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# The New Rules in Action: A Symposium

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*Edited by C. DONALD COOK*

## Introduction

AT THE ANNUAL CONFERENCE of the American Library Association in Kansas City, the Cataloging and Classification Section of RTSD on June 27-29, 1968, held a seminar on "Problems in the Application of the *Anglo-American Cataloging Rules*." Presented here are the papers which served as the basis of discussion for eleven seminar groups at that conference.

Miss Seely gives a general summary of problems throughout the new code, relying mainly on responses to a questionnaire sent to a variety of types and sizes of libraries. Miss Small, drawing on experience at Yale, describes problems in the selection and form of entry. From the viewpoint of the policies and practices of the Free Library of Philadelphia, Miss Hinton deals with problems in headings for corporate bodies. To conclude the group, Mrs. Clugston takes one type of non-book material, films, and describes problems which have been encountered in this medium, principally at the Library of Congress.

This selection of papers does not encompass the full range of questions on the use of the new code, but it does give a perceptive highlighting of most of the principal difficulties—and some of the satisfactions—of the new rules. Numerous suggestions are offered for tackling the sometimes thorny problems of reconciling old and new, and libraries which still may not have confronted these problems and policy decisions as frankly as necessary should find considerable aid here in resolving certain troublesome questions.

If there is a single thread which runs through the four papers, it is probably the evidence of the tremendous continuing influence exerted by Library of Congress practice (regardless of the particular code of rules)—and the typically American decision to remain independent of this when one wishes, doing so with unbounded ingenuity and, at times, considerable enthusiasm.

## ALA to AA—An Obstacle Race

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Now that the long-awaited new edition of the cataloging rules has been available for over a year (it was published by the American Library

Association early in 1967 under the title *Anglo-American Cataloging Rules*, North American text<sup>1</sup>), what, if anything, are libraries doing about it? Is it being accepted? Is it being adopted? If so, to what extent, and how? What problems are being encountered in the interpretation and application of the rules?

The first hurdle to be met is the code itself as a whole. One cannot apply the code intelligently without an understanding of its basic approach to the general problem of cataloging and to specific situations, its underlying principles and general character and structure. This may sound axiomatic and the hurdle may not exist for newcomers to cataloging, but for those schooled in the entirely different approach of former codes, gaining an understanding of the basic differences between the old and the new is the first essential. Briefly, the major differences are: 1) the new code is based on a set of principles (the so-called "Paris Principles"<sup>2</sup> that resulted from the International Conference on Cataloguing Principles in 1961), and these principles are followed as consistently as possible; 2) choice of entry is treated as a determination of authorship responsibility rather than being determined by type of publication; and 3) construction of heading is treated as a problem of name, not of classes of persons and corporate bodies. These are carefully set forth in the editor's Introduction, pages 1-6 of *Anglo-American Cataloging Rules*.

The second hurdle encountered is the changes in the rules themselves from those in *A.L.A. Cataloging Rules for Author and Title Entry*.<sup>3</sup> This one looms very high for experienced catalogers. For those who did not attend the various institutes that were held during the period of code revision and who have not kept abreast of the discussions, many of the changes will come as a shock. Some of the specific changes and how they are being dealt with will be mentioned later.

The third hurdle follows closely after the second—the new code does not tell what the changes are. Sometimes the difference is obvious in the wording of the rule itself when the AA rule is compared with the corresponding ALA rule (providing one can find a corresponding rule in ALA), but in some cases it is only by implication or omission that one deduces that there is a change. One must be aware that the AA rules are positive, not negative. They tell what *to* do, but rarely tell what *not* to do, even for something which had always been done but is no longer to be done. For example, when a collection of independent works is entered under its compiler or editor, Rule 5 specifically states "Add the designation *comp.* to the heading." But there is no instruction in Rule 4 to add *ed.* after the name of an editor under whom a work produced under editorial direction is entered, so it must be assumed that the designation is to be omitted. The same is true for *pseud.* It is only through being aware that the rule (AA 42) does not call for the designation *pseud.* to be added to a name and by observing that it does not appear in any of the examples, either entries or cross-references, that one realizes that this long-established practice has been discontinued.

The fourth hurdle appears when one actually tries to apply the new

rules. There are problems of interpretation of some of the rules (for example, the one for works produced under editorial direction), and of somewhat inadequate coverage for entry of certain difficult types (especially unnamed conferences).

The index constitutes the fifth hurdle. Many have complained that it is inadequate. Many of the specific terms for types of material that one is accustomed to finding in the 1949 index (Dictionaries, Directories, Firms, Hotels) simply do not appear in the 1967 index. The reason, of course, is that some of those terms may not even appear in the AA text, but more basically, they are omitted because there is no specific rule that covers them. The cataloger must analyze the authorship problem and not be too concerned with the type of publication.

These obstacles that are inherent in the AA code itself are not as hazardous as they may sound. There are a growing number of aids available that help with both the theoretical and the practical aspects. Conferences have been held and comparative studies have been made and those responsible have been generous in making the results available. These will prove very valuable and save much time in studying the code. Some include outlines of the changes between the two sets of rules. The rule by rule correlations are very helpful in studying specific topics. Some give the AA rule first and list the various ALA rules that it replaces, others are arranged by the ALA rule numbers and show the AA rule numbers that cover the topic. The latter approach, from old ALA rule to the AA rule that covers it, will serve as a good substitute for the terms that are lacking in the AA index. An annotated bibliography of these aids that have been or are expected to be published, along with a list of reviews of the *Anglo-American Cataloging Rules*, is appended to these papers.

There is also an obstacle much more formidable than any of those mentioned above. This is our existing catalogs, which have been constructed largely on the old *A.L.A. Cataloging Rules*. In order to obtain a broader background as to the extent to which the new rules are being adopted, how they are being related to existing catalogs, and what some of the particular problems and reactions are, 55 questionnaires were sent to a selection of university, college, public, school, and national libraries, and commercial cataloging services, 15 of them going to Canadian institutions. Forty replies were received, eight of them from Canada, a return of almost 73 percent.\*

The general conclusion is that there has been no rush to apply the new rules. Several frankly admitted that they had done little or nothing so far toward study and decisions and found they had a lot more thinking to do. In at least one library the questionnaire acted as a stimulus to overly delayed action. A series of four quite lengthy meetings was held

\* A copy of the questionnaire may be obtained by writing to the Executive Secretary of the Resources and Technical Services Division, American Library Association, 50 East Huron St., Chicago, Ill. 60611.

with the catalogers, which served both as introductory training and as a forum for discussion and decision-making. The words in a letter from the head cataloger in one of the large university libraries seem to epitomize the general situation: "It is obvious from our answers that our experience is still very limited and that we are easing into the problem mostly in the use of L.C. cards." Another said, "I have found that I must study the code more. I have been surprised sometimes at the LC entry, especially the large number of title entries." Some would like to know to what extent other libraries have adopted the new rules and whether others are being equally slow.

The Library of Congress began to apply the *Anglo-American Cataloging Rules* to new cataloging and revised reprints on March 20, 1967. For most libraries throughout the country this was the starting point for the experiences now being examined. By now most catalogers have made a part of their everyday vocabulary that sonorous word "superimposition," the term introduced by the Library of Congress to describe the method which it and other large libraries would adopt for their current cataloging. The Library of Congress defines its policy of superimposition as meaning that the rules for choice of entry will be applied only to works that are new to the library and that the rules for headings will be applied only to persons and corporate bodies that are being established for the first time. New editions of works previously cataloged will generally be entered the same way as the earlier editions.<sup>4</sup> Superimposition is a compromise forced on most libraries by economic considerations and the weight of the past.

The great extent to which this policy has been adopted by libraries other than LC was forcefully brought out by the replies to the questionnaire. Not one library of those responding is applying the new rules one hundred percent in its new cataloging, with one minor exception. The Biomedical Library at the University of California at Los Angeles changed over to the Lubetzky Code under faculty pressure years ago and is completely committed to the AA rules. Another library is considering adopting the AA rules completely for its science libraries because the scientists object violently to the illogicalities of the old code that waste time and steps at the catalog. Of the major libraries, the National Agricultural Library comes the nearest to the "in toto" goal. It has adopted the *Anglo-American Cataloging Rules* almost completely, making only a few exceptions. It was possible for NAL to do this because of the fortunate circumstance of having closed its old dictionary catalog and having started a new divided catalog in January 1966 when NAL began using the LC Classification system. At the same time it started to use the (pre-publication) AA Rules for entry. The Head of the NAL Catalog Section stated: "Because of our separate catalogs, we have no real problem of correlating entries established under the old ALA Rules with those entered under the AA Rules although we try to provide cross-references from the previous form of entry to the form being used currently. However, in our serial record file, ALA and AA entries are arranged in a single

alphabet. In this file it is necessary to provide what we call 'before and after' references," as illustrated by the following examples:

From the new form back to the old:

National Library of Medicine  
For serials and serial changes cataloged  
before Jan. 1966, See  
U.S. National Library of Medicine

From the old form to the new:

U.S. National Library of Medicine  
For new serials and serial changes cataloged  
after Dec. 1965, See  
National Library of Medicine

At the same time, January 1966, the National Agricultural Library started publication of its current monthly *National Agricultural Library Catalog* and announced in it the adoption of the *Anglo-American Cataloging Rules*, with a few exceptions. In this published catalog one can expect to find most of the entries according to the new rules.

The National Library of Medicine is a close second to the National Agricultural Library in its degree of adoption of the AA Rules. It is not as free from the old as the Agricultural Library because it is incorporating the new entries in its old catalog. Fortunately this library was already using a number of the rules that are now part of the new code. In other cases, the new rules are used, with a few exceptions, unless there are more than eight titles already under the old entry. If no more than eight are involved they are changed to the new form. The aim is to get everything into the computer in the new form. When the "eights" are completed it is planned to start on the entries that have more than eight entered according to old rules. This library's nonchalant approach to LC cards was refreshing. Its answer to the question "Do you generally accept the entries established by LC?" was "Yes, if we happen to find them and they are established according to AA." The Head of the Cataloging Section said, "The NLM catalogers are mostly long-time employees and were therefore familiar with the old rules. They have had some trouble adjusting to the new, but on the whole our experience has not been especially traumatic." The National Library of Medicine adopted the Anglo-American rules in mid-1966 from the draft copy. Entries in its *National Library of Medicine Current Catalog*, published biweekly, will therefore in most cases be found as prescribed by those rules.

None of the other libraries has gone so "all out" toward implementing the Anglo-American rules, but three seem to have gone farther than the others. These are the University of Waterloo, at Waterloo, Ontario, Canada, Université Laval in Quebec, and the Free Library of Philadelphia. The University of Waterloo explained its situation thus: "We have had relatively few problems in adapting to the new rules since we

had used the Lubetzky *Code of Cataloging Rules* from the time it was issued, which was very shortly after our library was started. For economic reasons we had made some compromises to come as close to LC practice as possible and it turned out that we were very close to the AA rules. There were, of course, areas not covered in Lubetzky's draft for which we have had to make changes and there is only the one area (that covered by rule 99A and B [Exception for entry of certain corporate bodies under place]) for which we have definitely decided not to adopt either the new rule or LC's practice." The Université Laval was also already using, on a local base, many of the new rules, so the adoption was quite easy to make. Although there still are some decisions to be made, Laval is trying to adopt the new code in toto. (An interesting international sidelight shows up here: this library favors the French form over the English, the language given preference in the Rules. The Canadian national bibliography, *Canadiana*, has a similar problem because it uses both languages. It was felt desirable to retain names in the Latin or vernacular, especially for classic authors and saints.) The Free Library of Philadelphia is also going far toward following the new rules, in most cases without changing the old entries. It too has made local decisions concerning some of the rules.

All of the other libraries seem to be more or less slavishly following LC's entries, with varying minor exceptions. However, the information was gathered from a very limited sampling; there may well be other institutions that would show a high degree of adoption or practices different from those described in the replies to the questionnaire. It was rather surprising to find how many were already using some of the rules that are new in the official code, or at least had certain headings in the new form. Some of this resulted from anticipation, but some were practices of long standing.

A basic problem in relation to accepting LC entries is determining which code was used by LC. One university catalog department has even found that their chief problem seems to be that of ascertaining that a new rule has been correctly applied by LC. Suggestions have been made for indicating on the LC card by some coding device either that *all* headings on the card (main and added entries) are according to the new rules or to show which headings were formulated according to AA or, conversely, which ones were not. These recommendations have been vetoed by the Library of Congress.

One local factor that might have some effect on the institution's policy on adoption of new entries is its method of card reproduction. A significant correlation became apparent from the tabulation of methods used. All of those libraries that have gone farthest toward implementing the new rules are typing their own masters, rather than using LC cards or photocopying LC cards or proofslips. This allows them more freedom from LC; they can edit the LC information to fit their own policies before the typing of the master. Those that usually order LC cards or prepare their own cards from LC copy are the same as those whose entry

policies are more closely tied to LC's. Of course, it is possible to make changes on LC copy that is used for photocopying, but generally only minor changes are made, and the amount of change required does have some effect on whether new entries will be used. Seven of the respondents have book catalogs and an eighth, the New York Public Library, will have in the near future. None reported that the book catalog had any appreciable effect on its policies toward the new rules, but Los Angeles County Public Library stated that it had adopted many of the principles of AA when its book catalog was established.

Three libraries reported circumstances that would be ideal for complete application of the new rules to current cataloging but all three have decided on a policy of quite strict adherence to LC entries. Enoch Pratt Free Library, Baltimore, started a new book catalog when it changed to LC classification in May 1965; the University of Nebraska also started a new catalog with its change to LC classification in July 1964; and the New York Public Library Reference Department expects to close off its great old catalog and start a new one in the near future.

Obvious advantages of following LC closely are the economic gains obtained by accepting cataloging already done, and the avoidance or postponement of the problems that would result from a mixture of new and old forms in the same catalog, or the recataloging that would be necessary to eliminate such variations. Another factor that carries considerable weight in favor of LC is the desirability of having the entries used in the local library conform to those in the national bibliographical tools. The *National Union Catalog* and LC proofslips are used extensively in order and reference work and interlibrary loan. Processes all along the line will be simpler if entries already used or to be used in the local catalog are the same as those found in these all-important sources. *Publishers' Weekly* and *American Book Publishing Record* also take most of their listings directly from LC cards. And surely all who compile and edit union catalogs that are based on LC cards must be grateful when contributions agree with the LC entries. There has always been the problem of identifying and reconciling entries received at union catalogs. Now, the possibility of entry according to different rules adds to the burden of those bibliographical sleuths. Mrs. Alice Toomey, chief of the division in which the *National Union Catalog* is prepared for publication, describes their policies and procedures as follows:

In general, we follow the Library of Congress policies and "superimposition" practices in editing the catalog entries received from other libraries for the *National Union Catalog*. If the Library of Congress has established the entry according to ALA, we change the AA form to agree with LC. Also, if we have already used the ALA form on a non-LC entry in the *National Union Catalog* we conform to that, but may change the heading later if LC establishes it differently. If an entry is completely new to the *National Union Catalog*, we follow the AA Rules and change the form if necessary.

Because we do not have the books, and many cards give only brief information, we make few changes in choice of entry.

The policies of one more publisher of bibliographies and cards must be included—the H. W. Wilson Company. This firm's practices were simply stated as follows: "In *Cumulative Book Index* we tend to follow LC quite closely, but in our catalog cards and Standard Catalogs we use title page form of name cataloging. Moreover, since we are producing book catalogs mainly instead of a library catalog, we can change our rules with greater flexibility than is possible for a library."

To come back to superimposition: one result of this policy is that entries for similar types of material or similar categories of names would be different in the same catalog. But there have been changes in rules in the past, and local adaptations; no catalog of any size or age can claim absolute consistency. The replies to the question as to whether a library would be deterred from adopting the policy of superimposition because of these inconsistencies were most gratifying—uniformly *No*, with one exception, and actually that library is accepting superimposition to a large extent.

A basic decision that a library must make when it enters upon the superimposition course is—superimposition on whose catalog, the Library of Congress' or its own? It is very likely that the Library of Congress will have established many entries that the local library does not have. In these cases when a new card comes with an entry established under an old rule the local library is free to change it if it wishes. Conversely, though less frequently, one's own library may have entries that LC apparently did not have, so LC could apply the new rule but the local catalogers could not. What is being done in these situations? It depends. Two stated categorically that superimposition is on their own catalog, not LC's. Sixty percent tend to follow the new rules if they do not have the situation which forced LC to enter under the old rules. Somewhat fewer will use the new rules if they have the entry already established differently from LC's Anglo-American rules entry. These are areas where many individual decisions are being made, depending on circumstances.

When original cataloging has to be done, the local library that is operating under the superimposition policy is faced with the problem of discovering whether LC has established a heading for something that is not in its own catalog. It can search the LC printed catalogs, but even if found, there is no certainty that LC has not changed it at some later date. Unfortunately, revised cards are not included in either the proof-slip service or current unbound issues of the *National Union Catalog*. Besides, one never learns of minor changes that do not require reprinting of the card. If the heading is not found, this does not necessarily mean that LC does not have it, because added entries are not included in the printed catalogs before the 1948-1952 cumulation and names as subjects are not available before the Subject Catalog was started in 1950. The answer seems to be that only limited search is warranted. The suggestion has been made that the Library of Congress publish its name authority file in some way. This would certainly prove very valuable, but there seems to be little hope of it.

The effect of entry changes on book numbers is something that must be faced. If a library's policy is to take Cutter numbers from the main entry one may end up with more and more variations for the same person or corporate body and more and more editions separated from each other. Special consideration should be given to the effect of name changes on Cutter numbers for biographies. A reevaluation of book number policies and even one's attitudes to book numbers might be in order at this time, especially if present local rules are standing in the way of progress. According to the questionnaire answers there is no predominant system; some keep editions together, others do not. Harvard has a unique system of book numbers which keeps material together without regard to entry, so the new rules have no effect. New York Public Library, on the other hand, already has many editions separated. Only a few indicated that their book number policies would have any deterrent effect on their adoption of new entry rules, and all of these were among the ones who feel they must change all old book numbers if entries are all changed to a new form. The foregoing comments apply only to monographs. The practice of keeping all serials together under the same call number, regardless of successive entries, was almost universal.

Most libraries are making some efforts toward adoption of the Anglo-American rules. The results will appear in catalogs very gradually over a long period, but do not be discouraged, each step forward is that much to the good. There was no evidence of wholesale recataloging being undertaken, but a few libraries have made definite decisions on the amount of recataloging they will undertake. The National Library of Medicine's "rule of eight" has already been mentioned. Two other libraries will change up to six or three old entries respectively. Even the Library of Congress will change up to three, but does so very rarely, only in cases where the old entry or heading was especially bad. Many others are changing old headings on a selective basis, being guided by such criteria as quantity, difficulty of the change, effect on book numbers, future use of the heading, and desirability from the point of view of improvement. Examples of types of headings that are actually being changed are 1) personal and corporate names (to their better-known forms, including change to English from Latin or vernacular forms), 2) radio and television stations (to entry under their call letters instead of place where located), 3) treaties (using more specific subheadings showing the second party to the treaty and its exact date), 4) apocryphal books (under their own names instead of as subheadings under Bible), and 5) Bible headings (many variations involved). The Bible changes are proving to be the most popular. The new rules for the Bible are considered to be such an improvement that some libraries have already embarked on a major recataloging project, or plan to soon, or to carry it out over a long period.

Some of the innovations in the new rules could be implemented by the simple expedient of lining out part of a heading. Some places where this might be done are 1) designations following names (such as *Pres. U.S.*, epithets, *Saint*, *pseud.*, *Supposed author*, *Spurious and doubtful*

works), 2) dates after *Laws, statutes, etc.*, 3) the government name preceding a government created or controlled corporate body (e.g., U. S. in the heading U. S. National Agricultural Library), and 4) names of intermediate bodies in headings for corporate bodies and government agencies where the complete hierarchy is no longer included. If this method is used, it may be necessary to refile the cards if subarrangement would now be governed by a different element than previously.

An even simpler method may be employed in some cases. There are a few instances where the part of a heading that would be omitted in the AA rules does not affect the filing of the heading. In those situations new-form headings may be interfiled with the old for the same name without changing the old in any way. It is suggested, however, that the official authority card be changed as a guide for making future entries in the correct new form. No filing rules would pay any attention to the parentheses formerly added around a married woman's maiden name. Instead of crossing off most of the designations mentioned above (*Pres. U. S.*, epithets, etc.), they could be left untouched and new entries without the designations could be interfiled with them. However, this practice is not advisable in the case of *pseud.* when used in a surname entry. A name followed by *pseud.* is generally considered to stand for a different person from the same name without *pseud.* These names should be arranged in separate groups in the catalog. Of course, the AA rules permit names for different persons who cannot be readily distinguished from each other in their headings to be left in the same form, which obviously results in interfiling of names for different individuals. The omission of *pseud.* after all entries under a *given* name is generally desirable. If given name headings (formerly called "forename" headings) are subarranged by the designations following the name, those with *pseud.* would not be readily found because it is an artificial designation that would not be known to the user of the catalog. To cite another change where interfiling would be effective, those who are disregarding punctuation in filing realize that they can interfile, for example, San Francisco Museum of Art (new form) with the old form San Francisco. Museum of Art, thus avoiding a name correction. The new ALA filing rules, which are based on the principle of straight alphabetical filing, present many opportunities for bringing old and new headings together, even when the forms are not identical.

In the Library of Congress's *Cataloging Service Bulletin* 80, April 1967, the statement is made that the *ALA Rules for Filing Catalog Cards* are assumed to govern filing in the new cataloging rules. The new edition of the ALA filing rules is indeed closely coordinated with the *Anglo-American Cataloging Rules*. The two revision committees worked closely together for a number of years. The new filing rules take account of many of the entry and heading changes, especially those that would have an effect on arrangement. In many cases the changes are described and examples given of the filing of both the old and the new entries. There are many instances where the rules in the new cataloging code are more effective from the filing viewpoint than the old rules, because either the

resulting order of entries is better or the present order is achieved more easily and directly. These are strong arguments for revising old headings. A good example of the elimination of a very complicated filing situation is the change from the form Leo I, *The Great, Saint, Pope* to Leo I, *Pope*. Filing is simplified and clarified not only for the heading itself but also for the references to it. Bible headings are a striking example of a more desirable order resulting from the new headings. Placing version before date, and the form division "Selections" immediately after the version from which the selections were made, will bring all editions of a particular version together, which in most libraries will be considered a more useful arrangement. The index to the filing rules contains 24 references to *Anglo-American Cataloging Rules*. Not only is there material on how the changes will affect the arrangement but suggestions for how new and old headings may be interfiled, or new groups started under new headings, so as to facilitate adoption of the new cataloging rules with a minimum of recataloging (e.g., under Bible, legends and romances connected with a person, treaties, etc.). It is the comprehensive edition of *ALA Rules for Filing Catalog Cards* that contains all of this material. The abridged edition consists of the same basic rules as the full version, but most of the specialized and explanatory material relating cataloging to filing is omitted.

One ALA filing rule in particular is practically an open sesame to the adoption of several of the new cataloging rules. That is the rule whereby all main and added entries under the same author heading are interfiled in one file, subarranged alphabetically by the titles of the books. If this rule is followed the position in the catalog of an editor's name as added entry is the same as it would have been if his name had been used as main entry. Likewise, the position for names of periodicals and newspapers when used as added entries for collections from them will be the same as when they were used as the main entry. Thus, files under a name are kept intact and the books that are now appearing in our catalogs under title main entries in ever greater numbers will be found as readily under the names connected with them as they would have been when those names were the main entries. Those who do not interfile added entries with main entries may achieve the same arrangement by making the added entry in the form of an author-title double heading, but this is a more cumbersome method. The interfiling of *all* secondary entries in the author file also makes possible the omission of the term *joint* to identify joint authors, joint compilers, etc., in the tracing. A joint author is now traced with no designation. If two people have collaborated on a collection of independent works, both have the designation *comp.* after their names; the one that appears in the tracing no longer need be designated as *joint comp.* For those few libraries that make a distinction and interfile joint authors in the main author file and other added entries in a second group, the AA code contains an option allowing the retention of the terms *joint author* and *joint comp.* Since the Library of Congress itself is bound by this filing rule, their cards will continue to include the

designation *joint* in tracings. Some confusion may be encountered because formerly LC cards also used *joint comp.*, etc., in the tracing for names of persons who acted jointly only with another person represented by an added entry. The easiest solution is to omit *joint* in all cases, if one possibly can.

Several different ways have been described in which new entries are being incorporated into catalogs that already have the same names and the same types of material entered according to old rules, namely, recataloging, lining out parts of a heading, interfiling old and new forms, and using filing rules that are more compatible with the new cataloging rules and minimize the differences. One more method remains to be mentioned—leaving old entries as they are and making explanatory notes and references to connect them with the new. On the whole, this method seems not to have been applied much yet. It was mentioned under several different categories by a large school system, which has far too many catalogs to consider much change. The National Agricultural Library, with its new catalog based almost entirely on AA rules, is careful to provide cross-references from previous forms, which remain in the old catalog, to the forms being used currently in the new catalog. A generous use of cross-references under old forms, as well as added entries, will help to maintain the integrity of the catalog. For example, there are two state institutions called Southern Illinois University, one at Carbondale and one at Edwardsville. The one at Carbondale is entered according to ALA rules, the one at Edwardsville according to AA rules. In both cases a reference should be made under the other form of entry so that there is complete coverage under both forms, as follows:

Illinois. Southern Illinois University, Carbondale (old-form entry)

Illinois. Southern Illinois University, Edwardsville  
see Southern Illinois University, Edwardsville (“see” reference  
from old form to new form)

Southern Illinois University, Carbondale  
see Illinois. Southern Illinois University, Carbondale (“see”  
reference from new form to old form)

Southern Illinois University, Edwardsville (new-form entry)

With several changes in the rules for prefix names, general references under prefixes and general notes explaining entry policies no longer seem adequate. Some libraries may amend their notes as need arises, but the majority are already making specific references from prefixes or will do so in the future. This seems the most helpful method for the user of the catalog. The example of an explanatory reference under “De la” given on page 178 of *Anglo-American Cataloging Rules* seems much too involved to be of much value.

Quite a large number of libraries, mostly public, enter a person under the different names he uses in his works, both real name and pseudonyms. These libraries might be interested in the “shotgun” approach to different

names developed by the Los Angeles Public Library. It has a standard form card that reads:

Books by this author (who writes under more than one name) will be found in this library under one or more of the following names:

With all possible entries listed, the cards do not have to be revised as entries come and go, a very practical method when many branches are involved.

There are a few instances where the Library of Congress has decided to start applying the new rules even though it has a large body of material under entries derived from the ALA Rules. In two of these, Bible and treaties, it will not recatalog the old material, but will use notes to explain the arrangement of the files. The headings under which notes are made will appear on guide cards to call attention to them. In complex situations such as these a special system must be devised for each one. LC's handling of the Bible problem is quite clever. The result is not strictly a division by date of publication, but rather a mixture based on form of heading. Basically, under Bible as a whole and under each part and book, there are to be two main groups: 1) a chronological file by imprint date of all editions published before 1968 and later editions that have not been identified by name of version, etc.; 2) an alphabetical file by name of version, etc., of editions published after 1967. Also included in this alphabet are the subheadings *Lessons*, *Liturgical*, *Paraphrases*, and *Selections*, most of which are for pre-1968 publications. The note card explains in detail the exact policy for each of these.\*

The most common occurrence of connecting references is probably for corporate bodies that have changed name. This leads into the rather complicated picture of what is being done about one of the most radical changes in the AA Rules, namely, separate successive entries for corporate bodies and serials when changes in name and/or title occur, which they do with disconcerting frequency. Following is a summary of the findings, as nearly as could be determined from the answers to the questionnaire. Quite a number of libraries have not yet made definite decisions on one or both of these areas; there is more uncertainty here than in other parts of the code. A rather surprising number were already using the successive entry system, for at least part of their material, some having adopted it as long as fifteen or more years before publication of AA, others more recently. The successive entry rule is proving very popular for corporate bodies, more so than for serials. A total of twenty-eight libraries were either already following it or have adopted it for corporate bodies, compared to seventeen for serials. The release from the task of changing numberless cards every time a corporate body decides to change its name (sometimes even going back to a former name, as the Field Museum has done) is most welcome.

The question of whether serial sets that have different entries in the

\* LC's information cards for treaty and Bible headings may be found in U.S. Library of Congress. Processing Dept. *Cataloging Service Bulletin* 83, Sept. 1968, p. 4-11.

catalog are kept together on the shelf was answered with a strong affirmative. Only two have a definite policy of using different book numbers, while a third does this for the few titles that have more than one set of cards, and a fourth, the National Library of Medicine, changed to this policy in 1962 at the request of its Reference Services Division for certain titles, those substantive serials having articles that are likely to be requested under the interlibrary loan program. Since this library's serials are not classified by subject, this has the effect of shelving them alphabetically by successive entries, for quicker access by the reference staff. Most of the libraries that may have more than one set of cards in the catalog with the same call number have solved the shelf list problem very neatly by making a separate shelf list card for each title, adding the appropriate volume numbers or dates below the call number on each, and arranging the cards in chronological order.

Explanatory notes and references are relatively simple if all corporate headings in the catalog adhere strictly to the policy of entry under the name used at time of publication. The examples given in AA on pages 114-115 may be followed. Life is not that simple for those who have adopted the successive entry policy in midstream. They will frequently find that they already have publications entered under a later name than the one they were issued under, with a "see" reference from the earlier name to the later. Practically everyone plans to leave these as they are, regardless of the resulting inconsistency in the catalog. Recataloging back to the earlier name would be done only if there are very few, or recataloging is needed anyway for some other reason. However, if a new publication issued under an earlier name is received, there is more of a tendency to enter it under that name and change the "see" reference to a "see also." In such situations, where it is not true to say that all works are entered under the name used at time of publication, a fuller explanatory note and/or "see also" references will be more appropriate. One sample reads as follows: "For other publications of this body, see. . ." Another sample shows a general reference added to a history card:

American Institute of Accountants.  
Name changed in 1962 to American  
Institute of Certified Public Accountants.  
See both entries in this catalog.

From a correlation of the answers to the questionnaire it appears that some fourteen libraries will be using successive entries for corporate bodies, at least in some cases, but latest entry for serials. This means that policies for corporate entry will be different for monographs and serials, a situation which can require complicated explanatory notes.

The following system for serials might combine the advantages of the successive entry and latest entry systems. This proposal applies to corporate names both as authors and as added entries traced on title main entries. It consists of always using latest form of name for main entry for the serial and making an added entry under each earlier form of the

name under which the serial was published; if the title has changed also, the added entries would be in author-title form. For corporate names traced as added entries on title main entries, a new entry would be made each time the name of the body changed. The resulting entries in the catalog would be practically the same as those under the successive entry system for serials, but the advantages would be that there would be only one set of cards for the whole run, with the complete history in one place. In the consideration of this system at the Denver Public library, it was first thought there would be less work involved if serials were left under their present entries and, as changes occurred, notes and added entries made for each new form of the author name and/or title. However, after closer examination, it was decided it would actually be easier to replace the old set of cards with a new set. Also, since check-in records, bindery patterns, and the printed serial list should be under latest entry, it would be desirable to have the catalog entry under latest so they would all be the same. This system would be for classified serials. Unclassified serials (mostly periodicals) are already under the successive entry system.

Those who adopt the successive entry policy for serials generally cannot use LC cataloging copy since LC will continue to use latest entry.\* It is not possible to buy LC cards under an earlier entry because all old stock is discarded when a card is revised. But now, cameras have made it possible to copy older cards from the printed catalogs. Because of this new capability, one university has taken a very casual approach to its corporate entries. For monographs it will accept whatever form of corporate entry appears on the LC copy, using both proofs and photoreproduction from the printed catalogs. Except for original cataloging, it makes no attempt to choose the form used at time of publication, if LC copy is found under another form. Its explanatory note card gives all forms of the name, in the same type of "shotgun" approach as that described above for various pseudonyms. It is worded as follows:

The following are the names by which  
this organization is or has been known.  
Works by this body may be entered under  
the name used at the time of publication.  
Serials are entered under the latest name  
under which the title appeared.

In chapter four of the Anglo-American code we have for the first time general guidelines for the application of uniform titles when the editions, translations, etc., of a work entered under an author appear under variant titles. The inference from the questionnaire answers is

\* Since this paper was written the Library of Congress has announced a new policy involving some major changes from long-standing practices. Serials will be cataloged from the first issue received instead of from the first bound volume. Recataloging and reprinting of cards to reflect changes in serials will be discontinued, except insofar as the Library is able to recatalog titles that have ceased publication. These bibliographical changes will continue to be announced in the "Changes in Serials" section of *New Serial Titles*, as they have been in the past.—Library of Congress *Information Bulletin* 27:517, Aug. 22, 1968 and *Cataloging Service Bulletin* 83, Sept. 1968, p. 3.

that so far this new provision has had very little impact. Many of the large libraries had already established uniform or filing titles according to their own systems and are unlikely to change if these do not agree with the rules. A few expressed interest in an increased use, and undoubtedly uniform titles for liturgical works and laws will become quite common since LC cards will carry these categories. It should be pointed out that the cataloging rules do not provide for the inclusion of the complete filing medium in uniform titles under authors, because methods of arrangement may vary from library to library. ALA filing rule 27, Organized Author Arrangement, has a more comprehensive coverage of this whole topic.

There is one angle to the new code that may hold up revision of old entries. There are several places where the rule calls for a subject heading, which usually replaces a former author heading (e.g., under Bible, legends about persons, etc.). But the author code gives no instructions or information as to the form of such subject headings. This constitutes a problem for all of us, including the Library of Congress, which must establish the new subject headings. Even though they are related to author headings, the subjects are established and assigned in the Subject Cataloging Division. Considerable thought and study have already been devoted to this matter at the Library of Congress. Forms suggested by the Library of Congress as headings they might establish at such time as they adopt the new entry rules are included in the new filing rules.\*

One of the most striking results of LC's application of the new entry rules is a great increase in title main entries. This is attributable primarily to the following categories: works by more than three authors, works of uncertain authorship, works by unnamed groups, and collections from periodicals and newspapers. Whether this is a desirable trend may be debatable. People like to connect a name with a work and the uninitiated tend to search under the first name on the title page. There should be no problem in a multiple-entry catalog, especially if added entry names are filed as if they were main entries, but single-entry files, such as proofslip files and most union catalogs, are another matter. Personnel from all areas of the library will need some retraining. At Denver Public, the clerk who searches for proofslips for new titles has been instructed always to look under the title if it is not found under other possible entries.\*\*

The specific rule that is giving the most trouble seems to be 4A, "Works produced under editorial direction." The problem lies in determining whether the editor named on the title page actually is "primarily responsible" for the existence of the work. The wording of both the rule and the preliminary note leads to different interpretations. The ques-

\* Since this paper was written the Library of Congress has announced its decisions on collective form subject headings for the Bible and certain other materials. These may be found in U.S. Library of Congress. Processing Dept. *Cataloging Service Bulletin* 83, Sept. 1968, p. 11-12.

\*\* Beginning in January 1969 proofslips will be filed by title instead of by author entry.

tion "Do you have any difficulty interpreting this rule?" was answered in the affirmative by twenty-three out of thirty, some with such strong emphasis as "yes, yes, yes," "the most difficult rule to apply," "sometimes have trouble outguessing LC's application of the rule." LC's own comment is, "At first rule 4A caused some problems but by now we have gained a 'feeling' for the nature of editorial direction and the fact that catalogers have to make a judgment in each case." The suggestion that this rule be rewritten for greater clarity seems well supported.

In the foregoing there was no disapproval of the rule itself; the problem was one of interpretation. Another problem rule, 65A, represents disapproval as well as interpretation, though the negative was not as strong as in rule 4A. Rule 65A specifies that the name of the place in which a body is located be added to the name only "when two bodies have the same name." The disapproval is caused by the need to go back and add the name to the first heading when a different body of the same name is received. There is also the danger that the cataloger will not recognize that a new one being cataloged is different from the one already in the catalog. Two catalogers stated that they have already found it necessary to go back and add place, one in several instances. This could compound over the years into a time-consuming chore. A few said that they are adding place in many cases anyway, whether needed to distinguish or not, and the National Library of Medicine adds place to all hospital names. The feeling that place should be used much more freely was expressed more than once. The other facet of this problem relates to interpretation of the words "when two bodies have the same name." The implication seems to be that the cataloger must determine whether the body is the only one in existence. A narrower interpretation would be, distinguish names only when there is more than one in the catalog, one's own or LC's. LC has decided on the latter interpretation. No search is undertaken to determine if the name is unique. The place is added only if there is another body of the same name already represented in the catalog. If this is actually the intent of the rule, a simple change in wording would easily clarify it and result in more uniformity.

A similar problem of having to change established entries in the future may appear with headings for subordinate bodies where too much of the hierarchy is omitted (rules 69 and 79). One library is following LC but anticipates that "both of us will have some problems in the future as organizations are established with the same or similar divisions." Here is where the National Agricultural Library makes one of its few exceptions: "For Divisions, Sections, Branches and other subordinate units that imply that they are a component part of a larger body (as in AA69, Type 2) we enter indirectly (as in 79B)."

The radical change in the rule for entry of serials issued by a corporate body occasioned considerable comment. According to the provisions of rule 6B, the only serials issued by a corporate body that are to be entered under title are periodicals and certain general types, such as directories, biographical dictionaries, yearbooks, etc. All other serials

are entered under the name of the corporate body as author, especially those whose title includes the name or the abbreviation of the name of the corporate body. This means that the *ALA bulletin* will no longer have a title main entry under the initials. The entry instead will be in the form of an author and title, thus:

American Library Association  
ALA bulletin.

While the majority indicated they would follow the new rules as part of their superimposition policy, six indicated non-compliance or outright disagreement. There is a tendency to prefer the old rules, which resulted in more title entries. One university said, "Generally use but prefer the old"; another, more outspoken, "We are following, but this is a very silly rule!"

Another place where non-compliance showed up was in the question of fullness of a personal name. The AA rules prescribe the use of fuller forms than appear on title pages only in certain instances. At least five libraries indicated that they are inclined to use the fullest form known at the time a book is cataloged, but only if the information is at hand or easily available. Another is concerned as to whether LC is following rule 43B regarding spelling out the first forename if the surname is a common one, and how one can tell whether this has purposely not been done. With both long and short forms for the same name, a compromise would be to interfile the different degrees of completeness, in which case references would be desirable.

The omission of the designation *pseud.* in the entry has met with outright opposition and disapproval. Fourteen libraries continue to use it, at least in original cataloging. Another will omit it by applying superimposition but does not approve.

It was interesting to find that a few libraries have broken away entirely or partly from entry under place for institutions, thus ignoring AA's compromise rules 98 and 99, according to which many corporate bodies are still not entered directly under their names.

The perennial problem of conferences and symposia, especially unnamed ones, still exists. In the first place, there is the question of whether to go beyond the title page in determining entry. The fact that a book is the proceedings of a conference sometimes may be learned only from the preface. Named conferences are well covered in rules 87-91. For meetings that lack a name there is a reference to rules 2A, 3, or 6A. While rule 2A specifies that it includes works by unnamed groups, and 3 mentions symposia among the types of works to which the rule applies, unfortunately none of the three rules referred to includes an example of a typical unnamed conference.

Strictly speaking, the variations from AA rules which are found on LC cards that are based on the Title II Shared Cataloging Program are not a part of the problems involved in the application of the *Anglo-American Cataloging Rules*. However, because so many items on the cards seem to

be based on rules that are different from AA, and different from country to country, administrative decisions must be made as to acceptance or change. In this Program it has been agreed that choice and form of author and secondary entries will follow Library of Congress practice; only a few relatively minor variations have been observed in this aspect. It is in the description that the major differences occur. Catalogers are very grateful for the increased availability of LC cards for foreign books, but they are somewhat unhappy about the quality of the cataloging. There was one hundred percent general acceptance of the data on the cards as printed, but several exceptions were cited. The most common changes made are for obvious errors, or what are considered to be errors, addition of brackets (although one university library is now omitting brackets from imprints that are taken from verso of title page, for their original cataloging), and change to last numbered page. Those who regularly type their own masters or find the proofslip too different from their book to use, convert the information into AA or their own descriptive rules. Dissatisfaction is not due to catalogers' preoccupation with detail. There are practical considerations behind it: 1) the problem of identifying new books as added copies when compared with the card, and 2) training new catalogers and clerks as to what is right, and which differences can be accepted and which should be changed.

In conclusion, one should have some idea of the quantity of material that is involved in all of this. Various estimates of the number of entries and headings that would be different as a result of applying the *Anglo-American Cataloging Rules* have ranged from 10 to 30 percent. Library of Congress statistics for authority cards made would give a close approximation of the number of entries LC has established under the AA rules. For the first fourteen months of application of the new rules, this figure is an overwhelming 43,393. Included in it are headings established for both main and added entries, and those made in the Shared Cataloging Division. How many of these are different from what they would have been under the ALA rules there is no way of knowing. It probably would be safe to say that all libraries are using more entries and headings established according to the *Anglo-American Cataloging Rules* than is realized.

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## Anglo-American Cataloging Rules: Selection and Form of Entry

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There seem to be two basic problems involved in the application of the new Anglo-American code, both more concerned with the old than the new. One is the reorientation and training of staff, the other the existence of old catalogs. Much of the problem of reorientation depends on the attitude of the staff. The supervisor must have time and ability to teach, the supervised the willingness to learn. Time and patience and a genuine interest on the part of everyone are required, but the difficulty can be resolved.

The existence of old catalogs is a problem which will probably remain with us forever. Even the few libraries which have discontinued old catalogs and started new ones based on the new code will need to have a knowledge of the ALA and other codes to interpret both the printed catalogs of other libraries and their own discontinued catalogs. For those who must continue to live with old catalogs, the problem is one of integrating new entries into existing ones. If a library has a Library of Congress depository catalog, as Yale does, or if it has the printed LC catalogs, and if existing cataloging is to be used, both present and future staff must be aware of differences. Even the clerical staff must know that an LC card printed in 1944 may be correct even though it looks very different from one printed in 1968. Yale is using LC cards when available, regardless of the code under which they were produced; but original cataloging is done insofar as possible by the Anglo-American code. This does create some training problems. Teaching a person without library training or experience that he must do a procedure one way is simple. If, however, one says that an LC card may be used if the cataloging was correct at the time it was done, one is involved in some instruction in earlier rules. Otherwise, there is the risk of blind acceptance by subprofessionals of any LC card, and, as a result, the call number for one book may be added to the card for another edition, and sometimes even to the card for a completely different book. Careful training and supervision can accomplish the ends which are sought, but these are time-consuming processes, and time is a scarce commodity.

### *Yale Policy*

Yale feels that it must take every possible advantage of cataloging which has already been done, whether by LC or some other agency. It is, therefore, adopting superimposition insofar as possible. It regards an entry as established whether it is found in the LC catalog or the Yale

catalog. There will, of course, be some recataloging. There have been some blanket decisions on heading changes involving entries such as *Ordinances, local laws, etc.* and *Laws, bylaws, etc.*, instead of *Laws, statutes, etc.*, under local jurisdictions. The blanket decisions do not involve large numbers of cards. In general, the decision to recatalog to conform to the AA code will be made for each case as it arises. Recataloging will, as in the past, be more the result of changed names or differences in the information or judgment of various catalogers than the result of the adoption of new rules.

### *Influence of the Library of Congress*

In regard to superimposition, LC has said that, in general, it will not change entries which were properly established under the ALA rules. When one does encounter what appears to be a change, it is sometimes difficult to tell whether it is, in fact, an application of the new rules or an error. The subject heading on a recent LC card used the pseudonym Stendhal as surname, rather than the long-established real name Beyle. While Stendhal would be in accord with the Anglo-American code, it seems unlikely that a change is being made. This is an exaggerated example, but with a less well-known name, or a name in a less familiar language, and with no revised LC cards, one may have a real dilemma. This is not a new problem; it has always arisen when a new form of entry for an author has appeared. It has simply become a bigger problem.

References to LC entries have been and will be made here, not as criticism, but in an attempt to determine why the Library of Congress has reached one decision on an entry and the Yale staff another. While one generally assumes that the LC decision is correct, discovering how the decision has been reached sometimes requires considerable reexamination of both book and rules. One needs to study LC's entries carefully to understand their interpretation of the code. Only through this knowledge can libraries utilize LC cataloging fully and move closer to the ideal held by the believers in cooperative cataloging. Increases in book production and acquisitions and shortages of catalogers make cooperation more necessary than ever before.

### *Selection of Entry*

Let us begin by accepting the premise that a work is generally entered under author (including editor or compiler) if there is one, otherwise under title. Fortunately, most books do have an author, personal and singular, and entry is straightforward and unquestionable.

It is when there are various possibilities as author that problems begin to arise. When there are several possibilities, one might do well to enter under title instead of worrying about the correct entry. However, this would violate principles, eliminate challenge, and not be very practical, because of the multitude of *Proceedings, Reports, Catalogs* and similar title main entries which would result. We have said that we will base our choice of entry on title page and other openly expressed state-

ments. This is generally possible. But when a clear decision cannot be reached on the basis of the title page, one must proceed to further evidence both within the book and without.

### *Source of Entry*

The difficulties one encounters in such cases can be illustrated by a recent book which has been entered three different ways by three catalogers. The title page reads as follows: *Report from Iron Mountain on the Possibility and Desirability of Peace. With Introductory Material by Leonard C. Lewin*. From the title page it would appear that the entry cannot be Lewin since he supplied only introductory material. The title *Report* leads one to believe that some person or body is responsible for producing the report. Turning to the introductory material only serves to confuse the issue. This material indicates that the book is the report of a super-secret "Special Study Group" appointed by governmental authority to investigate how and if the United States could adjust to a world of peace. The report is supposed to have been released by one John Doe, a member of the "Special Study Group," in a series of taped interviews with Lewin. Lewin then edited the transcripts of the interviews to produce the book. Having gone this deeply into the book, one begins to wonder if this really is a report of a genuine "Special Study Group," or the product of one man's mind. An advertisement for the book quotes two reviews: one saying that the author is having great fun; the other that this is a terribly important report and publishing it a great service to mankind. Yale's main library finally chose to enter the book under Lewin, who admitted to writing the introductory material, feeling that he was probably responsible for the entire book. Yale's Law Library cataloger elected to enter it under title: *Report from Iron Mountain*, which is probably the best solution, even if it has created a conflict in the catalog. The third entry, produced by the Library of Congress, is "Special Study Group." In view of the way "Special Study Group" is capitalized and emphasized in the introductory material, this seems to be a legitimate entry, even though not a terribly useful one. This entry had not occurred to anyone on the Yale staff and was discovered only through a reference in the *National Union Catalog* long after the book had been cataloged.

One would not have expected anyone to look for this work under "Special Study Group," but recently one of Yale's bibliographers requested that such an entry be put into the catalog. One of his searchers, with LC proof in hand, had not found the book in the catalog. The entry has not been made; it may not be. It seems to be an approach which one would not consider unless he had the LC card. Even with the book in hand, it is difficult to arrive at this entry.

### *Principal Responsibility*

The virtual elimination of the editor entry as we have become so accustomed to using it has been one of the most difficult problems to re-

solve, particularly because of uncertainty over the Library of Congress interpretation of Rules 4 and 5 for works produced under editorial supervision and for collections. It could be useful to have some of the Library of Congress policy decisions on the application of the code published in future *Cataloging Service* bulletins.

Most proceedings of unnamed conferences now appear under title, properly, rather than made-up conference name or named editor. The named editor has been eliminated as not being primarily responsible for the proceedings having come into being. Entries do still appear which seem to be made-up names of conferences. The question of whether or not a conference is named is difficult. The decision seems frequently to be a matter of judgment, and judgment varies widely. What may clearly by a named conference to one person can equally clearly be unnamed to another. This is less a problem of cataloging, as such, than one of the preciseness of the language involved and the cataloger's familiarity with the language. The extent to which one examines the work will also influence the decision. A conference which appears to be unnamed on the title page often becomes named in introductory material. It also happens that a conference originally unnamed and unnumbered is followed by a later one with a name, numbered in continuation. The first conference entered under title then needs to be recataloged to conform with the practice of cataloging numbered conferences under the name of the conference. The question of named or unnamed conferences will probably remain with us forever. No catalog code can go further than to spell out guidelines and the final decision in each case will rest in the individual cataloger's judgment.

### *Form of Personal Name Entry*

Once we have decided what entry we are to use, we must now decide what form the entry will take. Two items, in particular, arise with personal names, one the determination of common identification, the other the need to know national origin and national practice to determine an entry element.

### *Common Identification*

The application of the commonly identified principle seems to require that a cataloger have a quality of King Arthur's magician, Merlin, that is, to have lived backwards. The basic difficulty with the commonly identified idea arises when dealing with a new author. Unless there is particular reason for research, such as conflict or common name, the author is established from information in the book. A second book by the same person is published with a different form of name. Does one immediately assume that the person prefers this form and will become known by it, or does one adopt a wait-and-see policy? Either way one decides, eventually some recataloging is required. One may, of course, say, "This name is established, it will never be changed," but then one

loses the possibility of getting a name into the catalog in a form which the library user knows.

Yale has, for example, in its catalog entries for Quentin McGarel Hogg, 2d viscount Hailsham; the entry now is Hailsham. Viscount Hailsham has relinquished his title for life to enable him to sit in the House of Commons, and now refers to himself as the Right Honorable Quentin McGarel Hogg. Presumably, one should recatalog to suit his choice, but who can predict how he will go down in history?

On the other hand, Yale also has Barbara Ward, Lady Jackson, the British writer on social and economic problems, a clear case in which it should not have recataloged to enter under Jackson. The recataloging was properly done under ALA rules and may have been influenced by the fact that a second Barbara Ward writing on similar subjects made an appearance. Since Lady Jackson has published under no name except Barbara Ward, Yale should, but probably will not, recatalog again, to enter her under Ward and use dates to distinguish the two ladies. While catalogers should use the name by which a person is commonly identified, it is not certain at what point he becomes commonly identified.

We have in the past been determined, in most cases, to discover each person's complete and official name. As a result, most Jacks have become Johns, Bobs have become Roberts, and Toms have become Thomases. Henceforth, we will use Jack and Bob and Tom, but we are still faced with the question of whether the Jack Smith we have in hand is one of our previously established John Smiths. This past insistence on completeness and formality has made the acceptance of the commonly used name more difficult. We must either accept the previously established form or recatalog. Each case should probably be considered on its individual merits. If one has only an author's dissertation entered under a full name, and the author later publishes under a less complete name and there is reason to believe that he will continue to publish, the dissertation should be recataloged.

### *Additions to Names*

The addition of dates to an author's name is a long ingrained habit. Dates are often useful, sometimes essential, but generally not needed to distinguish one person from another. According to the rules, Yale adds dates when they are readily ascertainable. The determination of what is readily ascertainable has been variously interpreted. One cataloger has considered it to be any reference source within six feet of his desk. A more useful interpretation is anything in the book, or reliable information on documents accompanying the book if the information is not really necessary. If research is necessary, then it is anything discovered in the course of research. Even then, such information should be used with discretion. After all, the catalog is not meant to be a storehouse of miscellaneous and interesting information, and if the information discovered is worth preserving, preserving it on an authority card is better than including it on each catalog card. Catalogers are perhaps doing

themselves a disservice by using this readily available, but unnecessary, information. Adding a birth date found on a book jacket can result in having to add this date to all past and future LC cards, and there are better things to do. The *no-conflict principle*, little-honored by many, could, if more widely accepted, make life easier for both librarian and library user. It should not be, but it is, difficult to convince people that habits of many years standing should be broken, that what is now in the catalog need not necessarily influence new input, and they are really making cataloging more difficult than need be.

### *Entry Element*

The selection of an entry element can raise the need to know both an author's nationality and the language usage of his country. These do not need to involve the special rules for languages such as Arabic and Thai. By and large, these languages need to be and are handled by people especially qualified in the languages. What is involved are the people who write for such international organizations as Unesco, FAO and Euratom. Since these publications are issued in various languages and from various places, neither language nor place is a guide to the person's nationality. Many times the author is not even identified by an organization with which he may be connected. The author's forename may well be represented only by an initial and his surname be compound or have some such prefix as *De* (French), *De* (Spanish) or *Von*. The need to know the author's nationality exists, but the possibility of learning it is slim. In such cases one can only hope he has made the right decision and cover his errors with references.

The determination of the entry element can be difficult in lesser-known languages. It is probably a matter which should be dealt with by persons familiar with the customs of the country, but this is not always possible. Reference books, if in a "readable" language, will help, but even then the choice of entry element seems to presuppose a great amount of knowledge which the average person cannot be expected to have.

This emphasis on uncommon knowledge and even foresight throughout the code is one of the items most difficult to accept. The other is the call for judgment; a judgment which must be based on know-how, experience, imagination, common sense, and perhaps most of all on the intangible and inexplicable "feeling" which in most is developed only with time. All in all, however, Yale is finding that the Anglo-American code is becoming easier to use as one becomes more familiar with it. If librarians will accept and follow the new code, it will make much of the cataloging less difficult.

## Anglo-American Cataloging Rules: Headings for Corporate Bodies

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This paper is to describe problems in applying the *Anglo-American Cataloging Rules* in Chapter 3: Headings for Corporate Bodies, Rules 60-99.

As background a brief statement of the Free Library of Philadelphia's policy—both past and present—is relevant. Some parts of this policy have made application of the new rules easier, some have made it more difficult. This policy, for some fifteen years, has been to enter a corporate body that changes its name under the various names it has used. In other words, the Free Library has *been* following Rule 68 all along.

Basically, this decision, like that of the Library of Congress, was to superimpose the new rules on the *Free Library's* old catalog. *Free Library* is emphasized because it is not superimposing on the Library of Congress catalog but on that of the Free Library. If the form of entry for a corporate body has already been established, i.e., if it appears in its catalogs, the staff generally continues to use that form, no matter what form appears on a Library of Congress card. If they do *not* have any entries for a name, they establish the heading according to the *Anglo-American Cataloging Rules*, no matter what form the Library of Congress uses.

The Free Library staff is refusing to accept Rules 98 and 99, which call for the entry of local churches and certain other corporate bodies under the names of the places in which they are located. Here, they prefer to follow the Paris Principles and the British edition of the *Anglo-American Cataloging Rules*.

So far, only headings for names being established in 1968 have been entered under the new rules. Since many headings could be changed by simply lining out a place name and refile the cards, they may eventually change the entry for some names that are already in the catalogs. Some headings could be changed by omitting a period after a place name. Other names, because of their structure, are entered under extremely artificial headings that would be difficult to change without completely retyping the cards. For example, the University of Pennsylvania is entered as Pennsylvania. University. Any attempt to doctor the existing cards under that heading would look messy. It would, of course, be possible to leave the cards unaltered and refile them behind a guide with the new heading, but it is doubtful that they could attempt to refile the added entry cards whose main entry is the University.

Actually, the greatest problem is the Library of Congress. The quality

of its cataloging has generated such respect in the minds of catalogers that a heading on a Library of Congress card exerts an almost hypnotic influence. In addition, FLP catalogers have been told for years "Follow the authority file. If the entry is not in our authority file, follow LC." Now, because the Free Library's application of the rules differs from that of the Library of Congress, the catalogers must learn to resist influence. At the same time, they are even more dependent upon LC research facilities, for the new rules seem to require more thorough investigation of names to establish entry correctly.

The second greatest problem is habit. Catalogers are accustomed to seeing a local place name at the end of almost all entries for business firms. It is hard to remember that such additions are no longer needed unless there is another firm with the same or a similar name. They are accustomed to entries with sub-subdivisions, and there is difficulty recognizing that the subdivision may now be entered directly under its own name.

Both of these are problems that affect the application of all rules. In addition, some individual rules seem to cause particular trouble, either because the rule itself is unclear or because its provisions are contrary to ingrained habits of thought, or for other reasons.

Rule 64, which expresses preference for the vernacular name of a corporate body, has given what can only be called research trouble. In many cases, the work itself is in English and the English name of the corporate body is the only form that appears in the book. *How* do you find the Czech, Polish, Chinese—or what-have-you—name? This is when you are almost helpless without LC—and if a reference from the English name has never appeared in one of the LC catalogs the cataloger is lost. In practice, if the vernacular name cannot be found, entry is under the English form of name, with the risk of double entry for the same corporate body. In one unfortunate case, the same organization was established under both its English and Chinese names because the catalogers did not know they were the same. Actually, this problem is not new. Whether the rules prefer the English or the vernacular name, the cataloger needs to know both. There was the instance of a Polish language book where the author was obviously a corporate body, and it appeared that it was an American organization with an English language name. Polish-speaking staff members were not competent to translate the name of a bar association, from Polish back into English, so the book remained a snag until the Library of Congress acquired the English language edition of the same work.

Rule 65, Additions to names, has been mentioned as an example of the effect of habit on the application of the new rules. The Free Library has tried to restrain its staff from over-elaborate investigation. If a second corporate body with a similar name does not come to light easily, presumably the body in hand will be the better known anyway. The most troublesome aspect of this rule is that it does not make clear the order or punctuation that should be used if both place and a "suitable gen-

eral designation" are needed. This may very well be necessary if a library enters local churches under name rather than place. The British edition does not give much help. Rule 65 is the same as in the American edition, and the British Rule 98 for local churches has no examples that require more than one addition to the name. But perhaps this is hunting for trouble.

Rule 66, Omissions from names, gives exactly the same difficulty as did the ALA rules governing omissions. It is difficult to judge whether "inc." is an integral part of any name, and in some examples that are given it seems unnecessary unless that is the reason for including it.

Every cataloger in the Free Library has had trouble with the difference in entry of a corporate body whose name begins with a fully written out forename and one whose name begins with the initials of forenames. Why the difference?

The difference between the rules for entering subordinate bodies (Rules 69 and 70) and those for entering agencies of governments (Rules 78 and 79) is bothersome. Rule 69 places its emphasis on the structure of the name, i.e., if the name implies subordination it is entered as a sub-heading. Rule 78 is based on the nature of the body itself. There are reasons for the difference, but it does require a shifting of mental gears. A similar variation is found in Rules 69A and 79 for direct or indirect entry of subordinate bodies. Rule 69, whose basic emphasis is on structure of the name, changes in 69A to logic and shows only as much hierarchy as is necessary to clarify the *function* of the subordinate body. On the other hand, Rule 79 specifies in addition that the "name has not been or is unlikely to be used by another body in the same jurisdiction." Frequently the nature of the function will make an indirect heading obvious, but if the function does not require indirect entry, two different committees with the same name may have to be distinguished by additions to their names. At least one reference has been received from the Library of Congress that seems to indicate that the criteria of Rule 79 are not always followed. The reference is from U.S. Congress, House, Committee on Veterans' Affairs, Subcommittee on Housing, to U.S. Congress, House, Subcommittee on Housing. It seems highly likely that some other committee of the House of Representatives may also name a Subcommittee on Housing. This likelihood has always been hard to determine, but here it seems clear.

The special rules for particular kinds of government bodies and those for religious bodies have apparently not caused a great deal of difficulty, although the necessity for some of them is not obvious. In most cases, the general rules seem adequate.

Finally, there seems reason to suspect that the chief reason for catalogers' having trouble applying the *Anglo-American Cataloging Rules* is that too many were not accustomed to actually applying the ALA cataloging rules. They relied entirely on LC or on their idea of what they thought the rules said without really reading the rules at all.

## Anglo-American Cataloging Rules: Film Cataloging at the Library of Congress

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The major problems associated with the application of AA rules, rather than ALA rules, to motion pictures and filmstrips have been ably covered by the discussion of form of name for corporate bodies. Corporate names of all kinds appear as added entries on cards for films. Anyone who has worked with films knows how frequently producing companies change their names. Yesterday James Carter made a film as an individual. The film was sufficiently successful to persuade him to incorporate himself. Another success, and he decides to become James Carter Productions. But only briefly. It's easier to use just the surname, and the company becomes Carter Color Comics, or Carter Educational Films, or Carter Productions, and in time Carter Associates, or just plain Carter, Inc. So the new rules and their *see also* references are welcome.

The problems faced by film custodians at the Library of Congress may be entirely different from those faced by film librarians in school systems and state educational agencies. First of all LC's collection of films is very large (35,000 titles or 90 million feet), it is unique in its coverage, the films do not circulate, and for the most part the collection is still uncataloged. LC's oldest film was made on January 7, 1894, when Fred Ott sneezed. Fred Ott was not anyone of importance. Nor was there anything distinctive in his method of dipping snuff. But he sneezed in front of Thomas Edison's new camera. Two days later the motion picture of that sneeze was registered for copyright. Another of LC's early films contributed to the bad reputation which films enjoyed for many years. In this film Actor John Rice kissed May Irwin lightly—very lightly on one cheek—and caused the moralists to ask "What is America coming to?" In those days there was no provision in the Copyright Law for the registration of motion pictures; there *was* provision for the registration of prints and photographs. The early film producers found that they could circumvent the law by printing their films frame by frame on photographic paper, and submitting them for copyright registration as "prints and photographs." As a result of this *inadequacy* of the Copyright Law, LC acquired a treasure house of early films which, because they were printed on durable photographic paper instead of on perishable and explosive nitrate film, have lasted until they could be reproduced on safety film. (More than 3,000 titles still exist.)

In 1912, unfortunately, the Copyright Law was revised to cover motion pictures, and the nation was virtually deprived of the film materials which

were registered for copyright after that date. The films which were deposited for copyright were printed on nitrate stock which was highly explosive and could not readily be housed in available space at the Library of Congress. The films were returned to the producers, and nobody seemed to care.

The value of films became apparent during World War II, and in 1942 a grant was received from the Rockefeller Foundation to provide for an evaluation of currently produced films and the selection of films for the library's collections. The Museum of Modern Art gave advice, the National Archivist became interested, and on July 16, 1943, President Roosevelt issued a directive to the Library of Congress and the Archivist to draw up plans for a national motion picture repository. Plans were drawn up, the Lanham Bill (HR 1279, 79th Congress) was introduced to provide authorization for the building, and a Motion Picture Project was established at the Library of Congress. One of the first activities of the Project was to send out a questionnaire to seek the advice of various producers, libraries, and film agencies regarding the control of film materials. And then, as sometimes happens, an economy-minded Congress decided that films were a luxury which could be dispensed with. The Lanham Bill was forgotten, there was no new building, and the Motion Picture Project at the Library was dissolved. But the returns of the questionnaire came in and proved to be useful.

A new Register of Copyrights, Sam Warner, came to Washington about this time. He was a man of vision who, with the help of Richard Angell as Chief of the Copyright Cataloging Division, conceived of the creation of a new format for the *Catalog of Copyright Entries* which would serve the bibliographic needs of scholars as well as fulfilling legal requirements. So, beginning in 1946, films were cataloged in the Copyright Office under rules which were drawn up in the Copyright Office on the basis of the information formulated by the Motion Picture Project and subsequently confirmed by the tabulated answers to the questionnaires. This preliminary code of rules called for entry under title, the inclusion of limited cast and credits, and a major innovation—a brief synopsis of the content of the film based on the "descriptions" deposited with the copyright applications. (The present Copyright Law requires that each motion picture which is registered for copyright be accompanied by a "description." This description is retained by the Copyright Office and the film itself is returned to the producer, subject to recall at a later date, if the Library wishes to add that film to its collection.) These descriptions consist of press books, continuities, teachers guides, etc. Even though the cataloging data were taken from the copyright applications and the deposited descriptions, the pertinent details were verified by reference to the films themselves.

During this exploratory period of descriptive cataloging, a film cataloging committee met regularly at the Library of Congress with representatives of the Office of Education and the National Archives providing help in the formulation of rules which would be as widely useful as

possible. All monographic-type films which were being registered for copyright were being given full descriptive cataloging treatment—musical shorts, features, documentaries, etc., as well as 16 mm. educational motion pictures and filmstrips, and the *Catalog of Copyright Entries*, in which the cards for these films were reproduced, enjoyed unprecedented sales. Enough interest was aroused by this catalog to prompt the Library to make inquiries regarding the possible need for LC printed cards. The questionnaires of the old Motion Picture Project had indicated that cards were needed. The H. W. Wilson Company and a few producing companies were printing cards and catalogs, and evaluation cards were being produced by the Educational Film Library Association.

In 1949, Richard Angell and Alpheus Walter, Chief of the Card Division, made a month-long trip of more than 20,000 miles—traveling from coast to coast with many stops and scheduled conferences to study the need for film cards and to elicit the support of the producing companies in providing data which could be used for cataloging purposes. That fall a meeting was held in Rochester, N. Y., under the sponsorship of Eastman House, at which United States and Canadian film libraries and producers pledged their support and urged the Library of Congress to start printing cards for films—both motion pictures and filmstrips. It took us two years to get started, but by September 1951 data sheets had been designed and sent to producers, and the rules had been approved by ALA and sufficiently tested in the Copyright Office to warrant their use in preparing cards. Current copyrighted films continued to be cataloged in the Copyright Office, while the older films and films not copyrighted were cataloged in the Descriptive Cataloging Division using information supplied on data sheets filled out by the producers. That arrangement was changed in 1958 when the entire cataloging job was transferred to the Descriptive Cataloging Division. Library of Congress cards have now been printed for approximately 67,000 motion pictures and filmstrips. This year cataloging data was received for more than 7,000 new films—more than twice the number received two years ago. Card sales also have doubled in the last two years.

The cataloging rules have progressed through several preliminary editions to the form in which they are today in the AA Code. In 1953 they underwent scrutiny at a Unesco Conference on International Film Cataloging, held in Washington. Most of the standards agreed upon at that conference are reflected in the rules which have been followed at the Library of Congress since that time. One difference is in the assignment of classification numbers. The conference asked for Universal Decimal Classification numbers—LC has assigned Dewey numbers except for the period from November 1963 to November 1968.

We realize that the rules should be responsive to the needs of those who use them, and that they should be brought up to date whenever deficiencies become apparent. There is now a noticeable upsurge in the use of films. Recent legislation has made possible the expenditure of funds for films and audio-visual equipment by schools and other groups.

The American Film Institute has been organized and has started work; the International Film Council held a meeting in Paris in February of this year; at least 32 Institutes on Educational Media are scheduled for this summer; and the Department of Audiovisual Instruction of the National Education Association has become active in the field of cataloging. The great increase in the utilization of non-book materials together with the availability of computer technology to aid in establishing efficient booking and scheduling systems point out the need for standardization of cataloging rules and in the vocabulary used in these rules.

The problems involved in standardization are not formidable, but there *are* difficulties because of the different approaches of various groups. Furthermore new techniques, unknown or unpopular when the AA rules were originally drafted, suddenly become important.

The Library of Congress has prepared the necessary recommendations for expanding the AA rules to cover videotapes and slide sets, but this expansion is not enough. Before we go farther, we need to know the needs of card subscribers and of *potential* card subscribers. Perhaps we even need to know if the use of Library of Congress cards for films is becoming obsolete in spite of the latest upsurge in card sales.

The recently published set of standards endorsed by DAVI reflects the attitudes of the public education system. We should study these standards carefully. Furthermore we cannot ignore the cataloging rules developed by the American Film Institute, which has started work under a grant from the Ford Foundation and other public and private funds. Their goal is to preserve America's film heritage and to bring under control the vast number of motion pictures, largely in the theatrical field, which are rapidly becoming lost.

Since the use to be made of films varies so widely, it is to be expected that rules as applied by the American Film Institute, by DAVI, and by the Library of Congress may vary. For instance, DAVI rules, because they are concerned largely with classroom films, call for few added entries and no cast or credits; AFI rules, because they are interested primarily in the film as art, call for the cast of characters, up to seven, and the roles played by each, as well as a substantial list of credits, a long synopsis, and the assignment of many subject headings to theatrical films for which LC would normally assign no subjects. The Library of Congress application of the rules results in a fairly specific citation of limited cast and credits for feature pictures (usually five) and only those credits on the nontheatricals as supplied to us on data sheets. That means that there are likely to be none for government films, and that for classroom films the number will vary according to the whims of the producers who supply the information.

Actually DAVI and AA rules as applied to classroom films are very much in accord, but there are some differences to be resolved.

Both sets of rules call for entry under title followed by the term "motion picture," or "filmstrip." Both call for recording the title as it appears on the work. For the Library of Congress, that means following the title

as given on the data sheet, which is supposed to be exactly as it appears on the film. However, by "exactly" we mean "exactly as to order, wording, spelling, accentuation and diacritical marks (if possible), but not necessarily as to punctuation and capitalization." (AA 133) The DAVI rules also call for giving titles exactly as they appear, but call for spelling out numerals when they are the first word of the title, as a guide to the alphabetizer. Hence, in the title *24 hours of progress*, the 24 which appears as a numeral on the film would appear as a numeral under AA rules on the LC card but would be spelled out on the DAVI entry.

The DAVI rules call for insertions or additions to the *title* in those cases when the title is in English and the sound track is in another language, e. g., *Passion for life* (French) followed by the designation (Motion picture). On an LC card this information regarding the language of the sound track would appear as a note.

Another slight difference arises because of a difference in the interpretation of the word "edition." Under AA rules the term "version" is preferred, and a note is used to show the relationship between "versions." Differences in titles are also noted, and added entries are made for earlier titles which are significantly different. The DAVI rules produce virtually the same results, except that the reference to other versions or editions is given at the beginning of the synopsis rather than in a note, and revised films which have titles different from the original release are not considered "different editions" at all. Changes in title, without change in the content of the film are similarly handled: a separate note in LC and a statement at the beginning of the synopsis in DAVI.

The differences in rules for title and versions are minor and are not likely to result in problems in coding for computer input. But a difference does arise in the citation of cast and credits. The cards for *Jazz in the concert hall* illustrate the difference. Should the name of the orchestra be given? Do the people who refer to the card need to know the role of Leonard Bernstein and the producer Roger Englander? LC included these names because they were given on the data sheet. (The names appear also on the film, but LC was not sure of that fact when the card was printed.) Maybe film-card users are being given more information than they need, and the AA rules should be revised accordingly. Maybe DAVI is not giving enough. An agreement needs to be reached.

There is also a distinct difference in giving information on the card regarding the audience for which a film is intended. Under the AA code, if the film is not available for general use, the rules call for stating explicitly the particular audience to which a film is restricted (e.g., for nurses and medical students). In other instances, the synopsis or the series titles may provide a clue to the age level of the intended audience. In general, however, no attempt is made under present AA rules to state on the card whether the film is intended for sixth grade, or fourth grade, or junior high school groups. DAVI calls for "maturity range" and indicates that range with symbols—which some card users might not understand. The Library of Congress is now recommending that the AA rules be

changed, and is prepared to add grade-level designations to printed cards for films. If this change is to be made, we hope that a suitable list of designations for these grade-levels can be agreed upon because agreement in this area will certainly be useful.

Another major problem area is in the assignment of subject headings. In this area especially, the size of the collection and the use to be made of it are factors in determining the type of subject control which will be most useful. Opinions vary greatly.

Library of Congress cards are designed to interfile with cards for books and other materials for which cards are printed. The subjects assigned to films are the same specific subjects that are assigned to books. Such headings may be of little value in a small or specialized film library, and DAVI subjects are less specific in the examples cited in the rules. LC cannot change its subject heading list, but is willing to consider the addition of curriculum-oriented subject topics if a definitive list can be prepared and accepted by the various educational and audio-visual groups that are concerned with the utilization of films. The preparation of such a list is not easy—perhaps the list published by the National Education Center for Educational Media could be used as a start. In the meantime, the Dewey numbers which are being added to the LC film cards may be useful means of grouping films on various specific subjects according to the broader subject with which they deal. LC would like to have opinions on this problem. LC would like to know also if filmstrips in a series are more useful if entered separately under distinctive individual titles or under the title of the series, and if recordings which accompany filmstrips or silent motion pictures should be separately cataloged.

Various types of film users have differences of opinion and varying problems, but these problems in the cataloging of films—and of other non-book materials as well—must be solved if those materials are to be used to the best advantage in this age of the computer which is upon us.

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# The Future of Telefacsimile in Libraries: Problems and Prospects\*

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*Problems of applying telefacsimile equipment to library purposes include lack of suitability of the equipment (the hardware is designed for business, not library, functions), high cost, and most librarians' lack of understanding of the nature and extent of the need for such a service. Prospects for improvement include new technical developments, such as improving quality and availability of connecting telephone and other lines, more effective scanners and viewers, development of a scanner to copy directly from bound volumes; and the evidence of feasibility provided by the working and growing telefacsimile system connecting the campuses of Pennsylvania State University.*

## *Introduction*

THERE HAVE NOW BEEN A NUMBER OF ATTEMPTS to use telefacsimile systems in libraries, either on an experimental or an operational basis. Sharon Schatz has described nearly all of them.<sup>1</sup> Unfortunately, most of us who have undertaken telefacsimile experiments so far have proceeded as though we invented the whole idea ourselves, and have not benefited enough by each other's experience. You may have wondered why there is evidently still no such thing as a permanent, operational library telefacsimile system in service anywhere. There is one, which I will describe later on. There have been a few other installations which were so intended, but they have all fallen by the wayside.

What are some of the problems causing these failures?

## *Problems*

First of all, the equipment itself was not designed with library needs in mind. Hardly anything electro-mechanical ever is. Libraries may adapt some useful items of hardware to their needs, such as the Xerox 914 or an IBM Magnetic Tape Selectric Typewriter, but it sometimes seems as though we are doing something like using an electric dishwasher to wash our clothes.

For many years expensive telefacsimile equipment has been in daily

\* Presented at the LRTS/RLMS Program Meeting, American Library Association, Kansas City, Missouri, June 27, 1968.

use by newspapers and the communications industries. Lower-cost systems for general business use have been developed more recently, and only since then have we impecunious librarians become interested.

Unfortunately, most lower-cost equipment has been designed for the business letter and business forms, mostly type-written. Resolution just adequate for elite type may be hopelessly coarse for the 6-point type faces in which many scholarly and scientific journals are printed.

Then we have the problem of cost. Businessmen may be able to figure out how much it is worth to their company to have facsimile copies of purchase orders received at the factory in Chicago from New York within hours after the salesman lands the order. But how many librarians can tell you how much a completed interlibrary loan request is worth, or how much more it is worth if you complete it the same day it is requested, via facsimile, than if you take two or three weeks to complete it?

We can estimate pretty well what a facsimile copy will cost under a given set of conditions,<sup>2</sup> but it is difficult to estimate its worth. It will be a rare system that will deliver facsimile service over any distance for less than \$1.00 per page.

Technical considerations are interesting. There is much research in progress in an effort to break some of the technical bottlenecks.

One of the big items in the cost of telefacsimile is the cost of the communication link. This could be anything from the Bell System's Telpak "A," which has a bandwidth of 48 kilocycles, costing as much as \$18 per mile per month, down to a single voice-grade telephone line, which affords about 3 kilocycles of bandwidth and might cost about \$3 per mile per month for a leased line.

Between these extremes lie several alternatives. Some systems use a single voice-grade line; some use two or three or four which are "cleaned up," that is, better quality than voice-grade. We hear terms like data-grade lines, full duplex lines, half duplex lines, telephoto lines, schedule 2 lines, conditioned lines. Essentially, what the telephone man is talking about when he uses these terms is that when one leases, say, a half-duplex schedule 2 telephoto line, it does not buzz, hum, grow faint, produce static-like noises, or otherwise foul up whatever communication is coming across the line. The telephone man does not say buzz, hum, etc.; he says distortion, delay, quadrature, Kendall Effect, attenuation, interference, cross talk, etc.

The big, fast systems like the Xerox LDX or the highest speed Alden equipment need expensive connecting links. If the connecting link is a 250-mile Telpak "A" at \$3,750 per month, with black boxes at either end, which may be called terminals, or interfacing equipment, at \$450 per month each, this accounts for nearly a dollar per page at a volume of 5,000 pages per month, without even considering costs of the scanner, printer, labor, etc. At higher volumes of use, costs are lower.

Another problem, perhaps the most serious one, is the general failure of telefacsimile-minded librarians to pay a little attention to the question

of the need for such a service. We always seem to assume that there is an insatiable demand for faster service and quick, ready access to the resources of other libraries. Maybe this is because such an assumption makes us feel important. Studies at the Institute of Library Research and the New York State Library have shown that this demand may be quite limited, especially when one proposes putting a price tag on the service.<sup>3, 8</sup>

Librarians sometimes seem to feel that price tags are undignified, and often think of their institutional money only in large lumps, like grants or appropriations or annual budgets.

In any case, it seems that we should spend at least as much time and trouble analyzing the needs of our library users, and how well our conventional services are working to meet their needs, as we do in dreaming up glamorous new services. As an example, the Houston Research Institute concluded in 1965 that telefacsimile for libraries made little sense because the actual transmission time (via U. S. mail) in existing interlibrary loan service accounted for only a fraction of the total delay.<sup>4</sup> Most of the delay was found to be inherent in the slow procedures at the borrowing and lending libraries. The results of the Houston Research Institute study indicate much less concern about technical difficulties or costs than about the slow and inefficient way in which librarians handle the requests.

### *Prospects for Improvement*

Technical improvements are inevitable. With these improvements will come better performance and reliability at lower cost.

One area of technical improvement is in the connecting link. It is unlikely that the vast telephone networks of the nation are all going to be up-graded just to take into account the needs of a handful of telefacsimile buffs. However, there is an ever-increasing amount of non-verbal communication being transmitted via telephone lines.<sup>5</sup> Besides Teletype, data in computer language is being transmitted from one magnetic tape to another one at a distance. Telefacsimile itself is gaining ground in the world of business and industry. All of these factors tend toward making more readily available, at lower cost, the special lines that most facsimile systems require.

Of course, there is one system designed especially for use over an ordinary telephone. This is the Xerox Telecopier. Since this equipment was tested at the University of Nevada when it was a brand new product in 1966, a number of improvements have been made.<sup>6</sup> Since the telecopier has some unique advantages in convenience and low cost, especially for low volume-of-use applications, this system should be tested again to see whether the improvements add up to better performance and reliability.

Other manufacturers, such as Datafax and Alden, supply equipment

which can also use an ordinary phone line, but require a Dataphone. (A Dataphone serves as an interface between the telephone line and the telefacsimile equipment, at about \$30 per month apiece.)

Researchers are working on techniques to reduce bandwidth requirements.<sup>9, 10</sup> Although these efforts seem to be concentrated in the field of television, some of the new techniques may have potential application to telefacsimile.

One very interesting development has been introduced in Holland and the United States. RCA and N. V. Philips' Gloeilampenfabrieken have found a way to use a commercial television channel for facsimile transmission while the regular program is in progress.<sup>11</sup> A television image is transmitted in successive fields with a blank interval in between. This blanking interval lasts only for 1.3 milliseconds (a little over one-thousandth of a second) long enough to switch in the facsimile circuit, transmit a fraction of an inch of the printed page, and switch it out again in time for the next television picture field. It is possible to transmit an average printed page in 2.5 seconds by this method. RCA uses an electrostatic printout, while the Dutch firm uses a camera to take the image off the cathode ray tube.

A Japanese system using a cathode ray tube prints by running recording paper over the face of the tube.<sup>12</sup> A special fibre-optic face-plate projects a sharp image onto the paper.

There are some other encouraging signs on the horizon. The Alden Company has developed a proposal for a scanner which will copy directly from books.<sup>7</sup> (The configuration of this device is far from ideal, however, since opened books will have to be turned face down on a glass platen.) The great potential advantages of a book-copying scanner may seem obvious, but I will enumerate them anyway:

1. The telefaxed copy will be of much better quality. Legibility is bound to improve, since one will no longer have to transmit from a copy of the original. Staff members in the New York State experiment complained that they often transmitted illegible copy because they were working from faint or low-contrast copies.<sup>8</sup>
2. Speed will be increased. The time required to take the original to the copying machine, wait for free machine-time, copy the item, and deliver it to the scanner will all be eliminated.
3. Cost of making the intermediate copy will be eliminated.

The proposed Alden book scanner will also supply the advantages of flexibility in speed and resolution, according to the needs of the particular job. Some existing Alden equipment already offers this flexibility, with resolutions ranging from 96 to 166 lines per inch, at various speeds. If the cost and reliability factors work out, this book scanner will largely take care of the technical limitations we have been concerned about.

Western Union has designed a new facsimile system which, they claim, will transmit an  $8\frac{1}{2} \times 11$ " page over a single telephone line in three minutes, half the time required by existing systems.<sup>13</sup>

Project INTREX is experimenting with a microfilm facsimile system.<sup>14</sup> This is an ambitious project involving automatic microfiche retrieval combining remote access computer terminals with an image-transmission system.

There is, to my knowledge, one working interlibrary facsimile system now operating in the world today. This is at Pennsylvania State University, which has some twenty campuses. Eight are already linked with the main library at University Park, and twelve more campuses will be connected soon. The Xerox Magnavox Telecopier has been used for a year and a half. A detailed report on this system would be very informative.

So the overall picture is encouraging. While the engineers are busily at work conjuring up technical breakthroughs, the librarians should be planning sensible applications for them. Valuable experience gained in the last few years, if put to good use, can benefit those who depend upon the resources of all libraries.

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# LC and BG: Friendship Without Marriage

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*After preliminary preparations for changing to LC, Bowling Green decided against it for the following reasons; (1) productivity per cataloger and per FTE cataloging staff member using Dewey did not appear to differ significantly from productivity in some libraries using LC; (2) theoretical savings through use of LC would be more than offset by costs of minimal reclassification; (3) computer costs for the automated circulation system would be doubled until such time as all books in active circulation were converted to LC; (4) public services departments would experience added difficulties in locating books and orienting users.*

FOR A NUMBER OF YEARS, the Cataloging Department of the Bowling Green State University Library has attempted to take full advantage of the cataloging information generated by the Library of Congress. To this end, the form of entry, descriptive cataloging and subject headings used by LC have long been accepted without question. More recently, studies have been undertaken to determine whether or not further economies might be effected by a change from the Dewey Decimal Classification to the Library of Congress Classification. Because the results turned out to be different from the "conventional wisdom" of the profession and the expectations of the Director of the Library, it is thought that a descriptive case history might provide some useful clues for further investigations elsewhere.

The first suggestion that Bowling Green should consider changing to the Library of Congress Classification came as an informal aside from Dr. Ralph Ellsworth, Director of Libraries, University of Colorado, during a visit in May, 1962, when he was serving as consultant for the library building program. Subsequent discussions within the library staff revealed that there was no suitable space that could be made available for use by a reclassification unit and little likelihood that sufficient personnel could be procured even if space were available. Formal consideration was, therefore, postponed.

The question was again raised in the spring of 1964 at a general faculty meeting called to discuss preliminary plans for the new library. By that time, space problems in the old library had become even more pressing than in 1962.

In the summer and fall of 1965, the library faculty became aware that large numbers of academic libraries were changing to the Library of Congress system. With the new library already under construction and a 1967 completion date forecast, the time seemed opportune for a thorough review of the question.

In the winter of 1966, the Director of the Library opened discussions with the Provost who indicated willingness to consider such a change if it could be shown to be beneficial to the university. In the discussions, it was indicated that such a far-reaching step ought not to be taken by the library faculty alone but that the teaching faculty and the student body (through the Library Advisory Committee) and the University Administration should also participate in the decision-making process.

In the fall of 1966 the matter was discussed in a preliminary way at a meeting of the Library Advisory Committee.

In the spring of 1967 this topic was studied by Dr. R. C. Swank, Dean of the School of Librarianship, University of California (Berkeley), as part of his review and critique of the *Self-Survey* being undertaken by the library. Swank visited Bowling Green in April, 1967, and discussed this topic (among others) at a meeting of the Library Advisory Committee, where he indicated three main strands of argument:

1. Intrinsic merit. At this level, Swank felt that arguments should be minimized. He noted that both systems have been used successfully and that the basic similarities are much greater than the differences.
2. Economics of cataloging processes. At this level, Swank believed that a persuasive case could be made. His arguments are summarized in his *Report*.<sup>1</sup>
3. Future mechanization. At this level, Swank thought the basis of any future system of mechanized information retrieval would not be Dewey or LC and that arguments for reclassification because of automation could not be sustained.

In August, 1967, the Director of the Library requested some follow-up studies. A General Committee on Classification and Library Catalogs was appointed under the chairmanship of Dr. L. R. Wynar, Head of Information and Reference Services. This committee divided up its work among three subcommittees:

1. Data Processing and Cost Analysis, chaired by Leo Rift, Head of the Systems and Procedures Department;
2. Implications for Technical Services, chaired by Margaret Yocom, Head of the Cataloging Department;
3. Implications for Public Services, chaired by Neal Coil, College Librarian.

<sup>1</sup> R. C. Swank, *A Report on the Bowling Green State University Library* (Bowling Green, Ohio: Bowling Green State University Library, 1967), 4-6.

The subcommittees prepared separate reports which were then reviewed by the General Committee. This committee forwarded a report and recommendations to the Director in November, 1967.

The committee on Classification and Library Catalogs recommended the retention of the Dewey Decimal Classification for the university library but suggested some streamlining of present cataloging processes to take fuller advantage of the Dewey numbers assigned by the Library of Congress.

To understand the reasons behind the recommendation of the General Committee it will be necessary to review the findings of the subcommittees.

The subcommittee on Data Processing and Cost Analysis included in its membership Richard C. Neumann, Director of Computational Services. This group prepared a particularly lengthy and detailed report. It was felt that Swank had performed a very useful service by narrowing the basis for decision-making to the economics of cataloging processes and that cost analysis should, therefore, be given particular emphasis. It soon became apparent, however, that economies in cataloging could not be studied in isolation and that a decision to change to the Library of Congress Classification would have direct economic consequences for other parts of the library system.

Studies by the subcommittee assumed an average annual influx of 30,000 new titles that would need to be classified by Dewey or LC. Three alternative approaches were examined:

1. Use of unmodified LC;
2. Use of unmodified Dewey;
3. Use of Dewey with local modifications.

The annual savings through the use of unmodified LC compared with locally modified Dewey were computed at \$12,312. The annual savings with unmodified Dewey were found to be \$5,214. Clearly, on the basis of annual cataloging costs alone, a change to unmodified LC appeared to be indicated.

The subcommittee then turned its attention to other parts of the library system. It soon became apparent that a change to the Library of Congress classification would involve major changes in the automated circulation system. In addition to administrative costs (planning, programming, etc.), it would be necessary to make two runs through the computer every night—one for the Dewey section and one for the LC section. The annual increase in circulation costs was computed at \$6,240. It was noted that shelving by two systems would be slower. The added cost in student wages was conservatively estimated at \$750 per year. Finally, it was noted that the staff of Information and Reference Services would need to spend extra time in orienting patrons to the use of two systems. This was conservatively estimated at 200 man-hours or

approximately \$1,000 per year. Thus the total annual costs of the change to other parts of the library system were estimated at \$7,990. Compared with locally-modified Dewey, the adoption of LC would have resulted in an annual net saving of \$4,322. Compared with unmodified Dewey, however, the adoption of LC would have resulted in an annual net cost of \$2,776.

The subcommittee then studied the cost of reclassification. In the light of Swank's recommendation that only partial reclassification should be attempted, the subcommittee assumed that only the reference collections, the College Library, and the Science Library would be reclassified and estimated this total at ninety-five thousand volumes. Cost data from other institutions ranged from a low of 60 cents per volume plus overhead at the University of Denver to a high of \$4.92 per title or \$1.96 per volume at the University of Maryland.<sup>2</sup> The subcommittee used \$1.50 per volume for the reference collections and the College Library and \$1.10 per volume for the Science Library. The lower figure for the Science Library was reached by assuming that reclassification would be done concurrently with the preparation of a catalog for the Science Library and that a portion of the cost could appropriately be charged to the latter project. Thus the net cost of reclassifying ninety-five thousand volumes was found to be \$122,000. To this figure were added the following initial costs for adopting LC:

Shifting of books to make room for reclassification (1,000 hours at \$1.50) .....	\$1,500
Planning stack layout and publishing information leaflets .....	1,000
Programming of LC circulation system .....	500
New book master card and charge card design .....	300
<hr/>	
Total .....	\$3,300

The total cost of reclassifying ninety-five thousand volumes was, therefore, estimated to be \$125,300.

Although the Director of the Library was most appreciative of the studies by the subcommittee, he was aware of at least two additional categories assigned priority for reclassification at the University of Missouri (and possibly at other libraries):

1. Serials currently being received and all back volumes of these titles;
2. Subject areas in which there is wide divergence between Dewey and LC.

No precise figures were available, but he thought the added cost of these categories could be as high as \$50,000 to \$75,000. Because the subcommittee did not include these categories in its studies, the cost figures for partial reclassification were conservative. However, the subcommittee's

<sup>2</sup> William E. Connors, "Reclassification at the University of Maryland," *Library Resources & Technical Services*, XI (Spring 1967), 242.

figures were used because the other categories had not been studied in comparable depth and detail.

One widely-publicized study from a library on the West Coast indicated that annual savings through the use of LC would pay for the cost of necessary reclassification over a ten-year period.<sup>3</sup> On the basis of the subcommittee's findings, this appeared to be true for Bowling Green if savings in cataloging could be achieved without increased costs elsewhere in the system. When the latter were taken into account, the period of amortization rose from ten years to twenty-nine years on the basis of savings by comparison with locally-modified Dewey. Compared with unmodified Dewey, however, LC appeared to represent no saving at all but a cost of \$27,760 for ten years or \$80,506 for twenty-nine years.

The subcommittee on Implications for the Technical Services pointed out that a substantial retraining program would be necessary for professional, semi-professional, clerical and student workers in the cataloging department. It was noted that such a transition period would probably be one of lowered productivity even though there might be compensation from the new procedures at a later stage. The subcommittee also noted that original cataloging and classification (i.e., without LC cataloging information) would actually take longer with LC because the schedules lack mnemonic features and have no general index. The chairman of the subcommittee examined a random sample of 300 LC cards for books on order or in process. Of these, 199 had both Dewey and LC numbers, 75 had LC numbers only, 15 had Dewey numbers only, and 11 had neither.

The Director of the Library would like to insert a supplementary comment on a point relevant to the work of the subcommittee on Technical Services. In a letter to the director dated October 27, 1966, Benjamin Custer, Editor, Dewey Decimal Classification, wrote: ". . . the Library of Congress has made plans to increase its coverage of Dewey numbers on Library of Congress cards, with the expectation that within a year or so it will be complete for titles in Western and Eastern European languages." Confirmation that this policy is being implemented was found in a recent article by the Director of the Processing Department of the Library of Congress.<sup>4</sup>

In the appendices to the report of the subcommittee on Implications for the Public Services a number of relevant points emerged:

1. The cost of the circulation system would increase both because of computer charges and because of massive relocations in the stacks;
2. The number of "missing" books would increase in sections being reclassified and Circulation Services would be unable to offer much assistance until the records were refiled in the Public Catalog;

<sup>3</sup> Oregon University Library Ad Hoc Committee, "L. C. Classification at the University of Oregon Library," *Pacific Northwest Library Association Quarterly*, XXIX (July 1965), 249-250.

<sup>4</sup> William J. Welsh, "Considerations on the Adoption of the Library of Congress Classification," *Library Resources & Technical Services*, XI (Summer 1967), 350.

3. Students and faculty would need special help in learning the LC system;
4. The need to look in twice as many places for books on the same subject would be an inconvenience;
5. In order to locate materials, nearly all patrons would be forced to use the Public Catalog more heavily.

The Library Advisory Committee recommended that a special meeting be called at which presentations of the case for a change to the Library of Congress Classification and for the retention of the Dewey Decimal Classification could be made. On February 8, 1968, a special meeting (of three hours duration) was held. The case for LC was presented by Mrs. Roma Gregory, Head of the Acquisitions Department and the case for retention of Dewey was presented by Leo Rift, Head of the Systems and Procedures Department.

At the conclusion of the meeting, the following questions were left with the Director of the Library for further study:

1. If the committee recommends adoption of the Library of Congress system, can figures be produced showing that it is economically justified?
2. If the Library of Congress system is recommended, what is the most feasible way of financing and implementing the transition?
3. What, really, are the advantages of a change?

On February 22, 1968, the director met with the committee and presented a report which included some further investigation and analysis.

It was noted that the first question could be approached in several ways. Two alternatives were explored:

- A. Comparison of productivity records of cataloging departments in a few universities of roughly comparable size;
- B. Further refinement of annual costs and benefits utilizing the work already done by the subcommittee on Data Processing and Cost Analysis.

#### A.

The period from July 1 through December 31, 1967, was selected as the most recent one for which statistics were likely to be available. Each institution was asked to furnish the following information: average number of catalogers (FTE) for the period; average number of semi-professional and clerical workers (FTE) employed in the cataloging department during the period; average number of student employees (10-15 hours each per week); total number of volumes processed (including microforms, added volumes of serials, and added copies of books,

as well as new book and serial titles). The raw data were assembled in Table 1.

TABLE I  
RAW DATA

Institution	Catalogers	Semi-Prof. and Clerical	Students	Volumes Processed
Bowling Green (DC)	4	6	7-8	19,730
Library A (LC)	6	15.3	6	27,867
Library B (Changed to LC Dec. 1, 1967)	7.5	7.75	6	14,069 (excludes microforms)
Library C (LC)	4	14	200 hrs. per week	18,065 (July- November)
Library D (Changed to LC Oct. 15, 1967)	3	8.2	12 (173 hrs. per week)	8,795

Supplementary information supplied by the institutions was used to convert the raw data into more meaningful form for comparative purposes. The figures for Bowling Green included 1,786 volumes cataloged by the State Library of Ohio. These were simply subtracted to arrive at a net total, although each volume did require some attention from the Cataloging Department (verification of correctness of information on cards and book, filing cards in public catalogs and shelflist, etc.). The figures from Library B did not include microforms. These were informally estimated by the Director of Library B at around two thousand items for the period. This figure was added to the B total for equalization purposes. Library C reported a total which covered only the five-month period from July 1 through November 30. To achieve equalization, this total was divided by 5 and the resulting monthly average was multiplied by 6. A further complication at C arose from the fact that the total volumes processed included serials (as requested) but the cataloging of serials was not done in the Cataloging Department. This operation was performed in the Serials Department by a cataloger and a clerk-typist. For equalization purposes, these two positions were added to those in the Cataloging Department. Finally, all student positions were converted to full-time equivalents, using a ratio of 4 to 1 or a standard work week of 40 hours, depending on the way in which the reporting was done. The results are shown in Table 2, Adjusted Data.

The next step was to determine staff productivity. This was done in two ways:

1. Volumes per cataloger;
2. Volumes per FTE staff member.

The results are shown in Table 3, Staff Productivity.

TABLE 2  
ADJUSTED DATA

Institution	Catalogers	Semi-Prof. and Clerical	Students (FTE)	Volumes Processed
Bowling Green	4	6	2	17,944
A	6	15.3	1.5	27,867
B	7.5	7.75	1.5	16,069
C	5	15	5	21,678
D	3	8.2	4.3	8,795

TABLE 3  
STAFF PRODUCTIVITY

Institution	Volumes per Cataloger	Volumes per FTE Staff Member
Bowling Green	4,486	1,495.3
A	4,644.5	1,222.2
B	2,142.5	959.3
C	4,335.6	1,083.9
D	2,931.6	567.4

The statistics for Library D were furnished in two parts: volumes processed before the change to LC, and volumes processed after the change. Between the middle of October and the end of December, 5,646 volumes were processed using LC, compared to 3,149 in the earlier period using Dewey. The figure for two and one-half months on LC was projected for a six-month period and productivity calculations were made with the following results: volumes per cataloger—4,516.8; volumes per FTE staff member—874.2

#### B.

Studies by the subcommittee on Data Processing and Cost Analysis assumed an average annual influx of thirty thousand new titles for an indefinite period. It appeared desirable to refine this figure by establishing an appropriate ratio of volumes to titles and by calculating growth rates on an annual basis.

Ratios of volumes to titles were not easy to establish with precision. They vary from discipline to discipline. Some fields are heavily dependent on books. Others rely to a much greater extent on journals. Some rough guidelines were established from records formerly maintained at Bowling Green and from the records of other institutions. During the 10-year period from 1956 through 1965, the Cataloging Department at Bowling Green prepared 122,012 volumes for the shelves. Of these, 66,541 (slightly more than half) were new titles while 42,611 were added volumes of serials and 12,860 were added copies of books already in the collection. Of the 54,327 volumes reclassified between 1963 and 1966 at the University of Maryland, there were 21,725 separate titles.<sup>5</sup> The remainder were added

<sup>5</sup> Connor, *op. cit.*, p. 242.

volumes of serials or added copies of monographs. Of the 27,864 volumes processed by Library A from July to December, 1967, approximately 12,000 were new titles. It would appear that the ratios of volumes to titles at Maryland (2.5:1) and A (2.25:1) are higher than the ratio at Bowling Green (slightly less than 2:1). The figures at Bowling Green will probably change toward a higher volume to title ratio as the number of periodical subscriptions increases. For the purpose of preparing projections, the ratio of 2 to 1 appeared most appropriate.

Projection of annual growth rates is even more hazardous than calculation of a volume to title ratio. Inflation, level of state support, and new academic programs will influence future growth in significant and unpredictable ways. Already there are indications that neither the university nor the library will be able to reach the goals set for the early 1970's and that even the more conservative set of projections in the *Survey Document* for the period through 1972 may be too high. Nevertheless, these figures were used, on the assumption that the university would exert every effort to bring the library up to minimal adequacy by 1972. Projections beyond 1972 were based on the assumption (contained in the *Master Plan for State Policy in Higher Education*) that Bowling Green's enrollment will stabilize at 15,000 in the early 1970's and will remain stationary until after 1980.

TABLE 4  
GROWTH PROJECTIONS

Year	Volumes	Titles
1968/69	40,000	20,000
1969/70	45,000	22,500
1970/71	50,000	25,000
1971/72	60,000	30,000
1972/73	63,000	31,500
1973/74	66,000	33,000
1974/75	69,000	34,500
1975/76	72,500	36,250
1976/77	76,000	38,000
1977/78	80,000	40,000
1978/79	84,000	42,000
1979/80	88,000	44,000

It was believed that an analysis of costs and benefits should include the cost of partial reclassification as well as savings and costs in processing, shelving and circulating new materials and should also take into account the extent to which local practice actually deviates from unmodified Dewey and which deviations require extra time. Because the latter point had a direct bearing on all calculations of anticipated savings in cataloging, it was examined first.

Deviations at Bowling Green were found to be of four kinds:

1. Method of classifying subject bibliographies;

2. Method of classifying and arranging books in literature and philosophy;
3. Shortening certain classification numbers;
4. Placement of certain books in alternate locations.

Each of these was examined with results noted in the paragraphs that follow.

*Subject Bibliographies.* Unmodified Dewey would place these together as a group in 016 with subdivision beyond the decimal point by subject. The instructions read "Divide like 000-999." As a convenience to students and faculty, Bowling Green places these subject bibliographies with other books on their respective subjects. This deviation is programmed by using the letter "A" to denote a bibliography and by taking the part beyond the decimal point as the classification number. An example will illustrate the point. A bibliography of mathematics in unmodified Dewey would have the class number 016.51. In our system, this becomes A510. Because the time consumed by this particular deviation is negligible, it was omitted from the calculations.

*Literature and Philosophy.* Recent editions of Dewey do not have the detailed lists of numbers for individual writers and philosophers given in the 14th edition. A classifier at Bowling Green has two choices:

1. Refer back to the 14th edition;
2. Consult an alphabetical file which is maintained in the Cataloging Department.

In order to arrange the works of individual authors in a logical manner, Bowling Green uses the Library of Congress "Table of Subdivisions Under Individual Authors." Highlights of the Table are as follows:

1. Collected works:
  - A15—Collected novels
  - A16—Collected essays, etc.
  - A17—Collected poetry
  - A19—Collected plays
2. Individual works:
  - Alphabetically by title using numbers from A3 through Z29
3. Dictionaries, concordances, etc.:
  - Z7 followed by Cutter number for compiler's name
4. Biographies:
  - Z8 followed by Cutter number for author's name
5. Works of criticism:
  - Z9 followed by Cutter number for author's name

These deviations from unmodified Dewey were regarded as significant because they do require extra lookup time. The cost for this sort of deviation had already been computed by the committee on Data Processing and Cost Analysis at \$23.66 per hundred titles compared with unmodified Dewey and \$41.04 per hundred titles compared with unmodified

LC. The next step, therefore, was to determine what percentage of new titles added to the library each year were likely to be in philosophy and literature and thus require this treatment. Analysis of the 1967/68 book budget showed that around 13 per cent of the funds were allocated to the departments (English, German and Russian, Romance Languages, and Philosophy) which might reasonably be presumed to request practically all of the books in literature and philosophy acquired by the library. It was recognized that there is no exact correlation between funds expended and number of new books received. Because books in literature and philosophy are, on the average, slightly less expensive than books in most other disciplines, the figure of 13 per cent was regarded as too low for the proportion of new titles. It appeared that a figure of 15 per cent or 16 per cent would more nearly reflect the input of new titles.

*Shortening Classification Numbers.* This is normally done when Dewey numbers on the LC cards extend for more than six places beyond the decimal point. Because the procedure is not entirely automatic (and, thus, to some extent, is time-consuming), samples were studied to determine the number of such deviations on LC cards with Dewey numbers for books published since 1960. The following subjects were randomly chosen: taxation (336.2); educational tests and measurements (371.26); non-Euclidean geometry (513.8); biochemistry (581.192); television advertising (659.143); and the French Revolution (944.04).

*Alternate Locations.* If a book can almost equally well be placed in two or more locations, Bowling Green is usually guided by the convenience of the department which originally requested the book. (For example, a biography of Napoleon would be classed with books in the appropriate period of French history rather than in biography.)

The samples described above were also used for noting alternate locations. The results are shown below in Table 5.

TABLE 5  
DEVIATIONS

Dewey Sample	Shorter Class Number	Alternate Location	Same as on LC Card	Total	Deviation	Percent
336.2	4	2	9	15	6	40
371.26	1	0	36	37	1	2.7
513.8	0	0	6	6	0	0
581.192	0	0	8	8	0	0
659.143	0	0	2	2	0	0
944.04	3	3	6	12	6	50
Totals	8	5	67	80	13	16.25

Because of the smallness of some of the samples, a cross-check in the form of a random sample of cards for approximately 100 books cataloged in early February was requested from the Cataloging Department. Information was requested on a variety of pertinent topics in addition to deviations. The results are summarized in Table 6.

TABLE 6  
RANDOM SAMPLE OF NEW BOOKS

Original classification required.....	16
Both LC and DC numbers with use of unmodified DC by BGSU...	76
LC only.....	3
No LC or DC.....	2
No LC.....	3
No DC.....	3
DC numbers with BGSU deviations.....	2

On the basis of the foregoing analysis, it would appear that deviations from unmodified Dewey may occur for as many as 30 to 35 per cent of new titles, though the number of deviations (outside literature and philosophy) appears to be diminishing. In order to avoid unfair weighting, the figure of 35 per cent (probably a little high) was used.

The growth projections in Table 4 were then analyzed in terms of new titles in unmodified and modified Dewey. The results are shown in Table 7.

TABLE 7  
TITLES IN UNMODIFIED AND MODIFIED DC

Year	Titles	Unmodified DC	Modified DC
1968/69	20,000	13,000	7,000
1969/70	22,500	14,625	7,875
1970/71	25,000	16,250	8,750
1971/72	30,000	19,500	10,500
1972/73	31,500	20,475	11,025
1973/74	33,000	21,450	11,550
1974/75	34,500	22,425	12,075
1975/76	36,250	23,562	12,688
1976/77	38,000	24,700	13,300
1977/78	40,000	26,000	14,000
1978/79	42,000	27,300	14,700
1979/80	44,000	28,600	15,400
Totals	396,750	257,887	138,863

The annual cataloging savings through the use of unmodified LC were computed using the differential of \$17.38 per hundred titles for those in unmodified DC and \$41.04 per hundred titles for those in modified DC. The results are shown in Table 8.

The annual costs of a change to the Library of Congress system were investigated. It was found that computer costs for the automated circulation system would not vary significantly from year to year as long as it was necessary to maintain files in both Dewey and LC. Costs would be approximately double what they are at present until such time as the number of actively-circulating books in Dewey became so small that the automated system could be discontinued for the books still in Dewey.

TABLE 8  
ANNUAL CATALOGING SAVINGS WITH UNMODIFIED LC

Year	Unmodified DC	Modified DC	Total
1968/69	\$2,259.40	\$2,872.80	\$5,132.20
1969/70	2,541.83	3,231.90	5,773.73
1970/71	2,824.25	3,591.00	6,415.25
1971/72	3,389.10	4,309.20	7,698.30
1972/73	3,558.56	4,524.66	8,083.22
1973/74	3,728.01	4,740.12	8,468.13
1974/75	3,897.47	4,955.58	8,853.05
1975/76	4,095.08	5,207.16	9,302.24
1976/77	4,292.86	5,458.32	9,751.18
1977/78	4,518.80	5,745.60	10,264.40
1978/79	4,744.74	6,032.88	10,777.62
1979/80	4,970.68	6,320.16	11,290.84
Totals	\$44,820.78	\$56,989.38	\$101,810.16

The earliest possible date would be 1976 (target date for completion of partial reclassification), but it appeared more likely that continuance of the dual system would be necessary until the 1980's.

The extra cost of shelving by two systems was found to have been conservatively estimated by the subcommittee on Data Processing and Cost Analysis, especially for the first two years (when there would be shelving by a dual system in the College Library as well as the Research Library). The extra time required by the reference staff in orienting patrons was found to be an intangible—real, despite signs and handbooks, but difficult to estimate. The estimate of the subcommittee did not appear unduly high for the first year or so, but it did appear that such activities would have a tendency to taper off. The results of these calculations are shown in Table 9.

TABLE 9  
ANNUAL ADDED COSTS OF DUAL SYSTEM

Year	Computer	Shelving	Orientation	Total
1968/69	\$6,240.00	\$1,000.00	\$1,000.00	\$8,240.00
1969/70	6,240.00	1,000.00	1,000.00	8,240.00
1970/71	6,240.00	750.00	800.00	7,790.00
1971/72	6,240.00	750.00	700.00	7,690.00
1972/73	6,240.00	750.00	600.00	7,590.00
1973/74	6,240.00	750.00	500.00	7,490.00
1974/75	6,240.00	750.00	400.00	7,390.00
1975/76	6,240.00	750.00	300.00	7,290.00
1976/77	6,240.00	750.00	200.00	7,190.00
1977/78	6,240.00	750.00	100.00	7,090.00
1978/79	6,240.00	750.00	—	6,990.00
1979/80	6,240.00	750.00	—	6,990.00
Totals	\$74,880.00	\$9,500.00	\$5,600.00	\$89,980.00

Attention was then given to the matter of initial costs. These would occur in the 1968/69 fiscal year and would not recur. The estimates of the subcommittee appeared reasonable and are tabulated as follows:

Shifting books to make room for reclassification	
(student employees—1,000 hours at 1.50 per hour . . . . .	\$1,500.00
Planning stack layout and publishing information leaflets	1,000.00
Programming of LC circulation system . . . . .	500.00
New book master card and charge card design . . . . .	300.00
<hr/> Total . . . . .	<hr/> \$3,300.00

A plan for partial reclassification was developed which would include (over an eight-year period) the following categories: reference books; books in the College Library; books and journals in the Science Library; serials currently being received and back files of these. This plan was assumed to begin operation on July 1, 1968, concurrently with a change to LC for all new acquisitions. After analyzing the size and productivity of the reclassification staff at the University of Maryland and the size and productivity record of the Bowling Green State University Library's Cataloging Department, it was concluded that a unit consisting of one experienced cataloger, one library assistant, two clerk-typists and two student employees could reclassify around sixty volumes per working day or fifteen thousand volumes per year. With serials, this figure might be increased as much as 25 per cent per year. Thus eight years of work would probably result in the reclassification of between 120,000 and 130,000 volumes. The annual budgets for this unit are given in Table 10. (Salary and other cost increases were reckoned at around 5-6 percent per year.)

TABLE 10  
ANNUAL COSTS OF RECLASSIFICATION

Year	Prof.	Sub-Prof.	Clerical	Student	Supplies, etc.	Total
1968/69	\$10,000.00	\$5,100.00	\$8,000.00	\$1,400.00	\$2,000.00	\$26,500.00
1969/70	10,500.00	5,400.00	8,400.00	1,470.00	2,100.00	27,870.00
1970/71	11,100.00	5,700.00	8,800.00	1,550.00	2,200.00	29,350.00
1971/72	11,700.00	6,000.00	9,200.00	1,625.00	2,300.00	30,825.00
1972/73	12,300.00	6,300.00	9,600.00	1,700.00	2,400.00	32,300.00
1973/74	13,000.00	6,700.00	10,100.00	1,800.00	2,500.00	34,100.00
1974/75	13,700.00	7,100.00	10,600.00	1,900.00	2,600.00	35,900.00
1975/76	14,500.00	7,500.00	11,200.00	2,000.00	2,700.00	37,900.00
Totals	\$96,800.00	\$49,800.00	\$75,900.00	\$13,445.00	\$18,800.00	\$254,745.00

The results of these various calculations were combined in Table 11 to give an overall picture of savings and costs.

At the conclusion of its meeting on February 22, 1968 the Library Advisory Committee (with one dissenting vote) made the following recommendation:

1. Whereas the Library Advisory Committee does not find persuasive advantages inherent in either the Library of Congress or the Dewey

Decimal system of classification of library holdings, it is concluded that the decision relative to the possible reclassification at BGSU shall be made on the basis of cost data

- Whereas the cost data, apparently carefully compiled, indicate the reclassification savings, if any, would be in the distant future, and whereas, apparently the university would experience ten years added costs of nearly \$250,000, be it resolved that

The Library Advisory Committee recommends that Bowling Green State University not presently adopt a policy of conversion to the Library of Congress system.

Although it would be rash to make sweeping generalizations based on the experience of one institution, a few tentative general comments may be in order. An administrator contemplating a major change in any phase of a library's operation would do well to adopt a "total systems approach." The proposed change may still be perceived as desirable after such an analysis has been made, but its impact will be foreseen with greater precision. An administrator concerned with providing the best service for the least cost should look at what is actually happening in his own library. With respect to cataloging, his proper concern is with the productivity of the department rather than with a particular detail. In this broader context, a variety of factors will contribute to, or inhibit, a high rate of productivity. Among these are layout, equipment, lighting, experience and training of the staff, quality of supervision, etc. The system of classification thus becomes one factor among many to be considered. Its significance as a promoter or inhibitor of high productivity may well vary from institution to institution and would appear to have been overestimated in some recent professional literature.

TABLE 11  
COMPARISON OF SAVINGS AND COSTS

Year	Annual Cataloging Savings	Added Annual Costs for Circ. & Ref.	Initial Costs	Annual Re-Classification Costs	Net Saving or Cost (-)
1968/69	\$5,132.20	\$8,240.00	\$3,300.00	\$26,500.00	\$-32,907.80
1969/70	5,773.73	8,240.00	—	27,870.00	-30,336.27
1970/71	6,415.25	7,790.00	—	29,350.00	-30,724.75
1971/72	7,698.30	7,690.00	—	30,825.00	-30,816.70
1972/73	8,083.22	7,590.00	—	32,300.00	-31,806.78
1973/74	8,468.13	7,490.00	—	34,100.00	-33,121.87
1974/75	8,853.05	7,390.00	—	35,900.00	-34,436.95
1975/76	9,302.24	7,290.00	—	37,900.00	-35,887.76
1976/77	9,751.18	7,190.00	—	—	2,561.18
1977/78	10,264.40	7,090.00	—	—	3,174.40
1978/79	10,777.62	6,990.00	—	—	3,787.62
1979/80	11,290.84	6,990.00	—	—	4,300.84
Totals	\$101,810.16	\$89,980.00	\$3,300.00	\$254,745.00	\$-246,214.84

# An Investigation of Indirect Subdivision by Place in Library of Congress Subject Headings\*

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*Subject headings requiring indirect subdivision by place were extracted from the seventh edition of the Library of Congress subject heading list. These headings were categorized into subject groups, and the determination was made of the most prevalent areas in which indirect subdivision was used. In a second part of the study the extracted headings were compared to a list published by the Library of Congress in 1935 for any possible changes that had occurred in the form of the subject heading or in the type of local subdivision employed.*

WITH THE HEAVY RELIANCE of many libraries on the Library of Congress subject headings, it is essential that librarians be kept informed of changes and trends involving the use of these subject headings. As a point of departure for further study, the following remarks by David J. Haykin in his *Subject Headings: A Practical Guide* are pertinent: "It should be borne in mind, too, that subject heading practice at the Library of Congress represents the growth of a half century, during which each cataloger largely followed his own judgment (based on the extent, and the limitations, of his own knowledge of the subject) in establishing and correlating the subject headings in the Library's catalogs" (p.v.). "In general headings in science and technology, especially broad headings, are subdivided indirectly. . . . On the other hand, headings in law are almost invariably subdivided directly . . . and headings in the social sciences are generally so subdivided" (p. 30). "Because of the complications involved in the use of indirect place subdivision and the consequent likelihood of deviations and errors, there is a tendency to dispense with this method. It is continued only in types of headings in which its use has been consistent. For headings which obviously require subdivision by place but are not related to those which have previously been subdivided indirectly, direct subdivision is indicated" (p. 32).

One problem in the study of subdivision by place is that since the appearance of the 5th edition in 1935 of the Library of Congress' *Subject*

\* Based upon a paper done for Dr. Jay E. Daily's "Seminar in Subject Organization of Materials," Graduate School of Library and Information Sciences, University of Pittsburgh, Fall 1967.

*Headings With Local Subdivision*, there has been no concise list of indirectly-subdivided headings for librarians to easily determine the number of these headings in use and the subject areas into which they fall.

Following David Haykin's preceding remarks, the following statements formed a basis for this study: (1) Library of Congress subject headings with indirect subdivision seem to fall primarily into the areas of science and technology; and (2) the indirect form of local subdivision is still used largely for headings established in the 5th edition (1935) of *Subject Headings With Local Subdivision*. These statements, while not based on direct quotation, resulted from implications of Haykin's remarks.

The definitions given below were taken from Appendix A of Haykin's *Subject Headings: A Practical Guide*:

*Subject Subdivision*—the method of extending the subject heading by indicating the form of the subject matter, the place to which it is limited, or the part, element, or phase of the subject treated.

*Indirect Subdivision*—subdivision of subject headings by name of country or state with further subdivision by name of province, county, city, or other locality.

*Direct Subdivision*—subdivision of subject headings by name of province, county, city, or other locality without intermediate subdivision by name of country or state.

*Local Subdivision*—subdivision by the name of the geographic area to which the subject matter is limited. (Also referred to as geographic or place subdivision)

One may assume that suggested LC classification numbers and cross-references indicate the subject group to which each subject heading belonged. This study dealt only with the 7th edition (1966) of the Library of Congress *Subject Headings* and the 5th edition (1935) of *Subject Headings With Local Subdivision*. Only main headings to which indirect subdivision applied were fully considered. Those headings which already

TABLE 1  
FIFTH AND SEVENTH EDITIONS COMPARED

1935 LIST	7th EDITION	
Headings Further Divided	30	66
Main Headings	680	979
—With 1 LC no.	773	{ 439 sci.-tech. 331 soc. sci.-hum. 3 general
—With more than 1 LC no.		{ 277 sci.-tech. aspects 182 soc.sci.-hum.aspects
Total Headings	710	1045

had any type of further subdivision before indirect subdivision could apply were included only for the sake of completeness in the list compiled, but they were not categorized by subject. There was no attempt to go beyond the 7th edition of the *Subject Headings*, nor to predict the future.

The first step in the methodology was the compilation of a list of subject headings requiring indirect subdivision by examining, page-by-page, the 7th edition of the LC *Subject Headings* and indicating with an asterisk those headings which already possessed further subdivision. This list was then compared with the 5th edition (1935) of *Subject Headings With Local Subdivision* for any additions or changes in the form of heading or form of subdivision; all of these changes were noted. Next the suggested Library of Congress classification number was used to determine whether the heading belonged in the Social Sciences-Humanities or the Science-Technology group. In the event that there was more than one suggested LC number, the heading was treated in a separate analysis. When no suggested number was given, the *Library of Congress Catalog Books: Subjects* was employed, and any cross-references to related subject headings were followed. Headings in the new list that were not indirectly subdivided in 1935 were checked to see if they previously had been directly subdivided.

### *Summary and Conclusions*

The lists and tables presented here substantiated the fact that over roughly a thirty-year span many changes occurred in headings with indirect subdivision. It was shown that, regardless of whether one considered the headings with only one suggested LC classification number or those that had several suggested LC classification numbers, the science-technology group was significantly more predominant than the social sciences-humanities combined, hence one of Haykin's statements may still be accepted as relatively accurate. However, the total number of headings with indirect subdivision increased from 770 in the 1935 list to 1,045 in the 7th edition of LC *Subject Headings*, or an increase of about 47.2 percent. Fifty-three headings changed from indirect to direct subdivision, while only two or three changed the other way. The Library of Congress seems to somewhat abdicate its authority by the absence of subdivision indication in places where it was formerly given. It is discouraging to note that there are still several scope notes and references not stated clearly enough to enable the cataloger to determine which way to go. Librarians, therefore, will be forced to become leaders lest we fumble in inconsistency and chaos until proper directions are available. This study would have added significance if more were known about headings with direct subdivision. How many of these are there, and into what broad subject categories do they fall? How does the ratio of indirect to direct headings in the present edition of LC *Subject Headings* com-

pare to that of 2:1 in the 4th edition (1925) and 17:16 in the 5th edition (1935) of *Subject Headings With Local Subdivision*? This study has shown that not many headings have changed from direct to indirect, but it did not show how the number of direct headings has expanded in comparison to the indirect.

SUBJECT BREAKDOWN OF MAIN HEADINGS WHICH ARE SUBDIVIDED INDIRECTLY AND APPEAR IN THE 7TH EDITION OF LIBRARY OF CONGRESS SUBJECT HEADINGS

L.C. CLASSIFICATION AREA	SOCIAL SCIENCES-HUMANITIES OR SCIENCE-TECHNOLOGY	HEADINGS WITH ONE SUGGESTED L.C. NUMBER	MULTI-ASPECTS OF THE 206 HEADINGS WITH MORE THAN ONE SUGGESTED L.C. No.
A—General Works— Polygraphy	General	3	0
B—Philosophy—Religion	SS-H	36	14
C—History—Auxiliary Sciences	SS-H	6	6
D—History and Topo- graphy (Except America)	SS-H	8	16
E—America: America (General) and U. S. (General)	SS-H	8	5
F—America: U.S. (Local) and America except the U.S.	SS-H	6	6
G—Geography— Anthropology	Sci.-Tech.	59	46
H—Social Sciences (Economics—Sociology)	SS-H	107	72
J—Political Science	SS-H	15	14
K—Law	SS-H	0	0
L—Education	SS-H	41	7
M—Music	SS-H	15	2
N—Fine Arts	SS-H	17	15
P—Language and Literature	SS-H	10	7
Q—Science	Sci.-Tech.	152	63
R—Medicine	Sci.-Tech.	31	16
S—Agriculture—Plant and Animal Industry	Sci.-Tech.	91	65
T—Technology	Sci.-Tech.	106	87
U—Military Science	SS-H	33	11
V—Naval Science	SS-H	13	7
Z—Bibliography and Library Science	SS-H	16	0
Totals	General	3	0
	SS-H	331	182
	Sci.-Tech.	439	277
	Total	773 headings	459 aspects for 206 headings

TABLE 2  
ANALYSIS OF CHANGES AS GIVEN IN LISTS APPENDIXED

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No. changes from Indirect to Direct—53	
No. changes from Direct to Indirect—2;	plus one heading that became 2 separate headings with 1 staying Direct and 1 becoming Indirect.
Changes to different heading and remaining Indirect—14	
Changes to different heading and becoming Direct—7	
Changes to different heading with no indication of subdivision—1	
No change in heading, but dropped indication of subdivision—8	
Single heading that became 2 different headings:	
A) Both new headings became Direct—3	
B) One heading Direct; and one heading with no indication of subdivision—2	
Headings dropped with no further reference—2	
References or notes not specific enough to determine kind of subdivision—3	

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APPENDIX I

HEADINGS SUBDIVIDED INDIRECTLY IN THE  
7TH EDITION OF LC SUBJECT HEADINGS

Abbeys	Air bases, American [British, Russian, etc.]
Abbots	Air lines
Administration of estates	Air mail service
Admirals	Air raid shelters
Aeronautical charts	Air traffic control
Aeronautical research	Airports
Aeronautics	Airways
Aeronautics, Commercial	Algae
Aeronautics, Military	Aliens
Aeronautics and state	Almshouses
Afforestation	Amphibolite
Agricultural administration	Amusements
Agricultural colleges	Anarchism and anarchists
Agricultural colonies	Andalusite
Agricultural cooperative credit associations	Animal industry
Agricultural credit	Animal introduction
Agricultural education	Anoplura
Agricultural estimating and reporting	Antelopes
Agricultural exhibitions	Anthracite coal
Agricultural experiment stations	Anthropo-geography
Agricultural geography	Anthropometry
Agricultural laborers	Antimony ores
Agricultural pests	Ants
Agricultural research	Apatite
Agricultural societies	Aquariums
Agriculture	Arachnida
*Agriculture—Accidents	Archaeological societies
*Agriculture—Economic aspects	Archives
Agriculture, Cooperative	Armories
Agriculture and state	Arsenals
Air bases	Art and state
	Art societies

Arthropoda  
 Artillery  
 Artillery, Coast  
 Artillery, Field and mountain  
 Asbestos  
 Astronautics  
 Astronautics, Military  
 \*Astronomy—History  
 Asylums  
 Athletics  
 Atomic bomb shelters  
 Autographs  
 Automatic meteorological stations  
 Auxiliary police  
 Aviation medicine  
 Axinite  
  
 Bahaism  
 Batrachia  
 Battles  
 Bauxite  
 Beacons  
 Bee culture  
 Bees  
 Bees (Cooperative gatherings)  
 Beetles  
 Beets and beet sugar  
 Beguinages  
 Bench-marks  
 Benthos  
 Beryl  
 Bible colleges  
 Bibliographical societies  
 Biological research  
 Biology  
 Biotic communities  
 Birds  
 Bishops  
 Bitumen  
 \*Bitumen—Geology  
 Bituminous materials  
 Boards of trade  
 Boats and boating  
 Borings  
 Boroughs  
 Botanical gardens  
 Botany  
 Bounties, Military  
 Brasses  
 Bridges  
 Bronze age  
 Buckwheat  
 Building stones  
 Bulb industry  
 Buoys  
 Business education  
 Butterflies  
  
 Cabinet officers  
 Cacao  
 Calcite  
 Camp sites, facilities, etc.  
 Camping  
 \*Canal boats—Inspection  
 Canals  
 Cartography  
 Cassiterite  
 Caste  
 Castles  
 Catalogs, Booksellers'  
 Catalogs, Publishers'  
 Cathedrals  
 Cattle  
 Cattle brands  
 Caves  
 Cement  
 Cemeteries  
 Cenosite  
 Ceramic materials  
 Chapels  
 Chapels (Music)  
 Charities  
 Charities, Medical  
 Charity-schools  
 \*Chemistry—History  
 Chemical research  
 Chemical societies  
 \*Children—Hospitals  
 Chiropractic  
 Choral music  
 Christmas  
 Chromite  
 Chromium ores  
 Church decoration and ornament  
 Church lands  
 Church music  
 Church property  
 Church schools  
 Church statistics  
 Churches  
 Circus  
 Cities and towns  
 Citrus fruits  
 City clergy  
 Civic centers  
 Clay  
 Clearinghouse  
 Clergy  
 Cliff-dwellers  
 Cliff-dwellings  
 Coaching  
 Coal  
 \*Coal—Geology  
 Coal mines and mining  
 Coaling-stations

Coasts  
 Coastwise navigation  
 Cobalt mines and mining  
 Cod-fisheries  
 Coeducation  
 Coelenterata  
 Coffee  
 Coinage  
 College attendance  
 College teachers, Training of  
 Commercial products  
 Communication and traffic  
 Communism  
 Concentration camps  
 Conscientious objectors  
 Consular reports  
 Contract labor  
 Convents and nunneries  
 Convict labor  
 Cooperation  
 Cooperative marketing of farm produce  
 Cooperative marketing of livestock  
 Copper age  
 Copper mines and mining  
 Copper ores  
 Corals  
 Cordierite  
 Coronations  
 Corporations, Religious  
 Corundum  
 Costume  
 Cotton growing  
 Counter-Reformation  
 Country life  
 County school systems  
 Court-martial and courts of inquiry  
 Crab fisheries  
 Craniology  
 Creole dialects  
 Crop zones  
 Crops and climate  
 Crosses  
 Crown jewels  
 Crustacea  
 Currency question  
 Customs administration  
 Cyanite  
  
 Dancing  
 Debt, Imprisonment for  
 Decoration and ornament  
 Decorations of honor  
 Degrees, Academic  
 Dentistry  
 \*Dentistry—History  
 Dermaptera  
 Deserts  
  
 Diamond mines and mining  
 Diet  
 Diptera  
 Dispensaries  
 Dissertations, Academic  
 Docks  
 Dolomite  
 Domestic animals  
 Drainage  
 Drinking water  
  
 Earth currents  
 Earthquakes  
 Earths, Rare  
 Earthworks (Archaeology)  
 Ecclesiastical geography  
 Echinodermata  
 Ecology  
 \*Economics—History  
 Education  
 Education, Compulsory  
 Education and state  
 Education of women  
 Electric railroads  
 Emerald mines and mining  
 Employers' associations  
 Endowment of research  
 Engineering research  
 Ephemeroptera  
 Eskimos  
 \*Ethics—History  
 Ethnology  
 Etiquette  
 European War, 1914-1918  
 \*European War, 1914-1918—Censorship  
 \*European War, 1914-1918—Civilian relief  
 \*European War, 1914-1918—Confiscations  
 and contributions  
 \*European War, 1914-1918—Economic as-  
 pects  
 \*European War, 1914-1918—Finance  
 \*European War, 1914-1918—Food ques-  
 tion  
 \*European War, 1914-1918—Law and  
 legislation  
 \*European War, 1914-1918—Regimental  
 histories  
 \*European War, 1914-1918—Secret service  
 \*European War, 1914-1918—Territorial  
 questions  
 Evangelists  
 Evening and continuation schools  
 Excavations (Archaeology)  
 Exchange of persons programs, Ameri-  
 can [British, French, etc.]  
  
 Factory inspection  
 Factory system

Falconry  
 Family farms  
 Farm buildings  
 Farm life  
 Farm produce  
 Farmers  
 Farmers' institutes  
 Farmhouses  
 Farms  
 Farms, Size of  
 Fascism  
 Fasts and feasts  
 Feather-work  
 Feldspar  
 Ferns  
 Ferrierite  
 Ferries  
 Festivals  
 Feudalism  
 Field crops  
 Fire-departments  
 Fires  
 Fish-culture  
 Fisheries  
 \*Fisheries—Economic aspects  
 \*Fisheries—Research  
 Fisheries, Cooperative  
 Fishes  
 Fishes, Fresh-water  
 Fishing  
 Flax  
 Fleas  
 Flood control  
 Flood damage prevention  
 Flood dams and reservoirs  
 Floods  
 Floriculture  
 Flourspar  
 Flowers  
 Folk dancing  
 Folk-drama, American  
 Folk literature  
 Folk-lore  
 Folk medicine  
 Folk music  
 Folk-songs  
 Food adulteration and inspection  
 Food consumption  
 Food supply  
 Forage plants  
 Foraminifera  
 Foraminifera, Fossil  
 Forest credit  
 Forest fires  
 Forest products  
 Forest reserves  
 Forestry schools and education  
 Forestry societies  
 Forests and forestry  
 \*Forests and forestry—Economic aspects  
 Fortification  
 Free ports and zones  
 Fresh-water biology  
 Fresh-water fauna  
 Fresh-water flora  
 Friendly societies  
 Frontier and pioneer life  
 Frozen ground  
 Fruit-culture  
 Fruit inspection  
 Fruit trees  
 Fuel  
 Fuller's earth  
 Funeral rites and ceremonies  
 Fungi  
 Fur-bearing animals  
 Fur farming  
 Game and game-birds  
 Game protection  
 Games  
 Garden cities  
 Gardening  
 Gardens  
 Garnet  
 Garrisons  
 Gas, Natural  
 \*Gas, Natural—Geology  
 Generals  
 Geodesy  
 Geographical positions  
 Geology  
 Geology, Economic  
 Geophysics  
 Geysers  
 Gilds  
 Glacial epoch  
 Glaciers  
 Gliding and soaring  
 Gold mines and mining  
 Gold ores  
 Goldsmithing  
 Grain  
 Granite  
 Graphite  
 Grasses  
 Gravel  
 Gravity  
 Grazing  
 Gypsum  
 Halloysite  
 Handicraft  
 Harbors

Harvesting time  
 Health boards  
 Health resorts, watering-places, etc.  
 Hematite  
 Hemiptera  
 Hemp  
 Heraldry  
 Hermits  
 Herring-fisheries  
 Heteroptera  
 High schools  
 Hiking  
 Historic trees  
 Historical societies  
 Holidays  
 Home economics  
 Honey plants  
 Hornblende  
 Horses  
 Horticulture  
 Hospitals  
 Hospitals, Military  
 Hospitals, Naval and marine  
 Hotels, taverns, etc.  
 Hunting  
 Hydraulic engineering  
 \*Hydraulic engineering—Research  
 Hydrocarbon research  
 Hydrography  
 Hydrology  
 Hymenoptera  
  
 Ice  
 Ice on rivers, lakes, etc.  
 Idiocy  
 Idiot asylums  
 Illite  
 Illiteracy  
 Ilmenite  
 Immunological research  
 Indians, Treatment of  
 Indians of Central America  
 Indians of Mexico  
 Indians of North America  
 Indians of South America  
 Indians of the West Indies  
 Industrial mobilization  
 Industry and state  
 Inland navigation  
 Insanity  
 Insects  
 Instrumental music  
 Intercontinental ballistic missile bases  
 Internal revenue  
 Intracoastal waterways  
 Invertebrates  
 Iron age  
  
 Iron mines and mining  
 Iron ores  
 Irrigation  
  
 Jazz music  
 Journeymen's societies  
 Junior colleges  
 Junior high schools  
 Jute  
  
 Kaolin  
 Kindergartens  
 Kitchen-middens  
 Knights and knighthood  
 \*Korean War, 1950-1953—Regimental histories  
 \*Korean War, 1950-1953—Registers of dead  
  
 Labor bureaus  
 Labor camps  
 Lace and lace making  
 Lake-dwellers and lake-dwellings  
 Lakes  
 Land  
 Land grants  
 Landforms  
 Landscape architecture  
 Landscape gardening  
 Landslides  
 Laterite  
 Lead mines and mining  
 Lead ores  
 League of Nations  
 Learning and scholarship  
 Leeches  
 Legends  
 Legislation  
 Legislative bodies  
 Lepidoptera  
 Leveling  
 Libraries  
 Libraries, Depository  
 Libraries, Private  
 Libraries, Traveling  
 Libraries and schools  
 Library commissions  
 Library extension  
 Lichens  
 Life-saving  
 Lighthouses  
 Lignite  
 Lime  
 Limestone  
 Linen  
 Liquor problem  
 Literary journeys  
 Liverworts

Lobster fisheries  
 Local option  
 Local transit  
 Locusts  
 Lodging-houses  
 Loess  
 Lotteries  
  
 \*Machinery—Inspection  
 Mackerel fisheries  
 Magic  
 Magnesite  
 Magnetic anomalies  
 Magnetism, Terrestrial  
 Magnetite  
 Mail steamers  
 Maize  
 Mammals  
 Man, Prehistoric  
 Manganese mines and mining  
 Manganese mines and mining, Submarine  
 Manganese ores  
 Manpower  
 Manual training  
 Manuscripts  
 Marble  
 Marcasite  
 Marine biology  
 Marine fauna  
 Marine flora  
 Marine mammals  
 Marine service  
 Marketing of livestock  
 Markets  
 Marriage  
 Marriage customs and rites  
 Marshes  
 Martyrs  
 Materia medica  
 Mayors  
 Meadows  
 Meat inspection  
 Medical centers  
 Medical colleges  
 Medical geography  
 Medical research  
 Medical societies  
 Medicine  
 Medicine, Clinical  
 Medicine, Industrial  
 Medicine, Military  
 Megalithic monuments  
 \*Mentally handicapped children—Education  
 Mercantile system  
 Merchant marine  
 Mercury mines and mining  
  
 Metallurgy  
 Meteorological stations  
 Meteorology  
 Meteorology, Agricultural  
 Meteorology, Maritime  
 Metropolitans  
 Mica  
 Micropaleontology  
 Middle classes  
 Migrant labor  
 Migration, Internal  
 Military architecture  
 Military bases  
 Military departments and divisions  
 Military education  
 Military funerals  
 Military geography  
 Military posts  
 Military reservations  
 Military roads  
 Military service, Compulsory  
 Military telegraph  
 Military telephone  
 Military training camps  
 Milk consumption  
 Mineralogy  
 Mines and mineral resources  
 Mining research  
 Mining schools and education  
 Mints  
 Mites  
 Mohammedanism  
 Molasses  
 Mollusks  
 Mollusks, Fossil  
 Molybdenum ores  
 Monasteries  
 Monasteries, Buddhist  
 Monasteries, Lamaist  
 Monastic libraries  
 Monasticism and religious orders  
 Monopolies  
 Montmorillonite  
 Monuments  
 Mordenite  
 Mosques  
 Mosquitoes  
 Mosses  
 Moths  
 Motorization, Military  
 Mound-builders  
 Mounds  
 Mountains  
 Mud volcanoes  
 Municipal finance  
 Municipal government  
 Municipal universities and colleges

Museums  
 Museums and schools  
 Mushrooms  
 Mushrooms, Edible  
 Mushrooms, Poisonous  
 Music  
 \*Music—Bibliography—Catalogs,  
     Publishers'  
 \*Music—Manuscripts  
 Music, Popular (Songs, etc.)  
 Music and state  
 Music in universities and colleges  
 Music libraries  
 Musical instruments  
 Mussels  
 Mussels, Fresh-water  
 Myriapoda  
 Mysticism  
  
 Names  
 Names, Geographical  
 Names, Personal  
 National parks and reserves  
 Nationalism and education  
 Nationalism and religion  
 Natural history  
 Natural history museums  
 Natural history societies  
 Natural monuments  
 Naturalization  
 Naturopathic schools  
 Naval battles  
 Naval districts  
 Naval education  
 Navy-yards and naval stations  
 Navy-yards and naval stations, American  
 Negro songs  
 \*Negroes—Colonization  
 Nephelite  
 Neuroptera  
 Nickel mines and mining  
 Nickel ores  
 Niobium ores  
 Nobility, Papal  
 Nonmetallic minerals  
 Nursing homes  
 Nut trees  
  
 Ocean currents  
 Odonata  
 Oil fields  
 Oil inspection  
 Oil sands  
 Oil-shales  
 Old age pensions  
 Olive industry and trade  
 Operational rations (Military supplies)

Ophthalmology  
 Orchids  
 Orders of knighthood and chivalry  
 Ore-deposits  
 Ores  
 Ornithology  
 Orphans and orphan-asylums  
 Orthoptera  
 Outdoor recreation  
 Oyster-culture  
  
 Palacés  
 Palacheite  
 Paleobotany  
 Paleoclimatology  
 Paleography  
 Paleomagnetism  
 Paleontology  
 Palms  
 Parasites  
 Parcels-post  
 Parks  
 Part-time farming  
 Pasture research  
 Pastures  
 Peanuts  
 Pearl-fisheries  
 Peasantry  
 Peat  
 Pegmatites  
 Pensions  
 Pensions, Military  
 Pentecostal churches  
 Peonage  
 Peridotite  
 Persecution  
 Petroleum  
 \*Petroleum—Geology  
 Petroleum refineries  
 Petrology  
 Pharmacopoeias  
 Pharmacy  
 Philhellenism  
 \*Philosophy—History  
 Phosphates  
 Physical education and training  
 Physical geography  
 \*Physics—History  
 Phytoplankton  
 Picture-writing  
 Pietism  
 Pinnipedia  
 Plains  
 Plankton  
 Plant diseases  
 Plant introduction  
 Plant names, Popular

Planting time  
 Plants, Cultivated  
 Plants, Edible  
 Plants, Ornamental  
 Plants, Protection of  
 Poetry of places  
 Poison control centers  
 Police  
 Political parties  
 Political satire, American  
 \*Political science—History  
 Polyzoa  
 Poor  
 Portages  
 Postage-stamps  
 Postal savings-banks  
 Postal service  
 Postmarks  
 Potatoes  
 Poultry  
 Poultry inspection  
 \*Preaching—History  
 Precancels  
 Precious stones  
 Prerogative, Royal  
 Priories  
 Prisons  
 Private schools  
 Prizes  
 Professional education  
 Prohibition  
 Protestant churches  
 Protozoa  
 Proving grounds  
 Proving grounds, American [British, etc.]  
 Pseudoneuroptera  
 Psychiatric clinics  
 Psychiatric hospitals  
 Psychiatric research  
 Psychiatry  
 \*Psychology—History  
 Pteridophyta  
 Public health research  
 Public opinion  
 Public schools  
 Public service commissions  
 \*Punched card systems—Names,  
     Geographical  
 Pyrites  
 Pyrophyllite  
 Pyroxenite  
 Pyrrhotite  
  
 Quarries and quarrying  
 Quartz  
 Quartzite  
  
 Rabbinical seminaries  
  
 Rabbits  
 Radioactive substances  
 Railroad land grants  
 Railroad societies  
 Railroads and state  
 Railway mail service  
 Reclamation of land  
 Reconstruction (1914-1939)  
 Reconstruction (1939-1951)  
 Recreation  
 Recreation areas  
 Reforestation  
 Reformation  
 Reformatories  
 Reindeer  
 Religious education  
 Religious thought  
 Renaissance  
 Reptiles  
 Repudiation  
 Research  
 Research, Industrial  
 Rest homes  
 Restaurants, lunch rooms, etc.  
 Revenue  
 Revenue-stamps  
 Rice  
 Rifle-ranges  
 Riots  
 Rites and ceremonies  
 Rivers  
 Rocket research  
 Romanticism  
 Rowing  
 Rubber  
 Ruminantia  
 Rural churches  
 Rural clergy  
 Rural schools  
 Rural-urban migration  
  
 Saline waters  
 Salinity  
 Salmon-fisheries  
 Salmon-fishing  
 Salt deposits  
 Salt mines and mining  
 Sanatoriums  
 Sand  
 Sandstone  
 Sardine fisheries  
 Satire, American  
 Scheelite  
 Scholarships  
 School attendance  
 School libraries  
 School management and organization

Schools  
 \*Schools—Centralization  
 Schungite  
 Science  
 \*Science—History  
 Scientific societies  
 Seaplane bases  
 Seashore biology  
 Seaside resorts  
 Secret service  
 Sects  
 Secularization  
 Sediments (Geology)  
 Seed adulteration and inspection  
 Sepulchral monuments  
 Sericulture  
 Serpentine  
 Service, Compulsory non-military  
 Sewage disposal  
 Sewerage  
 Sheep  
 Shellfish fisheries  
 Shepherds  
 Shipping bounties and subsidies  
 \*Ships—Inspection  
 Shipyards  
 Short stories, American  
 Shrubs  
 Silkworms  
 Sillimanite  
 Silver mines and mining  
 Silver ores  
 Silversmithing  
 Slate  
 Slaughtering and slaughter-houses  
 Slave-trade  
 Slavery in the U.S.  
 Snakes  
 Snow surveys  
 Soapstone  
 \*Social sciences—History  
 \*Sociology—History  
 Sociology, Christian  
 Soil conservation  
 Soil-surveys  
 Soils  
 \*Soldiers—Civil status  
 \*Soldiers—Education, Non-military  
 \*Soldiers—Suffrage  
 Soldiers' homes  
 Soldiers' monuments  
 Sphalerite  
 Spiders  
 Spinel  
 Spodumene  
 Sponges  
 Sports  
 Springs  
 State farms  
 Steam-boiler inspection  
 Steam-navigation  
 Steamboat disasters  
 Stephanite  
 Stock and stock-breeding  
 Stock-exchange  
 Stock inspection  
 Stone  
 Stone age  
 Stone implements  
 Storm surges  
 Storms  
 Stream measurements  
 Street lighting  
 Streets  
 Students' societies  
 Suffrage  
 Sugar-cane  
 Sugar growing  
 Sulphur mines and mining  
 Summer resorts  
 Summer schools  
 Surgery, Military  
 \*Surveying—Public lands  
 Swine  
*Symphony orchestras*  
 Synagogue music  
 Synagogues  
 Talc  
 Tales, American  
 Tantalite  
 Tantalum  
 Taxes, Farming of  
 Tea  
 \*Teachers—In-service training  
 Teachers, Training of  
 Teachers colleges  
 Technical education  
 Technical societies  
 \*Technology—History  
 Temples  
 Text-books  
 Theater and state  
 Theaters  
 Theological seminaries  
 \*Theology, Doctrinal—History  
 Thorium ores  
 Tides  
 Timber  
 Tin mines and mining  
 Tin ores  
 Titanium ores  
 Tobacco  
 Tombs

Tourist camps, hostels, etc.  
Townsite law  
Trade and professional associations  
Trade schools  
Tramps  
Transportation  
Transportation, Automotive  
Trees  
Triangulation  
Trout fishing  
Truck farming  
Tungsten ores  
Tunicata

Uniforms, Civil  
\*U.S. Army—Foreign service  
\*U.S. Navy—Foreign service  
Universities and colleges  
University extension  
Upper classes  
Uraninite  
Uranium mines and mining  
Uranium ores  
Urtite

Vaccination  
Vegetable gardening  
Vegetable inspection  
Vermiculite  
Vertebrates  
\*Veterans, Disabled—Rehabilitation  
\*Veterans, Disabled—Vocational rehabilitation  
Veterinary colleges  
Veterinary medicine  
Veterinary research  
Veterinary service, Military  
Vicars apostolic  
Village communities  
Villages  
Villeinage  
Violent deaths  
Visits of state  
Viticulture  
Vivianite  
Vocal music  
Vocational education  
Volcanic ash, tuff, etc.  
Volcanoes  
Voluntary health agencies

War memorials  
Wasps

Waste lands  
Water, Underground  
Water conservation  
Water consumption  
Water-power  
Water-storage  
Water-supply  
Water-supply, Industrial  
Waterfalls  
Waterfronts  
Wayfaring life  
Weeds  
Weights and measures  
Well drillers  
Wharves  
Wheat  
Wild flowers  
Wild life, Conservation of  
Wild life refuges  
Wilderness areas  
Winter resorts  
Winter sports  
Wolframite  
Wollastonite  
Women as authors  
Women's colleges  
Woody plants  
Workhouses  
World War, 1939-1945  
\*World War, 1939-1945—Campaigns  
\*World War, 1939-1945—Civilian relief  
\*World War, 1939-1945—Destruction and pillage  
\*World War, 1939-1945—Economic aspects  
\*World War, 1939-1945—Finance  
\*World War, 1939-1945—Food question  
\*World War, 1939-1945—Public opinion  
\*World War, 1939-1945—Regimental histories  
\*World War, 1939-1945—Registers of dead  
\*World War, 1939-1945—Secret service  
Worms  
Yacht flags  
Yachts and yachting  
Zinc mines and mining  
Zinc ores  
Zoological gardens  
Zoology  
Zoology, Economic  
Zooplankton

\* The asterisk indicates subdivided subjects which may be further subdivided "indirectly," but which were not categorized by subject in this study.

APPENDIX II

CHANGES INVOLVING ALTERATION OF THE SUBJECT HEADING WITH SOME  
CHANGES IN TYPE OF SUBDIVISION AND DISCONTINUED HEADINGS

1935 LIST	7TH EDITION
Ascidians Association and associations	SEE: Tunicata (Indirect) DROPPED; BECAME THE FOLLOWING? { Association, SEE: Social groups (No indication of Direct or Indirect) Associations, institutions, etc. (Direct)
Blind—Asylums and education	DROPPED; BECAME TWO HEADINGS: { Blind—Asylums, SEE: Blind—Institutional care (Direct) Blind—Education (Direct)
Bolshevism Children's literature Clearing-house Corn-laws	SEE: Communism (Indirect) No indication of Direct or Indirect BECAME: Clearinghouse (Indirect) BECAME: Corn laws (Gt. Brit.) with no indication of Direct or Indirect
Cross and crosses Dance music Deaf and dumb Deaf and dumb—Asylums and education Disabled—Rehabilitation, etc.	BECAME: Crosses (Indirect) No indication of Direct or Indirect BECAME: Deaf (Direct) BECAME: { Deaf—Institutional care (Direct) Deaf—Education (Direct) BECAME: { Rehabilitation (Direct) Vocational rehabilitation (Direct) OR: special groups of handicapped with subdivision “—Rehabilitation”
European War, 1914-1918 —Air-fleet bases European War, 1914-1918 —Air-fleet bases, Naval Expulsion	DROPPED DROPPED BECAME: { Deportation (Direct) Penal colonies (No indication)
Feeble-minded—Education	SEE: Mentally handicapped (Direct). Subdivision “—Education” does not exist under this heading, but it does exist under: Mentally handicapped children—Education (Indirect)
Free harbors Hepaticae Horse breeding India-rubber Inquisition	SEE: Free ports and zones (Indirect) SEE: Liverworts (Indirect) No indication of Direct or Indirect SEE: Rubber (Indirect) SCOPE NOTE: “Subdivided by locality, e.g., Inquisition—Spain.” Note is not specific enough to tell what type of subdivision is employed.
Insane—Care and treatment	BECAME: Mentally ill—Care and treatment (Direct)
Insane hospitals Inventories of estates	BECAME: Psychiatric hospitals (Indirect) BECAME?: Inventories of decedents' estates (Direct)
Military music Musical libraries	No indication of Direct or Indirect BECAME: Music libraries (Indirect)

Negroes

Normal schools

Parcels-post—U.S.

Postal service—U.S.

Postal telegraph

Rice and rice culture

Seamen—Civil employment

Serpents

Shell-fish fisheries

Steamboats—Inspection

Town-site law

Tungsten

Vigilance committees

War contracts

SCOPE NOTE: example "Negroes—Philadelphia" would indicate Direct subdivision.

SEE: Teachers colleges (Indirect)

No indication of Direct or Indirect

No indication of Direct or Indirect

SEE: Telegraph (Direct)

BECAME: Rice (Indirect)

SEE: Veterans—Employment (Direct)

No indication of Direct or Indirect

BECAME: Shellfish fisheries (Indirect)

SEE: Ships—Inspection (Indirect)

BECAME: Townsite law (Indirect)

No indication of Direct or Indirect

SCOPE NOTE: "Subdivided by state" Note is not sufficiently illustrative to tell if Direct or Indirect subdivision applies as both would be the same for states of the U.S.

SEE: Defense contracts (Direct)

### APPENDIX III

#### CHANGES FROM INDIRECT TO DIRECT SUBDIVISION WITH NO CHANGE IN THE HEADING

Admiralty

Amnesty

Arbitration, Industrial

Assignments

Blind

Book clubs

Buddha and Buddhism

Citizenship

Civil list

Commercial courts

Common law

Constitutions, State

Copyright

County government

Credit

Crime and criminals

Criminal statistics

Distillery warehouses

\*Electric railroads—Law

Emigration and immigration law

Employers' liability

Excess profits tax

Fines (Penalties)

Fire prevention

Flags

Gipsies

Government monopolies

Government ownership

Impeachments

Interest and usury

Judicial statistics

Métayer system

Military law

Pardon

Patents

Prize-courts

Regalia

Regency

Religious liberty

Sunday legislation

Tariff

Teachers, Interchange of

Teaching, Freedom of

Trade-marks

Treason

Trials

Trials (Conspiracy)  
Trials (Murder)  
Trials (Sedition)  
Truck system

Trusts and trustees  
Water-rights  
Woman—Suffrage

#### APPENDIX IV

##### CHANGES FROM DIRECT HEADINGS IN THE 1935 LIST TO INDIRECT IN THE 7TH EDITION

1935 LIST	7TH EDITION
Cotton growing and manufacture (Direct)	Cotton growing (Indirect) NOTE: "Cotton manufacture" remained Direct
Customs administration (Direct)	Customs administration (Indirect)
Excavations (Archaeology) (Direct)	Excavation (Archaeology) (Indirect)

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# Simplified Classification and Cataloging of Microforms

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*The use of microtexts in libraries indicates a departure from the initial interest in microforms as means for the preservation of records only. Consequent expansion of unclassified microform collections makes them increasingly cumbersome. The importance of microforms as primary material requires full bibliographic description, the variation in their physical format necessitates separate storage facilities, while the arrangement of individual items by broad subjects makes the collection more accessible to the user. This paper describes a method of classifying and cataloging the microform collection in a modern university library.*

## *Nature of Microform Publications*

IT MIGHT BE WORTHWHILE, at times, to stress the obvious: the need for cataloging and classifying a library's microform material is self-evident. A microform, by definition, is only a photoreproduction of some records; if the original book is cataloged, its copy should be, too. The content of microform materials does not differ from bookform publications, and hence it ought to be considered an integral part of the library's collection, i.e., each microform entry should be fully classified and cataloged, with author, title, subject and added entries filed in the public catalogs.

The physical limitations imposed by the microform format require special handling of the sensitive film or small size cards; the microform "binding" (e.g., boxes for reels, envelopes for cards, etc.) calls for a different housing arrangement, and the reading technique for microcopies is developed within a special environment (i.e., dim lighting and reading machines). All this points to the expediency of shelving microforms in separate locations; it does not argue away the advantages of a classified collection. The issue of "separateness" applies as much to the special microform collection as to the treatment of special book collections.

## *The Argument in Favor of a Classified Microform Collection*

Incomplete cataloging of microforms seriously limits access to the material, while an unclassified microform collection is indeed *de facto* separated from the total library collection.

A brief catalog entry for a microform title is worth as much as a similar entry made for a book form. The need for full bibliographic description of the material is determined not by the physical format of the work, but by its contents. There are different versions of the same work printed, as well as filmed; some of the variations are more significant than the others. But there is no reason, for example, for not having an author card filed under Gerbeir, Sir Balthazar, with the title entry made for "The art of well speaking . . ." and an added subject entry under "Speech," merely because the book is in a microfilm collection only. The original book-form may be out of reach, simply because it was published in 1650, a fact most probably of no significance to the patron interested in its contents.

The argument in favor of classifying a book collection applies equally to the classification of microforms, although the order of reasons given may differ somewhat.

The purpose of classifying, i.e., to provide the most efficient use of the library collection, applies to both cases; but while books are usually closely classified, the microforms seem to be better arranged in a more broadly designated classification system. Since the microforms are usually not displayed on an open shelf, they are better accommodated by a fixed, non-expanding, location. The classification number used here is more the identification code than the subject notation. Yet, grouping of microforms by subject, although of no browsing value, is important to the user, immobilized by his dependence on reading machines. Relatively speaking, a retrieval of microforms on the same subject from drawers closely located to each other, is as convenient a facility as to examine a shelf with books on a similar subject.

The value of the shelflist used as a tool for subject inventory applies equally to book and microform collections. A classified collection makes an evaluation of subject coverage in the library much easier and faster.

In short, any arrangement is always better than chaos; but a classified arrangement similar to that of the rest of the collection is easier to understand and to use.

In the UWM Library, for example,<sup>1</sup> before a re-classification of the microform collection, the reels were shelved in a number of separate groupings, such as, e.g., major newspapers, subarranged by date; other newspapers kept in alphabetical order, but separated from the periodicals; the monographic microfilms arranged by accession number, and each of the larger microfilm series, such as the *Short Title Catalog*, by its own indexing system. Such a complicated and arbitrary system bewildered

<sup>1</sup> The microform collection at UWM Library has grown rapidly in the last few years; Mr. M. Gormley, Director of UWM Libraries, reported in his 1967/68 Annual Report a total of over 38,000 titles and 133,000 bibliographical items in the microform collection.

the novice, forcing him to learn his way through this unfamiliar maze by a frustrating trial and error method.

*Some Variations in Cataloging a Microform Entry*

In cataloging microforms, the UWM Library follows the *Anglo-American Cataloging Rules* (1967). The crucial principle in the UWM Library's policy is a consideration of each photoreproduction (microfilm, microcards or microprint) as a copy of the corresponding work in printed form, i.e., the original work, its facsimile or reprint edition.

If the library has both the original and microform versions of the same work, the microform is treated as an added copy and only a separate shelflist card is prepared for the microform entry. A note, added on the cards for the book form, ties the two versions together:

(MF)

PN Educational theatre journal. v. 1-

01 1949-  
[Columbia, Mo.]  
reels. 4 no. a year.

On microfilm.

Also in book form, PN3171 .E38.

Shelf-list card only.

195300 KC

Example 1(a): Shelflist entry for the microfilm added copy.

PN Educational theatre journal. v. 1-

3171 Oct. 1949-

.E38 [Columbia, Mo., Published by Artcraft Press for the  
American Educational Theatre Association]

v. in 26 cm. 4 no. a year.

Also on microfilm, (MF) PN01

I. Drama in education—Period. I. American Educational Theatre Association. II. Title.

PN3171.E38

371.332505

52-794

Library of Congress

[2]

195300

Example 1(b): Main entry for the same work in book-form. If the microform version of a work is the only entry in the library collection, it is cataloged in full, as if it were an original work, with some minor modifications.

(MF)

CD "War of 1812 papers" of the Department of State  
01 1789-1815. Washington, National Archives, National  
ser.M Archives and Records Service, General Services  
588 Administration, 1965. 7 reels. (National Archives  
microfilm publications, no. 588) On micro film.

1. United States—History—War of 1812. I. Title.

631614.700 DT

Example 2: Main entry for the microfilm version. Library does not have the original work in book form.

The collation contains the number of reels or cards, followed by the statement: "On microfilm," "On microcards," or "On microprint." All technical information concerning the microform itself, such as the positive/negative film, its size, number of pages per frame, etc., is omitted. If necessary, these data are added on the box itself.

When a book form edition is added to the collection, with an entry already cataloged as a microform, only a shelflist card for the book form is prepared, with a note referring one entry to the other:

(a) On all cards of the micro-form entry:

"Also in book form [call number]"

(b) On the shelflist of the book-form entry:

"Also on microfilm, (MF) [etc.]"

In each case one standard set of cards is filed in the Public Catalogs, and a separate shelflist card is made for each form of the publication. The microforms containing more than one title are classified as sets with separate catalog entries for each title. The films are not cut for cataloging purposes.

### *Classification Schedule*

To separate the microform collection by the type of microform, the classification schedule is divided into four main classes: (1) Microfilm (MF); (2) Microcards (MC); (3) Microprints (MP); and (4) Special Collections (FILM).<sup>2</sup>

To combine titles reproduced partly on cards and partly on microfiche (e.g., Newsweek Magazine), the two types of reproductions are classified together as microcards.

The designation "FILM" is provided for temporary classification of long-run sets on microfilms, already in the library collection, reclassification of which, for reasons of economy, is not contemplated in the near

(MF)

CD

U. S. National Archives.

01

National archives microfilm publications.

1947-

Washington.

reels. irregular.

On microfilm. For the description of the series see: U. S. National Archives. List of National Archives microfilm publications.

Each series in the UWM Library collection can also be found in the card catalog under its own author, title, and subject headings.

I. Title.

631614.700

DT

Example 3: Main entry card for the series classified as a set, cataloged as monographs.

future. Thus, for example, the UWM Library uses the "FILM" classification for the STC series; but it has classified the American Periodicals Series in (MF).

The call number in the microform classification schedule consists of: (a) location symbol, (b) the letter notation of the LC classification scheme, indicating the general subject of the entry, (c) the accession number, which arranges the microforms within the subject, without disturbing the order of microforms previously classified, (d) the notation, designating the physical "binding" of the microform, (e) consecutive part of the set, based on the original subdivision provided by the publisher of the series (e.g., reel number, date of coverage, or letter designation).

As a rule, all location symbols used in the UWM Library consist of three-letter codes. The two-letter designation of microform location was chosen deliberately to distinguish it from the usual meaning of the "location" symbol. Each microform location code indicates, in addition to the shelving location, also the type of microform, and the corresponding schedule of classification

The use of brackets in the location symbols differentiates between the usage of letter codes for location symbols and letter class symbols in the LC classification schedule. The bracketing of location symbols became a uniform procedure for all location codes, after the introduction of the three-letter class numbers in the LC's "K" Schedule.

Microforms produced partly on film and partly on cards are classified separately, each part in the corresponding schedule. The subjects too

<sup>2</sup> See Table 1.

general for inclusion in any specific LC schedule are all classified in LC's class "A".

The use of accession numbers within each class eliminates the need for a constant re-shuffling of microforms with each new addition to a drawer. To allow enough space for the regular addition of serials publications, the number "o" (zero) precedes each accession number in the serial entry.

The words "REEL," "CARD," etc., allow for a direct identification of the physical parts of each set. In special cases, the word "FILM" is followed by a conventional abbreviation for the title of the series, e.g., STC.

Thus, in Table 1, the examples given in (f) read as follows:

- f(1): The third microfilm serial classified in Philosophy;
- f(2): the second card of the third microcard title classified is Science;
- f(3): this entry, reproduced in a microprint form, is the fifteenth item added in the Social Sciences class, of which this particular title is placed in Box A;
- f(4): this title, in the STC series, is on Reel 700.

*Conclusion*

The system described in this paper is simple to use and it is easily adaptable to any classification system, since the LC class number can be

TABLE 1  
CLASSIFICATION SCHEDULE FOR MICROFORMS

	(1)	(2)	(3)	(4)
a	(MF)	(MC)	(MP)	FILM
b	LC CALL NUMBER— LETTERS ONLY			Abbreviated Title
c	ACCESSION NUMBER [Open Entry Serials Start With "o" (Zero)]			Series Number Reel/Card/Etc. Number/Date/Etc.
d	REEL	CARD	BOX	
e	(Number, Date or Letter)			
f	(MF) B 03	(MC) Q 3 Card 2	(MP) H 15 Box A	FILM (STC) Reel 700

replaced by any other notation, such as Dewey numbers. The schedule provides for fast and orderly arrangement of physical units of microforms at a low maintenance cost and a considerable saving in servicing the collection

The arrangement has been in use in the UWM Library since Summer of 1967, proving to be a classification system convenient for the patrons and easily manageable by the library's staff.



# Philosophy and Practice of Phonorecord Classification at Indiana University

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*Because of multiple contents and various information points of entry, the classification of phonorecords presents particular problems. Solutions should be reached with the patron's orientation in primary consideration, reinforced with thoughts on internal control. No approach to classification has yet been standardized. This article explores various techniques, their advantages and shortcomings. Indiana University has selected its own code, representing the composer initially, then the medium and specific work. This is essentially a counterpart on the shelves of the main entry in the card catalog.*

CLASSIFICATION MUST SERVE a more significant purpose than merely to provide a shelf location for the item. Regardless of the materials involved, the call number and the resulting shelf order should eliminate as much reference to the card catalog as possible; classification should never be assigned without some knowledge of the patron's orientation. The classifier must understand the effect, not always too subtle, of his decision on circulation. It remains for the library to select that system and that plan of operation which serve the most immediate interests of the patron in a manner which is actually more serviceable than any he might have selected himself.

Because no universally accepted classification exists for phonorecords, a visitor of various libraries may find as many techniques. The fluidity of this situation is not bad in itself if the classification has been selected or designed for the patrons of that particular institution.

Ideally, classification should place the materials on the shelf in an order which reflects some informational pattern. It will thus not only locate an item but, to some extent, describe it. In this manner the call number becomes more than an abstract symbol, and the usefulness of an open-shelf policy becomes evident. We may suspect that open shelves are found not too often in record libraries, but the stacks are normally open to the faculty in a university situation, and certainly always to the staff.

In a plea for some rationale in classification-shelving, we should be sympathetic to the physical needs of the professor for his lecture. He may have with him his notes, the roll book, several scores, a bundle of

test or term papers to return and perhaps also his mail. His mind may still be directed toward the lecture of the last period, to a problem a student has just presented, or to the topic he is to cover in a few more minutes. It is of no benefit to him if the record library shelves make sense to the librarian but not to the patron, and if he has the added chore of card catalog reference for every title he needs.

In 1965, the administration of Indiana University's record library was assigned to the Music Librarian. Until that time, call numbers were based on acquisitional order. With six year's experience at that institution as a student and faculty patron, we felt this must be reevaluated.

Acquisition sequence "classification" has some admitted advantages in that the newer and less worn holdings (which have the greatest circulation demands) are easily found, and the assignment of a call number hardly presents a problem. But there is no advantage for the patron who looks through the shelves for Beethoven piano sonatas without prior and often intermediate card catalog reference. It is possible to treat added copies in the traditional manner, and insert additional performance versions with earlier acquisitions by way of a slightly qualified call number, but the major problem in phonorecord classification and cataloging is that few recordings will have identical contents. Acquisition numbering will not insure against disc wear; although it is presently *hors-de-série*, the library would do well to protect ephemerally available releases by tape dubbing (it must be said that a library's function includes control as well as circulation, and preservation of materials is an integral part of control). And the comparative ease with which a call number might be assigned is hardly justification to ignore the patron's inconvenience.

The cause has been advanced for shelving by the manufacturer's label number, an equally economical classification procedure. The information which the call number then provides is certainly not critical, however, although it is immediately possible to recognize added copies by positive identification; the varieties of entries possible in cataloging makes this advantage one of particular importance, yet there is still no convenience given to the patron. The resulting call number solves the problem of added contents by ignoring even the main entry, and the card catalog remains in prime position between the patron and the item he seeks.

Classification by medium or subject would serve the interest of patrons who seek genera, rather than works by a specific composer, as the first point of reference. Students of piano or musical form might inquire about piano sonata holdings, although we suspect university patrons know more frequently exactly which works they wish, and will rely on the card catalog's subject headings for other occasions. Subject classification is the initial consideration of the Library of Congress schedule for books and scores. It may well be argued that a book library customer might expect to find a recording of Mozart's *Jupiter symphony* under such a number as "LP-1001 .M939 K.551"; and this certainly can make sense—if LC already makes sense to the patron. This possibility has greater

merit than either of the previously mentioned techniques; it certainly seems reasonable to a librarian familiar with LC's classification. But are university library patrons in accord? We have heard endless complaints about the medium-first approach. In sympathy, we have not elected to employ this variant of LC's *M* schedule for recordings.

What we wanted was a call number that reflected the main entry directly, so the shelf, the main entries of the card catalog and the shelf list would all be in basically the same order. It seemed strange that the card catalog would be consulted for composer in order to find a call number that would put a subject heading in top position of the code. With this idea in mind, we could have assigned "LP .M939 M1001 K.551" to the *Jupiter*, but we felt reference to LC's schedule in this transposed manner would be needlessly detailed. After all, if one puts medium first (as the *M* schedule does), many more details must be considered at that point, but by representing the composer initially we have already been as specific as is necessary.

Mrs. Elsie Fardig, head of the University of Miami's Albert Pick Music Library, employs a classification scheme which places medium after the composer in the call number. This schedule manifests her own deep knowledge of the materials and the manner they will be used. With her concepts as a point of departure, Indiana University has developed its own schedule.

The basis of the resulting classification is that the call number should reflect the main entry (both composer and conventional title) whenever possible, in that order. The call number thus consists of at least three representational elements: the format, the composer, and the work.

The format is indicated by such notation as "LP" for 33 $\frac{1}{3}$  rpm phonodiscs, "EP" for 45rpm, "SP" for 78rpm, "TP" for phonotape, "WP" for phonowire, etc., each of which may be qualified by "S" for stereophonic versions. This may or may not affect shelving, subject to the decision of the librarian.

The composer is represented by a three-figure Cutter number, although an additional number will be needed in various cases (particularly the Bach family, the various Strausses and Stravinsky). We seek to use the full 3-figure Cutter-Sanborn number whenever possible, both in phonorecord and score cataloging.

The work is described by mixed notation which attempts to represent the conventional title fully. As an example, "G<sub>4</sub>K<sub>1.3-2</sub>" indicates orchestral music ("G"), a concerto ("4"), keyboard solo ("K"), piano ("1"), the third in a series ("3"), of which this specific recording is the third performance version owned ("2"): in other words, a third piano concerto. The fact that the third performance version is indicated by "2" is that the initial acquisition is "G<sub>4</sub>K<sub>1.3</sub>", and the relation of the numeral to the number of performance versions held is of no interest to the patron. One could Cutter by performer as well, but the call number would be needlessly long and this possibility would bring up needlessly complex problems.

An alternative for classification would be double-Cuttering, for both composer and title, if each library holding is a distinct title. Such a suggestion would be rarely suitable for a library of commercial recordings, but may be of substantial value in archival situations.

There will remain those releases which must be entered by title, rather than composer (Indiana University uses LC cards whenever possible, and follows LC's cataloging procedures for reasons of economy and convenience, although we normally trace for all contents). When composer Cuttering is not suitable, the call number will begin with "Z", followed directly by the medium or subject classification (e.g., "LP ZG4K1" would be a collection of piano concertos by various composers, entered in the catalog by such a title as "Famous piano concertos").

In identifying the work, the following notation serves for classification:

- A *Operas*. Opera albums usually have eye-catching lettering on the spine which aids in locating a particular composer's shelf. This advantage caused us to place operas in the initial position, further justified by the fact that this is a major genre at our university. In a liberal definition, "musicals" are also assigned to this spot. The first opera of a composer to be acquired (or, if one likes, the first operatic work written by him) is noted as "A.1." If the recording is only of selections from this opera, it is classed "A.1e"; if the recording presents portions from various operas of the composer, the class is "Ae.1"; if the performance is arranged by a second person, it is numbered "Aer.1" or "A.1er" as applicable.
- B *Brass*. Works for brass instruments or band are assigned "B". Compositions for a single brass instrument alone or with piano accompaniment are designated in score order as "B<sub>1</sub>" for horn, "B<sub>2</sub>" for trumpet or cornet, "B<sub>3</sub>" for trombone, "B<sub>4</sub>" for tuba, and "B<sub>5</sub>" for other brass instruments. The first horn sonata of a composer is then "B<sub>1.1</sub>", or—if opus numbers are to be employed—"B<sub>1.16</sub>" would represent Beethoven's horn sonata.
- C *Chamber music*, defined as music for three or more performers, each player having his own part with the exception of those ensemble works involving a figured bass. A trio for instruments from mixed families would be "C<sub>3</sub>", a brass trio would be "C<sub>3</sub>B", and a horn trio would be "C<sub>3</sub>B<sub>1</sub>".
- D *Vocal music*, excepting opera (which uses "A"). When used alone, "D" represents both collections of various vocal works as well as songs, with or without accompaniment. Qualifications are made on the basis of function and form, so that "D<sub>1</sub>" is for cantatas (sacred or secular), "D<sub>2</sub>" for oratorios, "D<sub>3</sub>" for anthems, motets and hymns, "D<sub>4</sub>" for madrigals and other single-movement secular works.
- e *Selections* (for qualification only), as reference to work previously specified, as "Ae".
- G *Orchestral music*, or works in general. Here would fall a recording of the complete works of Webern or of Schönberg. Miscellaneous works might be qualified as "Ge".
- G<sub>1</sub> *Symphonies*. The first symphony of a composer would be designated as "G<sub>1.1</sub>", or—if opus or thematic catalog number is considered—"G<sub>1.21</sub>" for Beethoven's first symphony, or "G<sub>1.551</sub>" for Mozart's *Jupiter*. An

- album containing all the symphonies of a composer would be represented by "G<sub>1</sub>".
- G<sub>2</sub> *Compound forms* for orchestra, not symphonies or extracts from ballet or opera.
- G<sub>22</sub> *Compound forms in series* for orchestra, such as Mozart's divertimenti, or the *Bachianas brasileiras* by Villa-Lobos (although these are not all properly for orchestra), which works might be desired to be kept as a unit apart from the "G<sub>2</sub>" holdings.
- G<sub>3</sub> *Single-movement forms* for orchestra, but not opera overtures.
- G<sub>4</sub> *Concertos*. Bartók's *Concerto for orchestra* would be classed "G<sub>4</sub>", while concertos for solo instruments with orchestra would be qualified as "G<sub>4</sub>B<sub>2</sub>" for a trumpet concerto, e.g.
- G<sub>44</sub> *Concerti grossi*.
- G<sub>5</sub> *Ballets*.
- G<sub>6</sub> *Incidental music* to a film, play, television or radio broadcast, regardless of instrumentation.
- G<sub>7</sub> *Melodrama, Sprechstimme or lecture*, such as Schönberg's *Pierrot lunaire*, or lectures he might have given.
- K *Keyboard*, for qualification only. "K<sub>1</sub>" is used for solo piano, harpsichord or clavichord music in the same manner illustrated for horn ("B<sub>1</sub>") or trumpet concerto ("G<sub>4</sub>B<sub>2</sub>"). Organ, including electronic organs, is represented by "K<sub>2</sub>", harp by "K<sub>3</sub>", and any other keyboard instrument by "K<sub>4</sub>".
- P *Percussion*.
- r *Arranged*, by one other than the composer (for qualification only).
- S *String*. Used as the "K" and "B" classifications, with "S<sub>1</sub>" for violin, "S<sub>2</sub>" for viola, "S<sub>3</sub>" for violincello, "S<sub>4</sub>" for double bass, and "S<sub>5</sub>" for any other string instrument.
- S<sub>8</sub> *Electronic instruments*, excluding organ but including any instrument not properly fitting into "B", "K", "P", "S" or "W" classes.
- W *Woodwind instruments*, as illustrated with other instrumental categories with "W<sub>1</sub>" for flute and recorder, "W<sub>2</sub>" for oboe and English horn, "W<sub>3</sub>" for the clarinet family, "W<sub>4</sub>" for bassoon, "W<sub>5</sub>" for saxophone, and "W<sub>6</sub>" for additional woodwind instruments.
- x *Revision*, or arrangement by the original composer when opus or serial number is not thereby changed (for qualification only). The original version of Bruckner's seventh symphony might be classed "G<sub>1.7</sub>", the revision classed "G<sub>1.7x</sub>", and third revisions might be qualified "xa".
- Z *For non-Cutted entries* (for qualification by subsequent class only) as "ZAe" for opera arias by various composers sung by various performers (note that performers might well rate a main entry, as they would in this example were the recording of various composers' arias performed by one artist). In a like manner, "Z" could precede any classification specified above.
- ZF *Historical collections* of music from various periods, such as "Masterpieces of music before 1750." This may subsequently be qualified by period as "ZF.A" for ancient music, "ZF.B" for medieval music, "ZF.C" for 13th century music, "ZF.D" for 14th century music, "ZF.E" for 15th century music, "ZF.F" for 16th century music, "ZF.G" for 17th century music, "ZF.H" for music of the 18th and/or 19th century, and "ZF.L" for 20th century music. For collections containing music from two con-

secutive periods, the classification for the earlier period may be used.

- ZH *Instructional recordings*, such as talks and illustrations on composition or solfège.
- ZL *Ethnic music*, qualified as in the Library of Congress *M* classes ("M1627" and following), but adapted as needed. Thusly, "ZL 1682" indicates ethnic music of Mexico, "ZL 1702" of Austrian music, "ZL 1812" of Japanese music, etc.
- ZM *Juvenile and music education recordings*.

For tapes of its campus recitals which are entered under the name of the performer, Indiana University Cutters for the main entry and replaces the classification symbol with one for the date of the recital, as "67-4-9" representing April 9, 1967.

As indicated earlier, we follow LC cataloging procedures, knowing this to be the most economical, consistent, and reliable technique for those items available on LC cards. This must be supplemented by several considerations. Whenever possible we trace for all contents, especially when the album has a descriptive but non-specific title, and we add subject headings when applicable for "Composer as performer," "Stereo-phonographic recordings," "Lectures" (with a "history-and-criticism" qualification to the topic involved as an additional entry), and "Rehearsals."

When the cards are Xeroxed from LC proof slips or our original cataloging, care is taken to provide the following, in addition to any added entries:

(1) *Main Entry*. One main entry is filed in the Record Library card catalog, and a second one is filed in the catalog of the book-score-journal music library, which presently occupies distinct quarters of its own. This way it is possible to verify the acquisition of scores and recordings from one alphabet. A third main entry is filed in our official catalog (plus any added composer-title entries) in the cataloging office of the School of Music, along with all proof and depository slips from LC, our authority slips and the main entries for all other holdings of the Music Library (bound materials, performing editions, microforms, manuscripts and phonorecords). This file is then a bibliographic tool of substantial importance for acquisition, cataloging and reference. A fourth main entry is filed with the Music Librarian of those recordings belonging to our archival collection, in anticipation of a published catalog of unique or unusual recordings of particular musical interest. Still another main entry will be submitted when appropriate to regional sites on campus which are not administratively associated with the library system, such as the Archives of Traditional Music and the Latin American Music Center.

(2) *Shelf List*. One shelf list is maintained within the Record Library, and a second exists near the desk of the record cataloger, whose office is one floor away from the collection itself.

(3) *Manufacturer Cards*. One card is filed by the label number with the record cataloger which, in effect, cares for the advantages of having

recordings shelved by that manner without the inconvenience to the patron of this system. In the event there is any confusion about locating an existing copy by a questionable main entry, or a need to complete holdings of a particular issue, this file is of value.

These are the problems of phonorecord classification and cataloging as we see them, and as we have tried to solve them. Each solution has been reached in consideration of inventory control and internal economy, but the major factor has been that of patron service. Within a three-year period, we have added something in the vicinity of seven thousand new entries to the phonorecord collection, each of which has been classified as described above. During this time, almost no complaints were registered; this may be the librarian's signal that, at worst, things are at least satisfactory.



# Organization of Recorded Sound

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*Several methods of organizing sound recordings have been reported in the library literature. The Library of Congress, as well as others, carries out descriptive cataloging of phonorecords after the manner of books. On the other hand, no attempt to classify phonorecords is made by the Library of Congress. A variety of classification schemes, however, have been reported in the literature incorporating varying levels of complexity. This paper describes a simple notation scheme for identifying and retrieving spoken phonorecords which have been fully cataloged according to the Anglo-American cataloging rules. It is also pointed out that spoken phonorecords can be described in the same manner as the book form of a document whereas music phonorecords usually demand complete analysis of contents.*

RESOURCES IN MODERN DAY LIBRARIES ordinarily include various forms of non-book material, and in fact would be incomplete and underdeveloped without these information sources. Public libraries traditionally provide materials running the full gamut of documentation sources in every conceivable form, except perhaps for realia. The college and university library must also be prepared to house and disseminate many items of non-conventional library materials. The problem inherent in non-book material is not in acquisition and maintenance, but in the organization of the resources and the provision of ready and easy access and availability. There is no tried and true practice of description and classification of these materials and individual libraries have demonstrated that a custom-designed organization is the rule. There are probably as many systems for organizing the materials as there are libraries providing the resources for the clients in any significant quantity.

The Library of Congress began cataloging sound recordings in 1943 and has published the catalog in a separate section of the *National Union Catalog* since 1953. Musical and non-musical sound recordings, as well as music scores, are cataloged according to a standard format which closely resembles that accorded to books. The style has been more precisely formulated in the 1967 *Anglo-American Cataloging Rules* which, in fact, stress the desirability of equating non-book materials with those of the conventional printed book, at least in-so-far as catalog entry and description are concerned. Further, these same rules have been extended, with minor variations, to include materials of unique and singular nature,

e.g., globes, lithographs, motion picture stills, etc. Voices of dissatisfaction have been heard right on the heels of the appearance of the new rules, and in fact it has been suggested that the rules be disregarded as inadequate for the job. Daily states that "it is most unlikely that there will ever be a means of dealing with non-book collections of any real size or importance without first developing a special means of control beyond what the Anglo-American Rules suggest."<sup>1</sup>

The Library of Congress, in addition to descriptive cataloging, exercises the same subject control toward phonorecords (as well as filmstrips and motion pictures) that books are accorded, and the printed cards are available for those libraries which need or want them. However, classification or shelf arrangement of phonorecords is up to the subscribing library because the Library of Congress does not choose to assign classification numbers. This procedure at the Library of Congress seems to reflect the practice in most libraries according to the published literature, i.e. phonorecords are cataloged but not ordinarily classified.

Cataloging practices vary from library to library. Quite complete cataloging has been described by Anderson.<sup>2</sup> His contention is that some phonorecords are more valuable because of the personality delivering the presentation than they are for the actual contents. An instance cited is the record "Bertrand Russell Speaks" which contains philosophical comments which may or may not be of value *per se* to the library clientele, but rather the experience of hearing the voice of this well-known personage is its outstanding feature. The problem inherent in analyses of this type of non-book material is selection of subject headings that will be meaningful as well as consistent with the overall collection. It is suggested that general subject headings can be devised, i.e., Architects—Recordings (the voice of Frank Lloyd Wright), or Education—Recordings (the voice of Robert Hutchins); this style is consistent with that standardized by the Library of Congress. For entertainment personalities, there is always the option of using the individual's name as a subject heading.

A recent article summarizes several schemes for classifying phonorecords which are documented in the literature.<sup>3</sup> In the simplest form of organization no classification is used at all. It is proposed that a collection of up to 150 records can be handled without call numbers and simply by shelving according to the main entry on the catalog cards. A more substantial collection, on the other hand, can be classified according to speed and size of the phonorecords, along with the accession number. The resulting notation would appear as 161-12-33, where 161 = accession number, 12 = diameter of disc in inches, and 33 is a close approximation of the rpm.

A third scheme discussed in the literature<sup>3</sup> is by fixed location. A sample number appears as 7-12, where 12 equals the disc in the twelfth position on shelf 7. A letter indicating physical form followed by accession number can be utilized as a fourth alternative to phonorecord classification. A fifth scheme has been suggested whereby works are classed

by type and subdivided by author in the Cutter fashion. The Dewey classification has also been utilized as a scheme for phonorecord organization using the Cutter number in the usual way. Anthologies would go into the Z category in the Cutter division in this scheme, as a modification of the Dewey.

The Cornell University library<sup>3</sup> uses a classification scheme which utilizes the manufacturer's serial number. Advantages of this scheme are that it is simple in arriving at the notation and also the record has the same basic call number which appears on the disc, the record jacket, the Library of Congress printed cards, the manufacturers' catalogs, as well as the Schwann and other commercial catalogs. However, the scheme does not provide for any grouping by author or literary genre.

The United States Air Force Academy library utilizes a home-made system for classifying phonorecords.<sup>4</sup> The main emphasis is on the type of material contained on the records, e.g., history, literature and language, classical music, light opera, musical comedies, jazz, etc. The system is based on the Dewey classification scheme, but only two digits to the left of the decimal are used. Main classes 10 to 23 are reserved for music and these classes are further subdivided into six areas after the fashion of the Dewey 780's. The music numbers are extended one place beyond the decimal. Spoken records are classed in two-digit notation segments extending from 28 to 99. Generally, no extension is needed, with the exception of English and American literature which are subdivided according to form. Cutter numbers are provided utilizing the main entry letter as the initial notation. Work numbers are sometimes necessary using an arbitrary notation.

Cataloging at the Air Force Academy library is done after the style of the Library of Congress, and LC cards are used when available. Some notes and tracings indicated by the Library of Congress are omitted. The music catalog is maintained separate from the main catalog. On the other hand, most of the spoken records are represented in the main catalog by the card sets.

The collection at the La Roche College library<sup>5</sup> in phonorecord form is primarily music in content. A home-made system has been devised because the Dewey number was found to be too long for practical use. The notation is an alphabet combination based on the type of music recorded. The result is a 3-letter long notation at the most as follows: Sy = symphonic, Syp = symphonic poems, Cho = choral music, Chp = choral preludes, etc. A record which does not fit into any of the form classes is placed in G, after the fashion of the Dewey 001-099 or General works. In this system there is no hierarchy of categories, but rather many letters and combinations of letters as categories. The classification is further expanded by inclusion of notation indicating the size of the disc, e.g., 7 = 7 inches, 12 = 12 inches. The size number follows the form letters with a hyphen separating the two identifiers. A notation for single or multiple record albums is here indicated by an "s" or "m". In addition a stereophonic phonorecord is indicated by the small letter

“s” preceding the form letters. A call number is completed by utilizing the first letter of the composer’s name (or VC for various composers) and the Cutter-Sanborn table number. A typical number is as follows: sMu-12s S6g (“The Gondoliers,” by Gilbert and Sullivan, a stereophonic 12-inch record in a single record album).

For the purpose of comparison with these somewhat elaborate schemes of classifying phonorecords in the academic libraries, the organization of a small community library’s collection is cited.<sup>6</sup> Simple cataloging procedures are sufficient, comprising a composer and title entry using the form of the Schwann catalog. The classification notation consists of a single capital letter for each record, determined by the content of the record. Seventeen classes are included in this schedule. There is some correspondence to the type of content and the letter chosen, e.g., A = audio and sounds, B = ballet, D = drama, O = opera, etc. The last notation of the schedule is Z which includes miscellaneous or “things which cannot be otherwise classified.” A further break-down is possible by using a Cutter number or an accession number in combination with the main class capital letter.

Oral history collections have necessitated the development of organization technics beyond that exercised toward commercial sound recordings. In 1962 the National Voice Library, after many years as a private one-man operation, became an integral part of the Michigan State University.<sup>7</sup> The immediate need for a comprehensive index file was recognized, beyond information such as the speaker’s name, the approximate date, and an identification number. A small staff has been set to the task of auditioning the entire collection, summarizing the recordings of the speakers, and preparing index cards with synopses of the contents of each item. The point is made of the necessity of identifying small units of recorded sound and of providing access to the people, topics, or events which make up the larger units of speeches, broadcasts or monitored conversations available in this spoken collection.

Louis Shores in an article over a year ago discussed the importance and value, from historical and contemporary perspectives, of oral history in the educational and cultural aspects of scholarship today.<sup>8</sup> Shores points out the need for better control. The librarian’s role in this segment of documentation includes the organization of oral history collections in the individual libraries. The handling of the collection at Columbia University<sup>8</sup> has been effected by the use of catalog entries from four approaches for each unit. The access points are: (1) biographical directory of interviewers, (2) a list of special projects, (3) a record of lectures, seminars and forums, and (4) a list of persons represented. Dr. Shores suggests that more detailed indexes and analyses are imperative for full exploitation of the source materials represented in oral recordings.

At Point Park College we have organized our record collection in a manner which, it is hoped, promotes maximum utilization by the student body. The college itself has grown through the 1960’s from a nu-

cleus of primarily a business-oriented school, into a junior college with a combined business and liberal arts curriculum, and then into a four-year baccalaureate college with a liberal arts program. During these few years of rapid growth and change the library collection has been developed from practically nothing into a working well-balanced collection supporting the expanding and intensified academic curriculum. The record collection was unorganized as long as the library staff was able to remain familiar with the titles and contents and relate these to the needs of the students. But with increased acquisitions and additional staff this system was no longer practical or efficient. At the onset of organizing the collection it was decided that the spoken records are basically the equivalent of the printed word and consequently should be cataloged accordingly. The new Anglo-American code is followed in form of entry and description of the spoken phonorecords. Library of Congress subject headings are chosen to provide the appropriate added entries in accordance with the overall arrangement of the book collection. The *National Union Catalog* is consulted in order to insure consistency, and Library of Congress card sets are ordered in some cases.

The catalog cards representing the spoken phonorecords are handled in the usual way in the main catalog with the added distinction of being color-coded. This arrangement highlights the fact that the work is not in the usual book form and therefore must be perused with the aid of the phonograph. The color code also serves to point out to an interested reader that book material can be supplemented with a recorded version of the subject, be it drama, poetry, rhetoric, languages, etc.

It seemed inexpedient and unnecessarily complex to apply a classification scheme to the spoken records which would group by subject or genre in view of the fact that the collection is not open for browsing. It is unlikely that any client expects or even desires to have the same kind of visual search which is provided in the record shops, even supposing the library had the space and surveillance necessary for such a system. Therefore, a special identification notation has been adopted for the phonorecords which makes no attempt to provide a subject arrangement on the shelf. The notation is simply an arbitrary letter designation, DAL, combined with a numerical notation which is an accession number and occurs in one sequence with the music phonorecords (identified by the letter designation, AL).<sup>\*</sup> The complete notation (e.g., DAL 955) thus identifies the specific record as represented in the card catalog under the various entries and also provides a shelf location and a call number.

The system was adopted after a close scrutiny of the various systems described in the literature. It is completely adequate for the purpose of giving each phonodisc a distinctive call number and shelf position. Music and spoken phonorecords are appropriately differentiated by the letter designations and yet the notation assignment is kept simple by using one

<sup>\*</sup>The Carnegie Library of Pittsburgh uses the AL and DAL notation for phonorecords.

numerical sequence. It will also serve to keep a running inventory record by reassigning numbers within the numerical sequence when a phonorecord is withdrawn from the collection. Complete cataloging and entry in the main catalog under subject and title gives the students the added advantage of using the audio medium in their approach to selected written works. For the user who is interested in randomly choosing a record for recreational or other use, a brief-entry book catalog, arranged by accession number, is provided.

The music phonorecord collection at Point Park College library is given separate and distinct handling. The practice of the record manufacturers and recording artists to combine on one disc works by different composers, or very often various forms of musical composition and rendition, requires a more analytical approach in cataloging these resources. We, therefore, are in the process of preparing the contents of the music phonorecords for machine organization and book catalog printout. This project is being carried on in cooperation with the college computer center. The procedure will be prepared for publication at a later date.

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# Optimum Allocation of Technical Services Personnel

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*A procedure is given for determining the optimum allocation of available man hours among the various functional subunits of any given technical processing division so as to minimize the time required for a volume to be processed. Cost implications are also discussed.*

THE TECHNICAL SERVICES DIVISION of a library of any size seldom has sufficient personnel to keep its processing current. It is therefore important to utilize to the maximum the available labor. One way to increase the efficiency of procedures is by detailed motion, time, and cost analysis. There still remains the problem, however, of an optimum allocation of available man hours among the various functional subunits so as to minimize the time required for a volume to be processed. The purpose of this article is to present a simple procedure for determining this optimum allocation. Although no two libraries are exactly alike, this procedure is of such a general nature that it may with ease be adapted to particular situations in any desired degree of detail. It may also be used without previous motion and time analysis.

Minimal processing time will occur when a volume is processed with no delays. This can occur only when each sequential step has the same average per-volume staff processing time. One way to determine this optimum time is by common sense iteration. The first step is to determine the per-volume processing time per full-time staff member for each departmental subunit being considered. This time may be obtained for any subunit by dividing the product of the number of full-time (or equivalent) employees in the subunit and the number of working hours in a given time period by the number of volumes processed in the same period. Thus if a cataloging department has five full-time employees, if they process 1,067 volumes in a four-week period, and if there are 160 working hours during this time, the per-volume time is  $5(160)/1,067$  or  $\frac{3}{4}$  hour.

Suppose that, for a particular library, the per-volume processing time per full-time department employee is  $\frac{1}{3}$  hour for acquisition,  $\frac{3}{4}$  hour for

TABLE I  
TRIAL ALLOCATIONS OF FULL-TIME (OR EQUIVALENT)  
EMPLOYEES AMONG THE DEPARTMENTS

Trial number	Acquisition	Cataloging	Physical processing	Total hours (Constant)	
1	2.4	5.0	1.0	8.4	Present Allocation
2	2.3	5.0	1.1	8.4	Trial Allocation
3	2.24	5.04	1.12	8.4	Optimum Allocation

cataloging, and  $\frac{1}{6}$  hour for physical processing. Suppose further that acquisition has 2.4 full-time employees (or equivalent), cataloging 5.0 and physical processing 1.0, for a total of 8.4 full-time employees per working hour. Dividing these latter values (Table 1, row 1) into  $\frac{1}{3}$ ,  $\frac{3}{4}$ , and  $\frac{1}{6}$  respectively we obtain the quotients shown in the allocation 1 row of Table 2. (For example,  $\frac{1}{3}$  divided by 2.4 is 0.139.) These quotients show that physical processing is the current bottleneck. For the second trial, therefore, we take 0.1 full-time person from the fastest department, which is acquisition, and allocate this time to physical processing. This change achieves a very near to optimal solution.

One cannot always count on achieving an optimum solution so easily. Fortunately the answer may be obtained directly by simple algebra. The first step is to express all numbers representing full-time employees in terms of the number for any one department. For the optimum case,  $(\frac{1}{3})/\text{Number of full-time employees in acquisition} = (\frac{3}{4})/\text{Number of full time employees in cataloging} = (\frac{1}{6})/\text{Number of full-time employees in physical processing}$ . Therefore for the optimum case the number of persons in cataloging is  $\frac{9}{4}$  the number of persons in acquisition, and the number of persons in physical processing is  $\frac{1}{2}$  the number in acquisition. It follows from this that  $(1 \text{ plus } \frac{9}{4} \text{ plus } \frac{1}{2})$  or  $\frac{15}{4}$  times the number of persons in acquisition is equal to 8.4. Solving this equation for the number of persons in acquisition gives a value of 2.24, which in turn gives, as shown in Table 1, a value of 5.04 for cataloging and 1.12 for physical processing. These answers are easily verified by noting that, when divided into appropriate per-volume processing times (Table 2, Allocation 3), they give identical quotients.

The optimal time allocation is not necessarily either the highest or lowest total cost. For example, suppose in the case discussed that the average cost per employee per hour in acquisition is \$2.00, in cataloging \$3.00, and in physical processing \$1.50. This is the sort of situation we would expect, as cataloging tends to have a higher percentage of professional (and hence relatively expensive) employees than acquisition, and physical processing a lower. Using these values, the total hourly cost for allocation

1, 2 and 3 respectively is \$21.30, \$21.25 and \$21.28. (For example, the \$21.30 is derived as follows: 2.4 times \$2.00, plus 5.0 times \$3.00, plus 1.0 times \$1.50.) Although in this instance the cost differences are minor, this is not always the case. Transferring man hours from a less expensive to a more expensive department will on the average raise total cost, and vice versa. Thus if it is necessary to transfer hours to cataloging to achieve optimal overall speed, the total cost of processing will probably increase. If the library cannot obtain the additional funds for the change, reduction of personnel in acquisition and physical processing to reduce their output to that of cataloging would have negligible effect on the current time required for a volume to be processed, would alleviate the problem of storing accumulations of in-process books, and would eliminate idle time in physical processing.

TABLE 2  
STAFF TIME (IN HOURS) REQUIRED FOR PROCESSING A VOLUME

Time per employee divided by the allocation from Table 1.	Per-volume time per full-time employee			Total hours	
	1/3	3/4	1/6		
	Acquisition	Cataloging	Physical processing		
Alloc. 1	0.139	0.150	0.167	0.456	Present
Alloc. 2	0.145	0.150	0.152	0.447	Trial
Alloc. 3	0.149	0.149	0.149	0.447	Optimal



# University Library Arrearages

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*Results of a survey of processing arrearages in American and Canadian university libraries is reported. Seventy-eight percent of responding libraries now have arrearages significant enough to require special procedures for handling and locating monographs in that status. Various methods of selecting books for arrearage treatment, shelving them, listing them in catalogues or finding lists, circulating them, and selecting them for final cataloguing are compared. The future of arrearages and alternatives to arrearage treatment are discussed.*

## *Introduction*

ARREARAGES IS AN UGLY WORD, Archibald MacLeish declared while Librarian of Congress, according to Andrew Osborn.<sup>1</sup> Not only is it an ugly word, but it also appears to have become a dirty word, if writing about it in public professional journals is any criterion. In 1951, the year Osborn's article appeared, a collection of short articles on cataloguing arrearages by Rudolf Engelbarts, Elizabeth C. Borden, Lela de Otte Surrey, Lucile M. Morsch, Maurice F. Tauber, and Altha E. Terry was published in the *Journal of Cataloging and Classification*.<sup>2</sup> Since that year almost nothing has been written specifically on the subject except for two papers on treatment of arrearages at specific libraries.<sup>3, 4</sup> This paucity of relevant recent literature, reported by a student interested in arrearage treatment in university libraries and planning to write a term paper on the subject, has been in part responsible for this inquiry.

But the subject has more general interest. Have processing arrearages disappeared in university libraries? It does not seem likely, especially in light of the other changes which have occurred in university libraries during the past twenty years and, more dramatically, during the last five

<sup>1</sup> Osborn, A. D. "Arrearages—Ugly Word." *Library Journal*, 76 (November 15, 1951), 1863-1867.

<sup>2</sup> "Cataloging Arrearages." *Journal of Cataloging and Classification*, 7 (Fall 1951), 89-109.

<sup>3</sup> O'Bryant, M. B. "Uncataloged Books at Brandeis." *Library Resources & Technical Services*, 1 (Winter 1957), 40-42.

<sup>4</sup> Engelbarts, R. K. and H. D. Williams. "Brieflisting: a Method for Controlling Cataloging Arrears." *Library Resources & Technical Services*, 9 (Spring 1965), 191-199.

years. Most significant among these changes has been the huge increase in university library expenditures for books and other library materials. For example: sixty member libraries of the Association of Research Libraries, which together spent a total of almost \$23 million in the fiscal year 1962/63 spent over \$43 million for these purposes in fiscal 1966/67. Their aggregate book expenditures thus came close to doubling in only four years! It appears highly unlikely, in view of the shortage of cataloguers and for other reasons, that this increase was accompanied by a compensatory enlargement of processing and cataloguing staffs.

There are offsetting considerations, of course, which may somewhat soften the impact of such huge increases in book expenditures. For one thing, book prices have also risen sharply, so that the increase in actual bibliographical units acquired might well be significantly smaller than the increase in dollars expended might indicate. Second, availability of Library of Congress or other cataloguing for books acquired has increased sharply in the last two years, largely through the operations of the National Program for Acquisitions and Cataloging, administered through the Shared Cataloging Division of LC. Increased availability of LC cards or copy should be expected to have expedited the cataloguing process. Third, although some enlargement of processing staffs has occurred, such increases have not kept pace with increases in book expenditure. Despite such considerations, however, there would appear to be every reason to expect that existing arrearages had increased and substantial new arrearages had been created in recent years.

Arrearages are not evil *ipso facto*; indeed, it might be argued that a certain degree of delay in processing may be necessary in order to achieve maximum cost efficiency in processing. 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. Moreover, a certain delay will increase the amount of LC cataloguing copy available. It is the problem of access caused by the existence of arrearages which constitutes the major cause for concern. Materials acquired by a library but whose presence in the library is inadequately recorded and displayed are of little use to the library's users. It would seem, therefore, that some libraries at least will have devised means for providing access to arrearage material which is uncatalogued, and these means and the policies underlying them should be of interest and potential value to other libraries in a similar situation.

### *The Questionnaire*

What then is the present situation? In default of an available published literature a questionnaire was designed to get general information from a group of university libraries on the following questions:

- Do processing arrearages of normally catalogued materials exist at present in university libraries?
- What kinds of books constitute the arrearage?
- What kind of display is given arrearage books?

How are the books themselves stored?

Do arrearage books circulate?

How does such circulation influence the subsequent treatment of arrearage books?

Does the magnitude of the arrearage problem suggest a permanent treatment below formal cataloguing for arrearage books?

If so, what types of treatment are used or contemplated?

Recipients of the questionnaire were university libraries belonging to the Association of Research Libraries, some of the larger Canadian university libraries, and a very few libraries where a novel treatment of arrearages was known to exist. The questionnaire was sent out on April 5, 1968.

Because only a general picture of the arrearage situation was sought, the questionnaire was framed in such a way as to encourage reply, at some possible sacrifice of detail and quantitative precision in the responses. Libraries were not, for instance, asked the size of their arrearages, because such a question would require, for comparability, a very precise definition of "arrearage" and also require the responding library to produce statistics which it might not have readily available. Some evidence of misunderstanding of the questions and inconsistency in the answers was encountered; any quantitative data reported must be considered to have a significant component of subjective evaluation on the part of the surveyor, and such figures should be considered only approximate and indicative. The response to the questionnaire was surprisingly and gratifyingly large—eighty-six questionnaires were returned out of ninety-one sent, a response of 95 per cent. The percentage of response was about the same from United States and Canadian libraries.

A precise definition of "arrearage" was avoided, as mentioned earlier. No such definition exists. At least two types of arrearages can be recognized: books delayed unduly or halted in their progress through the series of processing operations from receipt to completion of cataloguing for any reason whatever, and books deliberately segregated for deferred treatment. The distinction is significant for librarians; much less so for library users. The result for the latter is the same in either case—books are present in the library but indication of their presence by means of the public catalog and other devices is either incompletely shown or not shown at all. And even when found, the books may be unavailable for normal circulation.

The recipients of the questionnaire were requested, in effect, to make their own definition of arrearage and in the words of the letter accompanying the questionnaire to "consider that an arrearage exists whenever the number of books awaiting cataloguing becomes so large that

- (1) Special means must be provided for locating titles readily within this backlog . . . and/or
- (2) Certain categories of books are set aside from the mainstream of processing for deferred treatment . . ." (see Appendix).

Many of the answers were qualified by the respondents; the surveyor has felt free to interpret these qualifications to fit his questionnaire. No large degree of error induced thereby appears likely. Differences between Canadian and ARL libraries are mentioned only when they are significant.

### *The Answers*

- (1) Of the 86 libraries responding to the questionnaire, 53 replied without equivocation that they had an arrearage; another 14 gave a qualified "yes, but . . ." In all the latter cases the qualification referred to the nature of the books in the arrearage, the size of the arrearage, or made some mention of the age or future of the arrearage, and hence did not basically negate the "yes" response. Therefore it can be concluded that 67, or 78 per cent of the libraries responding consider that they have an arrearage. The percentage of responding ARL libraries having an arrearage was 83 per cent; of Canadian libraries 62 per cent. This difference may well reflect the generally smaller size and comparative youth of the Canadian libraries with attendant emphasis on current materials and less buying in recondite fields.
- (2) In some few cases the type of arrearage material appeared to be accidentally determined; in most cases, however, arrearages were structured; that is, selective deferral or selective retardation of processing was practiced. Some intrinsic or extrinsic characteristic of a book, its language, its country of origin, its date of publication or provenance, or the presence or absence of available bibliographical aids to its cataloguing, determined its inclusion in an arrearage. In many cases more than a single such characteristic was used.

The most frequently reported factor determining the inclusion of a book in an arrearage was the absence, at some critical point, of Library of Congress catalogue copy for it, either in the form of a depository card, a proofslip or an entry in the *National Union Catalog*. This situation was reported by 49 libraries. The next most common determinant was publication of a book in a non-Roman alphabet, reported by 37 libraries. Provenance was the next most frequently used criterion: receipt by gift (11 instances), via block purchase, including PL480 (10 instances) and by approval plans (4 instances), ranking in that order. Other criteria (all mentioned by fewer than seven respondents) included: publication in Latin America, publication during the 17th and 18th centuries, or publication before a certain date. In the latter case, cut-off dates mentioned were 1900, 1945, 1960, 1965, 1966 and 1967. A sprinkling of other unique determinants was reported. In general one may conclude that books selected for an arrearage are either books for which LC cataloguing copy is not available or those of presumed smaller demand.

- (3) In 36 of the libraries reporting an arrearage, there are entries in

the public card catalogue for some or all of the books in the arrearage. The remaining 31 had no such display. Of the 36 libraries answering "yes" to the question, six indicated that not all books were so displayed. This situation probably exists in many of the other libraries as well. The non-ARL Canadian libraries reported catalogue display of arrearage books less frequently than did the ARL libraries—only five of the thirteen practised listing for some or all of their books.

- (4) Most of those libraries displaying arrearage books in their public catalogues did so by means of a copy of their order form, presumably annotated to show receipt. This was the general pattern in 27 of the 36. Fourteen libraries indicated that they produced a special card or slip for arrearage books. In some cases both techniques were used, depending upon whether the books were purchased individually or acquired in some way not involving the production of a multiple order form. The type of special card or slip produced was not itself a subject for inquiry in this questionnaire. From statements volunteered, however, it appears that this special card may be a typewritten card, a xerographic copy of an order slip produced on card stock, or a photographic copy of a title-page, provided with a type-written author entry. The last method, used at one time by the University of Kansas and at UCLA have been described in the paper by Engelbarts and Williams previously cited, and by Weimerskirch.<sup>5</sup> The University of Kansas, however, has not used title-page photography for several years.
- (5) Methods of indicating possession of uncatalogued books other than or in addition to listing of individual titles in public catalogues exist in many of the libraries. "Received," "Control," "Waiting," or "In-Process" files of uncatalogued books maintained in acquisitions or cataloguing departments and presumably providing some measure of public access were listed by thirteen libraries. This practice is probably more prevalent than the tally would indicate; many libraries would likely not consider these files accessible enough to the public to warrant mention as display devices. A number of libraries use computer-produced listings; four issue periodic printout listings of uncatalogued material available; one produces a monthly listing of this type, and another library provides, for public use, a computer-produced "in-process" listing which shows arrearage books. Three libraries produce, periodically, more or less conventional accession lists which include uncatalogued books; and here again there are probably more.
- (6) The arrangement and physical storage for arrearage books showed wide variation, without any one clearly preferred pattern.

<sup>5</sup> Weimerskirch, Philip J. "The Use of Title-Page Photography in Cataloging." *Library Resources & Technical Services*, 12 (Winter 1968), 37-46.

In descending order of prevalence the most used methods were: alphabetical by main entry (19 cases), by accession number (16 cases), by date of receipt (15 cases), by purchase order number (10 cases). Less frequently found were arrangement by: subject grouping (4 cases), language grouping (4 cases), and "control number," a temporarily assigned processing number (4 cases). Reported only once were such interesting methods as: alphabetical by title, by order date, by size (sub-arranged by a control number), by book truck number, and in "random" order. One hopes the arrearage is a small one in the last two cases! Several libraries listed more than one method, depending upon the nature of the material stored.

- (7) The great majority of libraries with arrearage collections shelved the books in a closed, non-public area. Only seven libraries of the sixty-six shelved books in a stack area open to the library's public.
- (8) Circulation of non-catalogued books in arrearage collections was reported by thirty-nine of the libraries, among which five indicated some type of limitation on circulation, based either on type of book or on type of borrower. In most cases the restriction on borrower limited circulation to faculty members or graduate students. Sixteen libraries reported that arrearage books did not circulate. However, fourteen other libraries indicated that, although arrearage books did not circulate, a request for such a book resulted in its being "rushed" through cataloguing and made available thereafter. In total, then, fifty-two of the sixty-seven libraries may be presumed to provide use of the books within a reasonably short time.

Generally speaking, there is a high correlation between circulation and display practices. That is, a library which attempts to publicly list uncatalogued books present in the library also usually circulates them when requested or very shortly thereafter (if they are "rushed" through cataloguing). Exceptions occur, however. Thirteen libraries, including some of the largest, do little or no public listing of arrearage books, but do circulate them if a user succeeds in having them searched out and found. Two libraries appear to list arrearage books in the public catalogues but do not circulate them.

- (9) The fact that an arrearage book is sought by a borrower appears to be a reasonably sound indication that there may be other demands for it in the near future. Some libraries, therefore, give priority in cataloguing to arrearage books circulated in an uncatalogued state. Twenty-two of the thirty-eight libraries circulating uncatalogued books indicated that this practice was followed, including two who did it "selectively" and another library which catalogued arrearage books only after two circulations. Fifteen libraries did not give priority in cataloguing to uncatalogued books circulated in that condition.

- (10) The query on future expectations of arrearage conditions was unfortunately phrased, and would have better read "Is the library's arrearage expected to increase if present conditions continue?" More is involved, of course, than acquisition rates. In any event the majority of libraries expect their present arrearages of processing to continue and increase, forty of the sixty-six libraries with arrearages so indicating, with twenty-six libraries considering their arrearages to be temporary phenomena only. One library did not answer the question.
- (11) Some type of permanent cataloguing below "LC standard" for monographs had little appeal for the great majority of libraries now operating with arrearages. Only eleven of the sixty-seven libraries indicated that they have adopted such a procedure or concluded that one is necessary. This in spite of the fact that the preceding question revealed that forty of the libraries expected their arrearages to continue and increase. Several administrators answering the questionnaire indicated their conviction that some type of simplified treatment was necessary, but doubted that they would be able to convince their professional staff of the desirability therefor.
- (12) In almost all cases those libraries expressing the conviction that a permanent type of cataloguing below LC standard will have to suffice for some part of the library's monographic collection had not, at this time, actually put these convictions into practice. Only three responding libraries indicated clearly that they were actually proceeding with a permanent type of cataloguing clearly below LC standard. Their methods, as submitted, are as follows:

"The system we are presently inaugurating calls for complete descriptive cataloguing, but no subject cataloguing or classification for most books for which L.C. cards are not available. We have a brief list of exceptions for which we will do complete subject cataloguing and classification. We, of course, assume the possibility of doing subject cataloguing and classification for any materials for which we have done descriptive cataloguing only, but we anticipate that this will be limited to those items for which L.C. cards become available. Our theory is that only our sophisticated scholars will need material not catalogued by L.C., that they will approach it only by main entry, and that the less sophisticated who use subject headings will be aided by not finding these rather esoteric materials."—*The University of Manitoba Library*.

"Main entry only, with bibliographic description which was adequate for purposes of acquisition." (The books kept in purchase number order.)—*University of Missouri Library*.

"We have made a small start on a limited cataloging program based on a system developed at Yale. Separately published monographs of predicted lighter use are added to this 'W-collection' in accession number order and the accession number . . . substitutes for classification. Author, title, and shelflist cards are prepared for each title."—*University of Virginia Library*.

The methods so used are basically similar, although there is variety in the details. The chief data excluded are classification numbers and subject entries. Other libraries indicated that they were thinking along similar lines, but had not actually proceeded operationally. Two Canadian libraries, however, stressed the need for classification.

"My minimal cataloguing would be, therefore: (1) full classification, (2) authoritative and complete author or other essential description identifying the main entry, (3) short title and date only in the rest of the entry. No added or subject entries, nor cross-references, but, establishment of a classified catalogue, i.e., a file of unit cards under class number with added class entries as necessary. Subject access would be through printed indexes to the classification."—*University of Saskatchewan (Regina) Library*.

"To our mind the best idea is to class all books; in this way a scholar will find volumes in his subject area even if we do not have subject entries in the catalogue."—*The University of Western Ontario Library*.

### Discussion

The bare facts of the arrearage situation in the larger university libraries in the U. S. and Canada may be summarized briefly:

- (1) Over three-quarters of the libraries have, at the present time, substantial arrearages of normally catalogued materials. In the main these arrearages consist of books for which cataloguing is less expeditious (absence of LC copy, unusual languages, etc.) or less urgent (received by gift, old, etc.).
- (2) About half the libraries which have arrearages attempt to list some or all arrearage books in their public catalogues, usually by means of a single card or slip (most frequently a copy of the order form) filed under main entry. The books themselves are usually kept in some sort of numerical or serial order within a closed area.
- (3) Over three-quarters of the libraries circulate arrearage books, in an uncatalogued state, or catalogue them on a "rush" basis for circulation when requested. Half the libraries circulating uncatalogued books do catalogue them more or less immediately upon return from such circulation.
- (4) Although three-fifths of the libraries with arrearages at present expect their arrearages to continue and increase, relatively few have concluded that some form of cataloguing below standard will have to be the permanent arrangement. Of possible types of substandard treatment, single main entry representation with locational rather than subject classification, and no subject access appear to be the most favored type.

A rationale for each library's treatment of its arrearage materials was neither sought nor obtained. From the mass of data and from the free comments made, however, it is possible to make some generalizations, which, although possibly inaccurate or unjust in respect of any single library, may still have some validity for the group as a whole. Some

practices which appear to have no obvious rationale at all, e.g., listing arrearage books in public catalogues but not making them available for circulation, may be dictated by practical necessities and imply no faulty thinking.

In general then, the libraries reporting showed a spectrum of situations ranging from sudden, accidental arrearage conditions deemed to be temporary only to acceptance of a substantial arrearage as a more-or-less normal situation, expected to continue for some time. The procedures governing treatment of arrearages appear to show a similar and parallel variation from simple, *ad hoc* adaptations to highly-planned codified procedures. The "Temporary One Entry" system, in operation at the University of Michigan Library is a good example of the latter type:

The Temporary One Entry system of cataloging was developed for two reasons: to provide bibliographical control and reader access for publications in an uncataloged backlog, and to increase the proportion of LC to original cataloging by delaying full cataloging until LC cards become available.

If a card is found in the Depository Catalog, standard cataloging is performed. If an LC card is not found and if it appears that an LC card will be forthcoming the publication is placed in T.O.E.

Books that are not likely to have LC cards are cataloged immediately. Arbitrary numbers in an X series are assigned, and the order fanfolds are used as temporary records in the catalogs until the publication is fully cataloged. The entry and description are given a cursory review by a cataloger.

The T.O.E. call number combines a letter and a number (X<sub>2</sub> or X<sub>5</sub>) with a serial number. Another letter (A-Z) is interposed to provide more numbers without exceeding four digits in the serial number. X<sub>2</sub> is used for General Library books, and X<sub>5</sub> for divisional library books. Example:

X<sub>2</sub>

A

43<sup>2</sup>

Records for T.O.E. books are filed under the main entry only in the Public and Official Catalogs, and in divisional libraries for publications to be cataloged for the locations. There are no slips under secondary entries. The books are shelved in the General Library stacks and divisional libraries from which they circulate on the same basis as books which are fully cataloged. Other copies of the T.O.E. slip are filed by call number in a control file, which serves the same purpose as a shelf list. Another slip is filed in the Depository supplement. Depository cards "bump" them as they are filed into the supplement. When an LC card which corresponds to the T.O.E. record is filed, the card is retrieved and the book is recalled for full cataloging.

Among the categories excluded from T.O.E. are titles for which LC cards are available at the time of receipt, and those for which heavy demand is anticipated or for which a single entry record and an arbitrary classification are inadequate. This includes books for the Undergraduate Library, Reference Department, Rare Book Room, and those that are placed on course reserves. Some special types of materials, such as multi-volume works and serials, are excluded because complex records would be required even for a temporary cataloging system.

The system became operational in April of 1964. Approximately 26,500 titles have been cataloged in T.O.E., and about 13,500 titles have received LC cards and have been recalled for standard cataloging. After another year or two publications for which no printed cards are received will be recalled for original cataloging.

The three objectives stated in the University of Michigan description, those of achieving bibliographical control of the arrearage, providing reader access to them, and maximizing the use of LC cataloging copy, appear to a varying extent in the other procedures encountered. In general, the more primitive systems, those which appear to have come into being through temporary necessity, appear to stress the first of these objectives over the other two.

The question of the future of arrearages was insufficiently answered by this questionnaire, and more data on this important subject would be useful and should be sought. Some observations based on more or less free comments in the returned questionnaires may shed some light.

First, the determination as to whether an arrearage in a library is temporary or permanent is at best a prediction, based in part on objective imponderables and subjective attitudes. Virtually identical procedures for handling books before they are definitively cataloged in two different libraries may be thought of as "temporary" in one and "permanent" in another. The only difference may well be the optimism of one librarian and the pessimism of the other. Seen through rose-tinted glasses, an arrearage is not even an arrearage. One librarian who answered the questionnaire and described a system of the most frequent type, wherein the books are given a serial number and represented in the public catalogue by a single main entry, using a copy of the order form, and giving no access by subject or classification, was able to conclude, despite the fact that 13,000 books were so treated,

"This small amount of *deferred cataloging* has allowed us to keep up with the great increase in acquisitions in the last few years. Outside of PL480 material . . . the library has *no current arrearages*." (Italics mine)

Second, despite the generally gloomy picture of growing arrearages, there are some indications of future improvement, most of them related to the role of the Library of Congress in university library cataloging. Many libraries commented upon the rapidly increasing percentage of their newly acquired books for which Library of Congress copy was available at the time of, or soon after, receipt of the books. Further improvements in this area are expected as the National Program for Acquisitions and Cataloging expands. Implicit in this increased use of centralized cataloging are internal changes in cataloging department organization and procedures to utilize this increased availability of LC copy. It appears that more and more libraries are relegating cataloging with LC copy to non-professional staff working with minimal professional supervision. Moreover, there appears to be a growing tendency to impose fewer and fewer local variations upon LC cataloging.

## APPENDIX

### THE UNIVERSITY OF BRITISH COLUMBIA SCHOOL OF LIBRARIANSHIP

#### *ARREARAGE QUESTIONNAIRE*

5 April, 1968

Sixty A.R.L. libraries, which together spent a total of almost 23 million dollars for books and other library materials during fiscal 1962/63, spent over 43 million dollars for the same purposes during 1966/67. Their book expenditures thus came close to doubling in only four years, and it appears likely that this increase was not accompanied, in most cases, by compensatory enlargement of processing and cataloguing staffs.

Despite certain offsetting considerations; e.g., increased availability of L.C. cards through the Shared Cataloguing Program, higher per volume cost of books, some presumed recent "streamlining" of cataloguing, some staff augmentation, etc., it is felt that substantial cataloguing arrearages will have developed in many of these and other libraries, creating problems of access to acquired but uncatalogued items. And, in response to these problems, it is suspected that many libraries will have devised means for providing access to such uncatalogued items on a temporary or, more significantly, on a permanent basis. Information about these procedures and the policies underlying them should be of interest and potential value to libraries facing similar problems.

For purposes of this questionnaire, "arrearage" need not be too rigorously defined. Consider that an arrearage exists whenever the number of books awaiting cataloguing becomes so large that

1. special means must be provided for locating titles readily within this backlog for library use, and/or
2. certain categories of books are set aside from the mainstream of processing for deferred treatment under either normal (L.C. level) cataloguing rules or under special rules.

Unfortunately, almost nothing has appeared in print on this subject during the last decade. This survey is designed, therefore, to gather such information. The results from the questionnaire will be sent, with thanks, to all cooperating libraries in advance of any publication of the survey data.

George Piternick,  
Associate Professor

THE UNIVERSITY OF BRITISH COLUMBIA  
SCHOOL OF LIBRARIANSHIP  
VANCOUVER 8, B. C., CANADA

*ARREARAGE QUESTIONNAIRE*

5 April, 1968

Name of Library \_\_\_\_\_

Name and title of person \_\_\_\_\_  
filling out the form

Information furnished is  Confidential  
 not Confidential

- I. Does the Library currently have a cataloguing arrearage; i.e., is there a significant number of monographs for which "L.C. level" cataloguing is being deferred? (Exclude from consideration government publications, serials, microforms, etc.)
- yes  
 no  
 yes, but . . . (please explain briefly)

If the answer to I. is "no," you have completed the questionnaire.  
*PLEASE RETURN IT, HOWEVER.*

- II. If so, for what kinds of books is cataloguing being deferred?
- books for which L.C. copy is not available  
 books in non-Roman alphabets  
 books published before \_\_\_\_\_ (supply date)  
 others (please list)

- III. Is the presence in the Library of books for which cataloguing is being deferred (hereinafter called "arrearage books") displayed in the public catalogues?
- yes  
 no

- IV. If answer to III. is "yes," what is the mode of display?
- a copy of the purchase order, filed by main entry  
 a card specially produced, filed by main entry  
 some other means (please specify briefly)

- V. Are there means of display other than, or in addition to cards or slips in the public catalogues; e.g. accession lists? (Please specify.)

- VI. How are arrearage books stored?
- in purchase number order
  - in accession number order
  - in accession number order within subject categories
  - in alphabetical order by main entry
  - by date of receipt
  - in some other order (please specify)
- VII. Is the storage area open to the public or closed?
- open
  - closed
- VIII. Do arrearage books circulate?
- yes
  - no
- IX. If the answer to VIII. is "yes," does circulation of an arrearage book cause it to be fully catalogued sooner; i.e. upon its return?
- yes
  - no
- X. Is the Library's arrearage expected to increase under present acquisition rates?
- yes
  - no
- XI. Do you have reason to conclude, or have you concluded, that the Library will have to consider a type of cataloguing below L.C. standards as permanent cataloguing for a number of its monographs, presumably those of predicted lighter use?
- yes
  - no
- XII. If the answer to XI. is "yes," please describe briefly what you consider to be minimal adequate cataloguing for those monographs whose cataloguing will have to remain below L.C. standard, in terms of classification, fullness of main entry, provision of added and subject entries, provision of cross-references, and title display.
- XIII. Please add any additional data or comments on the arrearage problem you may have. (Use backs of sheets as necessary.)

# The Colorado Academic Libraries Book Processing Center Study

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*Edited by* RICHARD M. DOUGHERTY

## Introduction

THE FOLLOWING THREE PAPERS were presented at the Technical Services Cost Committee meeting at Kansas City.<sup>1</sup> Two of the papers describe the methodologies used in the Colorado study. The third paper deals with one aspect of the study; the cost of original cataloging, and the need for the profession to collect a data base of standard times.

Lawrence Leonard's paper focuses on the problems and techniques of collecting motion and time data. An important product from this aspect of the study is a list of definitions and standard times for seventy-six technical processing activities. Joan Maier's paper outlines a procedure for converting time and motion data into usable cost figures. An interesting aspect of the Maier paper is a presentation of difficulties that a library might encounter in gathering accurate production statistics.

The methodologies employed in the Colorado study for the most part are not novel. Any library contemplating automation should conduct cost studies of existing operations using similar techniques. In the present study several man-months of tedious work were required to collect and analyze the data from nine libraries. But it is precisely these cost data that provided answers to several crucial questions: "Can we afford to automate; at what point in the future, if ever, will an automated system become cheaper to operate than its manual counterpart?" Cost and time studies do not make interesting reading, yet they are basic to further improvement in our understanding of how to use our valuable professional manpower.

<sup>1</sup> The full report has been released by the Clearinghouse for Federal Scientific and Technical Information in the usual unreadable format. It has also been re-edited and certain portions revised and will be published first in 1969 by the Scarecrow Press.

# The Colorado Academic Libraries Book Processing Center Project Time Study Methodology<sup>1</sup>

LAWRENCE E. LEONARD<sup>2</sup>  
Project Director, CALBPC  
University of Colorado Libraries  
Boulder, Colorado

When the cataloguing costs more than the books themselves, there is certainly some ground for inquiry. But this same public that clamors at the cost of good catalogues, clamors even more if it is not furnished with them. So the problem is how to make these catalogues at a less cost, and to stop making them will be no solution. At the present time, if a specially valuable book is published, it finds its way to at least a thousand different libraries, in all of which it must be catalogued. One of the highest salaried officers of each of these thousand libraries must take this book and examine it for the scores of points that only a cataloguer can appreciate the necessity of looking up. Then the title must be copied and revised. Perhaps a half day is spent in preparing a satisfactory note to append for the benefit of the readers, etc., etc. And all this work is repeated to a certain extent in each of the thousand libraries! Can librarians complain if practical businessmen call this sheer extravagance?<sup>3</sup>

I'm sure most readers could be convinced that this quotation appeared in a recent issue of *LRTS*. But no—these words were written by Melvil Dewey ninety-one years ago. Which only proves that professional concern over the cost of cataloging and book processing has not abated since the days of Dewey, and it is not likely to until all libraries can process books with a minimum delay and at the least cost possible. It was with these two objectives in mind that the Colorado Council of Academic Librarians several years ago embarked on a project to establish a centralized processing center. In October 1966, the National Science Foundation awarded a grant to conduct a feasibility study to the University of Colorado Libraries and the Colorado Council of Librarians. The project as outlined was to be conducted in three phases: Phase I, data collection and evaluation; Phase II, systems design; and Phase III, an operational center on a one-year trial basis.<sup>4</sup>

The background of the Center and the project's progress have already

<sup>1</sup> Hereafter referred to as the CALBPC study. This article is a summary of the CALBPC study, which will be reported in its entirety in a forthcoming book from Scarecrow Press.

<sup>2</sup> Mr. Leonard is now a doctoral student at the Graduate School of Library Science, University of Illinois, Urbana.

<sup>3</sup> Melvil Dewey, "Cooperative Cataloging," *Library Journal*, vol. 1, no. 4-5, January 1877, p. 170.

<sup>4</sup> Richard M. Dougherty, "A Central Processing Center for Colorado Academic Libraries," *The Colorado Academic Library*, vol. 3, nos. 3 and 4, Summer and Fall 1966, pp. 4-6.

been reported in the literature.<sup>4, 5</sup> The National Science Foundation funded the Phase III study in August 1968, and a one-year trial operation is scheduled to begin on January 1, 1969.

The purpose of this article as well as Joan Maier's is to describe briefly the methodologies that were employed in the Colorado study in the hope that others will find the techniques applicable.

### *Time Study/Cost Analysis*

All time and cost data were obtained through use of recognized business analysis/industrial engineering techniques. These techniques included flow process charting, direct time observation, and diary studies.

*Flow Process Chart.* The first step of any systems study is to chart the path taken by a person (or an object such as a book) as he moves from work station to work station. (See Figure 1.) The flow process chart is basic to all other studies since it is imperative that one knows exactly how work is currently being performed before he attempts to design an improved system. Unfortunately the temptation to design a new system without first analyzing the present method is pervasive. More than one automated system has been created in this manner.

Flow process charting is accomplished by interviewing the supervisor and the individuals who perform the work to be analyzed. A rough flow process chart may be drafted as a result of these interviews. The final chart should be based on actual observations. Deviations from the chart must be discussed with the individual worker, and necessary changes made.

The distance moved between work stations may be paced or taken with a tape measure, though a better method is to prepare a scale floor plan and to measure distances on the floor plan as transportation steps are identified in the flow process chart.

The level and title of personnel performing the functions (i.e., acquisitions clerk, assistant cataloger, student assistant, etc.) must be specified as well as the type of equipment used in each task. When the flow process chart has been completed and the work routines are thoroughly understood, then the investigator can turn his attention to gathering data on processing times.

*Diary Study.* The purpose of the diary study is to obtain mean times for tasks that involve considerable variation in frequency which make direct time observations difficult (e.g., original cataloging, bibliographic searching, bindery procedures, etc.). In the CALBPC study diary times were utilized to some extent in the labor cost analysis. Information from the diary study was also cross-checked against the flow process charts and time observations to verify the level of personnel who performed each function.

Preliminary meetings were held with each supervisor and personnel who would be involved in the diary study. The forms used in the diary

<sup>5</sup> Lawrence E. Leonard, "Colorado Academic Libraries Book Processing Center: A Feasibility Study," *College & Research Libraries*, vol. 29, no. 5, September 1968, pp. 393-99.

FIGURE 1  
FLOW PROCESS CHART

					SUMMARY			
Library:						Pres Meth	Prop Meth	Diff
Subject Charted: Acquisitions					○ Operation	112		
Present	Method	Man	Chart	Sheet <u>1</u>	◁ Transportation	46		
Proposed		Material		of <u>16</u>	□ Inspection	2		
Chart Begins: Periodical Clerk opens mail bag.					D Delay	0		
Chart Ends: Files them in "direct order" file.					▽ Storage	1		
Charted By <u>J. M. M.</u> Date <u>6/1/67</u>					Distance in feet	3,394		
Dist in Feet	Time in Min	Symbol	Step #	Process Description	Total steps 161			
		○◁□D▽		Sorting Mail				
		○◁□D▽						
		●◁□D▽	1	Periodical Clerk opens mail bag and removes contents.				
		○◁□D▽						
		●◁□D▽	2	Separates into three categories: 1) books, 2) magazines, and 3) enveloped mail.				
		○◁□D▽						
32		○◁□D▽	3	Delivers book packages to Student Assistant's work table. <u>Note: Boxes are left in the receiving room directly.</u>				
		○◁□D▽						
115		○◁□D▽	4	Delivers enveloped mail to Secretary in Library Office.				
		○◁□D▽						
		●◁□D▽	5	Secretary sorts mail into seven categories: 1) first class, 2) bills or renewal notices, 3) personal mail for staff members, 4) publishers' brochures and catalogs, 5) periodicals that the Student Assistant did not recognize, 6) college catalogs, and 7) items to confer with the Librarian about.				
		○◁□D▽						
		○◁□D▽						
		○◁□D▽						
		●◁□D▽	6	Opens first envelope of category number 1 mail.				
		○◁□D▽						
		●◁□D▽	7	Reads contents and sets aside. <u>Note: Repeats steps 6 and 7 until all of category number 1 is handled.</u> Repeats steps 6 and 7 for category number 2.				
		○◁□D▽						
		○◁□D▽						
		●◁□D▽	8	Opens first envelope of category number 4.				
		○◁□D▽						

study, which included a list of technical processing activities, and the procedure for completing the "Daily Time-Function Record,"<sup>6</sup> (see Figure 2) were carefully explained. Questions about the diary study were answered.

The CALBPC diary study was conducted during two five-consecutive work day periods. During the first diary study a member of the project was available to answer questions posed by participants and to observe that forms were properly completed as the work day progressed. The second study was run two months later with no member of the investigation team present. The forms from the unsupervised study were compared later with results of the supervised study. In the Colorado study the differences were not found to be significantly different, but this might not always be the case.

One conclusion of the CALBPC study was that a diary study if properly conducted can be a viable approach to collect unit time data. There are, however, several considerations in the design and use of the diary method which should be noted and which will limit the effectiveness of the method if these considerations are overlooked.

A diary study may be unstructured, structured, or highly structured. In any of the three approaches, the participating subjects are briefed on the study, the forms, and the type of data which are to be collected. They are also told the period over which they are expected to record their work activities.

In the unstructured approach, subjects are *not* given a list of activities corresponding to their anticipated work functions. As the study progresses, subjects record work activities and units throughout the day, describing their activities in their own words. This may be the easiest approach for the subjects involved, but is the surest way to produce data which may defy quantification, and hence, tabulation.

In a structured diary study a list of activities or tasks with scope definitions is prepared. The tasks must be clearly identified and unambiguously defined so that a subject can readily identify and relate them to the work he performs. After a day or two, he will become familiar with the activities list, and will be able to record his work using a number code, which is a relatively easy approach. Moreover the use of a code guarantees data which can be tabulated with little or no difficulty.

The highly structured diary study is one in which tasks are identified in many pages of minute detail. This approach, however, makes it difficult for a subject to distinguish between related tasks. The CALBPC investigators observed empirically as have others before them that the significance of the data reported in the study varied inversely with the difficulty experienced by the subject in recording and reporting time and work units; i.e., the less pleasant the diary study is to the subject, the

<sup>6</sup> The diary form was based on one developed by Donald D. Hendricks, *Comparative Costs of Book Processing in a Processing Center and in Five Individual Libraries*, Springfield, Illinois. Illinois State Library, May 1966, p. 85-86.

Figure 2

COLORADO ACADEMIC LIBRARIES BOOK PROCESSING CENTER

DAILY TIME - FUNCTION RECORD

DATE 17 JULY 1967

LIBRARY STATE COLLEGE NAME J. JONES  
 DEPARTMENT CATALOGING POSITION ASST. CATALOGER

Min-utes	8:00	9:00	10:00	11:00	1:00	2:00	3:00	4:00
Func-tion Key								
Number Items Handled								
05-----	#26 3 BOOKS	#45			#23		#23 10 BOOKS	#26 4 BOOKS
10-----		X						
15-----		#21 25 BOOKS						
20-----								
25-----								
30-----								
35-----			#37 300 CARDS					
40-----			X				X 22 371 BOOKS	
45-----			#26					
50-----								
55-----	X #45							X #48
60-----								

Record in the appropriate time space the number of items handled or processed while performing one function. If work schedule is other than 8:00 a.m. - 5:00 p.m., consider the columns as 1st through 8th hour of work.

more likely is the temptation to ignore the diary form until 4:45 p.m., and then fill in the entire day's form with "guesstimates."

A diary study should be monitored, at least initially, to insure that all subjects understand the method of recording data, and the structure of the task list provided them. During the monitored period, forms should be spot-checked several times each day. In the CALBPC study, the most frequent omission during the first few days was the number of units (volumes, sets of cards, etc.) processed during a given period of time. Unless a subject records the time spent on a particular task *and* the number of units produced during this period of time, the data are worthless.

*Time Study.* Time study has generally meant diary study as reflected by articles which have appeared in library literature. The majority of library time studies to date have used diary study methodology exclusively as the collection instrument in obtaining time data for computation of unit processing times.

Time study is a method well suited to determining the unit time required to perform repetitive tasks when small time intervals are involved. Two things to consider, however, before beginning a time study are: (1) type of stopwatch to be used—if there is a considerable amount of timing to be done, a decimal stopwatch (*industrial times*) is preferable; it is easier to record time directly in minutes and hundredths of minutes, rather than converting from minutes and seconds; (2) methods of timing—two methods of timing are used in recording observations, (a) continuous timing in which the stopwatch runs without zeroing for several cycles of a task; (b) snap-back timing in which the cycle reading is recorded and the watch reset to zero at the end of each cycle. For library studies the snap-back method of timing is easier because countless subtractions can be avoided. In addition, the analyst can note the approximate variance in readings as he records the time for each cycle.

In the CALBPC study individuals at each library were observed as they performed technical processing tasks. Times were recorded to the nearest second for each complete cycle. Before beginning the timing, the investigators first questioned the subject to insure that he (the investigator) understood the exact sequence in the routine. Next, several sample work cycles were timed to insure that all steps identified were in proper sequence and that each operation was, in fact, being performed. This also permitted the subject to become accustomed to being observed and "timed" though many of those timed never felt at ease. The number of items handled in a given operation or series of steps was also recorded.

Occasionally the person timed did not follow the same sequence for each cycle. In such an instance, the importance of these variations was discussed with the employee and, if necessary, recorded as irregularly performed operations.

A personal rating factor, in the form of a time allowance, was recorded on each observation form to account for worker variations from the normal time required to perform the task. *Normal time* is defined as the time required by an individual familiar with a work routine to complete

one repetition or cycle of a task working at a normal pace. It is equivalent to the observed time (watch reading) multiplied by the rating factor (a subjective percentage factor assigned by the observer to compensate for deviation from the subject's normal working pace). Most individuals timed in the CALBPC study were judged to be performing over their normal working speed; therefore, such ratings as 110% (1.10), 125% (1.25), etc., were assigned. A person who was nervous and consequently made an excessive number of errors received ratings in the range of 85% (0.85) or 90% (0.90).

Each time observation was recorded on the "Time Study Observation Sheet" (see Figure 3). Readings were recorded in the horizontal R (watch reading) box as the subject completed each timed element of a cycle. The watch readings were converted to decimal fractions of minutes for computation purposes and entered in the T (time) line above the corresponding R recordings. The bitter experience of converting several thousand observations from seconds into decimal fractions is why we now strongly urge the use of a decimal stopwatch.)

Based on a variance study of time data obtained from a preliminary group of observations, it was found that forty cycles of any given task would provide reliable time data; and this is the sample size that was used throughout the time observation study. When all readings had been taken, the T values were summed and T (the mean observed time) was calculated for each task.

*Standard Times.* In computing standard times within one library it is necessary to consider the frequency with which a function is performed. For instance, do all books require the added copy routine? Obviously not. Therefore, it is necessary to determine what percentage of the time is devoted to this activity. It can be calculated by dividing the number of added copies by the total number of volumes processed in a given year. Each processing function in a given library was so analyzed and a frequency percentage assigned based upon statistics reported or upon sampling. If the activity was applied to every book coming through the system, it was assigned a frequency of 1.00 or 100 percent.

It should be noted here that when a researcher seeks a general standard time to gauge one or two particular activities, he need use only the "overall standard time," a mean standard time produced from readings at different libraries. This standard time is derived from the mean observed time, multiplied by the personal rating factor (RF) and the standardizing factor. On the other hand, if one wants to analyze a specific library's technical services as a series of interrelated functions, frequencies must be assigned each task in order to model an accurate description of the work load.

In the CALBPC study the standardizing factor was computed following the procedure outlined by Henry Voos as the criteria for computation.<sup>7</sup> Voos listed the following elements which affect labor productivity

<sup>7</sup> Henry Voos, "Standard Times for Certain Clerical Activities in Technical Processing," Ph.D. Thesis, Rutgers. The State University, New Brunswick, New Jersey, 1964, p. 94.

TIME STUDY OBSERVATION SHEET

RF 110

Operation Clerk types call # and added entries on card sets (3)

Allowances \_\_\_\_\_ %

Time Started 10:52 Time Finished 11:45

Standard Time \_\_\_\_\_ min.

Observer LFL Date 6/21/67

Units/hour \_\_\_\_\_

No.	Elements	1	2	3	4	5	6	7	8	9	10	IT	T	RF	NT	
	Picks up book; pulls cards and types call # on LC slip.	T 28.95	.87	.67	.87	.89	.75	.65	.58							
		R 57.57	.52	.40	.52	.50	.45	.39	.35			9		53 <sup>a</sup>		
		T														
		R														
	Types	T														
	① Shelf list - call #	T 28.63	.58	.45	.55	1.17	3.28	1.05	.53							
	Sourcing information	R 45.38	.35	.27	.33	1.10	2.17	1.02	.32							
	② Main entry - call #, tracings on back of	T 52.47				.58	1.85	.98	.58	.72	.52					
	③ Added entries - call #, headings	R 31.28	.45	-	.35	1.51	.59	.36	.43	.31						
		T 72.24	.50	.77	1.17	.45	1.23	.50	1.02	.60						
		R 43.25	.30	.46	1.10	.27	1.15	.30	1.02	.36						
		T 80.43	.40	.50	.58	.58	.27	.55	.53	.50						
		R 48.26	.24	.30	.32	.35	.58	.33	.32	.30						
		T 40.98	.65	.48	.40	.37	.60	.78	.83	.85						
		R 24.59	.39	.29	.24	.22	.36	.47	.50	.51						
		T 68.63	.70	.48	.37											
		R 65.38	.42	.27	.22							9		53 <sup>a</sup>		
		T														
		R														
		T														
		R														
		T														
		R														
	Initials shelf list, lower right corner.	T 40.30	.25	.20	.22	.15	.42	.27								
	Places slips and cards in book.	R 27.18	.15	.12	.13	.09	.25	.16								
	Places book on truck.	T														
	Picks up next book.	R														
		T														
		R														
		T														
		R														
		T														
		R														
		T														
		R														
	TOTALS															22

and which are difficult to obtain through direct time observation and diary study methods. These elements are:

unproductive time	16.3%
supervision	6.5%
administration	3.8%
instruction	5.7%

$$p = 32.3\%$$

The standardizing factor was computed from the formula:<sup>8</sup>

$$e = \frac{100}{100 - p} \quad \text{where } p = 32.3$$

$$e = 1.4771$$

A table of standard times for each library was compiled, and a mean standard time for each function was calculated. The high and low times were listed along with the mean times in a table of generalized standard times. Selected times from this table listed in Table 1.

The many variations in library methods and procedures provide a strong argument for the development of standard times for well-defined functions as a national library data base. Each task timed should comprise observed times for as many variations in method and procedure at as many libraries as possible. A clearinghouse to organize a data base for time data, among other standards, could be established. The mean standard time of the observed variations for each task cataloged could be calculated and constantly revised as new methods for technical services activities were devised and timed and cataloged.

*Standardized Technical Processing Activities.* The activity list used in the diary study was refined and the scope of each activity was defined in depth. The list was redesignated "Standardized Technical Processing Activities" (see Table 2, which includes a partial list of activities with scope notes) and contains seventy-six functions in all. The study staff used the standard activities identified as the basis for the detailed time study/cost analysis work conducted at each library. The study of technical services activities included analysis of a diversity of tasks ranging from single elements to an entire routine. Consequently, to collect useful, comparable data, the units (elements, operations, processes, etc.) to be measured were divided into three categories: (1) activities that are performed in the same manner by all libraries, i.e., filing cards, opening mail, etc.; (2) activities that may be performed by alternative methods, but which all produce essentially the same result, product, or action, i.e., preparing multiforms by typing, photography, or xerography, etc.; (3) activities that can be more meaningfully measured as composite routines, i.e., claiming procedures, accessioning routines, etc.

Analysis in the "Activities" compilation is limited to the acquiring and processing of monographs and monographic series, thus omitting activities associated with technical processing of periodicals. Even with

<sup>8</sup> Richard M. Dougherty and Fred J. Heinritz, *Scientific Management of Library Operations*, New York, Scarecrow Press, 1966, p. 113.

TABLE I  
GENERALIZED STANDARD TIMES SUMMARY  
*Acquisitions*

Activity Description	Normalized			Standardized		
	Low	High	Mean	Low	High	Mean
1. Open, sort and distribute incoming mail.	.3208	1.3475	.6462	.4739	1.9904	.9545
2. Review book order requests; review selection media.	.4719	.9416	.8227	.6970	1.3908	1.2152
3. Select titles to be ordered.	...	...	...	...	...	...
4. Type library order request card.	.6750	2.5628	1.4699	.9970	3.7855	2.1712
5. Search and verify bibliographic information.	1.5994	13.6235	4.2739	2.3625	20.1232	6.3130
6. Assign vendor and fund.	.0693	1.7323	.4813	.1024	2.5588	.7109
7. Prepare multiple order record.	.6132	15.2933	2.8000	.9058	22.5897	4.1359
8. Type purchase requisition, etc.	.3516	14.1758	6.2131	.5193	20.9391	9.1774
9. Revise typing. Sign and mail requests.	.1176	1.6788	.7570	.1737	2.4798	1.1182
10. Burst forms.	.1478	3.7461	.8608	.2183	5.5334	1.2715
11. File forms in appropriate files.	.3726	2.5214	1.5234	.5504	3.7244	2.2502
12. Encumbrance or prepayment routine.	.4847	1.0901	.7404	.7160	1.6102	1.0936
13. Unpack books; check against packing list or invoice. Check outstanding order file.	.6540	6.0642	2.8785	.9660	8.9574	4.2518

these omissions, the standardized activities list represents a comprehensive description of functions performed by the majority of libraries in the country. Activities that are not included can be added locally and others modified to meet local needs. A library can also subdivide any of the activities in order to collect data that more nearly satisfies its particular needs.

TABLE 2  
STANDARDIZED TECHNICAL PROCESSING ACTIVITIES

I. ACQUISITIONS

- A. Preliminary Activities
  - 1. Open, sort and distribute incoming mail
  - 2a. Review book order requests
  - 2b. Review selection media
  - 3. Select titles to be ordered
  - 4. Type library order request card
- B. Bibliographic Searching—Checking
  - 5. Search and verify bibliographic information
- C. Orders Placement
  - 6. Assign vendor and fund
  - 7. Prepare multiple order record
  - 8. Type purchase requisition, etc.
  - 9a. Revise typing
  - 9b. Sign and mail requests
  - 10. Burst forms
  - 11. File forms in appropriate files
  - 12. Encumbrance or prepayment routine
- D. Receiving, Billing
  - 13a. Unpack books; check against packing list or invoice
  - 13b. Check outstanding order file
  - 14. Check in serials on Kardex
  - 15. Collate books
  - 16. Book return procedure (incorrect shipment, defective copy, approval books)
  - 17. Book accessioning routine
  - 18. Write sourcing information
  - 19. Prepare gift record form
  - 20. Book distribution routine
  - 21. Prepare receiving report
  - 22. Prepare invoices for payment
  - 23. Expenditure routine
- E. Post-Cataloging
  - 24. Clear in-process file
  - 25. File forms, etc., in completed records or discard
  - 26. Requestor notification routine
  - 27. Periodic accessions list routine

STANDARDIZED TECHNICAL PROCESSING ACTIVITIES:  
SCOPE OF FUNCTIONS PERFORMED

I. ACQUISITIONS

- A. Preliminary Activities
  - 1. Open, sort and distribute incoming mail:  
Mail is opened and sorted into like items (publishers advertisements, catalogs, book requests, invoices, incoming books, serials, etc.), and distributed to appropriate processing point.
  - 2a. Review book order requests:  
Book order requests are examined to determine their bibliographic completeness, their suitability to the scope of the collection, and the status of the funds

against which they will be charged. Book order requests satisfy specific information needs and build the collection in departmental areas.

2b. Review selection media:

Selection media are periodically reviewed to identify new titles which should be added to the collection. Placement of orders by review of selection media satisfies the general subject scope of the collection.

3. Select titles to be ordered:

Titles which satisfy departmental or general interests are selected for order placement, within budgetary limitations.

4. Type library order request card:

Typist prepares library order request card from bibliographic information supplied by the requestor. Information may be sent in the form of publishers' flyers, brochures, handwritten request lists, catalogs, bibliographies, etc. A single order request card is typed or handwritten for each title selected. Libraries frequently supply order request cards to each academic department, with instructions for orders placement. They can then use the request card completed by the department rather than duplicate work with a separate typing.

B. Bibliographic Searching—Checking

5. Search and verify bibliographic information:

Requests are searched: (1) To establish entry, complete missing bibliographic information, and determine availability of title and LC copy through *Cumulative Book Index*, *National Union Catalog*, etc.

## Analyzing Acquisitions and Cataloging Costs

JOAN M. MAIER

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Because the need for more precise techniques in analyzing the costs of technical services in libraries has been discussed for a number of years, this paper is frankly methodological. The procedures described were developed as part of a feasibility study to establish a book processing center for the state-supported academic libraries in Colorado.

Lawrence Leonard has already outlined the techniques by which job performance data were collected at nine libraries. Mean times in minutes for specified technical processing activities were calculated from time observations. It is upon these data and related statistics that the cost analysis was based.

The problem in essence is to convert the time required to perform each task into dollars and cents, then to cumulate these individual task costs to obtain a unit cost for book processing for a given library.

The end product of the Colorado Academic Libraries Book Processing Center (CALBPC) method is the Summary Cost Sheet (Table 1) illustrating the five elements of the cost analysis: labor, supplies, overhead, trans-

TABLE I  
SUMMARY COST SHEET

Cost of Processing per Volume (in dollars) by Member Library

Library	L	S	O	T	M	C
#1	\$3.412	\$.158	\$.821	\$.036	\$.108	\$4.54
#2	3.010	.292	.692	.031	...	4.02
#3	2.807	.169	.450	.053	.047	3.53
#4	4.965	.400	.416	.028	.063	5.87
#5	6.691	.149	.846	.024	...	7.71
#6	1.809	.408	.434	.020	...	2.67
#7	2.775	.300	.389	.026	.058	3.55
#8	3.568	.180	.278	.057	.074	4.16
#9	1.490	.572	.567	.010	1.850(U)	4.49
Average	3.392	.292	.544	.032	.367	4.50
CALBPC	\$2.346	\$.292	\$.310	\$.057	\$.092	\$3.10

Volume predicted for CALBPC is 119,505, based upon the sum of the volumes added to each member library in FY 1967 (i.e., 160,993) prorated by the averaged percentage of new titles added (i.e., 74.23%).

KEY:

L = Labor Cost

S = Supply Cost per Book

O = Overhead (Equipment and Institutional)

T = Transportation Factor

M = Commercial Binding Cost for Paperback Books Prorated

U = Cost per Volume of Utilizing a Commercial Firm for Processing

C = Cost of Processing per Volume per Member Library

portation, and commercial binding fees. It should be clarified here that "transportation" refers not to shipping charges but to the distance a book is moved through the acquisitions and cataloging system as delineated on a flow process chart.

### *Output Statistics*

The difficulty in completing the cost analysis itself arose not so much out of the tedium of collecting the original time observation data but in collecting budgetary, personnel, and output statistics. Examples of output are the number of catalog cards produced annually, the number of authority cards typed, the number of books pamphlet-bound at a library, etc.

The format and degree of specificity for collecting statistics varied so widely from library to library that for some tasks performed, the only means for measuring output was to take a sample. For instance, to answer the question, "How many claims were made on outstanding orders during the fiscal year?" the analyst had to gather a sample of claim slips from the order file; or, if a small file, count the total number of claims in the file and extrapolate from this the number of claims executed in one year. The importance of output statistics becomes apparent upon examination of the Frequency Chart (Table 2). These statistics are also crucial for computing the wage-per-minute column that is part of the labor cost analysis (Table 3) and the other four major elements on the Summary Cost Sheet.

Statistics on output, otherwise thought unobtainable "after-the-fact," can often be estimated by judicious sampling. Once the number of items in the file or collection to be sampled has been determined, the question of how large a sample to take can be settled by using the formula:

$$\sigma p = \sqrt{\frac{\theta(1 - \theta)}{N} \times \frac{N_p - N}{N_p - 1}}$$

where

$\sigma p$  = the confidence level desired (normally .05 to denote the probability that the sample is a 95% accurate representation of the entire file)

$\theta$  = .50 (the probability requiring the maximum sample size)

$N_p$  = total items (slips, cards, books, etc.) from which the sample will be drawn

$N$  = sample size needed (the unknown)

For example, to sample an orders-completed file of 30,000 titles to estimate how many paperbound books the library processed during a given calendar period, the sample size would be computed from the equation:

$$.05 = \sqrt{\frac{(.50)(.50)}{N} \times \frac{30,000 - N}{30,000 - 1}}$$

Once the sample is drawn from the file, the percentage of paperbound books can be established for the sample itself, and the estimated number of paperbound books in the total file derived from taking that percentage of the 30,000 titles.

Some fundamental output statistics are:<sup>1</sup>

- Volumes added to the collection during a given period.
- New titles added.
- Added copies processed.

<sup>1</sup> A complete list of output statistics useful in cost analyses are included in the complete report.

TABLE 2  
FREQUENCY CHART: ACQUISITIONS

Activity Description	Frequency Percentage Formula
1. Open, sort and distribute incoming mail.	1
2. Review book order requests; review selection media.	$\frac{\text{titles purchased}}{\text{volumes processed}}$
3. Select titles to be ordered.	Same as #2
*4. Type library order request card.	Same as #2
5. Search and verify bibliographic information.	Same as #2
6. Assign vendor and fund.	Same as #2
7. Prepare multiple order record.	Same as #2
*8. Type purchase requisition, etc.	$\frac{\text{purchase requisitions prepared}}{\text{volumes processed}}$
9. Revise typing. Sign and mail requests.	Same as #8
10. Burst forms.	Same as #2
11. File forms in appropriate files.	Same as #2
12. Encumbrance or prepayment routine.	Same as #2
13. Unpack books; check against packing list or invoice. Check outstanding order file.	Same as #2 → 1 (if gifts are handled this way)
14. Check in serials on Kardex.	$\frac{\text{added volumes}}{\text{volumes processed}}$
*15. Collate books.	0 → 1
16. Book return procedure (incorrect shipment, defective copy, approval books).	$\frac{\text{volumes returned}}{\text{volumes processed}}$
17. Book accessioning routine.	0 or 1
*18. Write sourcing information.	0 or 1
19. Prepare gift record form.	$\frac{\text{gift volumes received}}{\text{volumes processed}}$
20. Book distribution routine.	1
*21. Prepare receiving report.	Same as #2

\* The use of these functions varied widely.

Assumption: Volumes processed entered the system during a given fiscal year.

TABLE 3  
LABOR (L)  
Unit Cost Calculation for Technical Processing Activities<sup>1</sup>  
*Acquisitions*

LIBRARY #2

	a		b	c	d	f	g	h	i
	Observed Mean Time	Frequency							
1. Open, sort and distribute incoming mail.	.279	1,000	.279	1.15	.4739	2	.0272	.129	
2. Review book order requests; review selection media.	(.856)	1,000	.856	1.10	1.3908	3	.0874	.122	
3. Select titles to be ordered.	AF	...	...	...	...	...	...	...	
4. Type library order request card.	.641	1,038	.665	1.10	1.0805	1	.0233	.025	
5. Search and verify bibliographic information.	2.359	1,000	2.359	1.10	3.8329	1	.0233	.089	
6. Assign vendor and fund.	(.475)	1,000	.475	1.10	.7718	3	.0874	.068	
7. Prepare multiple order record.	.687	1,000	.687	1.10	1.1162	2	.0272	.030	
8. Type purchase requisition, etc.	3.676	.013	.048	1.10	.0780	2	.0272	.002	

<sup>1</sup> Seventy-six activities are listed in the full report.

KEY:

AF = Another function incorporated this activity at this library.

( ) = Simulated data.

Added volumes processed.

Library of Congress cards filed in the card catalog.

Total actual work days that a technical services department was in operation during a given period.

Total hours worked by each category of personnel.

Ideally, a cost analysis would begin with the collection of the necessary statistics as a part of the data gathering process. Unfortunately, the CALBPC team recognized the need for some statistics only after the time observation phase had been concluded. Hindsight being the wonderful thing it is, the investigators used "historical" and sampling statistics to complete the cost study—which was doing it the hard way. It can be recommended that others engaged in similar studies collect all needed output statistics early in the study.

### *Methodology*

The following discussion explains step-by-step how the cost per volume processed can be calculated. The method is built upon the theoretical model of one book progressing through the system such that every task performed in the system is performed on that book *proportionally* (see Frequency Chart and explanation). The unit cost obtained, therefore, applies to the generalized model of a book being processed at that library, not to any specific category of books such as those originally cataloged, those needing plastic jackets, etc.

*Unit Labor Cost Calculation.* Let us assume that the observed mean times (*a*) have been entered in the Labor Chart (see Table 3). The symbols in parentheses refer to the symbols in Table 3. Let us also assume one fiscal year is being studied. Is it correct to use these unit times as they are, to represent accurately the amount of work being accomplished? Does every book that passes through the system receive the benefit of each function for which there is time on the chart? Probably not. For instance, added copies are not searched (Function #5) nor are they cataloged with LC card sets or originally. Gift books, on the other hand, might receive an extra bit of processing (Function #19 in the full report). Therefore, to assume all books receive exactly the same treatment is an erroneous and costly assumption to make.

How then is it possible to assign weights to each time (*b*), i.e., to express accurately the importance of each function to a given library in quantitative terms? Using a percentage concept, the investigator could construct a Frequency Computation Table (Table 2), which indicates what statistics must be ratioed to provide a weighting percentage. Thus, in answer to the question, "How important is Function #19 (Prepare Gift Record Form) to the processing system?" The answer is to use statistics of one fiscal year for gift books processed as well as total books processed, and compare the two. The result might be something like .10 or 10 percent, i.e., one out of every ten books processed is a gift. Consequently, .10 would be entered in the frequency column by Function #19. If a function occurs to every book once such as in the case of

#6, Assign vendor and fund, it receives a frequency weight of 1.0 (100%). By the same logic, if the same function occurs more than once to the same book, a frequency above one would be recorded. For instance, the same book might have six catalog cards prepared for it, this number established by taking the number of cards filed in the Public Catalog and Shelf List over the whole year divided by the number of books processed. A frequency count of 6 (600 percent) would be entered for sorting, filing, and revising of catalog cards.

As previously discussed, statistics necessary for assigning frequency percentages are sometimes not available or else not part of the normal reporting routines. If not, it is usually possible to derive them by sampling existing files, examining billing records, and by asking the staff to maintain statistics on certain items such as cancellations and authority cards for limited but well-defined periods, as for a three month period or every third month.

Once the frequencies have been assigned, it is possible to compute the adjusted times (*c*). But again, the accuracy of the adjusted times must be questioned. During the time observations, the person being timed was assigned a personal rating factor according to whether he seemed to be working above or below his normal pace, although this was recognized to be a purely subjective judgment (*d*). (See Leonard's paper for a fuller discussion.)

It is also important to consider such factors as administrative overhead, general supervision, and unproductive time such as coffee breaks, which cannot be assigned to any specific task but which apply to all functions. The additional time to allow for these general activities is provided for by using a standardizing factor (1.4771).

Therefore, the adjusted mean times must be multiplied by both the personal rating factor and the standardizing factor to obtain a "standardized time" (*f*) for each function performed in the library under investigation.

The flow process chart described by Leonard provides the information on what category of employee is assigned to a given function. Each library has its own categories, but three should serve for purposes of illustration. These are: (1) part-time or student clerks; (2) full-time clerks; and (3) full-time professional librarians (*g*).

The wages-per-minute per category in Table 3 is based on the total personnel budget or expenditure for a year by category of employee divided by the total number of work-minutes in each category for one year (*h*). To obtain the total work minutes by category, the steps followed are:

1. Total the actual number of work days for each individual. (*Note*: eliminate weekends, legal holidays, sick leave, professional leave, vacation days.) This total will vary according to the fringe benefits accruing to each category.
2. Convert the total work days to work minutes by multiplying by 8 (hours per day) and by 60 (minutes per hour).

3. Divide the amount of money spent per annum in a given category by the number of work minutes accrued in that same category. The quotient is the wage per minute by category. The wage rate for "productive" time is automatically higher than that spent for total "official" work-time.

The wage rates are entered on the Labor Chart (Table 3) matching the categories previously entered for each function. The standard time multiplied by the wages-per-minute yields the cost per function for each book. The sum of these function costs provides the total labor cost for processing a book at that library.

*Other Costs.* The remainder of the analysis is not nearly so complex as the labor cost computation. For example, the *supplies* cost is simply the supplies expenditure for technical processes divided by the total number of volumes processed in one year. See the Summary Cost Sheet, Table 1.

*Overhead* is treated here in two forms: institutional and equipment. Administrative overhead has already been taken care of as part of the standardizing factor in the labor computation. Institutional overhead includes the cost of items normally not charged to a library's budget. These include light, heat, telephone, water, insurance, interest on a building mortgage, janitorial labor and supplies, building and grounds maintenance, and depreciation on buildings. Most non-profit institutions carry an overall figure—x-dollars per square foot of usable internal floor space in the building. Such figures ranged from \$2.50 to \$5.00 per square foot per annum for the libraries studied. The comptroller may possess a figure because institutions which are recipients of federal grants are normally expected to establish an overhead rate and use that rate on all grant applications. It is sometimes expressed as a percentage of salaries. One participating institution in the CALBPC Study uses 53.3 percent of salaries as the method for computing overhead costs on grant proposals.

If a square footage figure is used, then the number of square feet assigned to technical services multiplied by the cost per square foot yields the annual institutional overhead cost. This figure divided by the total volumes processed in a year produces the unit overhead cost.

The other form of overhead pertains to equipment. It comprises depreciation on purchased equipment, rental fees, and contractual services. Depreciation schedules need to be set up for equipment owned by the library, based upon the purchase price or accepted appraised value and the expected life span so that the amount of depreciation per item can be summed for a total depreciation figure. Depreciation schedules are frequently not maintained in libraries. However, they are an excellent means for keeping an equipment inventory up-to-date and projecting replacement needs. Amounts spent on rental fees such as Xeroxing, sending cards away to be photocopied, or buying computer time should be a part of the accounting records.

The three elements of equipment overhead are summed and the results divided by the total volumes processed. The unit equipment over-

head added to the institutional overhead yields the total unit overhead cost.

*Transportation* is a factor which depends upon the physical arrangement of the work facility. As part of the flow process chart preparation, the number of feet required to complete a transportation step is measured and entered on the chart. Then, these distances are summed to indicate the total number of feet that a book must theoretically travel while it is being processed. The problem is to convert distance to time and then to cost. Under timed observations the walking rate of the average library employee was found to be 241.2 feet per minute. Dividing the total feet on the flow process chart by 241.2 feet per minute produces the time taken to transport materials. Converting from time to dollars is an easy multiplication step using the wage-per-minute amount in the full-time clerk category.

Since books are normally moved in batches from one processing point to another, the transportation cost just computed must be divided by some batching factor. To determine a realistic batching factor for the CALBPC study, books on book trucks and purchase request cards in "to search" boxes were counted. The average batch factor was 85. A similar procedure could be conducted at any other library or libraries to obtain an average batching factor. The total "unit" transportation cost divided by the appropriate batching factor gives the actual unit (per book) cost.

The total dollars spent on commercial *binding* divided by the total books processed yields a unit binding cost. Once all five elements have been calculated, it is possible to sum them to obtain a total unit cost per book processed.

### *The Inductive vs. the Deductive Method*

Through this discussion the thought has probably occurred to the reader: why not simply take the total budget for technical processes and divide it by the total books processed to get a unit processing cost? This method might come somewhere near telling *what* the cost is, but it will not tell *why* it is. For instance, why is library A's cost twice library B's when both have very similar budgets? A flow process charting of each operation may reveal that library A is using many more steps than library B, and time observation may indicate that the first library's mean times are much greater for similar steps. However, without basic data from which the costs can be analyzed inductively, there is no way of pinpointing the causes of inefficiency and therefore no way of concretely justifying existing costs.

Should the cost analysis reveal several inefficiencies in technical processing these same procedures described will point the way toward the remedies. For example, when a supervisor is confronted with actual dollar amounts attached to the labor of maintaining certain files, he is likely to reconsider the justification for these expenditures. Can the labor cost for any given function be reduced by means of a forms revision, a reallocation of the category of personnel, the adoption of new equipment and

techniques, a rearrangement of furniture, elimination of certain records, etc.?

One final thought . . . The investigative procedures described deeply involved the library staff of nine libraries. It is of supreme importance that staff members be thoroughly briefed in the *reasons* for undertaking an investigation and that they be kept informed on the progress of a study. Change can be very disrupting unless a staff is psychologically prepared to accept it and is committed to the philosophy of finding a better way to do what they are now doing. Good will and cooperation from a staff is fundamental to the success of a self-study. Even after a study is finished, the staff will still be concerned. The most brilliantly conceived reorganization based upon scientifically collected data cannot succeed without the interest and support of the personnel on the operating level. This seems elementary, yet in the excitement of an investigation, it is easy to lose sight of the long range objective—organizing people to serve people. And it is people who can make even a bad system look good if they really like it.

### **Cost Analysis Studies in Libraries: Is There a Basis for Comparison?**

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When the Chairman of the Technical Services Cost Committee asked the three of us to summarize the findings of the Colorado study on centralized processing, I agreed. Later, I began to have second thoughts—I suppose because we were almost buried under an avalanche of data, and it soon became apparent that we could not really summarize the findings of the study in one evening.

The investigation took off in tangents that had not been originally anticipated. As you have already been informed, the final report deals with such diverse topics as a faculty user attitude survey, mathematical model simulations of processing center operations, approval plan utilization, and an inter-institutional bookkeeping system, all in addition to the cost studies of acquisitions and cataloging in nine libraries.

My colleagues have dealt primarily with the methodologies of the study and some results of the time and motion studies. I would like to focus my paper on one small aspect of the investigation, a topic which I believe to be of interest to the profession; the cost of original cataloging and classification and the prospects for comparative analyses.

First, I would like to review briefly the methodology employed in the Colorado investigation. The diary study technique was used to gather data on original cataloging. While there is little question that data gathered through direct observations are to be preferred over diary study data, the variability in readings associated with original cataloging pre-

cluded direct observation in this study, i.e., one book might require only seven minutes to catalog whereas the next title takes thirty minutes.

Two diary studies of one week duration each were conducted. Before the first study, every effort was made to identify and define the tasks that the catalogers were to record and the method to be used in filling out the diary observation sheets. The first study was monitored; that is, a member of the project team was present in the technical services area in order to answer questions and resolve difficulties. The second study was not monitored but the data from the two studies were compared later to determine if there were significant differences in the times reported.

As I mentioned earlier, direct time observations are to be preferred over diary study data, but this approach has been used extensively in the profession since the days of Dewey and Rider right up to the present. How reliable is the diary technique—I do not know. If the study is properly controlled, it seems to be a viable approach in obtaining unit time data. But each time I use it, it gives me pang of insecurity.

The studies analyzed the work of eleven catalogers from six institutions. In all, the catalogers produced a total of 901 titles, 410 during the first study and 491 in the second. The average observed time per book cataloged in the first study, which you will recall was monitored, was 20.3 minutes and in the second study, the unmonitored portion, the average time reported was 18.4 minutes. Considering the types of error that could have been introduced during either study, the closeness of the averages was considered highly satisfactory—if not remarkable.

To give you some idea as to the range in times reported, one cataloger produced 96 items at an average time of 9.1 minutes per title. On the other hand, a second cataloger produced 75 items at an average time of slightly more than 30 minutes. There are a number of questions that one might rightfully ask. Is the cataloger who reported the nine minute average really that much faster than the cataloger who reported thirty minutes; if so, what can be said about the quality of their work; are there significant differences in the type of materials these catalogers handle? In this particular case, the cataloger who reported nine minutes specialized in English literature and the second cataloger handled German, French, Swedish, and Italian materials, in addition to English language materials. In other words, it would be wise at this juncture not to make any rash generalizations.

Another consideration is the difference in time required to catalog English language imprints as compared to foreign imprints. The Colorado study lumped together foreign language and English language cataloging. Whether or not this was the correct approach, I am not prepared to defend. The mathematical model, however, will permit a library to distinguish between these categories of material. However, at the small colleges and even to an extent at the universities, this is the way cataloging is actually performed. Each cataloger must become a jack of all trades. In addition to original cataloging, a cataloger might be asked to handle books for which LC copy is available, file or revise cards, or any

of a variety of tasks. Professional or not there is no one else available to do the work. When books are purchased in languages that the cataloger cannot read, and LC copy is not furnished, the library will find it difficult to process the title. Even if the cataloger by struggling with a dictionary completes the job, it is usually at a considerable expense of time and money. (Parenthetically, one of the conclusions reached was that centralized cataloging of foreign language materials would prove to be in the long run a major contribution of a processing center.) The average time for the nine catalogers who work with both English language and foreign language materials proved to be 16.5 minutes; the two catalogers who specialize in foreign language materials reported an average time of 27.6 minutes, which was considerably greater. This differential suggests there is a basis for establishing separate fee schedules—one for English language and one for foreign materials.

Since none of the investigators placed great faith in the diary study data, we attempted to verify the reliability of the data that had been collected. One cross-check used was to extrapolate the times reported by the catalogers over a twelve-month period. For example, the times reported by one cataloger suggested that it would not be unreasonable to expect 7,000 cataloged books for one year. On checking the preceding twelve months statistics, we found that 5,100 books actually had been cataloged and classified. However, during that same period, only 75 percent of her time had been spent cataloging. The remainder was devoted to training of new catalogers.

While the diary times contain a certain amount of error, it is likely that the error does not exceed  $\pm 10$  percent; that is, actual time for cataloging lies between 17 and 21 minutes per title.

As was discussed earlier this evening, the reported diary time data were converted into standard times by adding such factors as personal time, fatigue time, delay time, administrative time, etc. A standard time was calculated by multiplying the observed time by the standardizing factor, 1.48. Thus the standard time for original cataloging in the six libraries studied was 28.6 minutes ( $19.3 \times 1.4$ ) or one book every half hour. The standard time provided the project with the information we needed to predict costs and manpower requirements.

Once this cost figure had been calculated, it seemed only natural to try to compare ourselves with other libraries. It was at this time our troubles began.

A perusal of the literature produced very few studies which included sufficient data to permit even the barest of comparisons. An analysis of ordering and processing of scientific monographs at Columbia University<sup>1</sup> and a survey of a group of Southern California libraries<sup>2</sup> were two

<sup>1</sup> Paul J. Fasana and James E. Fall, "Processing Costs for Science Monographs in the Columbia University Libraries," *Library Resources & Technical Services*, vol. 2, no. 1, Winter 1967, pp. 97-114.

<sup>2</sup> Catherine MacQuarrie, "Cost Survey: Cost of Ordering, Cataloging, and Preparations in Southern California Libraries," *Library Resources & Technical Services*, vol. 6, no. 4, Fall 1962, pp. 337-350.

exceptions. The investigators also employed a diary methodology in these studies to measure cataloging costs.

The cost of original cataloging of science monographs at Columbia University was reported to be \$3.97; in the California libraries surveyed the cost was \$2.23; whereas, for the six libraries analyzed in the Colorado study, the cost of the original cataloging is \$2.07.

If we were to stop here without any further examination, we could draw some fallacious conclusions. The question is, are we comparing like or unlike objects? For example, the California survey was conducted in 1961. Inflation if nothing else has changed the reported costs. Or, since the wage scale in the New York area is higher than that of Colorado, this could partially account for the cost differential. On the other hand, the Colorado cost figure includes both direct and indirect costs, meaning institutional overhead, equipment depreciation, utilities, etc., whereas the Columbia study and California survey omitted these figures.

So where are we; can we really draw meaningful conclusions from a comparative analyses of these studies? I do not think so. But, if we cannot compare costs, can we substitute standard times for costs?

Industry, particularly the machine industry, has achieved notable success in employing standard times to develop cost figures and work standards. It is also true that the library profession could achieve similar success if a body of standard time data could be developed. Unfortunately we are a long way from achieving this goal.

To return to the three studies, time figures have been included in each study, but it is not possible to tell if the times cited are observed times, normal times, or standard times, or some other hybrid. The average time reported in the California survey is 44.8 minutes, whereas the Columbia study reported a time for original cataloging of 84 minutes. The Colorado standard time for cataloging as already cited is 29 minutes.

If we are willing to accept these times at face value, it means that it takes almost three times as long to catalog a science monograph at Columbia as it takes to catalog the average book in the Colorado libraries. Of course, it may take longer to catalog science monographs—but 56 minutes longer? Personally, I find such a disparity difficult to accept. Even though striking differences can be noted between our east and west coasts, the time required to catalog a book originally should not be one of them. Although one might expect differences in the types of books, i.e., foreign or English language, science or humanistic, or the depth of subject analysis, a tripling of the standard times is hard to imagine.

One plausible explanation is that the task of original cataloging has been defined differently in each of the studies, or that the catalogers who participated in the studies possessed different conceptions of what original cataloging is; consequently they did not fill out their observation sheets uniformly. To illustrate, in the Colorado study, one cataloger reported a time of approximately three minutes per book during a two-day period. We believe in speed, but that seemed to be stretching matters since if she were able to maintain this rate over a year 30,000 titles would have

been cataloged. A short conversation with the cataloger soon cleared up the mystery. She had not included the time spent on preparing copy for the typist. Because, as she emphatically pointed out, "typing is not original cataloging." There must have been similar misunderstandings in the study—probably in all three studies. Again we must ask ourselves what basis do we have for comparisons?

My remarks are not intended to be critical of the methodology employed in either the Columbia study or the California survey. Each study was developed to serve a specific set of objectives. How successful each was in accomplishing those objectives, the investigators know better than I. These two studies are among the most comprehensive that could be found in the recent literature. There are a few others but very few, such as those prepared by Wynar<sup>3</sup> and Culbertson.<sup>4</sup> But neither of these studies provides adequate bases for comparison. Before anyone gets the wrong idea, a published summary of the Colorado study wouldn't be much help either.

If we are to solve this problem, the library profession must develop a dictionary of standard times based on carefully defined task descriptions. For example, original cataloging in the California and Colorado studies was defined differently. In the California study cataloging included shelf listing, descriptive cataloging, classification, subject headings, and re-cataloging; whereas in the Colorado study the task of original cataloging and classification was defined as "cataloger performs descriptive cataloging, subject analysis, classification, and authority work, i.e., name, subject, etc. (for titles for which no LC copy is available). Cataloger prepares a work slip or work sheet to be used in typing copy for catalog card reproduction."<sup>5</sup>

Neither definition may be suitable for other libraries. As a matter of fact, for many tasks, a variety of methods should be defined and with a time standard provided for each variation. This would permit a library to select the times and tasks that most nearly resemble their local work situation. By comparing one's own operations against the dictionary times, it would be possible to build a composite of technical services processing costs.

I recommend that ALA establish a task force to develop a methodology for collecting, organizing, and disseminating standard time data. Until the profession performs this laborious, unglamorous type of spade work, we are only deluding ourselves when we talk about developing comparative costs and statistics. Last year this point was vividly brought home during our annual budget presentation. For a number of years we have used the annual statistics of the ARL to gauge our standing and

<sup>3</sup> Bohdan S. Wynar, "Cost Analysis in a Technical Services Division," *Library Resources & Technical Services*, vol. 7, Fall 1963, p. 325.

<sup>4</sup> Don S. Culbertson, "Costs of Data Processing in University Libraries: In Book Acquisition and Cataloging," *College & Research Libraries*, vol. 24, November 1963, p. 488.

<sup>5</sup> cf. Leonard's paper.

to measure our progress. Like other years, we carefully prepared charts which pointed to our need for sizeable budget increases. Much to our chagrin the figures were shelved. When I asked one of our administrators why, the reply was something to the effect, "Why bother, the legislators don't believe them!" He then added, "We believe them, but frankly we don't understand their significance, too often it seems you are comparing apples and oranges."

In other words, neither we as individual administrators nor the profession at large has done its homework on labor costs. As this deficiency becomes more visible to outsiders, our budget justifications appear more and more absurd to those who hold our purse strings. Money spent researching labor costs in libraries on a nationwide scale would yield a rich harvest at budget approval time.



## From the Editor's Desk: Elizabeth Rodell

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**Y**OU AGREE TO RUN for President RTSD when you are off guard. A good friend got stuck with the Nominating Committee, and she writes you and asks you to run, and you are vaguely flattered and it is fall and a year from next summer seems like a long, long time and the chances are you will not be elected anyway. Some days slide by and you are busy with this and busy with that and your mind is full of this and full of that and here is this letter from this good friend whom you like very much waiting on your desk under a pile of stuff. So you say "yes" and you get your good friend off the hook and you get the letter off your desk and you get the question out of your mind.

Cool orange fall slips into cold white winter into warm glorious spring and at the hot ragged end of this same glorious spring—boom! You get another letter. This one is from Chicago and Elizabeth Rodell announces that you have won that darned election. And what you had dreamed would begin (if ever) a year from this summer begins this instant. Elizabeth congratulates you ever so warmly and then she tells it like it is. In just fifteen days the ALA summer conference will make you Vice-President, and here is your schedule for that ALA conference.

You peer at that schedule and you have never seen—or even dreamed of—a week so crowded. And you know that next summer it will be worse because then you will be President and then there will be another summer. . . . And in between each summer and the next there will be Midwinters and they will each be a week . . . and in between Summers and Midwinters and Midwinters and Summers there will be a thousand and one other things to do; indeed right now you should begin thinking of committee appointments. You sit in the blazing late spring sunlight and you stare at that letter and you think chill dark thoughts. How will you ever get through this blasted business?

Only when you get to ALA and Elizabeth does the gloom lift. For then you get a glimpse at *her* schedule and you even feel guilty that yours is so light. You are, it seems, not her only problem child. There are all the other Division officers and all the Section officers and all sorts of committees and special meetings. But Elizabeth takes you gently by the hand and she leads you here and she leads you there. By the end of the week you have gone more places and seen more people and done more things than even that long schedule listed. You begin to feel the warm glow of success; perhaps this is not going to be so bad after all. Only when you sink into a seat on the plane home does it come to you. Really you did not get through that week at all; Elizabeth took you through.

Strangely your ego suffers no pain. Instead, the warm glow of success yields to the warmer glow of comfort. The days ahead may be tough. But Elizabeth will always be there.

And she was. Just as she has always been there for anyone who ever tried to do anything for RTSD. We have all shared her friendship, her infinite care, and her dream of what RTSD might become.

Now "always" has come to an end. And as Elizabeth goes, our thanks and our love go with her.

P.S.D.

### COMPARISON OF 1942 AND 1968 ALA FILING RULES

The Spring issue of *Library Resources & Technical Services* will include a comparison of the 1942 *ALA Rules for Filing Catalog Cards* with the newly-issued second edition of the *Rules* (1968). The comparison has been prepared by Pauline A. Seely, editor of the second edition. Mimeographed copies may be secured in advance from Miss Seely, Denver Public Library, Denver, Colorado 80203, as long as the supply lasts.



## NOMINEES FOR 1969 ELECTION

### *Resources and Technical Services Division*

For Vice-president (President-elect):

W. Carl Jackson, Pennsylvania State University Library, University Park, Pennsylvania.

Felix Reichmann, Cornell University Library, Ithaca, New York.

For Chairman, Council of Regional Groups—one-year term:

Marian Sanner, Enoch Pratt Free Library, Baltimore, Maryland.

Marilyn Satterlee, University of Illinois Library, Urbana, Illinois.

For Vice-chairman (Chairman-elect) Council of Regional Groups—one-year term:

Maurice E. Lapierre, McGill University Library, Montreal, Quebec, Canada.

Herbert Linville, University of California Library, Santa Barbara, California.

For Council—four-year term:

Richard W. Boss, University of Utah Libraries, Salt Lake City, Utah.

Allen B. Veaner, Stanford University Libraries, Stanford, California.

(Nominating Committee, RTSD: Ruth S. Leonard, Chairman; Erle P. Kemp, Dorothy J. Comins, Marietta Chicorel, Frazer G. Poole, Alfred H. Lane, Paula Kieffer.)

### *Acquisitions Section*

For Vice-chairman (Chairman-elect):

William M. Kurth, Washington University Libraries, St. Louis, Missouri.

Joseph A. Rosenthal, New York Public Library, New York, New York.

For Member-at-large (one-year term) 1969-70:

Alfred H. Lane, Columbia University Libraries, New York, New York.

John G. Veenstra, University of Florida Libraries, Gainesville, Florida.

For Member-at-large (two-year term) 1969-71:

Dorothy F. Deininger, Graduate School of Library Service, Rutgers University, New Brunswick, New Jersey.

Donald F. Jay, Overseas Operation Division, Library of Congress, Washington, D. C.

For Member-at-large (three-year term) 1969-72:

Mrs. Luella Higley, Coordinator of Instructional Materials and Library Services, Fort Worth Public Schools, Fort Worth, Texas.

Virginia Taylor, Cataloging Specialist, Independent School District Library, Houston, Texas.

### *Cataloging and Classification Section*

For Vice-chairman (Chairman-elect):

Richard O. Pautzsch, Brooklyn Public Library, Brooklyn, N.Y.

Thomas E. Sullivan, H. W. Wilson Company, Bronx, N.Y.

For Member-at-large (2 vacancies to be filled):

(1) Mrs. Lillian D. Culbertson, Skokie (Illinois) Public Library.

Mrs. Dorothy L. Wallace, Prince George's County Memorial Library, Hyattsville, Maryland.

(2) John B. Corbin, Tarrant County Junior College Library, Fort Worth, Texas.

Curtis W. Stucki, University of Washington Library, Seattle, Washington.

### *Reproduction of Library Materials Section*

For Vice-chairman (Chairman-elect):

Mark M. Gormley, University of Wisconsin, Milwaukee Library, Milwaukee, Wisconsin.

David W. Heron, University of Kansas Libraries, Lawrence, Kansas

For Secretary:

Robert T. Grazier, Wayne State University Libraries, Detroit, Michigan.

Sam G. Whitten, Graduate School of Library Science, University of Texas, Austin, Texas.

For Member-at-large:

Harold D. Gordon, University of Kentucky Libraries, Lexington, Kentucky.

Melville R. Spence, University of Oklahoma Library, Norman, Oklahoma.

### *Serials Section*

For Vice-chairman (Chairman-elect):

Barbara A. Gates, Chief, Boston University Library, Boston, Mass.

Doralyn J. Hickey, Associate Professor of Library Science, University of North Carolina at Chapel Hill, North Carolina.

For Member-at-large—three-year term:

Peter Gellatly, Serials Librarian, University of Washington, Seattle.

Ralph Lessing, Vice President, Stechert Hafner, Inc., New York.

## REVIEWS

*The Brasenose Conference on the Automation of Libraries.* Proceedings of the Anglo-American Conference on the Mechanization of Library Services, held at Oxford under the Chairmanship of Sir Frank Francis and sponsored by the Old Dominion Foundation of New York, 30 June—3 July 1966. Edited by John Harrison & Peter Laslett. [London] Mansell [1967] xv, 173p.

It is interesting to read and review a book about a year after everyone else has done so because one has a much better chance of seeing how opinions, conclusions and predictions have stood the test of time. This Conference stands up extremely well, even though much has happened since mid-1966. The only chapter that is seriously outdated is that on the Library of Congress MARC Project, which has moved ahead very fast and in many unsuspected directions since the Conference took place.

Offhand, beyond a few vague generalities, there appears to be no more agreement on goals for library automation than for any other library procedures. Some want to throw out a large portion of existing methodology and expertise and start afresh. Others want to begin with the known and tried and then make wholesale alterations into the unknown and untried, in the hope that these can be shown to be more efficient. The primary shortage in libraries is not in ideas or systems so much as in lack of personnel to permit large-scale experimentation, changes, or, for that matter, even for adequate operation without changes. The use of machines has become imperative because personnel in the quantities needed are non-existent or, if existent, funds are lacking to hire them. The library, therefore, must make each individual more productive by extending

his present capabilities. It can no longer afford to waste human talents on any kinds of work machines can do. The division between professional and non-professional probably will remain, but both should operate on a higher plane, with monotonous, repetitive and dull work done mechanically.

Many of the Conference speakers pointed out that one way to do this is to make a unit record which, with modifications as it progresses, would serve the whole system from acquisitions to cataloging to circulation and ultimately to reference for information retrieval purposes. Perhaps a new kind of reader's advisor will develop to help patrons with on-line keyboards, consoles, machine-readable or made but not read indexes and such, since it does not look as if these will be any easier to use than at present.

The "whole" or systems approach, at one time considered the *only* way, has had some reconsideration lately, particularly at Harvard, where a more evolutionary viewpoint has developed. This does not mean that there are no goals, but that the planning is in a different manner, paying more attention to the actual situation and operating necessities of the library and less to an ideal that tends to produce rather severe growing pains in its implementation.

The Conference was a timely one for the British institutions involved. The oldest copyright depository libraries, the British Museum, Oxford and Cambridge, apparently have functioned without much cooperation and, in addition, neither Oxford nor Cambridge has a union catalog of all its holdings. Some of the individual college libraries in both institutions do not have their full holdings in their catalogs. The British libraries, therefore, are looking to automation to provide them with the impetus needed to bring their materials under better bibliographic control. As in the United States, there is

no national library. Unlike the United States, there is no centralized institution that could be turned into a national library fairly easily since the functions performed by the Library of Congress alone are split between several libraries. There does not appear to be the organized pressure from library organizations and university research libraries which so characterizes the American scene. The Brasenose Conference is reputed to have been the first formal meeting of minds of librarians from the British Museum, Oxford and Cambridge for purposes of mutual cooperation. There were no representatives of the Universities of London, Edinburgh, Glasgow, Belfast, Wales or the Dublin Colleges (University, Trinity), and, in fact, only five other English universities were represented. Since the Conference, it is the British National Bibliography that has become the British outpost for MARC.

Judging by the *Proceedings*, there is still evidence of confusion between the concept of main entry and the concept of the unit card (or the unit record). The fact that the two have been combined in the card catalog apparently makes it difficult for people to conceive of them as separate entities. With the computer, as with card catalogs without the unit record approach, it is possible to use any entry and refer to a separate unit containing the total bibliographic detail. Theoretically it is possible to have the unit record in any form, without main entry, but it is extremely difficult to achieve any degree of consistency in this manner. For computerized information retrieval, a slight change in entry from item to item by the same person can require much recycling by the user unless the input personnel, presumably catalogers, take pains to make either cross-references to some base form of entry or between variant forms of the same author or title. In this respect, entry under title has little advantage over personal or corporate author. If subject entries are updated as frequently as they should be to keep up with the times,

these entries may become more satisfactory to use than they are at present. In all cases, the computer permits use of an identification number of some kind to tie everything together. This is possible with an accession number, for those libraries fortunate enough to have retained the practice of assigning a unique number to each cataloged volume. A universal book numbering system, already being tried in Britain, offers the same thing plus a means of interconvertibility between systems. Some of the problems of cataloging touched upon during the Conference are practically dead issues now, because, with a machine-readable data base, they can be solved by computer. One such example would be changing the entry for an institution from place to name, or, for that matter, any kind of change of a uniform type which could be programmed. The MARC effort offers great hope for escaping from many cataloging cul-de-sacs which exist now.

The Brasenose Conference papers were rushed to print, freely edited with omissions as the editors saw fit, and published without prior corrections by authors and speakers. How accurate the *Proceedings* are in comparison to the actual happenings is something only the participants can tell. In any case, the result is a highly readable book, with good balance between written and oral presentation and not too much wild-goose-chasing from the floor.—Phyllis A. Richmond, *School of Library Science, Syracuse University*.

Friedman, Joan, and Alan Jeffreys. *Cataloguing and Classification in British University Libraries: a Survey of Practices and Procedures*. Sheffield, Postgraduate School of Librarianship, University of Sheffield, 1967.

This study is based on replies to a survey made by the Postgraduate School of Librarianship at Sheffield under the auspices of SCONUL. Fifty-one college and university libraries completed the

questionnaire, representing 74 percent of the sixty-nine libraries originally approached. The copyright deposit libraries and the Oxford and Cambridge college libraries were excluded. The information describes the situation in December 1965 and January 1966.

The questionnaire is comprehensive, inquiring into such matters as the classification scheme used and the amount of modification permitted, the form and content of the catalogs, the treatment of multiple copies, statistics of output, accession records, and filing practices. What published cataloging code is followed and how extensively is it modified? Is earlier, later or best known name preferred for personal authors? Which is preferred for serials and periodicals? What secondary entries are normally made? There are sixty-three questions in all.

Six libraries reported that they follow no published cataloging code. Twenty-eight follow the 1908 Anglo-American code, seventeen the 1949 ALA code, six the British Museum rules, two Lubetzky's 1960 draft, one the Cambridge rules, and two the Library of Congress *Rules for Descriptive Cataloging*. The total count of sixty-two is explained by combinations of two or more codes used in a single library. The seven new university libraries established since 1958, when catalogers were taking a long, hard look at traditional cataloging, are as divergent as the older established academic libraries: one no code, three AA, three ALA, two Lubetzky, and one LC, again including combinations. (The British text of the 1967 *Anglo-American Cataloging Rules* was published in December 1967 and put into practice by the *British National Bibliography* in January 1968. The copyright deposit libraries agreed to adopt the new rules at that same time, using BNB copy. This should prove a powerful encouragement to all British academic libraries to adopt the new rules and to move toward standardization.)

The authors' analysis of their data

is essentially factual, but offers some suggestive provisional conclusions. Especially interesting, though frankly inconclusive, is an attempt to correlate cataloging output with other factors and practices reported. For example, consider this observation on the relation between output and classification:

Twenty-one of these libraries use the Library of Congress classification, at least for part of their collections, but nearly all modify it fairly extensively in practice. American librarians, accustomed to the use of LC as the easy way to high output, may be startled to learn that the survey's findings suggest "that it takes more time to classify by LC than by any of the other main schemes." The authors attribute this to the size of the LC classification in volumes and pages, to the complexity of its supplementary tables, to the lack of detailed instructions, and to inadequate indexing. They might have added: and to the fact that none of these libraries uses LC printed cards. This British experience undoubtedly reflects difficulties in original classifying, and brings out sharply how much American libraries owe to the hard-working classifiers in Washington who provide authoritative prefabricated call numbers.

Indeed, the British academic libraries make little use of any centralized cataloging services such as LC, or even BNB. The reasons suggested are: for BNB, difficulty in ordering cards and unsatisfactory printing quality; for LC, the delays in delivery which may be twelve months or more. Two libraries which formerly used LC cards discontinued them because of slow delivery. Eighty per cent of the libraries reported that their materials are normally cataloged, processed, and on the shelves within a month of acquisition. They are not prepared to tolerate a delay of more than fourteen days for cards from an outside source.

The libraries were asked to submit copies of all their entries for fifteen selected recent titles. Apart from some differences in recording size (in centimeters, in inches, or by format), all the

bibliographical data given, and more, are available from BNB and LC entries. Unfortunately, BNB and LC themselves disagreed on choice or form of main entry for four of the fifteen titles, which, as the authors observe, does not help any idea of centralized cataloging. (It is appreciated, of course, that both services are cooperating vigorously to resolve such differences.)

The present publication is the first of a report in three stages. The second will be a cost analysis based on the information recorded in the Processing Survey forms which were part of the questionnaire. The third stage, based on a survey of catalog use by students, faculty, staff and others, will attempt to determine criteria by which the quality of the catalog may be judged, *i.e.*, its "effectiveness in assisting users towards an efficient exploitation of the library's collections." A comparative study of cataloging styles from the specimen entries submitted with the questionnaire will serve as an appendix to the whole.—*Ruth C. Eisenhart, Editor, London Office, Pre-1956 National Union Catalog Publication Project.*

Klempner, Irving M. *Diffusion of Abstracting and Indexing Services for Government Sponsored Research*. Metuchen, N.J., Scarecrow Press, 1968. 319 p. \$7.00.

One of the values of a study of this nature is the contribution it makes to knowledge in the field. There can be little doubt that this constitutes a significant contribution to the understanding of information dissemination. Mr. Klempner has, by carefully detailing diffusion (accessibility), documented the assumption on which dissemination patterns have long been based: that inefficient utilization of report literature tends to reduce the effect of that literature. Three specific hypotheses have been tested: I & A services are presently inadequately utilized as diffusion media, a very undesirable pattern exists in this diffusion which

is economically based (haves and have-nots), and there is a marked correlation between the diffusion of I & A services and the degree of innovation and economic expansion. The field of investigation is limited to report literature of government sponsored research as demonstrated by *United States Government Research and Development Reports, Nuclear Science Abstracts and Technical Abstracts Bulletin*. Unfortunately, through no fault of the investigator some of the equivalent data for *Scientific and Technical Aerospace Reports* has not been supplied.

The author has pursued the establishment, evaluation, and proof of his hypotheses. His sampling and research techniques appear sound. His approach, recipient versus non-recipient, is comprehensive and the questionnaire is used to supplement evidence determined from the analysis of subscription records. Mr. Klempner has presented a set of pertinent, detailed tabulations of his data in a manner which is readable and interpretable. This data should prove useful to those who endeavor to explore other related facets of the information community.

His initial chapter explores information as an economic resource relying chiefly on data of the Federal government relating to research and development activity. It needs however a more in-depth analysis to be effective. His conclusions, derived from the major effort: 1) a distribution of services which reach 2 percent of the U.S. educational, non-profit research centers, 31 percent of the industrial research laboratories and less than 1 percent of the U.S. manufacturing establishments is inadequate; 2) five U.S. states contain nearly 50 percent of those receiving I & A services; and 3) there is a close correlation between the degree of industrialization of the U.S. states and the degree of diffusion, are well established on the basis of the data collected.

There are several limitations which do not greatly detract from the overall

quality of the work. There is a tendency in the introduction to quote out of context in order to imply a desirable characteristic. This is a technique often used when dealing with volumes of data of supplementary importance to the main work but must be watched by the reader. There is also a tendency to generalize on insufficient data both in the introduction and more especially in the concluding chapters. While some of this is normal in trying to interpret data and come to some meaningful conclusion, it can destroy the overall validity or authenticity of the statements. There are a couple of aspects, again of secondary importance, which the reviewer would have liked to see included. One of these is a general description of the services themselves, i.e., the type of material covered, when and how often they appear, type of indexing, etc. The second concerns some unpublished literature which apparently has not been consulted. The bibliographic coverage is on the whole excellent in regard to the published literature, but the reviewer is aware of several "user" studies done in the Defense community and the Clearinghouse as working projects which might have contributed to the diffusion study. And finally, while the chapter on Soviet diffusion patterns is interesting it has not been done in parallel with that of the U.S. Indeed the general description which is lacking for the U.S. services is supplied, but its relation to the work at hand may be questionable.—*Ann F. Painter, Associate Professor of Library Science, Graduate Library School, Indiana University, Bloomington, Indiana.*

Kujoth, Jean Spealman. *Readings in Nonbook Librarianship*. Metuchen, N.J., Scarecrow Press, 1968. 463 p. \$11.50.

A needed service has been performed for librarians by Jean Kujoth. She has compiled a series of pertinent articles in her book called, *Readings in Nonbook Librarianship*. As the title implies, the articles deal not only with audiovisual

materials but also with items such as manuscripts, pamphlets, clippings, musical scores, and programmed learning.

With few exceptions, the articles are taken from the professional literature of the sixties. It is stated that the authors' viewpoints as expressed in the articles are not necessarily their current ones. There is little need for concern here since few of the writings offer anything controversial or radical. The articles are non-technical in nature and deal primarily with offering suggestions for practical use rather than theory and philosophy.

The collection is a valuable introduction for the library service student or for the professional who wishes to acquaint herself with the expanding role of librarianship. With the publication of the new standards, the book should be quite popular.

The more experienced media specialist will miss connecting themes between the various articles and sections. The editor's short paragraphs preceding each section do not fulfill this need. Then, too, there is no overall theme for the book.

Since the range is so wide, each aspect of nonbook material is treated only in part—that part seeming to depend upon the availability of a published article. It should be noted that the quality of the individual articles is rather high. The articles on picture rights and permissions, ephemeral materials, and manuscripts are especially noteworthy.

One of the most valuable features of the book is the large number of excellent reference sources given within the articles or in the bibliography which follows them. It is especially gratifying to find many popular and trade publications recommended as source material in addition to the usual professional writings.

Neither the typography nor the production of the book seems to justify its rather high price. Finally, one wishes that the author would have chosen a different title. The present title may not attract those for whom the book would be most valuable.—*George P. Rehrauer, Associate Professor, Graduate School of Li-*

brary Service, Rutgers—The State University, New Brunswick, New Jersey.

Srygley, Sarah K., ed "School Library Services and Administration at the School District Level, *Library Trends*, April 1968.

The more that is written or stated about school library supervision and administration at the district level, the more is the neglect of it apparent. In this issue of *Library Trends*, one writer after another comments on needs in this area. Richard L. Darling, noting how few hard facts or statistics are available, points out the need for research and surveys. Mary Helen Mahar, commenting on the tremendous impact of federal programs, mentions that a probable outcome of federal funding is the increase in number of local school library supervisors, but adds, "Coordinators of Title II in state departments of education have indicated that many more school districts would employ school library supervisory personnel if candidates could be located, and if there were funds available for salaries." In the article, "Standards for School Library Services at the District Level," Frances Henne notes the decision to omit quantitative standards for district supervisory services from the 1968 statement of standards for school media programs and gives some of the committee's rationale. The reasons for the decision are sound enough, but the reader's general reaction to these statements is continued disappointment that recognition of the value of supervision continues to be linked with neglect.

As though to underscore this point, the February 1968, issue of the *ALA Bulletin*, edited by Dr. Darling, is devoted to school library supervisory services also, and articles in it point up some of the same problems. There is some overlap between these periodicals, but this probably serves to stress points that need to be stressed. It is unfortunate that centralized processing is not treated in a

separate article in the April issue of *Library Trends*, since this is one of the major services customarily supplied at the district level. Sarah K. Srygley, editor of the issue, states that centralized processing is not covered here because an article on it appeared in a 1967 issue. Unfortunately, in many school library collections and even in district collections of professional materials, *Library Trends* is purchased by the individual copy only. It is likely that many who might be most concerned will miss the earlier article entirely.

Dr. Darling's article and one on district materials centers by Eleanor Ahlers and Perry Morrison both refer to surveys made by the authors. Tabular presentation of Darling's findings make them much more useful for reference, and some of Ahler's and Morrison's statements are too vague or too general to communicate the information they did locate. They write, for example, "Virtually all districts reported subscriptions to twenty-five or more periodicals but the smaller districts tended to have fewer than one hundred whereas most of the larger ones have that many or more."

One feature of this issue is the group of five "case studies" of district programs. Three are from the southeast, two from the middle west; two are headed by supervisors who formerly headed state programs (as did the editor of the issue); three of the districts have rated as finalists in the Encyclopaedia Britannica program of awards for elementary school library programs. Yet these districts are quite similar in their development and present status as school library programs headed by school library supervisors without real integration as programs to provide all instructional materials services. Noticeably missing is any district representative of the many which have begun school library programs within the past five or six years. The editor's point probably was to show, at this moment in time, where this handful of districts stood

and where they had come from. As a record of trends, more might be learned by inclusion of other patterns of development.

Promised for April 1969 is an issue of *Library Trends* on "The Changing Nature of the School Library," to be edited

by Mae Graham. It may be that it will give more clues about trends for the future than does this report which illustrates the status quo.—*Peggy Sullivan, doctoral candidate, University of Chicago Graduate Library School, Chicago, Illinois.*



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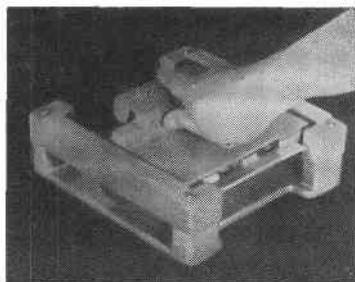
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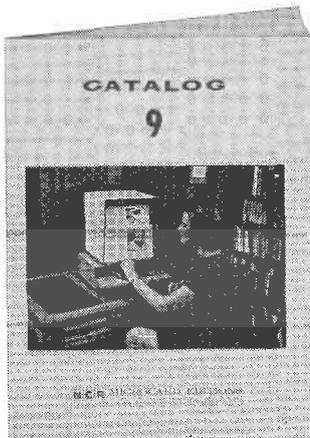
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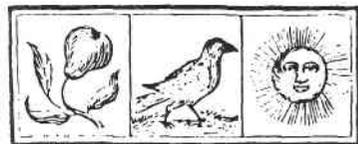
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