

tions only. They do not list the individual works that may be contained in publications. If an analytic catalog were to be built into a computerized system at some time in the future, the structure code would be a great help in the redesign, because it makes it easy to spot items that need analytics, namely those that contain embedded works, or codes 2, 4, 5, 6, 8, 9, 10, 11, and 13.

A searcher working with such an analytic catalog could use the code to limit output to manageable stages—first all items of type *c*, for example; then broadening the search to include those of type *d*; and so forth, until enough relevant material has been found.

The structure code would also be useful in the displayed output. If codes 5 or 8 appeared together with a bibliographic description on the screen, this would tell the catalog user that the item retrieved is a set of many separately titled documents. A complete list of those titles can then be displayed to help the searcher decide which of the documents are relevant for him. In the card catalog this is done by means of *contents notes*. Not all libraries go to the trouble of making contents notes, though, and not all contents notes are complete and reliable. The structure code would ensure consistency and completeness of contents information at all times. Codes 10 and 13 in a search output, analogously, would tell the user that the item is a serial with individual issue titles. There is no mechanism in the contemporary card catalog to inform readers of those titles. Codes 4 and 7 would tell that the document is part of a finite set, and so forth. It has been the general experience of database designers that a record cannot have too many searchable elements built into its format. No sooner is one approach abandoned "because nobody needs it," than someone arrives on the scene with just that requirement. It can be anticipated, then, that once the structure code is part of the standard record format, catalog users will find many other ways to work the code into search strategies.

It can also be anticipated that the proposed structure code, by adding a factor of

selectivity, will help catalogers because it strengthens the authority-control aspect of machine-readable catalog files. If two publications bear identical titles, for example, and one is of structure 1, the other of structure 6, then it is clear that they cannot possibly be the same items. However, if they are of structures 1 and 7, respectively, extra care must be taken in cataloging, for they could be different versions of the same work.

Determination of the structure of an item is a by-product of cataloging, for no librarian can catalog a book unless he understands what the structure of that book is—one or more works, one or more documents per item, open or closed set, and so forth. It would therefore be very cheap at cataloging time to document the already-performed structure analysis and express this structure in the form of a code.

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Revisions to Contributed Cataloging in a Cooperative Cataloging Database

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INTRODUCTION

OCLC is the largest bibliographic utility in the United States. One of its greatest assets is its computerized database of standardized cataloging information. The database, which is built on the principle of shared cataloging, consists of cataloging records input from Library of Congress MARC tapes and records contributed by member libraries.

OCLC STANDARDS

In order to provide records contributed by member libraries that are as usable as those input from MARC tapes, it is im-

perative that the records meet the standards set by OCLC and that the cataloging and formatting of the records be free of errors. Member libraries are requested to follow the nationally accepted cataloging code (*Anglo-American Cataloging Rules, North American Text*,^{1,2} for records input before December 12, 1980, and *Anglo-American Cataloging Rules, Second Edition*,³ for records input later), the Library of Congress' application of the cataloging code, and the various MARC formats in preparing records to be input.^{4,5}

The cataloging rules dictate what kind of bibliographic information should be included in the cataloging records, a prescribed system of punctuation that identifies the various fields of the cataloging record (International Standard Bibliographic Description, ISBD), which access points should be provided, and what form the entries should take. The MARC formats provide a standardized method of identifying the various fields and subfields in a cataloging record and, through the use of indicators, information necessary to make the record easily manipulated by computers. In addition, fixed fields provide coded information about the cataloging records.

The form of main, added, and series entries can be verified in the National Union Catalog to ensure that member libraries are following the Library of Congress' application of the cataloging code. By the same token, subject entries can be verified in the appropriate subject heading list (e.g., Library of Congress subject headings, Sears subject headings, etc.).

A STUDY OF OCLC MEMBER CATALOGING

A major problem with the use of contributed cataloging is the amount of revision needed to bring the records up to the standards described above. In 1975, a study of the quality of a group of member-contributed catalog records was conducted by C. C. Ryans.⁶ The first 700 monographic records input into OCLC after September 1, 1975, to which Kent State University attached its holdings were examined.⁷ The analysis included changes in or additions to main, added, or series

entries, changes in descriptive cataloging, and changes in or additions to subject headings. The study dealt only with the revision of cataloging; revision of the formatting of records was not noted. The Kent State study found that 393 revisions were necessary to 283 records. The remaining 417 records were considered to be acceptable, i.e., they adhered to AACR and ISBD rules and to the OCLC standards for input cataloging.

RECENT DEVELOPMENTS RELATING TO QUALITY CONTROL

Since these records were studied, the Internetwork Quality Control Council was formed in 1977 by the OCLC Board of Trustees.⁸ Its primary purpose is to identify problem areas regarding quality control and distribute information to networks concerning problems and solutions. Its role is to promote quality control through education and by monitoring the implementation of standards.

In addition, OCLC's documentation has steadily improved. The recent publication of the Books Format⁹ and the recent revision of the cataloging manual¹⁰ provide clear and specific information on OCLC's formatting requirements.

With these developments in mind, it would seem likely that the quality of the contributed cataloging has improved since 1975. In order to test this assumption, a number of cataloging records were analyzed in an effort to replicate the Kent State study. The analysis of these records differed from the earlier study in that differences in the treatment of series were not noted because one library's treatment of series can reasonably be expected to differ from that of another.

METHODOLOGY

The records included in this study consist of 1,017 monographic catalog records to which the State University of New York at Albany (SUNYA) Library added its holding symbol during an eight-month period from November 1979 to July 1980. The records included only those that were entered into the OCLC database after 1976.

Cataloging revisions that were noted

consisted of changes in main and added entries to make them consistent with Library of Congress form of entry, and the inclusion of other added entries that were deemed necessary to provide adequate access to the material. In addition, corrections or additions to the imprint and the collation were noted, as were typographical errors in all fields. Subject headings that were changed to make them consistent with Library of Congress subject headings and subject headings and/or subdivisions added to provide better subject access to the material were also noted.

ANALYSIS OF CATALOGING

Cataloging revisions were required for 43 percent of the 1,017 records examined (596 changes or additions were made to 437 records). Changes or additions to subject headings were made to 22.4 percent of all the records in the SUNYA sample, and represented the most common revision. Changes in descriptive cataloging were made to 20 percent of the records, and changes or additions to main or added entries were made to approximately 16 percent of the records.

Table 1 compares the results of this analysis with the findings of the earlier study. It should be emphasized that the two studies are not exactly comparable because the Kent State study included differences in the treatment of series, while this study noted only typographical errors in series statements.

The findings of this analysis do not bear

out the hypothesis that the quality of member-contributed cataloging has improved since 1975. The overall percentage of records requiring cataloging revision is similar in both the Kent State and the SUNYA samples. The percentage of changes made in the various areas of the cataloging records was similar, with the exception of added entries and subject headings. In the SUNYA sample, more revisions and additions were made to these two areas. This difference between the two samples may reflect variation in the cataloging policies of the two libraries rather than the presence or absence of more errors in member-contributed catalog records.

ANALYSIS OF OCLC REPORTABLE ERRORS AND ADDITIONS

In the fall of 1979, OCLC distributed its revised cataloging manual, which includes a chapter dealing with quality control.¹¹ The chapter delineates the errors and changes that are to be reported to OCLC for correction or addition. The cataloging records examined in this study were also analyzed with these criteria in mind.

This analysis (table 2) revealed that 661 reportable errors or changes were found on 486 records (47.8 percent of all the records). Reportable errors or changes included formatting errors or omissions such as incorrect assignment of tags, incorrect or missing indicators, subfield codes or fixed fields, and errors affecting retrieval or card printing. Other types of errors in-

Table 1. Comparison of Two Studies of Cataloging Revision

Area Needing Revision or Addition	Kent State Sample*		SUNYA Sample	
	Number	Percentage	Number	Percentage
Main Entry	44	6.2	46	4.5
Title Statement	28	4.0	76	7.5
Edition Statement	4	0.6	2	0.2
Imprint	29	4.4	64	6.3
Collation	111	15.9	58	5.7
Series	55	7.9	3	0.3
Subject Heading	88	12.6	228	22.4
Added Entries	44	6.2	119	11.7
Total Records in Study	700	100.0	1017	100.0
Records Requiring Revision	283	40.4	437	43.0
Number of Revisions Made	393		596	

*Source: Constance C. Ryans, "A Study of Errors Found in Non-MARC Cataloging in a Machine-Assisted System," *Journal of Library Automation* 11:128 (June 1978).

Table 2. Errors and Additions Reportable to OCLC

	Number	Percentage of Total Records	Percentage of Total Errors and Additions
Errors in Transcription of Data	19	1.9	2.9
Incorrect Assignment of Tags	6	0.6	0.9
Incorrect or Missing Subfield Codes	13	1.3	2.0
Incorrect Assignment of 1st Indicator	17	1.7	2.6
Incorrect Assignment of 2d Indicator	59	5.8	8.9
Incorrect Fixed Fields	313	30.8	47.4
Incorrect ISBD	8	0.8	1.2
Incorrect Form of Entry (less than LC)	87	8.6	13.2
Errors Affecting Retrieval or Card Printing	3	0.3	0.5
Bibliographic Information Missing	1	0.1	0.2
Addition of Access Points	135	13.3	20.4
Total Number of Records Containing Reportable Errors or Additions	486	47.8	
Total Number of Reportable Errors or Additions	661		100.0

cluded incorrect or omitted access points (added or subject entries, ISBN, LC card numbers, etc.), errors in transcription of data, incorrect ISBN, and the omission of needed bibliographic information.

Approximately 40 percent (408) of the records contained formatting errors, with over 29 percent (300) of the records containing incomplete or incorrect fixed fields. The apparent unconcern with fixed fields may stem from a lack of understanding of the value of correct fixed-field information. The recent addition of date and type of material as qualifiers in a search of the database is one example of the use of fixed fields. In order to underscore their importance, it might be useful for OCLC to highlight this use of fixed fields and further explain to its members how other fixed fields might be used in online search strategies in the future.

Errors in or omission of access points were found in 222 records (21.8 percent). These errors were also noted in the study of cataloging revisions discussed above, as were errors in transcription of data, in ISBD, and in omission of necessary bibliographic information.

SUMMARY OF FINDINGS

Although the quality of the SUNYA sample seems equivalent to that of the Kent State sample, an analysis by date of input of the records examined indicates a slight decrease in the percentage of rec-

ords needing correction for those records input in 1979 and 1980 (table 3). Perhaps this is the beginning of a trend toward more careful cataloging and formatting of records input by members.

In summary, 589 of the 1,017 member-contributed records studied were found to require revision. Of these, 486 records contained errors or omissions that may be reported to OCLC, and 437 required cataloging revision. It is discouraging to realize that approximately 60 percent of the member records used required revision. Such a high percentage of records needing revision necessitates the review of all member records used if a library wishes to adhere to OCLC standards for cataloging. This leads to tremendous duplication of effort and negates, in part, the purpose of shared cataloging.

Table 3. Yearly Breakdown of Catalog Records

Year of Input	Total Number of Records	Records Needing Correction	Percentage Needing Correction
1977	186	115	61.8
1978	332	202	60.8
1979	339	184	54.3
1980	160	88	55.0

INFLUENCES FOR CHANGE

The implementation of AACR2 in 1981 provides the impetus for greater adherence to standards. Since all catalogers

have had to learn the new cataloging requirements, greater care may be used in the formulation of records by member libraries.

The publication of clear and specific guidelines for reportable errors may help to alleviate the situation in two ways. First, the careful articulation of errors or desirable additions may impel member libraries to place more emphasis on the quality control of input. Second, member libraries may report more errors, thus allowing OCLC to correct the master records.

A change in the method of correcting errors and the rate at which they are corrected might be beneficial. Presently, errors on the master records can only be corrected by OCLC or by the inputting library if it is the only library that has used the record. Such an arrangement is clumsy and time-consuming. If other member libraries were trained and authorized to correct errors on master records, errors might be corrected as often as they are detected.

In the long run, however, the responsibility for inputting catalog records that meet the standards for cataloging and formatting rests with the member libraries. OCLC and the networks must develop methods of encouraging libraries to input records that are correctly formatted and cataloged. One way of alleviating the problem might be to develop training programs conducted by OCLC or by network staff that are aimed at those libraries identified as having high error rates. Another approach might be to give public recognition to libraries that contribute cataloging of high quality to the database. One example of this approach is the Pitts-

burgh Regional Library Council's Fred Award, which annually honors the library with the lowest error rate in the PRLC network.¹² Through the use of peer pressure the member libraries and networks of OCLC can encourage adherence to the standards. In addition, they must continue to insist that OCLC address this annoying, expensive, and seemingly perennial problem.

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