into numerical tag order rather than the order they appeared in on the card. (This is probably not earthshaking, but catalogers have conventionally assigned subject headings and added entries in a sort of hierarchical order.)

COSTS OF THE SAZTEC PROJECT

Tape 1	test batch-Day-NW collection	\$761.10
	501 records@ \$1.52	
Tape 2	remainder of Day-NW collection	\$3,325.66
	2338 records @ \$1.42	
Tape 3	UI theses and dissertations	\$3,069.59
	2442 records @ \$1.26	
Freight	September-June	\$370.09
Project development fee		\$2,500.00
TOTAL		\$10,026.44
WLN tapeload .05/record		\$264.05
Saztec discount-"trouble factor" plus keystroke/record decline cost (Saztec charged \$1.00 per 1000 keystrokes, up to a certain number after which the cost declined)		(\$1,723.56)
TOTAL		\$8,566.93

Aside from the delays in loading the Saztec records into WLN's input file, the amount of authority work and other editing which had to be done to the records made this method too time-consuming and

labor-intensive. UI recon staff found it very difficult to keep up with the work involved in verifying the records into the database. Moreover, it became very difficult to coordinate activities going on in six different locations: library staff in Moscow; WLN in Olympia, Washington; WLN's computer staff in Pullman, Washington; and Saztec staff in Eugene, Oregon, the Philippines and Dayton, Ohio. The library decided to contract with WLN to complete the conversion of its collection.

CONTRACTING WITH WLN

UI recon staff continued systematically going through the shelf-list, searching WLN for matching records. All cards were photocopied, and searching was done from the photocopies. When a match was found, our holdings were attached to the record. Recon staff were able to attach holdings to about 1,500 database records each month, and prepare photocopies of 2,000 more records to send to WLN for tagging and inputting each month. WLN recon staff (part of the network's Cataloging/Inputting Service) created records from the photocopied cards and wrote the system-assigned control number on the photocopies. After WLN returned the photocopies to us, the last step was for UI recon staff to stamp "WLN" on the shelf-list card for converted records and also to transcribe the control number onto the card.

Although WLN was not able to begin inputting until January of 1987, and although they did not always convert as many records per month as they had estimated, our holdings went from 247,000 in September of 1986 to 360,000 in September 1988. Since new cataloging adds about 15-20,000 holdings per year, the recon project converted approximately 40-50,000 records. UI recon staff finished sending photocopies of non-serial records to WLN in the Fall of 1987, but WLN did not finish inputting until the following Summer. Recon activity was reflected in our monthly WLN statistics—about 35,000 inquiries (up about 10,000), 3500 holdings attached (up about 2000) and 2000 records input (up about 1700) per month.

COST

While we feel that the effect of recon has been immeasurably beneficial, and while our project went smoothly for the most part, converting from paper to computerized records is always expensive.

The most expensive component of the project was staff. Two temporary library assistant positions were created, and 80 hours per week of "irregular help" were devoted to recon.

LAIII	\$22,320.00	(library assistant salaries
LAI	\$18,600.00	include 24% for benefits.)
Hourly workers	\$21,340.80	
Total per year	\$62,260.80	
Total for project	\$186,782.40	

Our in-house recon activity added to our WLN charges. One terminal was devoted to recon, although other terminals were also used for the project. Searching the database before sending records to WLN created charges for inquiries and for attaching holdings to records found. WLN charged \$2.85 per record for books and serials. That included inputting a record from the photocopy of the cataloging card, attaching holdings to that record, plus a charge for one inquiry per record. If our shelflist card had inadequate information, we would indicate that on the photocopy which went to WLN, and they would order a new card at a cost of \$.50 per record plus \$.08 for the card. We ordered a new card as infrequently as possible to keep costs down (see Appendix).

OTHER PROBLEMS

While the phase of the project done by WLN went remarkably smoothly for the most part, there were still a few difficulties. A major annoyance encountered at the beginning of the project was the library's earlier practice, before the card catalog was closed, of filing only the first card of a multiple card set in the shelflist, so that complete information was found only in the public catalog. Recon staff had to search the public catalog for incomplete card sets before those records could be sent to Saztec or WLN, since often the subject headings and

other added entries were missing. The cost in staff time for reconstructing these entries was enormous and regrettable.

A more understandable problem was the clean-up which any recon project entails.⁴ One approach we used was to have an experienced staff member go through the shelflist card by card, finding cards which were not stamped (and therefore had not been converted), as well as other snags and problems. These several last passes through the shelflist were dubbed "final recon" and "ultimate recon." Many of the problems encountered were serial vs. monograph problems, which were flagged and attended to during serial recon, which followed in 1988. Other problems were brought to us by staff in other departments. These were most often incorrect call numbers, holdings attached to the wrong record, etc. Each generation of catalogers likes to revile its forbears, and we are no exception: one barrier to converting our shelflist to machine-readable form was that the information on the cards was often inadequate or erroneous. We found that it was better not to go to the stacks and get the item to compare it to the cards, because most often the two bore little resemblance to each other. Our project was to convert the shelflist—such as it was, in some cases, not to recatalog the collection.

Two problems arose while recon was going on or after it was finished. First was the understandable impatience of some library staff, especially those in public services, to have the project finished. The considerable money going to recon was sometimes seen as a drain on the Library's budget, never flush at the best of times. In addition, the Cataloging Department was sometimes too optimistic about the project's timetable, giving people the impression that it would be finished sooner than was possible.

The second problem was keeping up the morale of the recon staff. The recon unit had a feeling of separateness, although they were part of the Cataloging Department. This separateness was sometimes healthy, because it fostered team spirit, and helped us reach our goal faster. However, since the unit was physically separated from the rest of Cataloging, it was harder to integrate recon staff into departmental procedures, workflow and communication. The fact that most of the recon staff were in temporary positions made these problems worse.

After the project had been underway for a few months, recon staff began dividing their time between recon and other cataloging tasks, such as searching WLN for records for new books and attaching holdings. This had both good and bad results. While they had developed a lot of skill with bibliographic data, they had some difficulty distinguishing recon procedures and standards from those for processing new materials. For example, for the purposes of recon we allowed much more leeway in the date of publication when deciding whether a database record was a match than we do when processing new materials. It was sometimes hard for recon staff to keep these distinctions in mind.

Certain formats were more difficult to deal with than others. The MARC Maps Format was not available on WLN at the time we did conversion, so that that part of the collection could not be added to the database. When we got to the "M's" (music) in our shelflist, we found that it was harder to search the database for scores and sound recordings, since WLN has powerful keyword searching but no exact title search. (WLN has since improved its searching software in ways which would have alleviated some of these difficulties.) The often generic titles of scores and sound recordings made them hard to retrieve.⁵ WLN occasionally had staffing problems—unfilled positions or lots of turnover, which made it hard at times to finish conversion, especially when particular expertise was required, as with music. There was sometimes a time-lag between the time we sent photocopies to WLN and they were able to convert the records. This meant that a certain percentage of those records would already be in the database by the time WLN staff were ready to input a record. This added to the cost of the project, since WLN charged more to attach holdings to an existing record than it would have cost us to do it in the library.

BENEFITS

There have been a number of desirable results from having the non-serial part of recon finished. First, was the most obvious—we could get rid of the card catalog and rely on WLN's CD-ROM LaserCat as our public catalog. While there are patrons who mourn the card catalog

and are sickened by what they see as the waste of having discarded it, most patrons and staff welcome the flexibility of LaserCat. A second benefit is the addition of highly trained staff to the Cataloging Department. During the course of the project, we began to make fuller use of the skills they developed while doing retrospective conversion. Recon staff were responsible for a significant proportion of our copy and adaptive cataloging output, and also did many other tasks such as inputting original records. It might have been nice to have kept all of the positions which were created for recon when the project was over. As it happened, we kept only the Library Assistant III who supervised the project. This position has evolved into a Copy Cataloging Coordinator and original cataloger. The other temporary library assistant position is no longer in the Department, although the person who filled that position now occupies another, higher-level position in Cataloging. Likewise with the hourly staff: none of those hours remained in the Department, although most of the staff who filled those hours now have permanent positions in technical services.

CONCLUSION

A library contemplating recon can learn several things from the successes and failures of this project. These things may be obvious, but they bear repeating.

1. Set a realistic timetable. Some factors will be out of the library's control, even if recon is done entirely in-house.
2. Create "clean" records to start, rather than creating records which need editing or updating. WLN's recon service created records with all headings in their most up-to-date form. The price we paid for these records was worth it, since this will save us money when we load these records into a local system.
3. The clean-up phase is crucial to finishing recon, and therefore it should be systematic.
4. Only a very well-staffed library with a very small collection can afford to consider recon as an opportunity for wholesale recataloging.

NOTES

1. For an excellent, concise discussion of this see, Susan Baerg Epstein, "Retrospective Conversion Revisited, Part I," *Library Journal* 115, no. 9 (May 15, 1990): 56-57 and Susan Baerg Epstein, "Retrospective Conversion Revisited, Part 2," *Library Journal* 115, no. 10 (June 1, 1990): 95-98. Another practical planning guide is Jane Beaumont and Joseph Cox, *Retrospective Conversion: a Practical Guide for Libraries*. Supplements to Computers in Libraries, no. 7. (Westport, Conn.: Meckler, 1989.)

2. Retrospective conversion costs are treated by Marsha Ra, "The Need for Costing in a Cooperative Retrospective Conversion Project," *Technical Services Quarterly* 4, no. 4 (Summer 1987): 39-48 and Marion T. Reid and K.L. Wells, "Retrospective Conversion through the Looking Glass, *RTSD Newsletter* 12 (1987): 10-11.

3. A thorough treatment of the problems of data conversion is Ruth C. Carter and Scott Bruntjen, *Data Conversion* (Wliite Plains, N.Y.: Knowledge Industry Publications, 1983.) Other sources in this area include Richard W. Boss and Hal Espo, "Standards, Database Design & Retrospective Conversion," *Library Journal* 112, no. 16 (October 1, 1987): 54-8 and Derry C. Juncja, "Quality Control in Data Conversion," *Library Resources and Technical Services* 31, no. 2 (April/June 1987): 148-58.

4. This portion of recon is described by Amy Hart, "Operation Cleanup: the Problem Resolution Phase of a Retrospective Conversion Project," *Library Resources and Technical Services* 32, no. 3 (October 1988): 378-86.

5. For a detailed treatment of the problems encountered in music conversion see Ruth Tucker, "Music Retrospective Conversion at the University of California at Berkeley," *Technical Services Quarterly* 7, no. 2 (1989): 13-28.

APPENDIX

MONTH:	Jul/87	Aug/87	Sep/87	Oct/87	Nov/87	Dec/87

CATALOGING						

INQUIRIES	\$2,291.22	\$2,124.44	\$3,359.78	\$3,621.02	\$2,843.71	\$2,570.47
ATTACH HOLDINGS	\$804.60	\$423.00	\$389.20	\$312.80	\$347.80	\$419.40
RCP (ORDER CARDS)	\$316.65	\$261.90	\$325.50	\$231.90	\$233.55	\$266.55
INPUT NEW RECORDS	\$73.50	\$91.05	\$0.94	\$24.30	\$47.85	\$51.00
WLN RECON INPUT	\$3,712.50	\$5,906.00	\$5,932.80	\$5,912.80	\$3,933.55	\$4,818.30
WLN CONTRACT CATALOGING	\$3,655.40	\$2,485.15	\$3,839.05	\$1,575.05	\$1,949.90	\$852.20
CATALOG CARDS	\$526.78	\$441.68	\$645.76	\$455.68	\$430.32	\$405.12
TERMINAL MAINTENANCE	\$240.00	\$240.00	\$280.00	\$280.00	\$280.00	\$280.00
MODEM MAINTENANCE	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	\$15.00
TERMINAL CONNECT CHARGE	\$960.00	\$960.00	\$1,120.00	\$1,120.00	\$1,120.00	\$1,120.00

CATALOGING TOTAL	\$12,595.65	\$12,948.22	\$15,908.03	\$13,548.55	\$11,201.68	\$10,798.04

Jan/88	Feb/88	Mar/88	Apr/88	May/88	Jun/88	FY TOTAL
\$2,015.75	\$2,338.41	\$2,359.95	\$2,246.95	\$1,893.00	\$1,889.15	\$29,553.86
\$293.60	\$334.40	\$332.40	\$347.20	\$297.80	\$413.20	\$4,715.40
\$254.70	\$271.65	\$268.95	\$254.55	\$281.25	\$160.20	\$3,127.35
\$73.65	\$41.25	\$145.05	\$94.05	\$39.00	\$58.05	\$739.69
\$5,599.15	\$5,061.00	\$5,716.60	\$5,915.30	\$6,070.35	\$5,450.45	\$64,028.80
\$373.85	\$17.85		\$17.85			\$14,766.30
\$394.56	\$481.53	\$415.68	\$397.92	\$507.36	\$247.60	\$5,349.99
\$200.00	\$200.00	\$200.00	\$200.00	\$200.00	\$200.00	\$2,800.00
\$15.00						\$105.00
\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$800.00	\$11,200.00
\$10,020.26	\$9,546.09	\$10,238.63	\$10,273.82	\$10,088.76	\$9,218.65	\$136,386.39

INQUIRIES
ATTACH HOLDINGS
RCP (ORDER CARDS)
INPUT NEW RECORDS
WLN RECON INPUT
WLN CONTRACT CATALOGING
CATALOG CARDS
TERMINAL MAINTENANCE
MODEM MAINTENANCE
TERMINAL CONNECT CHARGE
CATALOGING TOTAL

APPENDIX (continued)

MONTH: Jul/88 Aug/88 Sep/88 Oct/88 Nov/88 Dec/88

CATALOGING

INQUIRIES	\$1,512.20	\$1,437.95	\$1,627.25	\$1,618.25	\$1,573.35	\$2,005.90
ATTACH HOLDINGS	\$338.50	\$260.75	\$250.75	\$191.50	\$207.50	\$332.75
RCP (ORDER CARDS)	\$176.40	\$121.35	\$135.45	\$145.20	\$121.50	\$188.40
INPUT NEW RECORDS	\$239.40	\$74.25	\$66.30	\$166.35	\$387.75	\$138.30
WLN RECON INPUT	\$4,348.00	\$603.70	\$2,016.75	\$2,392.00	\$10,709.05	\$497.20
CATALOG CARDS	\$262.08	\$199.84	\$211.68	\$209.84	\$173.68	\$235.92
TERMINAL MAINTENANCE	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00
TERMINAL CONNECT CHARGE	\$925.00	\$925.00	\$925.00	\$925.00	\$925.00	\$925.00

CATALOGING TOTAL \$7,926.58 \$3,747.84 \$5,358.18 \$5,773.14 \$14,222.83 \$4,448.47

Jan/89	Feb/89	Mar/89	Apr/89	May/89	Jun/89	FY TOTAL

						CATALOGING

						INQUIRIES
\$2,454.60	\$2,360.10	\$2,764.90	\$2,929.05	\$3,085.25	\$2,833.50	\$26,202.30
\$328.25	\$324.25	\$393.00	\$376.75	\$500.50	\$490.25	\$3,994.75
\$150.15	\$220.95	\$195.15	\$282.90	\$339.60	\$299.25	\$2,376.30
\$44.70	\$42.00	\$53.40	\$37.20	\$47.90	\$58.45	\$1,356.00
	\$184.40	\$282.30			\$71.50	\$21,104.90
\$194.08	\$278.00	\$255.76	\$350.80	\$421.44	\$358.40	\$3,151.52
\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$1,500.00
\$925.00	\$925.00	\$925.00	\$925.00	\$925.00	\$925.00	\$11,100.00

\$4,221.78	\$4,459.70	\$4,994.51	\$5,026.70	\$5,444.69	\$5,161.35	\$70,785.77

APPENDIX (continued)

MONTH:	Jul/89	Aug/89	Sep/89	Oct/89	Nov/89	Dec/89

CATALOGING						

INQUIRIES	\$2,024.30	\$2,689.73	\$2,779.60	\$3,024.85	\$2,879.40	\$2,787.00
ATTACH HOLDINGS	\$309.30	\$366.00	\$311.40	\$351.30	\$326.10	\$501.30
RCP (ORDER CARDS)	\$171.00	\$252.30	\$184.05	\$172.05	\$230.40	\$210.60
INPUT NEW RECORDS	\$52.80	\$76.50	\$125.00	\$183.60	\$167.45	\$161.70
WLN RECON INPUT	\$224.50	\$0.00	\$1,125.70	\$142.00	\$1,235.00	\$20.80
CATALOG CARDS	\$209.60	\$309.76	\$235.12	\$232.72	\$290.32	\$252.24
TERMINAL MAINTENANCE	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00
TERMINAL CONNECT CHARGE	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00

CATALOGING TOTAL	\$4,116.50	\$4,819.29	\$5,885.87	\$5,231.52	\$6,253.67	\$5,058.64
