Project Report

Adventures with MicroMARC: A Report on Idaho's Centennial Database

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Abstract: The Idaho State Historical Records Advisory Board obtained funding from the National Historical Publications and Records Commission to provide statewide bibliographic access to manuscripts and archives. This paper describes the innovative features of that project, carried out by the University of Idaho library as subcontractor, including the integration of several off-the-shelf software programs into one process. The paper is slightly revised from a presentation to the Joint Conference of the Northwest Archivists and the Archives Association of British Columbia held at Western Washington University, Bellingham, Washington, 2 May 1992. The author's attendance at that conference was made possible by a grant from the Hon. John Calhoun Smith Memorial Fund of the University of Idaho.

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UNTIL 1989, LIBRARIES, ARCHIVES, museums, and other institutions collecting historical source material in Idaho maintained no comprehensive bibliographic access to their holdings. As a remedy for this deficiency, the Idaho Centennial manuscripts survey exploited the development in the early 1980s of the Western Library Network (WLN). From September 1989 through December 1991, the survey project collected data from repositories throughout the state, identifying and describing archives and manuscript collections available for research and entering those descriptions in a MicroMARC:amc database.[1] The University of Idaho library conducted the project as subcontractor to the Idaho State Historical Records Advisory Board (ISHRAB), the recipient of two grants from the National Historical Publications and Records Commission (NHPRC) with supplemental funds from the Idaho Centennial Commission and other sources.[2] The project director was Terry Abraham, head of Special Collections and Archives in the University of Idaho library. The author served as project archivist.

When the Idaho project began, MicroMARC:amc, developed at Michigan State University under an NHPRC grant, was the only software known to us for implementing the USMARC Archives and Manuscripts Control (AMC) format on personal computers.[3] Uploaded from MicroMARC to WLN, this catalog of Idaho historical sources can be accessed today either on-line or on CD-ROM through most libraries in Idaho and the Northwest. Since the fall of 1992, the same records have also been available nationally on the Research Libraries Information Network (RLIN).

The project began with the preparation of a repository survey form, mailed with a cover letter and a stamped self-addressed envelope to each of 265 libraries, archives, historical societies, museums, and other institutions in Idaho. Of the 164 institutions that responded to the initial survey, 69 claimed some quantity of archives or manuscripts. These repositories were sent collection-level description forms along with an illustrative sample form properly filled out. Although only 47 repositories were ever to supply usable collection-level data, the number of records included in the database and reported to WLN and RLIN eventually totaled 4,138. The procedures used in this survey stage were thoroughly time-tested, differing only in detail and circumstance from the techniques that I had employed sixteen years earlier in gathering the information for my first survey and cataloging project, published as *North American Forest History: A Guide to Archives and Manuscripts in the United States and Canada.*[4]

The rest of the Idaho project was more up to date. Information from the returned initial questionnaires was entered into a File Express database to manage inquiries, responses, and follow-ups. A useful byproduct, output and edited from this database, was a directory of archival repositories in the state, published in *Idaho Yesterdays.*[5]

In the first several months of the project, I spent a good part of my time becoming

[1]Idaho at the Centennial: A Database of Archives and Manuscripts in the Gem State: Final Narrative Report to the National Historical Publications and Records Commission (91-042 [Supplemental], Idaho State Library, Idaho Centennial Commission, and Idaho State Historical Records Advisory Board, 31 December 1991).

[2]The Idaho State Historical Society and the University of Idaho assumed the indirect costs and all the institutional members of the ISHRAB contributed staff time for the description of their own holdings.

[3]Frederick L. Honhart, "MicroMARC:amc: A Case Study in the Development of an Automated System," *American Archivist* 52 (Winter 1989): 80–86.

[4]Richard C. Davis, comp., *North American Forest History: A Guide to Archives and Manuscripts in the United States and Canada* (Santa Barbara: ABC-Clio Press, 1977).

[5]Terry Abraham and Richard C. Davis, comps., "Directory of Manuscript and Archival Repositories in Idaho," *Idaho Yesterdays* 34 (Fall 1990): 21–33.

familiar with a new Hewlett-Packard Vectra LS/12 laptop computer; the intricacies of MicroMARC:amc; the complexities of the AMC format; and the mysteries of Hensen's *Archives, Personal Papers and Manuscripts* (APPM). By late November 1989, enough collection-level information had been returned to begin editing, tagging, assigning added entries, and entering records into the MicroMARC:amc database. The records were assembled according to standards set out in the *AngloAmerican Cataloging Rules* (AACR2), in APPM, in the *WLN Data Preparation Manual*, and as exemplified in the existing WLN database.[6]

During the survey phase we gathered descriptive information, both by mail and telephone, from twice as many repositories and on a third more collections than we had originally expected. This meant that I, as project archivist, spent little time visiting repositories. Instead, I devoted my efforts to the editorial aspects, revising records to meet AACR2/APPM standards, adapting them to the MicroMARC:amc format, and checking main and added entries against the authority control (the existing WLN database). We solicited technical criticism of our MicroMARC records from the WLN staff and from the University of Idaho Library cataloging department and mailed printouts of records to the repositories for their review. Larry Stark of Washington State University library served as consultant.[7]

The quality of the records received by this project varied enormously. The prior condition of manuscript arrangement and description in Idaho is exemplified by the comment made by a curator at Idaho State University: "I have had to start from scratch and do some massive rearrangement of materials to make this project possible."[8] That remark might, with equal accuracy, have been made at most of the repositories in the state. Even the MARC-formatted records provided by the State Historical Society needed extensive editing prior to their addition to the project database. An enhanced understanding and utilization of standardized descriptive practices in Idaho repositories was one of the stated purposes of the project, and in all the principal repositories this has certainly been achieved. Original cataloging had not been proposed as a part of this project, but the result has been USMARC AMC descriptions in WLN for many Idaho manuscripts that previously had been cataloged at a minimal level or not at all.[9]

The Idaho project used MicroMARC only for cataloging and for transferring records to other systems; hence I ignored entirely

[6]*MicroMARC:amc, Version 2.0: A Microcomputer System for the USMARC AMC Format: User's Manual,* documentation by Patricia M. Hummer et al. (East Lansing, Mich.: Michigan State University, 1988); Nancy Salhi, *MARC for Archives and Manuscripts: The AMC Format* (Chicago: Society of American Archivists, 1985); Steven L. Hensen, comp., *Archives, Personal Papers and Manuscripts: a Cataloging Manual for Archival Repositories, Historical Societies, and Manuscript Libraries,* 2nd ed. (Chicago: Society of American Archivists, 1989); *Anglo-American Cataloging Rules,* 2nd ed. (Chicago: American Library Association, 1978); *WLN Data Preparation Manual* (Western Library Network: 1987).

[7]For a series of informed discussions of the variety of problems encountered in providing computerized manuscripts catalogs, see Anne J. Gilliland, ed., "Automating Intellectual Access to Archives," *Library Trends* 36 (Winter 1988): entire issue.

[8]Letter, Gary Domitz to Richard Davis, 21 May 1990.

[9]The WLN database already contained AMC records for holdings of Washington State University and the Alaska State Archives, loaded directly on-line. See Tina Atkinson Oswald and Lawrence R. Stark, "Can Real Archivists Use MARC?" *Archives and Museum Informatics* 4 (Fall 1990): 2–3; and Al Minnick, "MicroMarc Applications at the Alaska State Archives," *MicroMARC:amc Users Group Newsletter* 2 (April 1989): 2–3, which suggested plans at that time for loading from disks. A description by Sally Childs-Helton of loading Indiana Historical Society catalog records on OCLC after their transfer to tape by Michigan State University appeared in the *SAA Newsletter* (July 1990): 4.

its Process Control and Action Entry modules. Although MicroMARC certainly accomplished its basic purpose, in many ways it proved quite awkward to use. We therefore felt compelled to customize the system to accommodate the special needs of this project.

MicroMARC:amc provides for setting default values for certain fields on the initial description screens. For our project, which describes the holdings of many different repositories and does not record any action or processing information, it was helpful to assign only two of the supplied defaults, Cataloging Source and Language. However, we soon realized it would be convenient to assign a number of additional default settings through the not-recommended process of editing MicroMARC's Description Entry Screen in a word processor. This was easily done by calling up the MicroMARC system file SCREENS.AMC in PC-Write (which has the ability of producing pure ASCII text) and scrolling forward one page until the heading "Description Entry Screen # 1" appeared. The settings expected to be used most often were then typed in for Record Status, Encoding Level, Record Type, Bib. Level, Descriptive Cataloging Form, and Date Type. Once the modified SCREENS.AMC has been saved, these defaults appear in the description entry screen whenever a new record is entered. When required, they can always be overwritten for individual records.

We also thought MicroMARC could be improved by adding a mechanism for importing machine-readable records not already in MARC format. Prior to this project, only three institutions in Idaho had maintained machine-readable manuscript catalogs. The University of Idaho had cataloged its manuscripts and archives in File Express, Latah County Historical Society had compiled descriptions of its manuscript collections and other materials in Writing Assistant, and Ricks College maintained location records (without much description) on a local Dynix network. Other institutions responded to the opportunity of reporting to this project by starting catalogs on personal computers, using whatever databases or word processors were available. Ketchum Community Library started with PC-File, Boise State University used Q&A, Idaho State University used WordPerfect, and the Idaho State Historical Society began entering its record descriptions directly into its own copy of MicroMARC. With the exception of the last, none of the programs mentioned produce MARC-formatted records.

Our first experiment at importing non-MARC records into MicroMARC began at the Latah County Historical Society, which maintains its manuscript catalog in an extremely nonstandard bibliographic system consisting of nearly seven hundred entries composed in Writing Assistant. This catalog did not use fields that corresponded in any way to those of MARC. I made an ASCII disk copy of the society's manuscript catalog and then used PC-Write to revise the ASCII entries to produce collection descriptions in a dummy MARC format, with tags attached. GOfer, a memory-resident text-finder cut-and-paste utility program,[10] easily transferred these dummy records, one at a time, into the MicroMARC database. It proved easy (if a trifle boring) to hot-key to GOfer, select and mark the desired text, then exit to MicroMARC and sit back and watch the marked text write itself to the MicroMARC Description Screen. Even with the great deal of rewriting needed to produce records in proper AMC/APPM format, this procedure saved considerable time over what would have been required to type records individually into MicroMARC, whose editing module

[10]GOfer (East Rochester, N.Y.: Microlytics, 1987).

is quite awkward compared to a word processor. Similar importing of word processing text into MicroMARC has been reported from the Alaska State Archives and the Oregon State Archives using the software package Sidekick.[11] The second generation of software for creating MARC records on personal computers, such as Cactus's Minaret, is said to come equipped with a comparable importing capability as well as other improvements on the pioneering MicroMARC.

Somewhat simpler in the editorial phase was the importing of the University of Idaho's File Express manuscript catalog into MicroMARC. When the University of Idaho Library selected software for its initial computerized manuscript catalog in 1984, it chose the capabilities of rearrangement and the ability to search on specific parts of the record provided by a database over the advantages of ease of entry and formatting of a word processor. Unlike MicroMARC, however, the database software available at that time—the shareware program PC-File (later File Express)—was a flat-file, fixed-length database. This program was very wasteful of disk space. All parts of the record had to have their maximum length known when the database was initiated, and the maximum length available in any one field was sixty-five characters. To provide an adequate descriptive note required the assignment of six maximum-length fields for one descriptive note field, whether a particular record required a lengthy note or not. When reports were generated, these six fields could be assembled into one readable paragraph. Notes longer than 390 characters required a second record; this meant repeating location, name, and dates. Location numbers and subject terms (Library of Congress headings abbreviated to fit within the sixty-five-character limit) were kept in a separate database. When the number of records in the descriptive database grew to over six hundred and the number of subject entries rose to over two thousand, the awkwardness of a flat-file bibliographic database became obvious. In the project reviewed here, we designed a File Express report to disk, which included at least some of the MARC tags and which, with considerable editing in PC-Write (but far less than had been required by the Latah County Writing Assistant catalog), could be GOfered into MicroMARC. As Terry Abraham observed, the lesson of this may be that "it is always better to digitize data than not: Digital data can nearly always be converted from one format to another; digital data can always be used in more than one way."[12]

Although we used MicroMARC:amc in a fashion for which it was not designed, it was a nuisance to receive at an early point several different messages in the format "Error NN on line NN." Such messages indicate—according to the MicroMARC documentation—"that there is a bug in the program that you have innocently activated."[13] These errors were reported to Michigan State, which, perhaps predictably, suggested that they "are somehow caused by your modification to the SCREENS.AMC file and/or the way you are imputing [sic] your data through GOFER."[14]

Despite this unhelpful response, we (perhaps also predictably) continued our outlaw procedures and found the frequency of error messages diminishing, which I optimistically attributed to my increasing familiarity with MicroMARC. Later, dur-

[11]Minnick, "MicroMARC Applications," p. 3; Terry Baxter, comments during "Swap Shop for Microcomputer DBMSs: MicroMARC:amc," Society of American Archivists, 54th Annual Meeting, Seattle, Washington, 2 September 1990.

[12]Terry Abraham, personal communication, 16 July 1990.

[13]Hummer, p. 1–19.

[14]Frederick L. Honhart to Terry Abraham, 3 April 1990.

ing conversion of records to USMARC for transfer to other systems, the error message "Record ID # Missing End Mark" occasionally appeared. This was annoying, both because the error occurred unpredictably and because I found no certain way to fix it. The "Missing End Mark" message sometimes occurred during attempted conversion of a record that had previously been converted without problem. Sometimes it could be fixed simply by editing the record and saving it (the only solution recommended in the MicroMARC manual). At other times, even deleting and reentering the entire record resulted in the same error message when conversion was attempted. There was no way to know if the end-mark error would occur without our actually running a conversion, since it did not appear during other modules of MicroMARC. This meant I had to do a conversion, check the conversion report, try to fix any errors reported, delete the USMARC.EXT file, run the conversion again, check the new conversion report, and maybe still find errors reported. Nevertheless, I did not believe our modifications were responsible. The editing of SCREENS.AMC in PC-Write to set defaults in certain fields and the use of a utility import program (GOfer) to import ASCII records created in word processors and other databases were employed in creating over 95 percent of our 4,138 records. Since not much more than about one-half of one percent of the records ever had the end-mark problem, and still fewer had the "Error NN" problem, it seemed to me unlikely that the fault lay with these procedures.

But during the final conversion to send to WLN, I found seventeen records, all of which previously had been successfully converted, reported as having missing end marks. With some effort, most of these proved fixable, but during attempts to fix them five evidenced an even more serious problem. When I tried to either edit or delete one of these five, MicroMARC returned a message of "Error SS on Line 200" and dumped me back to DOS. I had edited and/or deleted thousands of records, and there was nothing different in my procedures on this occasion. Eventually I had to eliminate the ID numbers of the five recalcitrant records from my file of ID's, convert the remaining 4,133 records, set up a new database, enter the five records using GOfer, convert the five to a separate USMARC file, and then reconvert both USMARC files to one new MicroMARC database.

Only at this late point did anyone at Michigan State admit that my troubles could be due to bugs in the system after all, bugs that had already been fixed with Version 2.11 of the MARCOUT module.[15] The project's copy of MicroMARC was equipped with MARCOUT Version 2.00. But by that time it no longer mattered, for the Idaho Centennial Database Project was finished. MicroMARC is credited with good support,[16] but perhaps that cannot be expected when users tamper with the system or refuse Michigan State's tapeloading service. Nevertheless, MicroMARC had not presented us with any problems that we could not, with a little ingenuity and a lot of hard work, either solve or circumvent.

Are surveys of minor repositories worthwhile? Of the sixty-nine institutions that initially claimed manuscript holdings, twenty-two—nearly one third—failed to supply catalogable data. Thus the resulting database falls short of exhaustive. But it does reveal the cataloged records of each of the reporting institutions as of 15 November 1991.[17] The five institutions with the most numerous reported holdings (only 10.6 percent of the repositories reporting)

[15]Telephone conversation with Alice Kalush, 15 January 1992.

[16]David Bearman, "Micro-MARC:amc: A Review," *Archival Informatics Newsletter* 1 (Fall 1987): 48.

[17]Except for Ricks College, which, even following a visit by the project archivist, would report only one manuscript group out of an estimated one hundred.

accounted for 95.7 percent of the collections (3,961 out of 4,138). These major institutions were known without conducting a statewide survey. The materials in the smaller repositories are overwhelmingly of local pertinence and much of it is trivial, although among them are collections that appear significant, such as the correspondence held by the College of Southern Idaho of the director of the World War II Japanese-American Relocation Camp near Minidoka, Idaho. This material had not previously been cataloged and would not have been located without the survey.

On 17 December 1991, the entire database on disk was forwarded to the Idaho State Historical Society. That institution will assume responsibility for future maintenance and continued reporting of statewide holdings to WLN. The University of Idaho and several of the larger institutions will continue to report their own holdings directly to WLN. Boise State University has imported its fifty-six AMC records from WLN into its own local automated catalog, CATALYST, and the University of Idaho has done the same with its 852 records, bringing them into its newly implemented automated system, IDA. We have already perceived an increase in the use of manuscripts and archives as a result of the display of AMC records in our CD-ROM version of the WLN database, which has made manuscripts known to new users, such as undergraduates who would not otherwise have thought to use primary historical records. In addition, the ability to review manuscript holdings at other institutions has been useful in reference and collection development.