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The Anglo-American Cataloguing Rules, Second Edition

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THE SECOND EDITION of the *Anglo-American Cataloguing Rules* (*AACR* 2) is to be published in 1978. It comes eleven years after its predecessor, which came fifty-nine years after the first such set of rules. This period of eleven years may seem indecently short in relation to the usually glacial rate of change of cataloguing practice, but it needs to be set in its historical context. That context is one of tremendous change in all aspects of librarianship and especially in the processing of library materials. It would be wearisome here to reiterate all the factors—economic, technical, and professional—which have influenced and changed the face of librarianship in the past dozen or so years. They are well known to librarians, and they have been greater in number and degree than at any comparable period. One of the tasks of those responsible for *AACR* 2 was to respond to these changes and to ensure that the cataloguing rules remained, if not up to date, at least roughly contemporary. The history of the revision process leading to *AACR* 2 has been well set out elsewhere in this journal,[1] but it is fundamentally important here to note that the second edition represents the most sustained and wide-ranging attempt to enlist the cooperation and to incorporate the views of all persons connected with cataloguing, not only in the "Anglo-American-Canadian" community, but also throughout the English-speaking world and beyond.

The aims of the second edition were set out at an early stage by the Joint Steering Committee for the Revision of AACR (hereafter referred to as JSC.)[2] In summary these aims were (in order of increasing complexity of achievement):

to incorporate already agreed revisions to *AACR* 1;
to harmonize the British and North American texts of *AACR* 1;

to incorporate international standards and international agreements;
to take developments in library automation into account; and
to incorporate changes arising from proposals for change coming from any source.

The first and second aims were largely editorial in nature, though the task of producing a true joint text involved not just agreements on wording and style but also agreements on those rules that were different in substance between the two editions. That this task, which had proved to be beyond the powers of one hundred years of British and North American cataloguing committees, was so easily accomplished is a tribute not just to the endeavours of our contemporary committees but also to the pressures for standardization exerted by the realities of international cooperation and modern bibliographic economics.

The third aim centered upon two major developments since 1967, the International Standard Bibliographic Description (ISBD) programme and Eva Verona's outstanding work on corporate bodies in cataloguing.[3] Other less important considerations, such as IFLA's revision of *Names of Persons*[4] and the International Organization for Standardization (ISO) activities in connection with romanization and other standards, had to be taken into account.

The fourth aim cannot, in all frankness, be said to have been fully achieved. Important conceptual restructurings, which I will detail later, undoubtedly sprang from new modes of thought about cataloguing precipitated by advances in automation. The already established tendencies toward consistency in bibliographic description and elimination of insignificant data from headings have been taken further in *AACR* 2. These, of course, have great importance in machine-readable bibliographic records and in the manipulation and use of those records. There are, however, a number of questions posed by automation that remain unanswered by *AACR* 2. The fault does not lie wholly, or even for the most part, with those responsible for *AACR* 2. It lies in the fact that all the returns are not yet in on bibliographic records in machine systems. The MARC record remains an automated version of a manual catalogue entry. No recognizably new form of record has been established nationally or internationally. The crucial questions of "levels of information" in bibliographic records and of the nature of authority file records in machine systems have only been raised; they have come nowhere near to being resolved. In short, *AACR* 2 could not take the effects of library automation fully into account because those effects have yet to be completely assessed and understood. This is not to say that *AACR* 2 should have been delayed for some years. Many matters as important, if not more important, than those arising from automation were crying out to be resolved. Further, the rapid increase in the size of machine-readable data bases means that necessary changes in the content of catalogue records must be undertaken

sooner rather than later in order to prevent the necessity to alter millions of records in the future.

The fifth aim proved to be the most difficult to achieve because of the large number of proposals that came to the national committees and the national libraries. These proposals concerned major and minor matters and came from individuals, libraries of all sizes, and many organizations both within and without Canada, the United Kingdom, and the United States. Various measures had to be adopted in order to process all these proposals and to ensure that each received its due meed of attention. What happened in connection with all these proposals should ensure the end of the belief that cataloguing codes are framed by persons remote from, and ignorant of, the realities of day-to-day cataloguing. It is hard to believe that anyone with a point of view on matters great or small in *AACR* 1 did not put that point of view forward in connection with the formulation of *AACR* 2. Every change between *AACR* 1 and *AACR* 2 has the mandate not only of the cataloguing committees but also of the individuals and/or libraries from whence the original proposal came.

The Structure of AACR *2*

Almost the first matter considered by JSC was the question of the structure of *AACR* 2. In *AACR* 1 the division of the rules into three parts that were not mutually exclusive (Entry and Heading, Description, Non-Book Materials) created problems for cataloguers concerned with the increasing number of nonbook materials. Other matters relating to organization about which questions had been raised included: the inclusion of a discussion on corporate "authorship" in the section on mixed authorship; an extended discussion of conference headings in the chapter on the form of corporate headings; the inequitable treatment of description between books and nonbooks; the splitting of rules on uniform titles, particularly between chapters 5 and 13. It is hoped that a more logical structure in *AACR* 2 will result in greater ease of use and the elimination of inconsistency.

AACR 2 is divided into two parts. The first part deals with bibliographic description; the second part deals with the choice and form of access points (headings). This basic division results from one of the most important consequences of the ISBD programme. The ISBD clearly recognized the independence of bibliographic description as distinct from the access points by which catalogue users find those descriptions.[5] The blurring of that vital distinction led to problems in moving from card catalogues to other forms and led to confusion in the minds of many cataloguers. The relative placing of the two parts of *AACR* 2 also reflects a shift in the way the cataloguing process is viewed. The order of the major parts of previous cataloguing rules (*AA* 1908[6] as well as *AACR* 1) showed that the cataloguing process was viewed in terms of the premachine catalogue entry—that is, that the first task of the cataloguer was to establish the main entry heading

and its consequent added entries and then make the description. That description was modified in light of the decisions made on headings (see, for example, the rules in both codes on statements of authorship and imprint). This produced an entry that was adapted to card or book catalogues based on the main entry principle but was largely unsuited to any newer forms and completely unsuited to developed machine-readable records with their multiplicity of uses. The overall structure of *AACR* 2 is designed to recognize the multiple-use bibliographic record. The first task of the cataloguer is conceived of as establishing a standard and self-sufficient set of descriptive data relating to the physical object being catalogued (book, motion picture, sound recording, etc.). The second task is conceived of as providing name and title access points (headings and uniform titles) to permit retrieval of the standard description. These access points relate to the work of which the physical object is a manifestation. The conceptual difference between descriptive (object-based) data and work-based access points is maintained by the structure of *AACR* 2, as is the practical advantage of dealing with object-based and work-based data separately and in that order. Within each part, the order of chapters and the order of rules within chapters also follow logical patterns, which are detailed below. In addition to the two major parts of *AACR* 2, there are introductions to each part and a general introduction and also appendices. These introductions and appendices (detailed below) are numbered in sequence with the rules in the major parts and have the same force in application.

Part 1. Bibliographic Description

The pivotal event in the process leading up to the first text of part 1 was the agreement between JSC and the IFLA Committee on Cataloguing on the formulation of a general framework for all bibliographic descriptions—now known as the *ISBD(G)*.[7] At an early date in its work, JSC took a policy decision on bibliographic description to the effect that all library materials would receive equal and consistent treatment in *AACR* 2. An earlier decision had reaffirmed JSC's commitment to ISBD(M). The effect of these two decisions, though not immediately perceived, was that a developed version of the ISBD would be necessary to create a pattern for all descriptions. During this time the relevant parts of IFLA had also become aware that the haphazard development of ISBDs for a variety of materials needed to be controlled and that, in particular, the ISBD for serials (the *ISBD(S)*) had exhibited unacceptably divergent features in its preliminary edition.[8] It was, therefore, in the interests of both parties (JSC and IFLA) that a common framework be achieved. Moreover, such an agreed procedure would be in line with JSC's policy of working with international bodies toward international agreements. The idea of the ISBD(G) came from JSC, as did the first outline of that framework (which included all the major innovations in the first version), and the

major part of all the work on the framework and the annotations that accompany it were undertaken by or for JSC. The result of this process is that *AACR* 2 has a successful and consistent approach to bibliographic description, which is the same as that used by IFLA in the ISBD programme. This guarantees that differences between *AACR* 2 and any present or future ISBDs will be confined to minor matters of detail and wording. The result of the use of *ISBD(G)* in *AACR* 2 is that all the rules on description conform to a single set of punctuation conventions, that all descriptions resulting from the rules in part 1 contain data given in the same order, and that a single catalogue based on the part 1 rules will have an internal harmony brought about by the application of the same principles to descriptions of different kinds of library materials.

The areas (major parts) of the *ISBD(G)* are:

Title and statement of responsibility
Edition
Material (or type of publication) specific details
Publication, distribution, etc.
Physical description
Series
Notes
Standard number and terms of availability

In *AACR* 2 each of these areas (and each of the elements within them) is defined and described either in detail or in general terms in chapter 1—the general chapter on bibliographic description. Those elements such as place of publication and edition statement, which can be dealt with generally because they apply equally to all types of material, are treated in detail in chapter 1. Those elements such as the elements of the physical description area, which vary from one type of material to another, are treated in outline in chapter 1 and in detail in subsequent chapters within part 1.

The chapters in part 1 cover all materials and types of publications currently collected in libraries, with the exception of holograms. Even these, and any materials not yet conceived, can be described according to *AACR* 2 by applying the general chapter when specific rules in other chapters do not cover any descriptive problem in detail. The library materials covered in the chapters in part 1 are:

Books (including early books)	chapter 2
Cartographic materials	chapter 3
Manuscripts	chapter 4
Music (i.e., scores, etc.)	chapter 5
Sound recordings	chapter 6
Motion pictures and video recordings	chapter 7
Graphic materials	chapter 8
Machine-readable data files	chapter 9
Three dimensional artefacts and realia	chapter 10

In each of these chapters the areas and elements prescribed by the *ISBD(G)* and their prescribed punctuation are described in terms of the particular type of library material. Where the content of an element does not vary from one type of material to another and, hence, is comprehensively covered in the general chapter, the specific chapters contain a simple reference back to the general rules and some examples illustrating the specific application of the general rules. Where the content of an element is special to a particular type of material, it is dealt with in detail in the specific chapter. In some cases a rule consists of a reference to the general rule to cover the "normal" case and a specific instruction and examples relating to a particular problem of the type of material.

Chapters 2–10, which deal with specific types of materials, are followed by chapters of partial generality dealing with:

Microforms	chapter 11
Serials	chapter 12
Analysis	chapter 13

The rules in these chapters modify the provisions of the preceding chapters in some instances and are used in conjunction with those rules in other instances. Microforms may be original in nature, in which case chapter 11 is used with chapter 1, or may be copies of other materials, in which case the provisions of relevant chapters (e.g., chapter 2 in dealing with a microform of a book) are used when appropriate (e.g., when formulating a note on the original). Seriality is a condition that may apply to any type of library material and, therefore, the rules relating to serials can be used to modify descriptions derived from previous chapters. For example, a description relating to a map series will be derived from chapter 3 as modified by chapter 12, and a description relating to a printed serial will be derived from chapter 2 as modified by chapter 12. Analysis is the process by which a description of part of a publication is made and related to the whole publication. This can be achieved by describing the part separately, by making a note detailing the part or parts, by using the "two-level" method first formulated in the *ISBD(M)*, or by creating an analytical description. Each of these methods is described and exemplified in chapter 13.

The rules in part 1 of *AACR* 2 deal with print and nonprint materials on an equal basis. Descriptions for nonprint materials are not formulated as if a particular item were a deformed book but in terms of the particular material within the context of a neutral and comprehensive framework—the *ISBD(G)*. As such, the rules in part 1 represent the most fully worked out and fairest treatment of all kinds of library materials yet formulated. The concepts of an overall structure and equal treatment of all materials were taken in large part from the pioneering work of the British LANCET rules, the best and most recent statement of British nonprint cataloguing practice.[9] In addition,

the rules in part 1 give as much detail as is necessary for each type of material. Thus, the concept of equality of treatment has led not just to a philosophical fairness but also to a practical application, which should satisfy the general cataloguer and the specialist cataloguer alike. The rules are not detailed enough for the archival cataloguer in any field, but they are not intended to be. They are intended to furnish a useful description capable of being integrated into a catalogue listing publications of various kinds and to allow the systematic recording of all descriptive details other than the very specialized.

Knowing that different kinds of libraries require different degrees of detail in their catalogue entries, Cutter wisely provided instructions on short, medium, and long descriptions in his cataloguing rules.[10] This idea has been revived in *AACR* 2. The rules contain a prescribed set of descriptive data for each of three levels of detail. (See appendix for outlines of these levels). The first, corresponding to Cutter's short entry, gives the minimum information necessary to identify an item and also a minimal physical description. The second, which may be regarded as a standard description, gives all the data necessary for descriptions of "mainstream" items in medium to large libraries. The third, corresponding to Cutter's long entry, gives all the information that can be fitted into the standard framework and covers every descriptive element found in the rules. The first and second levels are presented as a minimum, that is, when a particular item warrants more detail, that detail can be added, even if one is describing at the first or second level. The importance of the resuscitation of this old idea lies in the fact that networks and other cooperatives concerned with the exchange of bibliographic information can ask their members to adhere to standards without thereby being forced to ask for an impossibly high standard (i.e., all the descriptive information that a code can furnish) or being forced to devise a "minimum standard" of their own. It is conceivable that post-*AACR* 2 networks could ask all contributors to give at least the descriptive data required by the first level. This would ensure that all records contained within one data base would have a common core of descriptive data. It would also ensure that those records would be compatible in respect of their descriptive data with all other standard records, no matter when they are produced.

The rules in each chapter of part 1 are divided into:

0. Preliminary rules
1. Titles and statement of responsibility
2. Edition
3. Material (or type of publication) specific details
4. Publication, distribution, etc.
5. Physical description
6. Series
7. Notes
8. Standard number and terms of availability

9. Supplementary items
10. Items made up of several types of material
11. Facsimiles, photocopies, and other reproductions

As can be seen, the bulk of the rules in the descriptive chapters are concerned with the eight major areas of the *ISBD(G)*. These rules (numbered one to eight) contain instructions on the formulation of descriptions, the order of elements within those descriptions, and the prescribed punctuation preceding or enclosing each element. The preliminary rules deal with such matters as the sources from which descriptive information is taken, the language and script of the description, punctuation, and interpolations and omissions from the description. In general, these matters are dealt with comprehensively in the general chapter (chapter 1), and subsequent chapters merely refer the cataloguer to those instructions. The last rules in each chapter deal with general questions. The rule on supplements offers three possible treatments for those materials. They can be described separately if they have bibliographic independence; they can be noted in area 7; or they can be described by the use of the "two-level" method. This rule is characteristic of a number of rules in *AACR* 2 in that it offers more than one method for dealing with a problem, recognizing that different contexts call for different solutions and that the task of a code of rules is not to create a Procrustean bed into which individual items are forced willy-nilly but to create flexible standards that allow for individual local interpretation while doing away with the necessity for petty local variation. The rule on multimedia items deals with the case where a single cataloguable item consists of parts falling into two or more types of library material and where no one of these parts clearly predominates. This rule is an innovation and offers concrete practical aid to cataloguers presented with this increasingly common occurrence. The rule on facsimiles, photocopies, etc., makes a point fundamental to the use of part 1 of *AACR* 2, namely, it is the item in hand which is to be described, not any previous form in which that item was issued. One describes what is, not what was. A facsimile or photocopy is described as such, with details of the original given in notes. The general rules outlined in this paragraph are given in detail in chapter 1, and most of the other chapters simply refer to that chapter.

As noted earlier, rules 1 to 8 in each chapter of part 1 deal with the eight major areas of the *ISBD(G)*. Where an element in one of those areas applies to all materials and presents no special problems for any particular type of material (as in the case with the place of publication or distribution in area 4), it is dealt with comprehensively in chapter 1 and only by means of a reference in the subsequent chapters. Other matters are dealt with in varying degrees of detail in the general and specific chapters.

Among the noteworthy innovations or developments in part 1 brought about by the *ISBD(G)* are:

1. The idea of parallelism found in the parallel title has been extended to the treatment of parallel information of all kinds in the title and statement of responsibility area, the edition area, and the series area. In general, the rules tend toward grouping of information in one language.
2. The second element in the title and statement of responsibility area is called "general material designation." This optional element (for a discussion of options in *AACR* 2, see below) represents the only instance in *AACR* 2 where divergent practices are recommended for British and North American users. The rule provides two lists of general material designations, reflecting the present variation in practice between North America (specific designations such as "globe") and Great Britain (generic designations such as "cartographic material").
3. The "statements of authorship" found in *AACR* 1 and its revisions have been replaced by "statements of responsibility." The new term implies less than the old term and also fits in better with the reality of such statements found on many nonprint items.
4. The edition area contains an element called "subsequent edition statement," which provides for the systematic recording of data relating to a revision of an edition as found in such statements as "second edition, reprinted with revisions."
5. The third area of the description is the "material (or type of publication) specific area." This area is only used in *AACR* 2 for cartographic materials and for serial items. The notion of an area that would contain information peculiar to a particular type of library material, which could not be fitted into the other areas, comes from the *ISBD(G)*. In *AACR* 2 this area is used to contain mathematical data (scale, projection, etc.) relating to cartographic materials and volume, chronological, and other data relating to serial publications. For descriptions relating to other materials, this area is simply omitted.
6. A systematic method of treating distributors and other issuing agents is given in the publication, distribution, etc., area. The treatment of these persons or bodies is the same as that of publishers except that a designation, e.g., "[distributor]," may be added to make the total statement clearer.
7. The first element of the physical description is named the "extent of item (including specific material designation)." The name arises from the way in which the physical description has been generalized. The physical description for any item begins with an indication of the number of parts of the item and (in most cases) the name of the specific class of material to which it belongs. For those materials that have a playing time, the duration also forms part of this element.
8. The series area has been remodeled to parallel the title and

statement of responsibility area. Thus provision is made for the cases in which parallel series titles and other like information for series need to be recorded. The order and punctuation of the elements of the series also follow the title and statement of responsibility. When recording a statement of responsibility for a series, it is given as, for example, "Research monographs / Institute of Economic Affairs." Instructions on the recording of subseries are fuller and clearer than those given in *AACR* 1.

Part 1 of *AACR* 2 presents a logical and integrated approach to bibliographic description in catalogue entries. The access points to be added to those descriptions are dealt with in part 2.

Part 2. Access Points

An important question that occurred early in the revision process related to the validity of the "main entry" concept. The proponents of retaining the main entry as a keystone of *AACR* 2 pointed to its central importance in conventional cataloguing theory, its entrenched position in all great catalogues, and its practical utility in printed book catalogues, in shelflisting, and in single-entry listings. The proponents of abolishing the main entry from *AACR* 2 argued that main entries arose from the technical limitations of catalogues based on pre-machine technology and that our present technology permits a number of equal access points. This argument leads to the omission of rules on choice of entries and concentration on the rules for the formulation of access points. In a developed machine system, there is no doubt that the main entry ceases to exist as such. The balance of the argument in JSC was with retaining the main entry and, hence, an opening chapter (chapter 21) on the choice of main and added entries. There is a *caveat* in the general introduction to *AACR* 2, which states that when a catalogue is not based on the main entry principle, the rules in the choice of entry chapter can be used as guidance as to which entries are made in a given case. In effect, each set of instructions reading "make main entry under . . ." and "make added entries under . . ." could be read as "make entries under . . . ." It seems unlikely that the dominance of the main entry will survive into future machine-system-based codes of cataloguing rules.

The first chapter in part 2 is chapter 21, "Choice of Access Points." One of the major flaws in chapter 1 of *AACR* 1 lies in its unorganized treatment of "corporate authorship." Rule 1 states, "Enter a work . . . by one author under the person or corporate body that is the author . . . ." A footnote gives some guidance on what a "corporate author" is, and there is a more extended discussion of the topic in rule 17 dealing with conflicts between a personal main entry and a corporate main entry. The concept of corporate authorship remains elusive, and its practical applications pose continual problems. Inspired by Verona's trenchant analysis of corporate responsibility,[11] JSC decided upon a radically different approach to corporate main

entry. The approach is based on the idea that the traditional Anglo-American notion that a corporate body can be an author in the same way as a person is apparently unreasonable and has led to much inconsistency in application. Once the idea of the corporate *author* is abandoned, the whole face of the problem changes. One can then look at the instances in which corporate main entry is useful and the instances in which it is not, free from the restraint of an untenable theory. The result of this reassessment is a division of the former basic rule on single main entry into two. The first rule (21.1A), which deals with personal authors, is essentially a restatement of our present position. The second rule (21.1B) prescribes corporate main entry for the following kinds of publications issued by, or caused to be issued by, a corporate body:

1. administrative publications dealing with the body itself and its resources, e.g., catalogues, rules, membership lists;
2. certain legal publications, e.g., laws, treaties;
3. publications that contain the corporate thought of the body as a whole, e.g., reports of committees, commissions;
4. reports of conferences, expeditions, exhibitions, etc.; and
5. certain motion pictures and sound recordings that are the result of the work of a performing group.

Thus, the nebulous notion of corporate authorship has been replaced by a rigorous operational definition of corporate responsibility and by a rule that, in dealing with well-defined instances, is easier to apply. This rule will undoubtedly cut down on the number of corporate main entries, resulting in a corresponding increase in the number of personal author and title main entries and an increase in the number of corporate added entries.

It is now recognized that the placing of the rule for serial publications among those relating to bibliographic conditions represents an inconsistency. Seriality is a publication pattern, not a bibliographic condition. As a result, the treatment of serials in rule 6 in *AACR* 1 does not fit the pattern of the treatment of other materials. After examining this inconsistency, JSC concluded that a separate rule on serials was unnecessary. A serial can be the result of a single personal authorship, or it may fall into one of the categories named above and hence be entered under a corporate heading, or it may be entered under title because it falls outside personal authorship or corporate responsibility. Because there is no special rule on main entry for serials, no inconsistency of treatment arises in such borderline cases as monographic series and quasi-serial publications that change their authorship.

Chapter 21 presents an integrated approach to all library materials as opposed to the book-oriented rules in chapter 1 of *AACR* 1. The examples reflect this difference in orientation, as do the rules in the chapter dealing with the special problems on entry posed by different materials such as artworks (rules 21.16–21.17) and music (rules

21.18–21.22). One of the most successful examples of this approach is the rule on entry for sound recordings (21.23), which deals with such cases as a sound recording containing works by a single author or composer performed by one person or one group (main entry under author or composer) and a sound recording containing works by more than one author or composer performed by one person or one group (main entry under the performer or group).

The rules in chapter 1 of *AACR* 1 dealing with works of mixed authorship have been replaced by a section dealing with works of mixed responsibility (rules 21.8–21.28), which represents a complete reorganization necessitated by the comprehensive nature of chapter 21. Essentially, works of mixed responsibility (those to which two or more persons or corporate bodies have contributed by performing different functions) receive main entry based on either the evidence offered by the publication itself (as is the case with "ghosted" works) or on the nature of the publication (as is the case with etchings, etc., based on paintings). The section on mixed responsibility in *AACR* 2 reflects this division and deals with these types separately. Though the theory of assigning access points centers on the concept of the work rather than the publication, as far as some works of mixed responsibility are concerned, the evidence offered by the physical object itself (the publication) is taken into account. Domanovsky has presented an extended discussion of this point.[12] The rules on mixed responsibility show more clearly than any other section of part 2 the attempt to cover all types of library materials.

As in *AACR* 1, the rules for added entries are contained in the chapter on access points. There are no major changes in these rules.

Chapter 1 of *AACR* 1 contained rules on legal and religious materials that were in clear violation of several principles upon which *AACR* 1 was based: they prescribed main entry under bodies other than the chief "author" of the work; in some instances they prescribed subject entries; they dealt with the form of headings in the choice of entry chapter; and they prescribed nonauthor elements (i.e., form subheadings) as parts of "author" entries. This last anomaly has been done away with in *AACR* 2. Form subheadings, such as "*Laws, statutes, etc.*" and "*Liturgy and ritual,*" are no longer part of the heading. They have been replaced by uniform titles (dealt with in chapter 25), which in some cases are true uniform titles and in other cases are basically collective uniform titles. An example of the first is the prescription for uniform titles for constitutions. These consist of the name of the constitution in the vernacular, as in:

NORWAY
[Grundlov]

An example of the second is the prescription for uniform titles for treaties entered under a government heading. These consist of the phrase "Treaties, etc." followed by the name of the other party to a bilateral treaty and the date of signing, as in

It is evident that these new rules will lead to a great increase in the number of entries made under the name of a government without qualification. As such works as laws and treaties may reasonably be considered to be the responsibility of the government as a whole, this is a logical outcome. Also, such entries will file at the head of a government file, preceding all the entries for parts of governments. Though the form subheadings have been abolished, other apparent inconsistencies remain. For example, laws emanating from one jurisdiction but applying to another are entered under the latter, and liturgical works are entered (in some instances) under the religious body using them rather than the body from which they emanated. The retention of these practices stems from the abolition of the idea of corporate "authorship." If one abandons that idea, then the practical view that, say, the Commonwealth of Australia Act (an act of the United Kingdom Parliament) is more likely to be sought under "Australia" (the country of which it is the constitution) becomes paramount.

Chapter 22 deals with forms of names for persons. It contains some differences as compared with chapter 2 of *AACR* 1. The most striking of these is organizational. There are two problems in formulating personal name access points. The first is choosing the name, the second is choosing the entry element of the name. Thus one chooses the name "Queen Elizabeth II" (rather than "Elizabeth Windsor" or "Princess Elizabeth") and then one selects "Elizabeth" as the entry element. This distinction was not made in *AACR* 1 but is made in *AACR* 2. Chapter 22 opens with instructions on the choice of name to use as the basis for a heading and then gives instructions on which part of that name to use as entry element, providing a logicality of structure that should make the rules much easier to understand and to learn.

In *AACR* 1, the general instruction to use the form of name by which a person is commonly identified was bent and, in some cases, shattered by the provisions of rule 43, which dealt with fullness of name. This rule led to the establishment of headings that not only were not the names by which a person was commonly identified (e.g., Lawrence, David Herbert) but also were difficult to find in large files because they filed in places other than those in which they were sought. In *AACR* 2 the form of name by which a person is identified is used whether it includes initials or not ("Eliot, T. S.") or even if it consists of initials ("H. D."). If conflict occurs, the full form of the part of the name represented by or containing initials is added, as in:

Lawrence, D. H. (David Herbert)
Lawrence, D. H. (David Horace)
Lawrence, David H. (David Henry)
H. D. (Hilda Doolittle)

In this way, the form of the name by which the person is identified is preserved, and it files in a sought place even though necessary distinctions are made.

Another interesting application of the principle of using the name by which a person is identified lies in the treatment of noblemen and noblewomen and persons possessing titles of honour. In *AACR* 2 the titles possessed by these people will be added to headings only if they or a form of them were commonly used by the person. Thus, the heading for Lord Byron will contain his title, but the heading for Laurence Olivier will not; the heading for Sir Thomas Renton will be "Renton, *Sir* Thomas," but the heading for the incomparable P. G. Wodehouse will be "Wodehouse, P. G." because his knighthood was conferred upon him late in life and he never used it in authorship.

The rule on pseudonyms (22.2C) recognizes that a single person may have two or more separate bibliographic identities, and that no one name derived from one of those identities is appropriate as a gathering point for all the works by that person. Where a single name has come to be the name by which all that person's works are identified (as is the case with W. M. Thackeray, for example), it is used as the heading for that person. Where no one name has emerged as the dominant name (as is the case with Lewis Carroll / Charles Lutwidge Dodgson, for example), each name used in authorship is used as the heading for works associated with that name. This represents a radical departure from previous practice, but one that will pose few problems for seekers of individual items (the majority of all catalogue users) or for seekers of the works by one bibliographic identity. In machine systems such separate identities can be easily and speedily related for the catalogue user.

There is a new chapter in *AACR* 2 dealing with geographic names, which follows the rules on personal names and precedes those on corporate names. These rules are essentially a restatement of those in the chapter on corporate names in *AACR* 1, but their separate treatment makes clear an important distinction, namely, that the formulation of geographic names to be used as headings or as parts of headings is a separate problem from that of establishing corporate headings using geographic names. The rules in chapter 23 provide a clear statement of the methods used in making additions to geographic names that are the same as, or similar to, other geographic names.

The rules on corporate names (chapter 24) have been extensively reorganized as compared to the rules in chapter 3 of *AACR* 1. The most important difference is that all the rules on the formulation of the basic part of a corporate name are given together and that they precede all the rules on additions to corporate names. Similarly, the rules on the formulation of headings for subordinate corporate bodies are grouped together. This reorganization, combined with the removal of the rules on geographic names to a separate chapter, should make the structure of the rules in chapter 24 of *AACR* 2 more logical

and easier to follow and teach. The rules on government bodies (24.17–24.23) and the rules on subordinate and related bodies (24.12–24.14) parallel each other more closely than did their predecessors in *AACR* 1. Indeed, the original intention of JSC was to formulate a single rule, based on the nature of the name and covering both types of name. This worked well for all nongovernment subordinate bodies and for most government agencies but ultimately proved to be impossible because certain types of government agencies (e.g., courts, armed forces, ministries) must be entered subordinately not because of the nature of their names but because of the nature of the body.

It should be noted that all qualifications to geographic and corporate names will be placed in parentheses, rather than sometimes in parentheses and sometimes preceded by a comma, as in *AACR* 1, resulting in the headings

Loyola University (Chicago, Ill.)
Lima (Ohio)

The rules in chapter 24 provide examples of the treatment of the names of bodies such as conferences and exhibitions (already admitted as corporate bodies in chapter 21), which will help in the solution of this minor but difficult problem.

One striking aspect of chapter 24 occurs not in the rules but in the examples, namely, the substitution of "United Kingdom" for "Great Britain" in the examples for that government. "United Kingdom" is, of course, the correct form, as it has been for many years, "Great Britain" being merely the largest of the group of islands off the coast of Western Europe upon which the United Kingdom is situated. In the words of the general introduction to *AACR* 2, the examples are "illustrative, not prescriptive," but use of the correct form is always preferable.

The chapter on uniform titles (chapter 25) in *AACR* 2 shows very clearly the integrated approach to all library materials that is a dominant feature of this edition. It opens with general rules for the formulation of uniform titles of all kinds and then proceeds to special rules for manuscripts, legal materials, religious materials, and music. The special rules for legal and religious material are made necessary by the removal of form subheadings from the prescriptions on the choice of access points. These rules produce uniform titles such as:

United Kingdom
[Laws, etc.]
(used for a collection of laws)

United Kingdom
[Licensing acts]
(used for a special collection of laws)

United Kingdom
[Field monuments act]
(used for a specific law)

Church of England
[Book of common prayer]
Catholic Church
[Missal (Dominican)]

The rules on sacred scriptures, in the cases of some religions (chiefly Buddhism), have been revised as compared to *AACR* 1. The rules on the formulation of uniform titles for music are extensive and detailed, closely follow recommendations for revision made by music cataloguing groups in the three "author" countries, and present some changes from *AACR* 1.

The last chapter of rules in *AACR* 2 is that dealing with references (chapter 26). The general ideas behind references are clearly set out, as are the specific provisions for making the various types of reference. The only changes in substance as compared to chapter 5 of *AACR* 1 are those made necessary by changes in rules such as those dealing with fullness of name and pseudonyms.

General Matters

The appendices to *AACR* 2 deal with capitalization, abbreviations, the treatment of numerals, and terms used in cataloguing. The first three appendices are given in rule form and numbered as rules, the last (the glossary) is a list of terms and definitions. The appendices have been revised in detail, as compared with those in *AACR* 1, but do not result in any startlingly divergent practices.

Because the rules in *AACR* 2 are written in the imperative voice (see below), it became necessary to devise a standard method of indicating options. The method used is that of preceding the rule on an option (which follows the basic rule) by *"Optional addition"* or *"Alternative rule"* or by beginning a sentence with "Optionally . . . ." This stylistic practice can give the appearance that *AACR* 2 contains more options than *AACR* 1, where the options were not so clearly flagged. It is doubtful whether there are more options in the later edition, but even if there are, this is not necessarily a bad thing. Options arise from the recognition that different contexts may require different solutions or different levels of detail or specificity in rule provision. The national libraries of the United States, Canada, the United Kingdom, and Australia have already reached general agreement on the exercise of the options in *AACR* 2. Other bodies with different requirements may well wish to come to other agreements. The core of standardization provided by *AACR* 2 would not be affected by differing uses of options. Also, the practical effects of the optional rules should not be overestimated.

The rules are numbered in a different manner than those in *AACR* 1. Each rule is preceded by the number of the chapter to which it belongs. Thus rule 7.3 is a rule on the description of motion pictures, and rule 26.2 is a rule on references. The major rules in each chapter are designated by a number; the subdivisions of those rules are desig-

nated first by a capital letter and then by another number. There are no further subdivisions. An example of rule numbering is 26.4A1, which is made up of:

Chapter on references	26
References for uniform titles	26.4
See references	26.4A
Different titles or variations on the title	26.4A1

In the chapters in part 1, this numbering has a strong mnemonic effect. Each major part of the description has a unique number so that, for example, rule 5.4 deals with publication details for music, rule 6.4 with publication details for sound recordings, and 7.4 with publication details for motion pictures. These all relate to rule 1.4, which is the general rule on publication details. Preliminary rules are numbered 0 within the chapter numbering.

The rules in *AACR* 2 are written in the imperative voice, making the rules much crisper and easier to understand. In addition, the rules have consciously been written in shorter sentences within shorter paragraphs in a further attempt to increase comprehension. Another stylistic change results from a decision to eliminate the sexist implications of using "he" or "his" to stand for both males and females. This makes the rules unobjectionable and also eliminates examples of actual sex discrimination such as that found in rule 49C in *AACR* 1, where royal saints were assumed to be men, thus not providing for, among others, St. Margaret Queen of Scotland. Where necessary "he or she" is used but, in general, the rules are so worded as to avoid personal pronouns.

The spelling used in the rules is based on an agreement to use *Webster's New International Dictionary* as an authority. If *Webster's* gives a British spelling as a permitted alternative, it is used in *AACR* 2, hence the use of "catalogue" and "cataloguing"; if only the American spelling is given, it is used. Agreements on the use of terminology were also reached. These have resulted in some terms that are strange to Americans and some terms that are strange to British cataloguers.

The examples in *AACR* 2 are considerably more numerous (especially in part 1) than those in *AACR* 1. They are also more modern. There was a conscious attempt to include more examples relating to women and more examples relating to nonprint materials.

Conclusion

The *Anglo-American Cataloguing Rules*, second edition, represent the hard work of many individuals and institutions. It is the belief of those involved in their preparation that they contain a comprehensive statement of the best cataloguing practice of the Anglo-American tradition at this time, that they are well organized, lucidly presented, and well suited for use as a practical cataloguing tool in the tradition of Panizzi, Cutter, and Lubetzky.

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APPENDIX
Levels of Description in *AACR* 2

First level

Title proper / first statement of responsibility, if different from main entry heading in form or number or if there is no main entry heading
Edition statement
Material (or type of publication) specific details
First publisher, etc., date of publication, etc.
Extent of item
Note(s)
Standard number

Second level

Title proper [general material designation] = parallel title : other title information / first statement of responsibility ; each subsequent statement of responsibility
Edition statement / first statement of responsibility relating to the edition
Material (or type of publication) specific details
First place of publication, etc. : first publisher, etc., date of publication, etc.
Extent of item : other physical details ; dimensions
(Title proper of series / statement of responsibility relating to series, ISSN of series ; numbering within the series. Title of subseries, ISSN of subseries ; numbering within subseries).
Note(s).
Standard number.

Third level

All elements that are applicable to the item being described.

Year's Work in Cataloging and Classification: 1977

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THE YEAR 1977 was a year of disquiet for those concerned with the future of the card catalog. The character of the disquiet is outlined in two institutes reported on during the year.

The Information Science and Automation Division (ISAD) of the American Library Association (ALA) Institute on the Catalog, "The Catalog in the Age of Technological Change," took place in New York in April 1977.[1] It opened with a paper by Michael Gorman describing the potential of the on-line computerized catalog. Seymour Lubetzky expressed concern about the adoption of International Standard Bibliographic Description (ISBD) and asserted that new technological developments may not be of great value if they mean abandoning sound cataloging practices. John Byrum, chairman of the Catalog Code Revision Committee (CCRC), spoke on the second edition of the *Anglo-American Cataloguing Rules* (*AACR* 2).

Phyllis Richmond spoke to the fact that the cycle of cataloging rule revision needs to be broken and there needs to be serious research into the way library catalogs are approached and used.

Ann Lipow discussed the problems of the catalog user and suggested that the computerized catalog can offer access to catalog records through approaches not practical for the card catalog. Sanford Berman suggested that the catalog codes were designed by and for large academic research libraries and do not meet the needs of the library user. Jean Weihs spoke on problems posed by nonbook materials and urged that librarians bring these materials into the mainstream of library collections.

Joseph Howard, director of the Processing Department, Library of Congress (LC), closed the institute and reported that the primary goals of LC during the next few years are the creation of an on-line catalog and full-scale development of on-line subject heading and name authority files. He stressed the cooperative nature of efforts such as the *National Union Catalog (NUC)*, CONversion of SERials (CONSER), and COoperative MARC (COMARC).

The July 1977 issue of *Library Quarterly* presents papers of a conference held at the University of Chicago Graduate Library School on "Contemporary Issues in Bibliographic Control." Fussler and Kocher introduced the idea of a national resource pool containing a second set of LC–National Program for Acquisition and Cataloging materials (NPAC).[2] They noted the need to establish suitable organizations for coordinating bibliographic system design and development. Hickey provided a brief historical perspective of bibliographic control in the U.S., noting that American librarianship suffers from a multiplicity of theories.[3]

Haas proposed a project involving LC and the Association of Research Libraries (ARL) to set up an organization for "the formation and testing of methods for planning and assessing the performance of our bibliographic mechanisms."[4] He hypothesized a bibliographic control system that should be useful in "unsystematic and unpredictable" ways.

Wigington and Costakos presented a paper on the technological foundations for bibliographic control systems, which provides a state-of-the-art report on information technology.[5] Technology and standards for bibliographic control were addressed by Malinconico.[6] He provided the historical presentation of the library catalog and cataloging rules and the impact of technology on standards.

Svenonius and Schmierer discussed current issues in the subject control of information.[7] They concluded by observing that there are two types of change in subject control: change to improve control and change to reduce cost of control. Further, the way to improve subject control is to do more of it and look toward effective methods in cooperative indexing and thesaurus projects. Avram discussed production, distribution, and use of bibliographic data.[8] She pointed out that we are moving to an era where bibliographic control must be viewed in the context of local, state, regional, national, and international networking systems, if we are going to share resources. There appears to be a consensus that the national network will be a distributive system with component parts linked by telecommunications. Distributed systems for libraries where the bibliographic files are composed of records originally cataloged and converted by many organizations highlight questions concerning: (1) cataloging rules or conventions required for national source records, (2) the location and makeup of the authority file, (3) location of the national union catalog and register of location data bases, and (4) the problems associated with the transmission of queries from one utility to another.

At the international level, three events were of special importance: the International Federation of Library Associations' (IFLA) Fiftieth Anniversary Congress, the IFLA/UNESCO International Conference on National Bibliography, and a meeting of the representatives of the British Library, the National Library of Australia, the National Library of Canada, and the Library of Congress.

The Fiftieth Anniversary Congress of IFLA met in Brussels, Belgium, in September 1977.[9, 10] At the first program meeting of the Section on Cataloguing, a preliminary report of the Working Group on Corporate Names presented rules for the definition and formulation of corporate headings in general and jurisdictional (or geographic) headings in particular. The working group will limit its work to the form of headings.

A review of IFLA's ISBD program was presented by Dorothy Anderson, director of the International Office of Universal Bibliographic Control (UBC), at the second meeting. In order to bring stability to this program and facilitate the use of ISBD throughout the world, the Standing Committee on Cataloguing has recommended that no modifications be made to existing ISBDs for the next five years.

The section's third meeting was a review of ISBDs in progress. Heinz Lanzke spoke on the extension of ISBD to printed music and pointed out that the concept of "title page" is less established for music publications and that additional information might be supplied to make a more adequate description. In a discussion of the ISBD for older materials, Richard A. Christophers pointed out that title pages for books produced before 1800 frequently bear little resemblance to those of modern books. Therefore, to follow the ISBD(G) prescription for the breakdown of title page description may pose serious problems. Edith Bayle presented a paper on the "fingerprint" technique for identifying older books and the problems in applying it. The fingerprint for a book consists of sixteen characters (letters, numbers, or punctuation) found on specified lines and pages.

Two meetings chaired by Eva Verona were held by the Standing Committee on Cataloguing. Actions taken by the committee include the decision to revise ISBD(M) in accordance with the new annotated version of ISBD(G). The committee also voted to recommend the establishment of a Round Table on Classification. Emphasis will be placed on providing a forum to discuss problems of implementation of such systems as the Dewey Decimal Classification (DDC) and the Library of Congress Classification (LCC).

Following the meeting of the IFLA Congress, IFLA/UNESCO sponsored the International Congress on National Bibliography held in Paris 12–15 September.[11] Objectives of the congress were (1) to reach agreement on minimum standards or acceptable practices for coverage, content, and form of national bibliographic records, considering the requirements of international exchange; (2) to reach agreement on acceptable guidelines for presentation, arrangement, and frequency of printed national bibliography; (3) to discuss and make proposals for the sharing of resources to assist countries in achieving national bibliographic control using either manual or computerized methods of producing national bibliography.

The third session of the congress was devoted to discussions of the bibliographic record. Uniform bibliographic record was stressed for

descriptive elements as well as for name headings. Joel Downing, representing the Joint Steering Committee on the Revision of AACR (JSCAACR), provided a status report, noting that publication of *AACR* 2 is expected in autumn 1978. It is expected that there will be French, Spanish, and Portuguese translations of *AACR* 2.

Dorothy Anderson, representing the IFLA Office for UBC, reported on ISBD programs. National bibliographic agencies were encouraged to adopt the ISBDs. With regard to name headings, both personal and corporate, the responsibility of national cataloging agencies to adequately determine correct names of authors, to maintain comprehensive authority control systems, and to assist in the standardization of name headings was acknowledged. Difficulty of finding an acceptable international approach to subject identification was recognized, noting that a large number of national bibliographies already used variations of DDC and UDC. Desirability of adopting the current or latest edition for international exchange was cited. With regard to bibliographic records for nonroman materials, it was accepted, as a long-term policy, that such records be carried in the national bibliography in their original language and/or script.

At the final session on the fourth day, attention turned to the draft recommendations circulated by the congress secretariat and the adoption of the formal report. That report contained recommendations concerned with the following: (1) legal deposit, (2) the selection of materials for the national bibliography, (3) presentation and frequency of the printed material bibliography, (4) catalog cards, (5) content of the bibliographic record, (6) publications of intergovernmental and international nongovernmental organizations, (7) international information systems, (8) International Serials Data System, (9) resource sharing, and (10) UNESCO.

With regard to the International Serials Data System, Bourne recognizes the tenth anniversary of the International Standard Book Number (ISBN) and compares that number to the International Standard Serial Number (ISSN).[12] Sleep reports on a study of ISSN and makes recommendations concerning its assignment and use.[13] LC Catalog Distribution Service has compiled a catalog of ISSNs and corresponding Key Titles that will be published by the Government Printing Office (GPO).[14]

Representatives of the British Library (BL), the National Library of Australia (NLA), the National Library of Canada (NLC), and the Library of Congress met at LC in November to exchange information on bibliographic policies and to consider future programs.[15, 16, 17] A major topic was the impact that will result from the promulgation of *AACR* 2 and DDC 19. The four libraries recommended the adoption of *AACR* 2 effective 1 January 1980. Machine-readable input of the new titles, using *AACR* 2, should begin in late 1979, based on the lead time required to prepare and process entries appearing in the first 1980 issuances of printed and machine-readable catalog records.

DDC 19 is scheduled to appear in late 1979. The four libraries felt that adoption of DDC 19 should also be scheduled for 1 January 1980. Simultaneous adoption of *AACR* 2 and DDC 19 will provide better coordination of conversion efforts.

At the same meeting, there was discussion of international cataloging standards work with reference to growing concern over the lack of satisfactory links between the development of international standards and the national systems.[18] There has been special concern over the handling of ISBDs. It was felt that the relation of IFLA and International Organization for Standardization (ISO) needs clarification, and there is concern relating to the kind and quality of representation on working groups for standards and the process for review of draft standards.

The RTSD Committee on International Cataloging met in June and invited several individuals having expert knowledge of procedures by which international organizations develop cataloging policy.[19] In addition, the committee completed work on a statement of the criteria to be applied in the selection of ALA representatives to groups concerned with international cataloging policy. The committee also received a working paper dealing with alternative structures within ALA for catalog code revisions.

A response to the concerns expressed by the national libraries was made by Dorothy Anderson, director of the IFLA UBC Office.[20] She outlined the development of working group procedures, pointing out that no country can expect to be represented on every working group. A member of a working group is not necessarily a representative of his or her country but is presumed to be a specialist and will be in contact with other specialists. Circulation of working documents is designated by the chairman of the group. At least one working document will be made available to wider national circulation through national library groups and organizations for examination and comments. Anderson acknowledged some weakness of the system of working groups in relation to ISBDs but felt that the pattern of small specialist groups has advantages.

As to the relationship of IFLA to ISO, IFLA is not an international standards organization but is closely involved in standardizing activity. It has been aware that acceptance of its documents by ISO would have advantages in some countries and, hence, the IFLA UBC Office has pursued having ISBD(M) reviewed by ISO/TC46. It is not certain whether the same procedure will be followed with the other ISBDs. A possible alternative procedure will be considered in consultation with the ISO/TC46 secretariat.

Just as ISO has a continuous revision process, so IFLA has accepted its responsibility for supervising the ISBD program and its monitoring and possible updating.

Malinconico remains concerned, asserting that "the United States as well as other developed countries has a moral obligation to participate

in the enhancement of bibliographic controls; simultaneously, it can by no means hope to assume the burden of bibliographic control of the world's literature collected by its libraries; but it should not accede to these necessities at the expense of the quality of bibliographic control that has developed."[21] The United States library community must take an active part in proceedings of organizations such as IFLA through its professional library association.

In September 1976, the Council on Library Resources (CLR) celebrated its twentieth anniversary.[22] Activities of CLR have been of particular importance in the area of bibliographic control. It has provided LC with support to develop MARC (machine-readable cataloging), assisted LC on a project to convert bibliographic records to MARC in RECON (REtrospective CONversion project), addressed itself to the Cataloging in Source Program (later to become Cataloging in Publication), supported the 1961 Paris International Conference on Cataloging Principles, funded projects and studies to help LC assume its position as a national bibliographic center, and provided support to COMARC and CONSER, to systems such as OCLC, BALLOTS, the University of Chicago Data Management System, and numerous networks, and to IFLA.

One of IFLA's most important activities has been the promotion of international cataloging agreements.[23] At a CLR-supported meeting of cataloging specialists in Copenhagen in 1969, a proposal was developed for the establishment of a permanent secretariat for the IFLA Committee on Cataloguing and, in 1971, CLR awarded funds to IFLA for the Cataloguing Committee secretariat. In 1973, the Cataloguing Committee secretariat presented a long-term program for developing a worldwide system for the exchange of bibliographic information based on the concept of universal bibliographic control (UBC). In 1974, the IFLA Executive Board approved a plan to make UBC a major goal of the Cataloguing Committee secretariat and renamed it IFLA International Office of Universal Bibliographic Control. Perhaps the most significant area for UBC Office activity is the development of standard formats for preparing bibliographic records.

The IFLA UBC Office is taking an active part in an international bibliographic network study recommended and approved at a Paris meeting of the national libraries in October 1975. A CRL grant of $11,000 to LC enabled it to join with the national libraries of Australia, Canada, France, and Great Britain in funding the study. In the fall of 1977, CLR awarded $150,000 to the IFLA UBC Office.[24] Since 1974, CLR has awarded the UBC Office $364,200.

A progress report on IFLA UBC activities notes the following items: ISBD(G) General: the annotated text is currently being considered by the editorial group of the ISBD(G) Working Group with publication delayed but anticipated by the end of 1977; ISBD(M) Monographic Publication (1974, 1st standard ed.) is in the initial stages of revision; ISBD(NBM) Non-Book Materials: recommendations of the working

group were published in July; ISBD(S) Serials: the first standard edition, a revision of the recommendations published in 1974, was published in July 1977; ISBD(CM) Cartographic Materials: final recommendations of the working group have been received by the IFLA office and publication was expected in August; ISBD(Old Books): working group to prepare ISBD for pre-1801 monographs was established early in 1977, and a first draft for discussion by the working group was prepared; ISBD (Printed Music): a first draft has been completed and submitted to the working group for comment.[25]

The IFLA Group on Corporate Headings met in London in April and drew up a list of recommendations. The working group considers that international standardization of the form and structure of corporate headings is essential, along with the use of authority files, for the realization of the UBC program. A new project of UBC is a survey of nonroman script materials in public libraries in three countries, United Kingdom, Canada, and Australia, which have ethnic communities requiring special provision in public libraries. The survey was intended to provide background information at the International Congress on National Bibliographies in Paris.

A new publication resulting from UBC activities is the third edition of *Names of Persons; National Usages for Entry in Catalogues*.[26] The publication reflects progress in the development and acceptance of standard cataloging practices in the years since the second edition. The manual is concerned with the form and not the choice of name headings. The first in a series of IFLA UBC Office Occasional Papers was prepared and published during the year as *International Target Audience Code (ITAC): A Proposal and Report on its Development and Testing,* prepared by Russel Sweeney.[27] Known earlier as the Intellectual Level Code, the aim of ITAC is to provide a simple code for identifying the level and purpose of a work, which can be used in manual and mechanized cataloging systems.

A major step in the realization of UBC was the publication of *UNIMARC: Universal MARC Format* in April 1977.[28] UNIMARC is a product of four years of effort by the IFLA Working Group on Content Designators, set up by the IFLA Section on Cataloguing and the IFLA Section on Mechanization. UNIMARC is intended to be the common denominator between formats of national bibliographic agencies in the exchange of data in machine-readable form. With UNIMARC, exchange among all national agencies will be possible with essentially one set of translation programs.

Numerous articles appeared during the year on IFLA and the ISBD programs. Kerr and Clarke concerned themselves with the ISBD program and problems of nonroman script.[29] Application of ISBD to the African, Latin American, and Asian national bibliographies has also been addressed in three articles.[30, 31, 32]

Martin points out that we have been engaged for several years in experimental "national bibliographic systems" based on computer

technology.[33] Since CONSER and COMARC were developed and operate very differently, we have a unique opportunity to observe and learn. Her comments are pertinent at this time, since the development of a national bibliographic network has been brought to the forefront by the publication in March 1977 of *The Library Bibliographic Component of the National Library and Information Service Network,* later issued in a revised edition, dated June 1977.[34,35]

The Librarian of Congress named a special assistant for network development to permit more active participation by LC in national network planning. Representatives from ongoing systems were invited to meet at LC to explore possibilities for increase of cooperation. The first of a series of meetings was held 12 April 1976. At the second meeting on 9 August 1976, the Deputy Librarian of Congress asked those attending, as representatives of their organizations, to act in an advisory capacity to the LC Network Development Office as the Network Advisory Group. The working paper for this meeting describes network issues as well as four areas of concern: (1) objectives, (2) functions, (3) technical considerations (bibliographic and technical), and (4) policy considerations. A subcommittee of the Network Advisory Group was established to elaborate on the four topics.

At the December 1976 meeting, the Network Advisory Group discussed the intended scope of the working paper, that is, what component of the national library in the information service network was actually being addressed. Consensus was that the advisory group and the LC Network Development Office were actually concerned with the library bibliographic component of the larger network, the national library and information service network. The group felt that the library bibliographic component should be given the first priority at this time.

The Network Advisory Group held its fourth meeting in April 1977. At that meeting, the major position paper, *Toward a National Library and Information Network; the Library Bibliographic Component,* was discussed. The Network Development Office prepared a revised preliminary edition for distribution to the library community. Following that meeting, LC announced the formation of the Network Advisory Committee to carry on the work and communication begun by the group.[36]

The establishment of a Network Advisory Committee has been interpreted as recognition by LC that it may have to contend with other libraries and organizations that may be concerned with the "national library network action."[37] The purpose of the committee is to advise LC on matters related to planning for a national library network. It will spell out network objectives, the role of participants, and technical bibliographic and policy considerations in network development.

In December 1976, the Network Advisory Group recommended that a task force of technical staff from organizations with operational automated systems be established.[38] That task force, the Network Technical Architecture Group (NTAG), was organized in early 1977.

Its purpose was (1) to determine the hardware, software, and communications configuration of the library bibliographic component of the national library and information service network, (2) identify needed projects, (3) prepare proposals for funding, and (4) perform other tasks within the scope as required.

To date, NTAG has agreed upon three initial projects: (1) link systems to LC using current protocols, (2) link systems to LC using network standard protocols, (3) link system to system. This will provide bi-directional capability between the bibliographic systems.

In February 1977, the ALA/ISAD "Institute on the National Library Network" was held in Chicago. Papers were presented on the national bibliographic network.[39] Rosenthal presented the keynote paper suggesting questions and concerns on the developing network.[40] He noted that the "success or failure of cooperative activities lies, in the long run, with the people who actually deliver information services to the users, just as a democratic society depends upon participation of the citizenry."

Lorenz spoke from the viewpoint of the research library, concluding that they are eager to move ahead on network development as planning and funding make it possible, seeking the broadest possible standards and compatible input from all types of libraries and information services.[41] There is growing serious planning for freezing the present card catalogs of major libraries and developing new and more flexible bibliographic tools for the future.

Freedman spoke on the national bibliographic network from the point of view of the public library.[42] He attacked, as a myth, the need for a single national cataloging standard for all libraries. He recognized that LC is unable to make many changes needed but suggested it is unfair to saddle the public and other nonarchival libraries with cataloging decisions that follow as a practical consequence of LC's internal maintenance problems.

Knapp discussed the requirements for the national bibliographic network from the viewpoint of a local network.[43] He saw no technical reason why a second cataloging record useful to public libraries couldn't be produced as an expansion of the MARC record. He predicted that there will be only a limited number of networks and that the future national on-line catalog will not be at LC but will be the sum of all local network holdings records.

Silberstein spoke on standards in the national bibliographic network,[44] asserting, "Given the kind of flexibility that computers are supposed to have, there is less need to establish one single way to describe or catalog an item. We need consistency, but not at the expense of everything else . . . we should recognize that bibliographic control, the linking in a variety of ways bibliographically related items, should be the force behind standard setting."

Avram described the role of LC in the bibliographic network,[45] and Rather and De La Garza summed up international cataloging coopera-

tion and networks.[46] Winding up the program, Trezza spoke from the viewpoint of the National Commission on Libraries and Information Science (NCLIS) and described a national network that would encompass all library and information resources, including those of the private sector.[47] The national level would be a resource of last resort, backed up by local, state, and regional facilities.

An *American Libraries*' reporter commented that "the tone seemed to be one of political ambivalence: we've got to keep playing at democracy; but to make national, on-line resource sharing a reality, someone is going to have to be given divine right."[48]

In discussing the likelihood of a National Bibliographic Network (NBN), Martin states that "although the multitude of professional societies certainly have valid interests in the creation of NBN, specific leadership roles must be taken by a few institutions in order to maximize the design and development process. Let us—the profession—assign to LC or NCLIS or ALA the coordinating role required to bring together specifications for all affected parties. And let us insist that we are consulted and informed through the *LC Information Bulletin, JOLA,* and other publications so that the result will be the most acceptable system to the greatest number of institutions."[49]

At the 1977 ALA Annual Conference, LC announced that it intended to close its catalogs in 1980 when *AACR* 2 is adopted and superimposition abandoned, whether or not the automated system is ready.[50]

In September it was announced that LC had restudied all aspects of its automation requirements.[51] Effective input and output of all roman-alphabet languages would be achieved toward the end of fiscal 1977. It is hoped that the programs for music and sound recordings will be completed and tested in time for starting input in fiscal 1978 and that work on handling Cyrillic will be far enough advanced to permit extending full coverage to it by the end of fiscal 1980. Chinese, Japanese, and Korean, in automated systems, will be addressed after Cyrillic but certainly not before fiscal 1981. MARC input priorities are not expected to affect the library's aim of closing its present card catalogs in 1980.

In November, further information on the disposition of the LC catalogs was made available.[52] LC spoke of "freezing" its card catalog on 1 January 1980 and relying primarily on automated data for collection access. From 1 January 1980 forward, there will be two catalogs, the frozen manual one and a new multipart catalog that will include all records in the MARC data base and all records cataloged after 1 January 1980, whether available on-line or temporarily in card format. The policy of superimposition will be abandoned, *AACR* 2 and DDC 19 will be adopted, and there may be changes in the subject heading system. The automated system is expected to handle all current cataloging, with the exception of nonroman-alphabet materials; roman-alphabet materials will be cataloged manually only if the total

automated system should not be fully operational. The nonroman records will be maintained in a separate card catalog and the roman in a parallel card catalog until the automated system progresses to the point that a manual catalog is no longer needed and can be discarded.

The action taken by LC regarding closing the catalog and adopting *AACR* 2 and DDC 19 has major implications for the library community. McCallum examines two ways LC might end the policy of superimposition adopted in 1967.[53] She suggests that LC either begin a new authority file, applying the new rules to all future cataloging without reference to old catalog form, or change headings not in conformity with the new rules and construct cross-references between the old and new forms. She argues that although the first method would be less costly for LC, the second would be less costly for the user libraries, allowing greater flexibility and permitting them to provide better service to their patrons. Plotnik notes, "As every cataloger tied to LC bibliographic products has long known, it will be virtually impossible to integrate the new with the old catalog. Many libraries, especially large ones, will consider parallel closing of their pre-1980 general catalogs."[54] He suggests two possible criteria for closing catalogs, date of imprint or date of cataloging, and raises questions concerning links between the old and the new catalog.

LC has had a public Computer Catalog Center since July 1977.[55] The center consists of six CRTs and two printers. The terminals access computer files using SCORPIO (Subject-Content Oriented Retriever for Processing Information On-line), a bibliographic information file containing, among other items, more than 700,000 references extracted from the MARC data base.

During 1977, two major research libraries produced documents addressed to the future of their card catalogs. The Committee on Bibliographic Control of the General Library of the University of California, Berkeley, outlines a plan that moves through the evolution of the card catalog to an automated catalog that will provide public and staff access to monographic and serials data that combine both on-line and COM access.[56] The report comments on standards to be applied and projected scheduled changes. Estimated cost figures suggest the significant magnitude of the project.

Cornell University Library recommends that it close its catalog at the time *AACR* 2 is adopted and that the replacement for the card catalog be a new on-line data base with an in-house backup consisting of a minicomputer for the most recently processed materials and computer output microform (COM) for other materials.[57]

The University of Toronto Library (UTL) has closed its card catalog and converted its records to machine-readable form.[58] All cataloging from 1 July 1976 to date has appeared in COM fiche supplements. It is now making its machine-readable catalog records available to others.[59]

The library had been converting its bibliographic records to

machine-readable form since 1965, and that machine-readable data base made a COM catalog possible. DeBruin describes the organization used to deal with the policies and problems concerned with closing the UTL card catalog and implementing the COM microcatalog and comments on results of a user survey.[60]

Altman views the UTL COM catalog as an outsider, pointing out parallels between the COM and the printed catalogs.[61] She found that fiche misfiling was a common occurrence and that ready access was not always apparent. The most serious disadvantage of the UTL COM system is that it excludes cross-references. In spite of the drawbacks, the author likes UTL's COM catalog.

With the discussion of catalogs being closed and the growing cost of card catalog maintenance, the library community effort to seek alternatives expands. The COM catalog is losing the character of a new initiative and has become almost commonplace. Among the latest to make the switch from the card catalog to COM are the St. Louis County (Missouri) Library, the Cooperative Libraries in Consortium (CLIC, a consortium of eight academic and research libraries in the St. Paul, Minnesota, area),[62] Western Kentucky University,[63] the Los Angeles County Public Library,[64] and the Greenville County (South Carolina) Library. Cox and Juergens report on a project to examine the COM catalog as an alternative to the card catalog in five libraries in the AMIGOS Network.[65]

Freund describes the Eastman Kodak Libraries catalog on microfiche, with details of a process whereby the generation of COM update catalogs contributes to maintenance of a list of subject headings and references.[66]

North describes the development of the Ryerson Polytechnical Institute COM Catalog: "The hardest part was questioning of the norms of library operation. Once we learned to do this, the rest was relatively easy."[67]

An annotated bibliography by Friedman lists recent books, articles, and reports describing existing and potential library applications of COM.[68] The National Micrographics Association (NMA) has published a compilation of thirty-two recent articles relating to COM.[69]

The RTSD Book Catalog Committee published guidelines for those libraries considering book catalogs for the bibliographic representation of their collections in hard copy or microform.[70]

Vervliet provides an outline for considering alternative physical forms of catalogs, suggests that the idealized automated catalog is based on a totally integrated system in which all functions are merged, presents a useful compilation of figures relating to on-line and batch systems, and emphasizes the necessity of restricting the extent of bibliographic descriptions in an automated system.[71]

Stevens presents a critical view of OCLC.[72] He acknowledges that OCLC represents an important development in the area of automated services for libraries as the first organization that developed an effec-

tive on-line system for use by a number of libraries. He feels, however, that there are a number of long-standing concerns that have not been resolved. There are two major reasons for difficulties. First is a failure on the part of the OCLC administration, board of trustees, and membership to recognize the nature of what OCLC has become and to identify appropriate goals and objectives for it. The second major reason for current frustration of many of the regional and state networks and their member libraries is the lack of any effective voice in the control of OCLC.

In February 1977, CLR awarded a $122,000 grant to OCLC for a study of OCLC governance and organization.[73] The OCLC Advisory Council will guide and direct the study that will be carried out by the consultant firm Arthur D. Little, Inc. In June, OCLC announced its purposes, goals, and objectives for the next six years.[74] Its purpose is to promote the evolution of library use, of libraries themselves, and of librarianship. Long-range goals include: (1) increase availability of resources to patrons, (2) lower rate of rise of per-unit costs, (3) furnish information when and where it is needed, (4) enable patrons to receive personalized service, and (5) provide management information service.

An example of concern related to management of OCLC is seen in the action of the Music Library Association, which voted in February to form a music OCLC user group. Their concern focused on communication of their special needs to OCLC.[75]

A study by Morita and Gapen of the costs of cataloging and related processing tasks before and after adoption of OCLC at the Ohio State University Libraries found that an increase in production was achieved and that unit costs have risen at a rate less than the general rate of inflation.[76]

During the course of the year, OCLC continued to extend its services to more libraries. Willamette University became the first library in Oregon to participate in OCLC.[77] MIDLNET (Midwest Region Library Network) secured permission from the Internal Revenue Service to broker OCLC to libraries in profit-making institutions without losing its tax-exempt status.[78] In October, OCLC established an intranetwork quality control council (INQCC) whose primary purpose is to identify problem areas regarding quality control in distributing information to networks concerning problems and solutions.[79]

Several articles of more than routine interest appeared during the year concerning OCLC. Blood writes on the impact of OCLC on reference service.[80] Reid comments on the effectiveness of the OCLC data base for acquisitions verification,[81] comparing that data base with LC depository, *NUC,* the *American Book Publishing Record,* and the *Cumulative Book Index.* Meyer and Panetta provide a study of the comparison of the OCLC data base to Blackwell North American (B/NA) to produce catalog copy for English-language books.[82]

Scott and Allison describe OCLC and its check-in subsystem in a

pilot project centering on the U.S. document collection in Kent State University Libraries.[83] Landram discusses procedures in a system using a hard copy thermal printer in conjunction with an OCLC terminal.[84]

OCLC instituted a new service when it began to print catalog cards for serials on-line.[85] For the serials cataloger using OCLC, a workbook by E. Sue Weber is noteworthy.[86] Finally, it was announced that video tapes on OCLC were available.[87]

BALLOTS (Bibliographic Automation of Large Library Operations Using a Time Sharing System) is presented in an article by Veaner from the point of view of the Stanford University Libraries as a system user.[88] Funds from CRL and the National Endowment for the Humanities support the current development of new file design to accommodate bibliographic variations of a number of libraries in the network. Associated with this new record design will be a software that will enable each library to reconstitute its own records on a CRT exactly as they were input and, at the same time, enable each network library to observe how any other network member created that same record. Still to be implemented is an automated authority file to supplement the currently available reference file. With the support of the California State Library, a networking version of BALLOTS has been implemented in seven county/city library systems throughout California. PLAN (Public Library Automation Network) provides its users with BALLOTS capabilities for cataloging and reference support. In spring of 1976, the University of California at Berkeley was brought into the BALLOTS system. BALLOTS is expected to play a significant role in the recently established Berkeley-Stanford Cooperative Research Library Program. Currently there are more than eighty research, academic, public, and special libraries utilizing BALLOTS. Over the next several years, BALLOTS Center is expected to evolve by stages into an entity completely independent of Stanford, running its own computer facilities and governed by a body representative of its users.

The University of Stanford's goal is that BALLOTS evolve into a national library automation network, focusing upon the unique needs of academic and research libraries and their universities more generally; and because Stanford has close ties with libraries in the western United States, BALLOTS should be made available to all types of libraries in California and adjacent states.[89]

In February 1977, Stanford and the University of California, Berkeley, received start-up funding to undertake a "cooperative program of unprecedented scope."[90] Grants of $300,000 from the Alfred P. Sloane Foundation and $280,000 from the Andrew W. Mellon Foundation provide initial three-year funding for the cooperative effort. The plan includes the expansion of Stanford's BALLOTS automation system to Berkeley, with further network services to other northern institutions. In December, it was announced that BALLOTS had

added the Los Angeles County Law Library to its network.[91]

Profiles of users of BALLOTS may be found in the BALLOTS *Newsletter.* Examples are the General Library, University of California, Berkeley,[92] and the Evanston (Illinois) Public Library.[93] The BALLOTS Center has produced the first video tape series for training library staff using BALLOTS.[94]

The University of Chicago Library Data Management System is described by Payne, McGee, Schmierer, and Harris, who assert that the system can store and process all of the data and files needed to automate the labor-intensive activities of a large research library.[95] Searching inputs/update, LC/MARC processing, selection, ordering and receiving, gift and blanket order processing, and cataloging are in operation. Under development are circulation, catalog control for name and subject authorities, and a quadraplaner data structure that will allow multiple institution sharing of the data base. In September, the expansion of the University of Chicago data system in a network mode as a major MIDLNET research and development project was endorsed in principle by the MIDLNET Board of Directors.[96] Future possibilities include a complete interface with LC through the NTAG proposal.

The quadraplaner structure is a data structure developed to provide maximum quality of data as inexpensively as possible for more than one institution.[97] Implementation of the quadraplaner structure is expected in the first half of 1978. By the end of 1977, the catalog control system was to be established to provide the name heading and subject heading authority file and the name and subject access to the bibliographic records. Work will be in progress to introduce authority control and cross-references, provide improved key-word access, and establish entry control.

Washington Library Network (WLN) system, a consortium of libraries and information centers directed by the Washington State Library, was described and demonstrated at LC in November.[98] The individual libraries in the network use its reference/referral, telecommunications, and computer components based on their type of membership. Initial participants in the network were from the state of Washington, but it was designed so it could be expanded. It is now serving libraries in Alaska via satellite communications. The WLN system is being designed and implemented in four subsystems: (1) the bibliographic subsystem, (2) the acquisitions/accounting subsystem, (3) the circulation subsystem, and (4) serials control subsystem. To date, the bibliographic subsystem is operational. The redundant storage of data is minimized in the system by interrelating the principal files: holdings, authorities, and bibliographic and local data. Thus, an individual institution may hold data unique to it, while the more general data will be stored in the central system with appropriate links.

Freedman reviews the automation of cataloging, placing emphasis on recent developments in the automation of the cataloging process.[99]

He notes that the MARC format is "a passport to freedom" for libraries. The hope for an alternative cataloging can be realized through the kind of system conceived by the University of Chicago and implemented by the Washington Library Network, assuming that adjustments could be made so that the ISBD punctuation could be eliminated and an alternative output format could be defined. The quadraplaner structure in the UC data management system eliminates "variability that is not logically inevitable and . . . accommodates variability that is necessary."

The literature is replete with reports of efforts that illustrate practical needs for an application of bibliographic standards that provide for ease in displaying and distributing bibliographic data. An overall view of the CONSER (CONversion of SERials) Project is presented in a series of articles in *American Libraries*.[100, 101, 102, 103] That project, managed by CLR, was expected to be turned over to the management of LC in November 1977, but LC was unable to accept that responsibility. The project continues with OCLC donating time and staff to maintain the data file on-line and indicating its willingness to continue until CLR, the Council's CONSER Advisory Group, and LC decide that the file of machine-readable records produced is essentially complete. There are approximately 200,000 records on the CONSER base with 60,000 now authenticated.[104]

LC continues its responsibility within the project to input new records for serials and to authenticate the records input or updated by participants except NLC, which inputs and authenticates records for Canadian imprints.[105]

The Minnesota Interlibrary Telecommunications Exchange (MINITEX) received $25,000 in start-up funding from CLR for the planning phase of an experimental project aimed at creating a system linking standard holding statements to large serial files.[106] The project will link certain local and regional serials holding statements to the data base for serials currently being built through the CONSER Project.

Under a grant from the Library of Congress Federal Library Committee, Cornell University Libraries have been preparing CONSER records for titles with U.S. corporate entries.[107] It was expected that by February 1978, all current U.S. corporate entries (approximately 3,000 titles) contained in their files would be part of the CONSER data bank.

The fifth edition of the SUNY *Union List of Serials* is complete and will be issued in microfilm.[108] This list contains more than 87,000 titles as well as 10,000 cross-references. It is the basis for a cooperative searching project underway among SUNY/OCLC libraries in which the OCLC data base is searched to produce an index referring SUNY data base titles to OCLC record numbers. This index will be a valuable contribution to the CONSER Project and the OCLC serials control subsystem.

The COMARC pilot project is conducted under a grant made to LC by CLR in December 1974. Early in 1977, CLR awarded an additional grant of $55,000 to LC for continuing that project.[109] Under the COMARC Project, LC accepts bibliographic records based on its cataloging copy as converted to machine-readable form by other institutions. LC validates the records against its official catalog, updates them where necessary, and distributes records to COMARC participants and, as a separate subscription, to others through the MARC Distribution Service.

Distribution of COMARC records began April 1976 through MARC Distribution Service. By the end of 1977, more than 14,000 records had been distributed.[110] On 3 February 1977, LC sponsored an all-day program on COMARC attended by LC staff members and representatives from CLR, OCLC, and project participants.[111] The program centered on problems encountered in converting LC source cataloging copy to machine-readable form and on LC processing, validating, and updating the records. A major problem is the extent and kind of changes that are being made at LC. Some of the changes appeared to arise from faulty communication. It was explained that COMARC was one of the first phases of building a national cataloging data base by cooperative means. The next logical step would be to handle records that had not been cataloged by LC, i.e., *NUC* reports.

A related issue concerns posting holdings to the *Register of Additional Locations (RAL).* At present, Washington State Library and the New York Public Library are submitting machine-readable location reports. A CLR-funded study seeks to identify other machine-readable data bases from which location reports could be obtained. In addition, the LC Catalog Publication Division expects to begin converting *NUC* reports that have been received in card form to machine-readable records.

The *RAL* has been published since 1965 as a supplement to the *National Union Catalog (NUC)* and contains additional locations for titles with imprints of 1956 to date. The MARC Development Office has recently completed work to make the *RAL* file accessible on-line within LC. The on-line file presently includes reports through 1976. The on-line *RAL* file will also be made available to other bibliographic utilities. Since reporting location is tied closely with reporting of cataloging information, the *RAL* Project has been coordinated with the COMARC Project. The LC Network Development Office has conducted a study with funds from CLR to identify machine-readable data bases from which location reports for *RAL* could be obtained.

Weisbrod examines *NUC* reporting in machine-readable form and MARC redistribution from a single central agency of MARC records submitted.[112] He discusses some of the technical requirements and suggests that there is needed, along with a revision of *AACR,* a discussion and reexamination of MARC format in the context of the functional requirements for the national information service network.

LC is reviewing the format of the *National Union Catalog* for future publication.[113] A new pattern being considered for display of cataloging provides a series of master registers that will provide full bibliographic data records for all items cataloged. With the registers will be a series of cumulative indexes keyed to machine-generated reference numbers assigned to entries in the register. These cumulative indexes will contain sufficient data under each entry to be termed cumulative brief entry catalogs rather than indexes.

The National Endowment for the Humanities awarded Northwestern University Library (NUL) a grant of $127,445.[114] With those funds and a gift and matching offer of $74,437, NUL entered into a cooperative project with LC to make bibliographic data on African materials more readily available in the national library network. NUL will create and maintain catalog data and location records for its own African collection. To insure that the data is consistent with LC records, NUL will search all titles in the LC file. Initially, the searching will be done by project staff stationed at LC. Later, there will be an on-line hookup that will enable NUL to search the LC files via computer. The records will be distributed to the library community via the MARC Distribution Service and will eventually be incorporated into the LC MARC data base.

The Research Libraries Group, Inc. (RLG), a consortium of research libraries including Columbia, Harvard, and Yale Universities and the New York Public Library (NYPL) was awarded a grant of $197,200 from the Carnegie Corporation of New York to develop, in cooperation with LC, a computer-based cataloging system based on a telecommunications link between the computer systems of NYPL and LC.[115] The initial phase of the project connects the two systems in such a manner that RLG terminals at both NYPL and Columbia appear to the LC system just as LC's own terminals. Later stages in the system's expansion will see Harvard and Yale terminals tied in with LC's data base through the NYPL system.

In May 1977, RLG received a gift of approximately three-quarters of a million dollars from Timothy Mellon for acquisition of computer hardware to support its bibliographic system.[116] One of the goals of the project is to test the economic and technical feasibility of direct on-line computer-to-computer access to a remote data base of machine-readable bibliographic records.[117] It is expected that in the future LC will allow enhanced access to its bibliographic data files. *The Register of Additional Locations* is already on-line at LC and may soon be available externally as well.

In May, the 100,000th title with Cataloging in Publication (CIP) data was processed.[118] The program began 1 July 1971 with twenty-seven publishers. There are now more than 1,250 participating publishers submitting more than 25,000 titles each year. Procedures for handling multinational publications, in cooperation with other national CIP programs, have been agreed upon and are being tested on a limited

basis.[119] The CIP Office is currently experimenting with telefacsimile transmission equipment as a way of speeding up exchange of data between publishers and CIP.

The MARC Development Office plays a key role in cooperative programs through its planning and development activities. Work on detailed specifications defined in the CONSER II system was begun in January.[120] The effort was scheduled for completion by 1 July. Responsibility for the planning and development of the CONSER II Project was given to the MARC Development Office in April. During that same period, the Cyrillic/MARC feasibility study was completed, and presentations by various hardware vendors were arranged. Related tasks include preparation of library comments on character sets for proposed U.S./U.S.S.R. bibliographic data exchange and preparation of a nonroman terminal matrix for vendor.

Development activities including the LC/RLG pilot project and programs for the on-line indexing in the MUM system became operational. In support of planning for CONSER II, analysis of the MARC serials and of the CONSER "snapshot" data bases was undertaken. Anticipating some of CONSER's search key requests, programs were developed to create files of specified search keys from the MARC serials file and from the CONSER "snapshot" files in order to test the retrieval effectiveness of certain keys. JANUS, a new program to provide searching of the MARC data base, was made available for acceptance testing and limited production use during the period. JANUS is a major improvement over the MARC retriever program.

The MARC Editorial Division reported for the first six months in 1977 verifying 65,700 monographic records (books, films, COMARC).[121] More than 842,000 records are now in the MARC monograph data base. Although all roman-alphabet languages are now in the scope of MARC, the input of records of approximately 120 additional languages to which MARC coverage was extended this year is being deferred until some necessary modifications are made to the format recognition programs, at which time all roman-alphabet records will be converted on a current basis.

Because the flow of cataloging data for new titles to be input is subject to wide fluctuation, the division has been converting retrospective records to MARC during the periods of low receipts. The first group to be converted comprised "76" prefix cards for roman-alphabet languages that became MARC eligible in 1977. The library continues to explore developing technology for optical scanning techniques to eliminate or reduce the need for initial keying of these retrospective records.

The LC Cataloging Distribution Service reports an investment in a new computer technology that will enable it to print MARC catalog cards on demand. The new system called CARDS (Card Automation Reproduction Demand System) was developed under a contract with Xerox Electro-Optical Systems. The system was scheduled to be opera-

tional by the spring of 1978. It utilizes advanced laser xerographic and computer technology. Remington notes, "the new CARD system should be clear evidence that we are in the business."[122]

The Government Printing Office (GPO) and LC announced the start of the distribution of the cataloging data appearing in the *Monthly Catalog* in machine-readable form in MARC II format.[123] The cataloging is prepared by a staff of the Library Division of GPO's Library and Statutory Distribution Service following *AACR* rules and LC main entries. Subjects are derived from *Library of Congress Subject Headings (LCSH)*. The cataloging is done on-line by GPO using OCLC.

At a meeting of the Government Documents Roundtable Federal Documents Task Force, the deputy assistant Public Printer commented that the use of *AACR* entries and expanded and improved indexing in the monthly catalog drew very favorable comment. However, the use of LC subject headings and the choice of type faces and page layouts were not so well received by libraries who use the catalog.[124] Progress toward more effective exchange of name authority information for new name headings resulted in a joint proposal to seek funding for an LC/GPO project to compile a machine-readable data base of name authorities needed for cataloging U.S. government publications.

By October 1977, LC and GPO had progressed to an operational phase of a project to develop name authorities.[125] The headings that are created will serve as the beginning of an LC/GPO data base and are expected to be available to the library community as part of the library's name authority distribution service when it becomes operational. Initially, the scope of the project is limited to corporate body names.

The subject heading files at LC have been maintained in machine-readable form since early 1973. The most recent product of the subject authority system is a machine-readable authority record distribution service. New headings and changed headings accumulated over a calendar quarter have been distributed since October 1976 as part of the MARC Distribution Service. Problems with the data base have made it necessary to temporarily suspend the distribution.[126]

Since April 1977, there has been input of name authority records in machine-readable form. Once all newly established authorities are included in the machine system, the scope of input will expand to include retrospective headings that are being used in current cataloging. Plans call for a quarterly distribution service for machine-readable records, a quarterly microfiche service, and a printed publication.

Buchinski, Newman, and Dunn review implications of the NLC authority subsystem, which will help Canadian libraries through the provision of bilingual authorities and Canadian subject headings and by the possible enhancement of existing products and services.[127] The authors consider the authority subsystem to be the first step in the introduction of the data base management philosophy to the NLC pro-

cessing. Benefits include redistribution of records from multiple MARC distribution sources; provision of CAN/MARC records customized to searcher or subscriber language for cataloging code requirements; automatic upgrading of MARC content designation and subsequent availability of Canadian Union Catalogue accession reports for cataloging copy; and provision of the capability to maintain multiple application/library authority files in a shared-cataloging environment.

The 1977 Margaret Mann Citation was awarded to Phyllis A. Richmond in recognition of her outstanding teaching of cataloging and classification, her scholarly publications and major contributions to professional associations, and her continuing major contributions to the understanding and application of information science, of the theory and practice of subject analysis, and of the formation of cataloging rules.[128]

In the area of descriptive cataloging, Maxwell provides a brief review of the development of *AACR* from Panizzi to date.[129] Byrum and Coe report on a survey concerning the adoption, application, and assessment of the revision of *AACR* Chapter 6, "Separately Published Monographs," revealing wide acceptance of the publication and support of changes made to incorporate ISBDs.[130] That acceptance, however, was not uncritical.

A sharp criticism of descriptive cataloging is found in Berman's "The Cataloging Shtik."[131] He questions the wisdom of the expert, the value of universal standards such as ISBD, and representative organizations in terms of their behavior as consumer advocates.

Chan focuses on the problem of entry for serial publication and a possible solution related to the interpretation of the meaning of "corporate author," assigning corporate authorship to the category of multiple authorship.[132]

The period of discussion, deliberation, and formulation for *AACR* 2 was 1976. Early in 1977 there was a period of review limited primarily to questions of style and consistency. At the Catalog Code Revision Committee (CCRC) meetings in June 1977, the principal aim was to determine the substance of the CCRC's last submission to the JSCAACR.[133] The committee proceeded to evaluate comments received, deciding which ones to forward to JSCAACR. The committee considered the question of the introduction of *AACR* 2 in the U.S. with the result that CCRC urged the formation of a program introducing it, in a consistent manner, insuring that statements would be made about rule development and that application would be authoritative and uniform.

CCRC offered specific points to be added to ideas expressed regarding the *AACR* 2 introduction. The resulting text is expected to accomplish four objectives: (1) exposition of the orientation, structure, and principle of the rules, (2) justification of the rules, (3) explanation of optional rules, and (4) explanation of the integration of the rules for

all media. In addition, the introduction to part one will explain the relationship of the rules to ISBD(G) and to the other ISBDs, the relation of the general specific chapters, the new numbering system of rules, and the "missing" chapter numbers (numbers deliberately omitted in numbering the chapters in order to provide room for expansion). The special introduction to part two will explain the relationship of the rules to the Paris Principles, the rationale of the chapter on choice of access points, the special features of the rules of geographic names, and the necessary approach to the rules providing optional additions to names. Finally, the committee unanimously approved a recommendation to the RTSD Board of Directors that the board endorse publication of *AACR* 2. This was done at the 20 June board meeting.

The move to accept *AACR* 2 has not been without controversy. At the Technical Services Directors of Large Research Libraries Discussion Group meeting in June, a resolution to delay publication of *AACR* 2 "to permit more time for evaluating its possible impact on local cataloging systems, existing catalogs, and the quality of public services and research libraries" was discussed and received some support, although the final expression was for publication. The ISAD Board of Directors resolved that the *AACR* 2 draft was unacceptable and recommended that publication be delayed until their concerns were satisfactorily addressed.[134]

The MARBI Committee (Representation in Machine-readable Form of Bibliographic Information Committee), meeting in June, also adopted a statement recommending postponement of publication of *AACR* 2 until certain pending international issues were resolved.[135]

A report in *American Libraries* noted that "despite many objections, the [Resources and Technical Services Division] board endorsed a Cataloging Code Revision Committee's green light" on *AACR* 2 but noted also that " 'delay' was the watchword of most of the representatives of ALA units and other associations who spoke before the board. The consensus was that more time was needed to review the draft and correct weak spots." John Byrum, CCRC chairperson, indicated that "all the points cited for delay had been considered by the committee or addressed in the 800 pages of comments received in the formal review process."[136]

It is expected that *AACR* 2 will be published and available in the last half of 1978.[137] That publication will have met the objectives of the revision to the following extent: (1) *AACR* will have a single text accepted by all its authors; (2) amendments and changes agreed to and implemented since 1967 will be incorporated; (3) proposed amendments forwarded by the authors have been considered by the editors; and (4) the international interest in *AACR* has been recognized by JSCAACR, which made arrangements to collect comments from the international cataloging community and has insured that *AACR* 2

rules for describing all kinds of library materials will be compatible with ISBD.

A series of articles in *Library Trends* is helpful in understanding the issues addressed in *AACR* 2. Hickey provides a historical review of cataloging in the United States, noting that "if standardization is to live up to its advance notices, certain conditions must be established for its adoption": (1) "standardization of bibliographic information systems should elevate rather than reduce the quality of local catalogs," (2) with "ability to be monitored for consistency of application," (3) a flexibility that "allows the suppression of extensive detail in favor of simplified and reformatted listings," and (4) "increased democratization of the process by which standards are adopted."[138] Hagler addresses changes in rules for description, outlining how they have changed in the past and how *AACR* 2 will present them, allowing different levels of treatment for different size libraries.[139] He notes that the rules are now international and respond to standardization critical in a machine process. Gorman addresses changes that have been made in cataloging rules for entry and heading and notes probable developments and problems in the automated library catalog of the future.[140] He recommends continuous review and revision of the Paris Principles in light of modern developments.

Pulsifer sketches the major developments toward international standardization relating to serials, noting some of the milestones from the 1967 International Conference on Cataloging Principles (ICCP) through ISBD(S).[141] She questions whether some of the rules for choice of entry should be applied to serials as well as to monographs and whether a serial should be cataloged from the first issue or only after a complete volume. Edgar outlines changes that have taken place in the philosophy of the rules of *AACR* 2 in relation to serials.[142] Carlson provides an analysis of representative definitions of serial publications and demonstrates that they lack clarity.[143]

Publication of the nineteenth edition of the Dewey Decimal Classification is expected in the spring of 1979. The Dewey Decimal Classification Division of LC has begun work on schedules for the eleventh abridged edition.[144] The British Library, National Library of Australia, National Library of Canada, and Library of Congress agreed that in January 1980 they would adopt DDC 19.

The DDC Division has completed most of the editorial work on the nineteenth edition and has participated in discussions on computerization of the system for subsequent compilations.[145] The division is now classifying approximately 100,000 titles a year, covering almost all English titles and some other European languages. There continues to be coordination of classification and exchange of information with the *British National Bibliography, Canadiana,* and the *Australian National Bibliography.* The same coordination has been inaugurated with the *South African National Bibliography.*

Reynolds authored a paper on the introduction and use of decimal

classification in Russia during the period 1895 to 1921.[146] Dhyani made a critical appraisal of some of the auxiliary tables of DDC 18.[147] Sultana reported on the DDC Centenary Seminar at Banbury, England, in 1976.[148] Internationalism of DDC and the effectiveness of DDC in automated subject retrieval were the major themes of that meeting.

Two new schedules of the library of Congress Classification (LCC) for law, subclass K Law (General) and KE Law of Canada, were printed in April 1977. Revision of aviation in space medicine in subclass RC and high-speed ground transportation in subclass TF were also significant developments.[149]

There were several articles published during the year suggesting revision or expansion of the LC schedules. Veryha outlines a proposal made by the Slavic and East European Subject Headings and Classification Committee (SEESHAC) of the Slavic and East European Section of the Association of College and Research Libraries.[150] The proposal covers three subclasses in history (DB Austria, Hungary; DK Russia; and DR Eastern Europe, Balkan Peninsula) and proposes their rearrangement along the regional and ethnic principle applied to Western Europe.

An investigation of LCC for Old Icelandic and Old Norwegian literature by Hughes reveals serious inadequacies in the schedule's organization of prose works. In spite of a 1974 change in the practice of citing Icelandic names, considerable confusion still exists, resulting in the omission of some Icelandic entries from the *National Union Catalog: Pre-1956 Imprints*.[151] White provides an expansion of the LC classification to provide for homosexuality and gay liberation.[152]

In the summer of 1977, the Law Library at the University of Illinois at Urbana-Champaign announced its decision to adopt the LC classification. A three-year project involving ten full-time staff members and some $300,000 or about $1 per volume will be required for reclassification of the existing collection.[153]

Fasanya reports that Ibadan University Library in Nigeria terminated use of Bliss Bibliographic Classification (BBC) in favor of LCC in January 1975 and provides an outline of how the policy decisions were made in moving to LCC.[154]

Thomas reports on the relative importance of BBC classification in the North American library school compulsory curriculum.[155] Twenty years ago, thirteen (possibly fourteen) of twenty-nine library schools responding to a questionnaire reported that BBC was part of their compulsory instruction. However, it was not the basic scheme for the required course in any of the schools. A recent ranking of classification schemes taught in North American compulsory curriculum showed DDC being taught in forty-six schools, LC in forty-two, UDC in twenty-six, Colon Classification (CC) in twenty-four, BBC in fourteen, and Rider International Classification (RIC) in six.

One of the more significant events during this past year was the

publication of the first parts of the second edition of BBC: classes (J) education,[156] (P) religion, the occult, morals, and ethics,[157] and (Q) social welfare,[158] together with an introduction and auxiliary tables.[159] The second edition of BBC has been characterized as "a major bibliographic classification, soundly based on a literary warrant and reflecting modern classificatory principles and practices to an extent which is technically superior, at all levels, to its main competitors, the DDC and the LCC and probably in most respects to the UDC."[160]

We are reminded of an earlier classification scheme of interest by Maltby, who examines the Rider International Classification and points up the difference between classification for bibliographies and catalogs and classification for the arrangement of physical items on shelves. He suggests that Rider should be tested as a shelf classification alongside other existing standard schemes.[161]

Another view of past history is the publication of the classification system of Jacques Charles Brunet, translated and with an introduction by McKeon.[162] Brunet, a Paris bookseller (1780–1867) prepared the classification scheme as part of his *Manuel du Libraire et de l'amateur de livres* and to create an arrangement for his bookstore shelves. According to McKeon, the system was used at Penn, Harvard, the Library Company at Philadelphia, Indiana State, and a number of other U.S. libraries in the 1800s.

Dahlberg outlines the recent history of classification and developments related to DDC, UDC, LC, BBC, CC, and Library-Bibliographic Classification (BBK), reviewing developments in classing methodology in the development of universal classification and organizational activity in the classification field.[163]

Craft presents a subject classification for botanical art in the media of fine prints, watercolors, and drawings that was designed for the Hunt Institute for Botanical Documentation, Carnegie-Mellon University.[164] Korn describes a classification schedule designed for libraries that serve students and teachers of photography.[165] Headings designate photographic processes or apparatuses and are hierarchically structured. Notation is alphanumeric with decimal expansion. Larsen describes a project done by students at Emery University to organize a library collection at a regional office of the U.S. Bureau of Outdoor Recreation.[166] Simplified methods for classifying material and adding new items to the collection provided practice work for students and helped develop a unit too small for a professional librarian.

At a program meeting of the ALA Cataloging and Classification Section (CCS) in June 1977, Mary K. D. Pietris, assistant chief, LC Subject Cataloging Division, described the historical development of subject headings at LC during the period 1950 to 1977.[167] The major growth period, 1965 to 1971, coincided with LC's increased acquisitions through the Shared Cataloging Program and a period of social activism in the United States. Library social activism helped to create a climate for change in subject headings. Under pressure of an in-

creased work load, it now is necessary for the division to stop making changes in existing subject headings unless such changes involve patterns already announced. It is anticipated that no major changes to existing subject headings will be made before 1980 at which time LC plans to close its catalogs.[168]

In the formal announcement, it was noted that "it is appropriate to view the next few years as a time for contemplation and retrospection for subject catalogers everywhere. Considerable thought must go into determining what kind of indexing system best answers the needs of American libraries after 1980, perhaps a system with greater retrieval capacity than the present system but still attainable by most libraries." Suggestions extended along a continuum from maintaining the present system with updated terminology to possible adoption of a system specifically for automated retrieval such as PRECIS (Preserved Context Index System).

At the CCS meeting, there were five other speakers. Arlene T. Dowell presented a list of eleven "decision points for consideration in catalog maintenance of subject headings." Frances R. L. Needleman spoke of her experiences at Massachusetts Institute of Technology (MIT) in converting the local subject heading list to *LCSH* and on the control that MIT maintains over subject headings. Lizbeth Bishoff reported on medium-sized public libraries in Illinois and a small catalog maintenance workshop. She reported that work load, frequent personnel changes, and lack of knowledge of appropriate procedures prevent the public libraries from maintaining subject heading control. Joan K. Marshall reported on the change in LC copy procedures necessitated by the introduction of OCLC. Subject headings are now checked only at the point of filing. The "bounce" system of locating new headings, new subdivisions, and changes at the point of filing works well as a method of selective control. Finally, Elizabeth Dickinson spoke on subject heading management in an automated system based on her experience at the Hennepin County Library.

LC announced that the cumulation for printed *LCSH* has been modified.[169] The forthcoming 1974–76 cumulation will be a closed cumulation. Beginning with the 1977 supplement, the cumulation pattern will start again, with three cumulative quarterlies cumulated into an annual volume. Publication date of the ninth edition will be coordinated with the date of the closing of the card catalog at LC.

Chan expresses concern over irregularities and inconsistencies in *LCSH* that have accumulated over three-quarters of a century, which are attributed to the fact that there has not been a code for developing subject headings similar to *AACR* for descriptive cataloging.[170] She feels that the time for examining principles and policies concerning subject headings appears to be appropriate in relation to LC's announced expectation of closing the main catalog in 1980.

In 1976, the ALA/RTSD Subject Analysis Committee appointed an Ad Hoc Subcommittee on the Subject Analysis of African and Asian

Materials. This committee has for its purpose identifying problem areas in cataloging and classification of Asian and African materials. Specialists have been asked to contact the committee for copies of the committee's questionnaire.[171] Berman, writing on LC's treatment of African subject headings, suggests that library access to materials on Africa and African Diaspora is inadequate in three fundamental ways: (1) too many topics have no headings, (2) too many active black-related headings are biased, (3) too frequently, materials concerning Africa and Afro-America are "undercataloged."[172]

The PRECIS system, originally developed by the *British National Bibliography* to provide subject indexed data for UK/MARC records and to produce an alphabetical subject index for the national bibliography, is described by Austin and Digger.[173]

Considerable interest in PRECIS has been generated by a workshop held at the University of Maryland in October 1976.[174] The workshop combined descriptions of PRECIS and its uses at the British Library with papers on research and application elsewhere. Austin presented papers on the development of the system, its syntax and semantics, and the management aspects. Jutta Sørensen discussed the multilingual aspects of automatic translation of PRECIS. A section on research projects contains comparisons of PRECIS with subject headings and title words by Richmond, de Bruin, and Schabas. A section on practical applications reports manual application of PRECIS in a Canadian high school library, audiovisual indexing at the College Bibliocentre in Ontario, and film indexing of the National Film Board of Canada. Cook provides a discussion of the future of practical application of PRECIS in North America in the context of subject heading dominance via LC and NLC practice.

Preschel describes the University of Maryland PRECIS Workshop from the viewpoint of an observer.[175] She notes that PRECIS might be developed into a universal international system if there were (1) money, (2) training programs in schools of library and information science, (3) adoption by national libraries and information dissemination agencies, (4) decisions by major libraries to close their current subject catalogs and establish new subject catalogs based on PRECIS, and (5) universal inexpensive availability of PRECIS indexing products. Video tapes of two explanatory lectures delivered by Austin at that meeting are available.[176]

An article by Lancaster on vocabulary control in information retrieval systems provides a review restricted to the subject vocabulary control for post coordinate retrieval systems and more particularly to computer-based systems.[177]

The Subject Access Project of the School of Information Studies, Syracuse University, was supported by a grant from the Council on Library Resources in 1976–77. The project was designed to demonstrate how a library card catalog converted to machine-readable form could be augmented to allow greater subject access to the information

content of the library's book collection. A manual for the project has been published.[178]

Maltby edited *Classification in the 1970's: A Second Look,* a collection of papers that provides an overview of classification systems in the changing environment of library and information science. Only three of the papers have been reprinted, largely unchanged. A paper on automatic classification by Karen Sparck Jones has been added to the volume.[179]

In specialized areas, Gaeddert has published an annotated bibliography on classifying and cataloging sound recordings;[180] Johnson has written on the arrangement of topographic maps, adopting a simplified form of the Texas Code Index System;[181] and the Posts describe a project undertaken to index the Hexamer General Surveys, a nineteenth-century set of twenty-nine volumes of surveys of selected industrial properties in the Philadelphia area.[182]

The problem of transliteration is not yet solved. LC has announced that it will not be able to give full attention to problems of handling Cyrillic characters in machine systems before 1980, with other nonroman scripts not being addressed before 1981 or later.[183] It is considering a pilot project to test the feasibility of handling nonroman records in romanized form and has already resolved some of the problems of romanization in developing the MARC serials (MARC-S) system. Since late 1973, it has been romanizing the cataloging data for serials in about two dozen nonroman scripts.

During the year, the project to publish current ALA/LC romanization tables entered its final phase with the publication of the revised Armenian Table.[184]

The American National Standards Institute (ANSI) announced the publication of A 39.24-1976, the *American National Standard System for the Romanization of Slavic-Cyrillic Characters.*[185] The American Society for Information Science Standards Committee approved a position paper regarding the ANSI Z39 standard for romanization with an abstention on votes on three romanization standards for Armenian; Burmese and Thai; and Lao, Khmer, and Pali.[186] The use of strange and unavailable characters (roman letters combined with various phonetic symbols) was objected to, and focus was on pronunciation while it should be on writing, not sounds.

The British Library announced adoption of the LC system of transliteration for Cyrillic alphabets.[187] The LC system is already used for the vast majority of machine-readable records available in the British Library data base. It is also used universally in Canadian libraries and many Australian libraries. Before making the final decision, the library examined all the best-known alternative systems of transliteration, including the ISO and the British Standard systems. It is envisioned that Machine-Readable Library Information (MERLIN) will eventually develop the facility to handle Cyrillic and other nonroman alphabets. The British Library, however, expects that most libraries

will want to use the roman alphabet for bibliographic communication in order to cut down costs and keep administrative procedures as simple as possible. The *British National Bibliography* has used a simplified version of LC transliteration from the beginning. In 1978, the Bibliographic Service Division will begin to use full LC transliteration and its machine-readable records for English-language books.

Spalding suggests that present and future developments demand a critical reexamination of romanization.[188] He recommends abandonment of the universal author/title catalog in favor of separate catalogs according to writing systems, with headings appropriate for the system. The universal subject catalog, for which systematic romanization is not required, would be retained.

Malinconico, Grutchfield, and Steiner outline the implementation of vernacular scripts in the New York Public Library automated bibliographic control system.[189] The library has developed and implemented facilities for inputting and displaying data in nonroman scripts. Hebrew has been the first nonroman script implemented. The paper describes how problems of input display were solved and how an innovative approach to filing nonroman entities in the catalog containing mixed scripts was handled.

It is not possible to comment on all the 1977 publications of interest to the cataloging profession, but the following should be noted: Massonneau's presentation of the development of cataloging codes for audiovisual materials,[190] Hyman's *From Cutter to MARC: Access to the Printed Record,*[191] Magrill and Rinehart's annotated bibliography of technical services,[192] and "Guidelines for Selecting a Commercial Processing Service."[193]

An overview of the 1977 literature in the field of cataloging suggests that the catalog of the future is beginning to take shape, but consensus on many aspects of that catalog is yet to be formed. In the coming year, publication of *AACR* 2, the decisions made by LC relating to closing its catalog, and concrete development in the library bibliographic component of the national library information service network will lay the major foundations for that consensus. Unquestionably, for the cataloger, the entrance to the decade of the 1980s will be a period of learning and readjustment to create and manage the catalogs of the future.

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Developments in Copying, Micrographics, and Graphic Communications, 1977

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Copyright

THE COPYRIGHT LAW led the field for amount of attention given any aspect of copying, micrographics, and graphic conmunications during the year. No other issue in 1977 received as much study, discussion, and serious consideration as attested by (1) the number of hours of discussion at professional meetings ("In an exhaustive four-hour session on 'Implementing the Copyright Law,' hundreds of librarians in the Cobo Hall Arena were alternately informed, advised, threatened, and finally reassured about how they can operate legally after Jan. 1, 1978.");[1] (2) the amount of literature written on implications and implementation of the copyright law;[2] (3) the number of workshops, programs, meetings, in-service training sessions, and classes held or planned nationally.

The impact of the law is being felt in all corners of the information world. The effects on society now and in the future will be far-reaching. New organizations have been and will be developed (the Copyright Clearinghouse Center, Copyright Royalty Tribunal, and National Periodical Center are examples), and new jobs will be created (those working in organizations such as those listed above). In-service training of teachers, librarians, researchers, and scholars regarding aspects of the law related to their responsibilities will become paramount. Job descriptions of interlibrary loan, reserve, circulation, and reference librarians will be modified as the new law goes into effect. Will new professions develop as a result of the law? Perhaps "copyright reference librarians" will become commonplace in large libraries. Will "library copyright attorney" become a job title of the future? It is enjoyable to speculate, but whether or not the law will make any real difference at the operating level remains to be seen. Test

cases are inevitable. Some librarians have been advised to "keep a diary of problems and relay them to ALA."[3] In addition to the above, some miscellaneous developments during the year resulting from the new copyright law were: (1) the British interpretation of the law;[4] (2) the assurance by Barbara Ringer, register of copyrights and honorary member of the Special Library Association, to more than a thousand special librarians "that they could use the fair use statement in the law's Section 107 as a base and then be guided by 'good sense and conscience,' with no need to be anxious, as 'no one is ready to litigate';"[5] (3) President Carter's naming of a Copyright Royalty Tribunal;[6] (4) Robert Wedgeworth's announcement as one of the "Ten Achievements of ALA," "its part in working out a satisfactory compromise within the Copyright Revision Act of 1976, and continuing education programs on the new law";[7] (5) the offer by the National Commission on New Technological Uses of Copyrighted Works (CONTU) of its good offices in arriving at a consensus on the interpretation and definition of various undefined terms in the new law;[8] (6) the caustic remark of Marvin Scilken: "The new copyright law seems to me to serve a greedy few at the expense of most publisher's employees, new authors, authors of marginal books, and, of course, the public."[9]

Plans are underway by several groups to hold evaluative meetings, programs, and workshops for the purpose of providing a forum for discussion on how the new law has affected libraries. For example, at the 1978 ALA Annual Conference in Chicago, the RTSD Reproduction of Library Materials Section, RASD Interlibrary Loan Committee, and ALA Legislation Committee are cosponsoring a program with the tentative title "Fair Use, Photocopying, and Management of Collections." The literature is replete with announcements of workshops designed to take a retrospective look at the new law. Among all of the uncertainties about the new law, it is clear that its impact on libraries will be widely discussed and reported.

On the foreign scene, it may be of solace to Americans to know that the British are also experiencing the trauma of copyright law revision. "The fruits of three years of study by a nine-man committee, the [Whitford] Report was published last month by Her Majesty's Stationery Office. . . . It infers delicately that the existing 1956 Copyright Act is a mess, because of 'the piecemeal way in which copyright and designs law has developed. . . .' Whitford is tougher on the concept of fair use than is the new U.S. Copyright Law. This should be good news especially to U.S. academic and scholarly publishers, particularly of journals, who are critical of the world-wide copying service rendered by the British Library Lending Division. . . ."[10]

How best to compensate the owners of intellectual property is one of the key issues of copyright law implementation. At a 31 March hearing before CONTU, the Association of American Publishers (AAP) presented its proposal for a Copyright Payment Center to

handle fees for photocopying, in excess of fair use, journal articles.[11] The center was chartered as a nonprofit corporation in New York State under the name Copyright Clearance Center in July.[12]

The King survey of library photocopying found that a surprisingly low number of items photocopied would be subject to royalty payments and that the job of policing copyright fees could prove to be expensive and would be best handled by a centralized collection agency.[13]

Macrocopying (Full-Size)

Libraries are coping with the problem of full-size photocopying in a number of ways. At one end of the library implementation of the copyright law spectrum is the library that simply posts a warning sign near the area in which the photocopy machines are located. The other end is the library that hires a legal advisor to interpret the law and advise on the most appropriate method of implementing procedures to best live within the law. Some libraries are switching to self-service photocopying only. Others are using only coin-operated machines. Most libraries prominently display warning notices. Some libraries have permanently affixed a shortened version of the warning notice face down on the face of the photocopy machine so that each copy produced will have the warning on it.

A number of recent developments of potential help to libraries with regard to full-size photocopying may be cited. CONTU, which has a continuing interest in seeking to clear up ambiguities in the library photocopying provisions of the new copyright law, devoted its entire seventeenth meeting to testimony related to photocopying.[14] A new interlibrary loan form was approved by the Interlibrary Loan Committee of the Reference and Adult Services Division of ALA. The form is based on CONTU Guideline 3: "No request for a copy or phonorecord of any material to which these guidelines apply may be fulfilled by the supplying entity unless such request is accompanied by a representation by the requesting entity that the request was made in conformity with these guidelines."[15] The National Commission on Libraries and Information Science has proposed the creation of a national periodical center within the Library of Congress to supply copies of periodical articles on demand from libraries and to provide a mechanism for royalty payment.[16] Two useful publications appeared during the year. A compilation from the University of Maryland presents (1) "Proposed Solutions to the Problem of Photocopying Copyrighted Material: A Survey"; (2) "Copyright Clearinghouse: In-Depth Study of a Proposed Solution to the Copyright Photocopying Problem"; (3) "Selected, Annotated Bibliography on Photocopying of Copyrighted Works, 1970–1976, with a Special Sub-List on the Williams and Wilkins vs U.S. Case."[17] Patricia Whitestone has attempted "to elicit an accurate picture of the current extent and significance of library photocopying."[18]

If there is a concern that the copyright law will hurt the photocopying market, that concern doesn't prevail in the literature during the year. According to Sawyer, "copy duplicating industry analysts are predicting the plain paper segment of the market would [sic] continue its gallop forward at a rate of 15% annually."[19] Sawyer also discusses the trend in plain paper copying (PPC) with a brief description of the twelve companies in the field and a statement on what's new in equipment with each company. The part of the market that is shrinking percentage-wise, according to Sawyer, is coated paper copiers (CPC), although segments of it are expanding. The newest coated paper process is di-electric, offered exclusively by Minolta. Its current model, the Electrographic 201, is proving popular because of its ability to copy on bondlike paper and because it has features usually available only with more expensive PPCs. A major change in the CPC field was from the use of liquid to dry toners. Some current dry toner CPCs include 3M's VQC and the 732; Apeco 776; A.B. Dick 695; Mita 900D; and the SCM 152. Olivetti makes a conversion unit to retrofit their copiers in many libraries. At the National Computer Conference, Xerox unveiled the 9700, claimed to be the first of five new product introductions. This unit is "a high-ticket, high speed, laser beam system that literally combines a commercial print shop into a 16 foot unit consisting of a xerographic printer, control module, magnetic tape drive and a CRT console."[20] The Nashua Copycat Organization introduced a new liquid toner transfer plain paper copier. This medium-volume copier, the 1220-S, incorporates a semiautomatic document feeder to be fitted, as required, at a later date. Another plain paper copier, the Océ 1700, is capable of producing thirty-seven copies per minute. It accepts originals up to a maximum size of 216mm by 356mm. After a warm-up time of 3 minutes, the first copy is produced after 8½ seconds.

Copiers became more available during the year, providing competition to their larger duplicator counterparts from both a price and mobility point of view. According to Sawyer, "Some sentiment seems to be shifting away from the concept of centralized, high volume copier duplicators with users walking distances and waiting for service. Increasing preference is being shown for small copiers strategically located for user convenience."[21] Those copiers enjoying considerable demand are the plain paper copier types. Some of the companies in the smaller copier business and their machines are: Savin Business Machines (Savin 770+ 780); 3M (Secretary II); Saxon (Saxon 3); Canon (Canon NP-50); Dennison (Dennison BC-14); and Xerox (Xerox 3107 and 3100 LDC). These low-volume copiers range in cost from $300 to $8,000.

Frederick W. Miller points out a few aspects of the copier market. "With the number of products available from such a variety of manufacturers, plus the introduction of electronic control technology and other product innovations, it's a true buyer's market . . . Research In-

stitute . . . in a late June issue of 'Alert' . . . noted that 'the old workhorses—mimeograph machines and offset duplicators—have become viable competitors in segments of the copier/duplicator markets because of newer product improvements."[22]

An innovative application of using a copier was developed in the state of Utah. By combining the technologies from the American Bank Note Company and the Copier Division of Canon USA, the Division of Health was able to produce a high-quality, readable document copy that couldn't be forged, copied, or altered. "Two major forms were developed: a large form for death certificates, a smaller one for birth certificates. Each form is bordered by an ornately engraved design, similar to that on currency, that would be difficult—if not impossible—to forge. Through an intaglio printing process (deeply depressed letters), the seal of the State of Utah is impressed on each. The blank space in the center of the form is over-printed in a light red screen with a special felb ink that smears should anyone try an erasure. At the top of the form are two highly engraved circles. Although they appear to be decorative, they are a final proof against forgery. Within each circle is a latent image. This image can be seen only with a powerful glass, or by tipping the form under a strong light source. This image is produced by special inking techniques and will not transfer over to a photo-reproduction. To produce a certified copy, a Canon Copier is used with a liquid toner that forms a permanent image. The blank certificate is fed into the copier along with the black-and-white original document from the state files. The black-and-white image is transferred to the form, producing for the requestor a tamper-proof certificate that is official-looking and highly legible. The raised seal makes it an official, valid document."[23]

Microform Materials and Micropublishing

The manufacturing and distribution of nonstandard film continued to receive considerable attention through the year, with the peak of interest and discussion at the end of 1977 as a result of action of the RLMS Standards Committee with regard to the micropublishing program of the Government Printing Office (GPO).

The micropublishing program of the GPO began in 1975 with a pilot program to distribute microfiche of the *Code of Federal Regulations* to twenty-four depository libraries. In 1976 the GPO announced that the pilot program had been successful and that it would seek approval to implement a broad micropublishing program. Early in 1977, GPO received approval and presented its plans to the Depository Library Council, a group of librarians that has been appointed to advise the GPO in depository matters.[24] The council made a number of recommendations to GPO but suggested no alteration of the plan to send nonsilver microfiche to selective depositories.[25] The subsequent production contract specified diazo microfiche for the selective depository libraries.

At an October meeting, the council considered letters received from three libraries questioning the decision to distribute nonsilver microfiche. Two members of the council's Micrographics Committee and the head of the GPO's depository service responded to the written statements and to statements made at the meeting by Jeffrey Heynen, chairperson of the RLMS Standards Committee, and other observers. The response was summarized in ten reasons why the GPO should not alter its position.

Following the October meeting, Heynen formulated a point-by-point response to each of the ten reasons and, in a memorandum eventually directed to documents librarians in depository libraries belonging to the Association of Research Libraries, presented a different point of view that subsequently opened the door for broader discussion of the issue. Heynen concludes: "I believe the GPO is wrong in distributing diazo microfiche to selective depositories and in giving depositories little choice as to the format of the documents they are to receive. But I also believe that the GPO is sincerely committed to operating the depository system in the best interests of the libraries that make up the system and that it will change its policies where they conflict with library interests."[26]

All of this activity prior to the ALA Midwinter Meeting in 1978 generated an overflow crowd at the joint RLMS Standards/RS Micropublishing Committee meeting in Chicago. What the outcome will be is unclear. On the one side, GPO is going to need much justification to change its policy. On the other, there is a growing number of people (especially government documents librarians) lobbying for change.

Underlying the controversy of the distribution of government documents on diazo is the issue of stability. Though there does not now exist a standard for stability for diazo film, Adelstein has reported that "progress has been made on the specifications for processed diazo film. It is anticipated that an ANSI specification on this film will be available in a year."[27] A recent test concluded that "the dye images of diazo films undergo change with time and the rate varies with different products."[28] For some users, stability doesn't matter. According to David Shanks, president of Computer Micrographics Inc., most fiche are used less than a month among the COM service company's customers. Shanks, because of the short life span of fiche, refers to it "as the most visible sign of 'an almost unnoticed evolution' that has made fiche almost a totally active, rather than archival, tool."[29] Whether or not archival quality is necessary for the film used in library or other applications is still a matter of considerable discussion.

In last year's review, mention was made of "jumbo" fiche. During 1977 it was announced that "Japanese language requirements have led to the development of *Super Jumbo* fiche, four times larger than 4"-by-7" fiche"[30] (emphasis added). The final sentence in the announce-

ment causes one to pause: "The new fiche requires separate readers."

At the Music Library Association annual meeting, Frazer Poole presented comments on preservation for several special types of materials. (1) Film. For master negatives, 35–40 percent humidity is suggested. (2) Recordings. Archival collections should be stored in polyethylene-lined envelopes in compartmented steel or wood shelves, with dividers from top to bottom. (3) Video and audio tape. These materials are impermanent; passages may be lost and cross-printing may occur. Little more can be done than to protect them from stray magnetic and electrical fields. Karlheinz Stockhausen, the German composer has said, "I hope and pray every day that they will save the recordings of most of my works through modern means because I see that they are deteriorating technically all the time. . . . They should make archives on this planet to save this music. . . ."[31] (4) Leather. Sulfuric acid, certain other chemicals, and atmospheric pollutants cause leather to deteriorate. (5) Vellum. All vellum needs occasional cleaning. (6) Photographic prints. These should be mounted on acid-free boards or placed in acid-free envelopes, one print per envelope, and filed flat or vertically. Preservation of photographs is indeed a concern. Ansel Adams notes, "There is a definite deterioration in photographic paper. It is partially surface quality and partially inherent defects. It is heart-breaking to feel that the manufacturers are cutting down the availability of papers and apparently leading toward ubiquitous plastic-coated sheets."[32] On the basis of their tests, both Kodak and Ilford state that their polyetheylene-coated, or RC (resin coated), papers are impermanent unless stored in the dark at constant temperature and humidity.

Alkens Drawing Supplies Limited of Sidcup, Kent, claims to be the first company in the United Kingdom to offer machines and materials that produce high quality plan and proof copies without the need for toners, liquid developers, or exposure to ammonia fumes. The machines employ fluorescent light for exposure and have integral heat development sections. The materials have all the characteristics of diazo copying products.[33]

In the nonfilm area, Microforms International Marketing Corporation has announced that it is the first company in the micropublishing industry to make available to libraries microfilm that has been protected by an allegedly new film process that supposedly makes fragile emulsion of silver film scratch and abrasion resistant. According to the blurb, libraries can pay 5 percent more for microfilm orders and receive "protected" film or pay $2 per reel and send a minimum of fifty reels to the company and have the "protection" applied to film previously acquired. The blurb claims that Bell Telephone Laboratories has tested this process and has found that it reduces scratch damage as much as 99 percent. It is further noted that the process is in use by many departments of the U.S. government, by twelve foreign governments, and by microfilm users in forty-eight countries, including

many national libraries. Inquiries to the company about the process, where the Bell Telephone Laboratory test results could be found, and where a list of U.S. government departments using the process could be obtained elicited no satisfactory answer. Investigation into the claims by the company are in process, and serious questions about the need for such protection on silver film are being asked.

Micropublishing continues to flourish and "the advantages of microforms were officially recognized by the U.S. Government Printing Office as it initiated micropublication of documents."[34] More will be heard about a controversy that has developed regarding GPO selecting titles to micropublish that perhaps are also being published by commercial firms. This is an important issue with broad implications and should be given serious consideration. An official policy on the reproduction of manuscripts and archives for commercial purposes was adopted by the ACRL Board of Directors on 31 January 1977.[35] Micropublishing of periodicals continues to grow. Last year Pergamon Press offered all of its 240 scientific, technical, and educational journals in microfiche format as well as paper. In 1977 thirty more titles were added to the list. Edward Gray of Pergamon Press said, "It seems to me that sooner or later all journal publishers will have to understand that the microfiche alternative is here to stay."[36]

The number of libraries subscribing to periodicals in microform is growing as the simultaneous microform subscription concept for current publications gains ground. Librarians are looking more seriously at the idea primarily for space saving and retrieval convenience. Under this plan, the library subscribes to both a paper and a microform copy of a periodical. The library has the option of receiving the microform copy issue by issue or in the form of an annual volume. Upon receipt of the microform copy, the library may dispose of the paper instead of incurring binding and storage costs. Pergamon Press' quarterly newsletter *Micropublishing of Current Periodicals* is intended to "help publishers keep up with the rapidly expanding micropublishing industry . . . and at the same time be an aid in making corporate decisions on micropublishing by individual companies. In addition . . . it will be a valuable guide to microform librarians, as one method of keeping up with periodicals that become available in microform from all publishers."[37] During the year a few more libraries made substantial conversions of paper back-run periodicals to microform. There are indeed advantages of converting some periodical titles to microform. As Bloomfield observes, "there is only one solution to the problem of space in the library. That problem can only be solved by microforms."[38] Though this statement could be criticized as a sweeping generality, it has considerable truth in it. Beside space savings, other advantages of subscribing to periodicals in microform or replacing earlier bound volumes of some titles include (1) the ability to stretch acquisitions dollars, (2) the integrity of microform files compared to files of paper copy, (3) retrieval capabilities, (4) shelf life, (5)

reduction of binding costs, (6) reduction of theft and mutilation, (7) reduction of replacement costs, (8) ease of handling oversize newspapers and periodicals. The disadvantages usually cited center around the cost, upkeep, and space needs of the reading and duplicating equipment.

Some specific micropublications are worthy of note. On 9 July, Research Publications, Inc., began offering the *Times* of London on microfilm. As part of the offer, they endorsed and reduced the price on the Startech microfilm reader to libraries purchasing their products.[39] During the year two more volumes of the RLMS Microfile Series appeared: Nitecki's collection of ten papers enriched with an annotated bibliography of publications dealing with interlibrary loan as it relates to reprographic services and Saffady's state-of-the-art report on COM hardware and software, which should be of special interest to library systems analysts and administrators.[40] A microfiche collection of vendor literature, including catalogs, accompanied by a three-part printed index is available from Microform Review, Inc.[41] The fourth edition of the *Intermountain Union List of Serials,* produced on microfiche only, contains more than 51,000 entries from holdings of library collections throughout Arizona and Nevada.[42] On the foreign scene, all fifty Batsford titles in the Architectural Press microfiche edition became available in 1977 [43] Beginning January 1978, *British Books In Print* will be offered monthly on COM.

Newsworthy personnel changes in micrographics include the nomination of John J. Boyle by President Carter as the new Deputy Public Printer, replacing Thomas F. McCormick who resigned 1 November to return to private industry[44] and the retirement of Frazer G. Poole after many years of conscientious and dedicated service as assistant director for preservation, Library of Congress Administrative Department.

D. W. "Scotty" McArthur of 3M is optimistic about the industry: "With a growth rate of about 18% a year, micropublishing is growing faster than the traditional printing industry."[45] Though the industry is half a century old, it "still has its greatest growth potential ahead. . . ." He sees the dry diazo and dry silver procedures as the reasons for the growth potential.[46] Rodd Exelbert and Mitchell Badler observe that "micrographics is one of the fastest moving areas of the records management world, and within micrographics, itself, there is constant activity."[47] An announcement was made in June that four of the country's largest independent microfilm equipment dealers had formed a Micrographics Co-op. They are: Applied Microfilm Systems, Magnagard, Metropolitan Microforms, and National Micrographics Systems. Likely benefits of the co-op include "permanent exhibits, seminar programs, central information services, product catalog, national sales and service organization, unified purchase agreements, and warehousing facilities."[48]

Exelbert and Badler indicate that "the so-called 'marriage' between

micrographics and data processing has been consumated in many ways. Computer output microfilm is the most obvious one. Computer-assisted files management is another. Computer input microfilm is in the experimental stage. . . . Through this marriage, micrographics is getting more and more acceptance in sectors that until a few years ago thought of microfilm only as something on which old copies of newspapers were stored. . . . A U.S. consulting firm expects the total [installed COM systems] to approach 4000 by 1980. . . . The undisputed trend is upward."[49]

From an education and training point of view, some interesting things happened in the industry. More colleges and universities are now giving courses in micrographics. More service firms and in-house micrographic departments are setting up micrographics training programs and work experience for the handicapped.[50] A micrographics lecture kit "designed to aid an instructor in developing four to five hours of lecture material on micrographics courses" was developed by the National Micrographics Association.[51] Bruning Microfilm Corp., working with the Metropolitan Regional Council TV Network, aired a microfilm presentation over closed circuit TV. "The purpose of the program was to provide an introduction to microfilm, retrieval techniques, equipment quality control, and a detailed description of applications in use, today, in municipalities throughout the country."[52]

A clue to the health of the industry can be discovered by looking at professional associations. The National Micrographics Association (NMA) continues to grow and has a membership of approximately 8,000 members.[53] During the year NMA, in a special session at its midyear meeting in Dallas, approved a proposed "Mission Statement" and a set of ten "General Objectives." In the words of the mission statement, "the purpose of the National Micrographics Association is to serve its members in developing and promoting effective uses of micrographics, including interfaces with other information processing technologies for the effective storage, transfer and use of information."[54] The ten general objectives are impressive and commendable. Arnold Keller writes of the Dallas meeting: "It was encouraging to find a noticeable increase in the number of management people involved in information processing in attendance at the recent micrographics conference and exposition in Dallas. It's a credit to the persistency of microfilm—and its advocates—that its potential in information processing is belatedly coming to the forefront. . . . The potential benefits are enormous. It could be a very rewarding investigation. Exciting things are happening."[55] *Infosystems* finds "a strong note of optimism characterized the recent NMA conference. . . . The conference theme 'Dynamics of Micrographics,' was amplified by . . . Dr. D. M. Frey . . . noting that dynamics is the Greek word meaning 'the state of that which is not yet fully realized'. . . . He alluded to the industry's proven track record, a rise from $100 million in 1960 to more than a billion in 1976. He predicted a $2.5 billion business by 1980."[56]

"NMA is healthy," according to its treasurer. "It had a $500,000 surplus at the end of 1976."[57] Gordon Banks asserts that the industry is facing challenges "coming from the government or from emerging new technologies competitive with micrographics" and suggests that "the industry pay more attention to the source document world."[58]

Infosystem's seventh annual survey shows slow but steady growth in use of micrographics. Of 2,093 firms responding to the questionnaire, 33.3 percent are now using microforms, 35.4 percent are planning to use them, and 37 percent are evaluating their potential. Other interesting highlights of the survey are: (1) 79.3 percent of the responding firms have no micrographic department; (2) mag-tape-to-film conversion (COM) was the most often mentioned type of micrographic service used; (3) microfiche was the most used type of microform; (4) silver film was by far the most used type of film; (5) for duplicating purposes, the types of film used ranked diazo (66.6 percent), silver (32.8 percent), and vesicular (19.3 percent).[59]

On the foreign scene the year saw considerable discussion about possible changes of philosophy and structure in the International Micrographic Congress, dealing with such matters as organizational structure, meetings of the executive group, membership dues, the *Journal,* and the *Newsletter.* The purposes of the changes are to revitalize the organization and to enable it to benefit the world's micrographics community. The hope is to gain financial support of sustaining members around the world.[60] Coming from another direction, the United Kingdom's National Reprographic Centre for documentation received a welcome continuing grant from the British Library for 1978.[61] Brazil has a bleaker picture, as painted by an observation that there are 1,300 micrographic installations in Brazil, but no more than 20 percent are operable at any one time because of lack of parts, repair personnel, maintenance procedures, or training.[62] In the rest of Central and South America, micrographics has a long way to go. Though the U.S. was the pioneer mass market for micrographics and continues to be the largest user, the rest of the world is catching up at an ever-increasing pace, according to Exelbert and Badler.[63] The Japanese domestic market still needs considerable development. The rest of Asia, except for Australia, is still undeveloped.[64]

Lest the reader be thinking that all is roses in the micrographics industry and lest the foregoing lull the unwary into a false sense of security that micrographics is everyone's salvation, attention is drawn to two statements of the year. William Hawken warns of the "paper glut" being superseded by a "microform glut," pointing out that microforms, which were originally conceived as a solution to library problems, have generated many new problems. "We have solved the problems attendant upon producing microforms, and in a great variety of ways. We have not solved the problems of using them."[65] Herbert S. Bailey assuages the book-lover's fears that the printed word may be on its way out: "We all know what a book is. A magnetic tape

is not a book. A microfilm or microfiche is not a book, though it has some booklike attributes. A floppy disk is not a book. I have heard people say that they love books, but something there is that doesn't love a floppy disk—or a microfilm, or a magnetic tape. Still they have their uses. . . . Perhaps that is a meaningful distinction. Books are read or sometimes used; microforms, tapes, and disks are only used. There is no love in them."[66]

Micrographic Equipment and Processes

The *1977 Supplement to the Guide to Micrographic Equipment* was edited for the first time by someone other than Hubbard Ballou. Daniel M. Costigan, the new editor, rightfully pays tribute to Ballou who, as editor of the *Guide* from its inception in 1959, built it from a single volume to a three-volume standard work in the micrographic industry. The *Guide* over the years has been invaluable in assisting management in the planning process. A heartfelt "thanks" to Hub upon his retirement from this position. Costigan has promised to follow in the same fine tradition as the previous editions.[67]

The following microform readers, which were introduced as new in 1977, are worthy of note. In February, Datagraphix announced the DataMATE 80, claiming 40 percent more brightness over previous models with "resolution nearly doubled and a new screen surface [that] improves contrast."[68] The Datagraphix DataMATE 100 reader with an eleven-by-fourteen-inch screen uses a nine-by-thirteen-inch desk space and boasts of an option for dual fiche carriers and a series of interchangeable lenses. (This reader probably has more potential use in COM catalog applications than in a standard reading room.) An analysis of the readers at the twenty-sixth NMA conference in Dallas, Texas, reveals a trend toward minimizing the physical dimensions of microfiche readers by reducing the screen size and magnification, especially for COM application. The following companies have marketed "¾ size" versions of their otherwise familiar readers or added smaller models: Agfa Gevaert, Bell and Howell, Bruning Division of Addressograph-Multigraph, D.O. Industries, Microphax Agents, NCR, Northwest Microfilm Inc., and Realist. DataView, Inc., proposed a "works under the counter" microfiche reader dubbed the Data View Cube, which could be dropped into a desk counter top or any work station where the operator is an integral part of the system.[69] Protective glass over the screen allegedly makes it nearly impossible to obstruct the display with ambient light. Micro Design has added a prism to provide "Optical Image Rotation" on the "930."[70] Alpine Micrographics Corporation in Alpine, Utah, a newcomer in the field, began marketing its 16 and 35mm MicroViewer featuring a tilt-down film loading system. This reader has nonstandard film path and boasts of 30-degree reading angle, motorized film transport, high resolution optics, 360-degree image rotation, and maintenance ease, among other features.[71] The GAF Corporation announced the addition to its

line of the table-top GAF 7810 DMR microfiche reader. It is available in either single or dual lens capacity and can accommodate COSATI, DOD, or COM formats at magnifications of either 24, 32, 42, or 48×.[72]

Library Technology Reports (LTR) gives detailed results of tests applied to micrographics equipment including evaluations of four readers: Bell and Howell 16-35 Microfilm Reader, Dukane 27A25 Microfilm Reader, Kodak Startech Microfilm Reader, and the Xerox Model 350 Microfilm Reader.[73] There is also a report of a test performed by the National Reprographic Centre for documentation (NRCd) of the FUJI RFP2 Microfiche Reader. This reader is not currently distributed in the United States but is available in Zug, Switzerland. The machine, available for some time, represents the small, portable, lightweight genre of microform readers. This test, though performed by NRCd, is reported in *LTR* as a result of an exchange agreement between the two organizations.[74] Speaking of evaluation of micrographic equipment, Realist, Inc., began offering a Reader Evaluation Kit purported to be a guide to selecting the right microform reader for different applications. The kit includes a reader specification checklist and a copy of the Auerbach Microform Reports on Realist Vantage series readers.[75] Even though this is a marketing device, it could be quite useful.

Four pieces of equipment that might be classified as "readers" were introduced in the literature during the year. A hand viewer used by Xerox maintenance personnel for reading data when servicing the Xerox 9200 copier is now offered for sale.[76] Keyan Industries, Inc., has a 15× hand-held viewer accepting NMA 24× and 42× fiche and jackets.[77] A projector intended for group viewing of microfiche was introduced by Realist, Inc. Called "The Seminar," it claims to project a bright, clear image and accommodate flat film formats in a variety of magnifications.[78] A reading machine for map microforms with a screen size of fifty-eight by forty-three centimeters, usually used in conjunction with paper copy on a map table, has been built by Microfilm Engineering Co. in Macclesfield, Cheshire, England. The screen rotates 90 degrees and is large enough to take map areas of 1:10000, 1:2500, and 1:1250.[79]

A full-page ad on the back cover of a major journal seems to be making an indirect comment on either the pricing of the Information Design 201 reader or the microform subscription of the *New York Times*. The reader is offered free if a two-year subscription to the *New York Times* on microfilm and the *New York Times Index* is purchased.

On the reader-printer scene, a few developments are noteworthy. At the twenty-sixth NMA conference, OCÉ Industries, Inc., showed the 3750 enlarger-printer, which produces prints up to thirty-four by forty-four inches from aperture cards, roll film, and fiche jackets, and the 3670 universal import reader-printer, which makes prints from fiche or roll film.[80] Canon announced an electrostatic reader-printer called the Canorama Printer 370. Some of the features include

drop-in lenses and zoom control.[81] A new microfiche reader-printer that supposedly produces copies for as little as one cent per print was introduced by Micro Information Systems. Some of its features include an adjustable size range from four by five inches to twelve by twelve inches, allowing for working with both COM and source document fiche; vivid contrasting copies that are "unusually sharp and readable"; paper flow from side to side, eliminating the need for access to the rear for servicing. Two models were announced: the deluxe model 2001-D, including image rotation and polarity switch, and the standard model 2001-S.[82] Xerox demonstrated a new fiche reader-printer, the 740, based on the 660 copier, which makes plain paper copies. It accepts 24× to 48× fiche and sells for under $4,000.[83] The 3M Company's new model 500L reader-printer claims modifications "suggested by librarians."[84]

There is still a need for a micro-opaque reader-printer, as many libraries possess major collections in this format. Since the Dennison copier was pulled from the market a few years ago, there is no equipment available for making paper copies from micro-opaques. It is hoped that this dilemma will shortly be eliminated. The need will remain as long as one company continues to produce its product in this format and as long as libraries retain their micro-opaque collections.

An interesting ad from Apollo Microfilm Products was headed "Microfilm Supplies at Micro Sized Prices 40% Savings." This ad specified reader-printer paper for 3M Models 400 and 500 reduced in price by 40 percent. It also boasted of savings on prices for the Model 400 and 500 reader-printer itself.[85]

Over the years there have been several articles dealing with the characteristics of micrographics equipment. This year had its share, including a good one on selecting a reader or reader-printer.[86]

In the field of microform duplicating equipment, White reports an evaluation including test results on six low-price, low-volume microfiche duplicators for libraries—the Blu-Ray Printer MP-1/Developer MD-1, Brunning OP-10, Brunning OP-11, Canon 48 OVC/36OH, Metro-Kalvar Fichemaker, and Microbra M-7V Printer/Processor and D-11 Developer. He gives a detailed description of the types of library duplicating processes, discusses the types of film used in the duplication process, outlines the supplies necessary for the process, and describes the test program and results. He states that "there are three reasons why LTR undertook a test program for low-volume microfiche duplicators. First, to bring this type of equipment to the attention of libraries; . . . second, to determine those characteristics which are important in assessing the comparative performances of these machines; and third, to evaluate those machines which are now available on the market."[87] At the NMA twenty-sixth conference, updated versions of Microbra's MS-2A microfiche printer and the D-11A diazo developer were shown.[88] 3M introduced an easy-to-use system

for duplicating fiche. The Duplifiche Developer is a compact, sheet-to-sheet developer for dry-diazo and vesicular microfiche that have been exposed in the Duplifiche Printer or other manual exposing device.[89]

Saffady's survey of microfilm cameras provides a survey of features and functions of currently available rotary, planetary, and step-and-repeat microfilm cameras, including a description of features that simplify camera operation and enhance versatility.[90] Among the more prominent product announcements at the NMA conference were a step-and-repeat fiche camera using Dry-Silver Technology by 3M[91] and a portable microfilm camera that permits reproduction of documents in their own card catalog by the Alpa Group.[92] The latter is yet another attempt by two French Canadian librarians to make 35mm single lens reflex cameras practical for bibliographic work.

New processes having possible library applications emerging during the year include a system for embossing color image information on a strip of clear thermoplastic film by Michael T. Gale and Karl Knop of Laboratories RCA, Zurich. This system claims the advantage of no dyes to fade, which would be ideal for archival storage.[93] The IZON Model 200 reader system, sometimes called the "fly's eye" system and also known as the "distributed optics" system, received considerable attention during the year but apparently registered no sales. William L. Wallace extols its virtues,[94] and Masucci discusses the technology from the point of view of optical design considerations, illumination requirements, and the need for mechanical precision.[95] This system promised a "$5" portable microfiche reader when it was first announced, a figure that is way off target now by a large factor. As Napier pointed out last year, this process will have limited, if any, library application unless the library is willing to rerecord all microform holdings or to purchase whatever IZON film publications may eventually appear on the market.[96] For the instant production of jacketed microfilm (which can be used in microfiche readers), Bell and Howell's new Micle 1200 copier process is of interest. Strips of 16mm film are delivered dry and processed in 1½ minutes. Each strip contains twelve images, which are then inserted into microfilm jackets using a jacket loader. The Micle 1200 requires no plumbing or special power supply.[97]

An idea introduced at least twice before has been reintroduced, and indications are that it is catching on. Though the idea is not new, the marketing is aimed this time at the photographic library manager and picture editor. A 3M machine called the "automatic darkroom" is able to produce a photographic print from a negative in twenty-four seconds. The system, called the 3M 277 Enlarger Printer, uses dry silver paper. Half-tone prints or transparencies measuring 8½-by-12½ inches are made from 35 or 16mm negatives on reel or individually mounted. The machine reportedly accepts microfiche up to eight by

seven inches. All negatives can be viewed on a twelve-by-sixteen-inch screen.[98]

One final note on processes. Xerox demonstrated a prototype computer-output color copier system at a SIGGRAPH conference and equipment exposition. Spokespersons for the firm said a decision had not yet been made to produce and sell the unit, which might retail between $25,000 and $30,000 depending on computer interfacing required. The process involves laser photography technology, resulting in color output on untreated paper.[99]

Prochaska, in commenting on the relative merits of film and tape as data storage media, indicates that alpha-numeric COM film has relatively poor image quality, which makes machine readability difficult. In terms of space, he concludes, film has a 94:1 advantage, and on a byte per bloc cost basis, film wins 4:1.[100]

Related to computer software and data bases is the issue of copyright. Should these be protected? Yes, according to a subcommittee of CONTU. The subcommittee said software and data bases deserve legal protection in the form of a copyright rather than a patent.[101]

Application, Audiovision, Facsimile

Added to the growing list of libraries that are converting from card catalogs to computer output microfilm (COM) catalogs since the last report are Ryerson Polytechnical Institute in Toronto; Los Angeles County Public Library in California; three libraries in the Arrowhead Library System, a consortium of Duluth Public Library, Virginia Public Library, and Hibbing Public Library; Chicago Public Library; Broward County, Florida, Public Library; Denver Public Library; Birmingham Public and Jefferson County Free Public Library; Fairbanks, Alaska, North Star Borough Public Library; West Virginia Library Commission; and Houston Public Library. John North, of the Ryerson Polytechnical Institute, lists six gains and one loss from this conversion. On the plus side: "A lot of staff time is now spent on public services rather than card filing; a catalog which is in a correct and comprehensible sequence; public catalogs which are 50 percent less out-of-date than before; multiple access points to our collections; a 20 percent increase of library attendance and circulation; and the satisfaction of having accomplished something which many others are still only contemplating. . . . The one disadvantage which still causes concern is that we no longer have internal control of our catalog."[102] Ryerson's collection size was roughly 175,000 items. The Los Angeles County Library (LACPL) will become one of the nation's largest COM catalogs to date as it completes conversion of its 350,000-title, 4-million-volume book collection plus entries for periodicals, AV materials, and government publications to machine-readable form. LACPL expects to amortize the cost of the COM system over the first two years of operation.[103] The Arrowhead Library System selected Library Interface Systems, Inc., for the data mangement and film pro-

duction and Information Design ROM 3 COM terminals as the retrieval equipment to provide a union catalog of the three libraries in the system.[104] A useful annotated bibliography lists recent books, articles, and reports relating to existing and potential library applications of COM technology in North America.[105] Related to this subject is a system announced by Information Retrieval Systems Corp., the Strobe/Search 100. It is another way to automate the card catalog without going to an on-line system, or it can act as an interim step toward implementing an on-line system. Briefly, the system uses 105mm roll film just as it comes from the COM recorder. The desktop search unit [reader] with a full-size screen can accommodate approximately 650,000 pages or 5 billion characters. Its operating controls are connected by cable from a separate module and can be placed on either the left or right side of the search unit. It has multiple lens capability.[106]

One of the most complete descriptions of a specific COM application is that of the computerized acquisition system of the General Library, University of California at Berkeley. After running the manual and computerized systems parallel for three months, the library is now relying on the computerized system as its basic means for financial and bibliographic control of order and in-process records.[107]

Applications related to micrographics, copying, and graphic communications should be noted. Michael Thomas of PRC Information Sciences suggests the use of bar codes for fiche ID systems, stating that "more intelligence coding for fiche systems is inevitable. . ." He describes different readers that may be used, "including handheld light pens. . . ."[108] Image Systems, Inc., contributes to automated retrieval with its ISI 5000 computer-controlled automated fiche retrieval and display system. It contains up to 180,000 fiche pages of information, any one of which may be selected and displayed in three seconds.[109] *U.S. News and World Report* tried electronic publishing for the first time. In summary, the system works as follows: The computerized scanning system converts photos into the same kind of digital information that computers use to produce type. The photo-scanning device allows magazine editors to see each page complete, with text, headlines, and pictures, before it is transmitted via satellite to three printing plants located in other states. The editors use a video-display terminal (VDT) and a keyboard attached to a television screen. Letters appear on the screen when the keys are struck. A computer to which the set is connected allows writers to drop words or insert full sentences without retyping old copy.[110] Other applications include: (1) A microfiche projector linked with automatic synchronised sound, which may stimulate the trend to use microforms in education. Studer-Revox introduced a prototype Audiocard at the Didacta A-V Exhibition in Brussels in 1974. The first production models are being used in Europe.[111] (2) A new method of storing visual information on a two-by-two-inch transparency. Introduced by Berkey

K+L Custom Services, the technique allows for the photographing of sixteen conventional 35mm slides so that they can all be incorporated into one transparency and projected simultaneously. By including the slide mount on this "superfiche," the projected image displays the slide as well as the data on each mount, which might include the photographer's name, date the picture was taken, etc.[112] (3) Polavision, an instant-color-movie system that includes a camera, self-developing film cassettes, and a TVlike viewing unit, the Polavision player. The film is shot much like a super 8, then the film cassette is plugged into a slot on top of the viewer. Nine seconds later the movie appears in full color on the screen.[113] (4) The Diagnosing Individual Competence on Microfiche (DICOM) program from Eastman Kodak, developed with the help of Educational Testing Service (ETS). The program's Ektalite 230E reader has been modified for child safety and is used with a set of microfiche to test basic math skills and to measure progress upward toward a defined set of learning objectives.[114] (5) Holographic fiche announced by Holofile Industries Ltd. The heart of the system is the Holofile memory, which stores up to 200 million bits of binary data on a four-by-six-inch holographic fiche. The fiche contains thousands of individual holograms, each of which stores thousands of data bits—the contents of an optical data page. The Holofile Data Terminal consists of a reader that houses the Holofiche memory, a laser, an optical sensing array, associated electronics, plus a key/pad display for addressing the memory. Holofile readers sell for under $500, and Holofiche memories can be replicated for a few cents each.[115] (6) Laser recording. Laurence Stockett expects to see both digital and analog recording in the near future, specifically within ten years (*a*) a micrographic "videodisc" playback unit built somewhat like a fiche reader and projecting an optical signal that is converted back to a video signal; (*b*) rollfilm—optical tape transports that are compatible to magnetic tape transports but with far more compactability; (*c*) audio signals on microfilm and audio recorders that are optical in nature, making possible a 16mm roll of film with thousands of selections as opposed to the capabilities of an eight-track mag tape.[116]

Related to applications is the announcement of the June retirement of internationally renowned typographic expert and Rochester Institute of Technology Professor Alexander Lawson.[117]

The Advance Access Group storage system for microforms deserves mention. Its Accu-Fiche envelopes for fiche and film jackets are made from an acid-free stock with a nonmigrating neutral glue that prevents "blooming" (loss of image) of the fiche.[118] (To digress for a moment, there is a great need for a standard for microfiche envelopes. They now come in a variety of shapes, sizes, materials, and colors. The production of microfiche has leaped ahead of any consideration of packaging for this useful microformat.)

Since Betamax made its debut, there has been a lot of activity on the home video recording scene. According to Ken Winslow,

"Videotape is stepping into a new generation of recording and playback technology which, as it carries us into the '80's, will bring us lighter weight, better performing, and less expensive equipment."[119] This technology received considerable attention at the 1977 Funkausstellung, held in Berlin and characterized by one observer as a fair rather than a professional show. Audiovision was the sleeping beauty of the exhibition without the prince.[120] This show was inundated with audiovision equipment and technologies. Prototypes abounded. Many companies from around the world exhibited their version of the Betamax. Limitations of the early Sony Betamax include the shortness of the tape (program time maximum is one hour) and the price ($1,300). Philips developed a longer playing system (130 minutes) by using lower speed play. Since Grundig of Germany bought the license from Philips, some feel the future is bright for home use of long-play systems.[121] Matsushito, the Japanese firm, has a video home system (VHS) that offers up to four hours of playing time. There is a decrease in quality of the picture because of the slower recording process, but at that speed the price of a four-hour cassette costing $20 is reduced to $5 per playing hour.[122] Other companies favoring the low-speed option, allowing for four-hour recording, include Magnavox, RCA, Sylvania, Hitachi, and Curtis Mathes.[123] Compatibility is a real concern of the consumer. There is hope, however. Following the success of Sony's Betamax, JVC announced its Vidstar VHS. Joining the JVC format are RCA, Panasonic, Sharp, Magnavox, Hitachi, Mitsubishi, and Sylvania. Tapes produced on the machines of one make are promised to be playable on those of another. "VHS," according to Leendert Drukker, "is astonishingly economical to operate: with the half-inch tape running at its full speed of 1.31 ips, helically scanned, a $19.95 pocketbook-size cassette has a two-hour record/play capacity."[124] Although two hours should suffice for most televised feature films, some companies plan to offer a slower-speed cassette that doubles the playing time to four hours. One target for getting these long-playing video systems (LVR) on the market is the end of 1979. Who will win the home video market race? Which company(s) will the prince kiss and bring to life to capture this promising market? Time will tell. Tape is here to stay.

Another "breakthrough" in home video technology "is the Vidstar color camera, allowing the Vidstar deck owner to originate his own color tapes or, as JVC puts it, make instant video-tape 'home movies'."[125] The cost is about $1,500. Other companies are jumping on this bandwagon.

Still no videodisc in the U.S. "Philips and MCA say they have developed a new type of optical video disc that can be played on both sides to give a total program time of one hour or more. The new disc is thicker than the earlier version so that modifications to the player are necessary in order to accommodate it."[126] (Still another delay in getting the disc on the market.) Regional marketing, with players, is

planned for fall of 1978. Promises continue to be made by Philips/MCA. Their Discovision was to be marketed regionally in the spring of 1977. AEG-Telefunken of Germany is still trying to find licensees ready to venture into the U.S. market with its TeD videodisc player.[127] Meanwhile we wait.

And finally, under audiovision, a Swiss watchmaker has developed a watch that is scheduled for the market in 1978. It performs six distinct functions: it shows the exact time (month, day, hour, minute, second); it shows your pulse rhythm and your body temperature; there is a miniature calculator that will perform the four basic arithmetic operations; it includes a radio without loudspeaker but with headphones; finally, a 2.5-centimeter television screen is positioned on the face of the watch, with a black-and-white picture said to be extremely clear.[128]

The facsimile area was marked by a modicum of activity. A roundtable discussion cosponsored by *Infosystems* and the Rapifax Corp. on the topic "Facsimile in the Information Systems and EDP Environment" brought forth the suggestion of something called "verbal mail," a system that permits the concentrating of messages in a "black box," arrangement by priority, and the sending of the appropriate message to the receiver by pushing a button. "Timeliness and the sure delivery of the document are what we are buying." "Tele-conferencing" was spoken of by some participants. For example, one company established tele-conferencing, "combining voice and facsimile, voice teleconferencing for wire dedicated rooms, overhead speakers, microphones and a Bell system, and associated with these rooms primarily was a Rapifax 100 system." The system broadcasted simultaneously over fourteen terminals to locations in other states.[129] Norm Anderson presents a summary of facsimile: its methods, its uses, the state of the art, and its future. He quotes a report from International Resource Development, Inc., which estimates that the number of facsimile transreceivers installed in the U.S. will exceed 200,000 by the end of 1977 and will likely reach 500,000 within 10 years. There is a "need for faster transmission," he claims, "and all manufacturers are exploring it, as they are the use of facsimile equipment in direct tie-ins with computers for transmission and reception of data."[130] Another area under investigation is facsimile transmission from microforms. John R. Hansen notes that a limiting factor to the facsimile industry "has been lack of industry standards resulting in equipment incompatibility among the fax manufacturers."[131] He acknowledges that this problem will eventually be eliminated as standards are adopted and met. The Consultative Committee for International Telephone and Telegraph (CCITT) has adopted standards for six-minute, three-minute, and portions of one-minute facsimile.

Some specific fax services and applications were reported in the literature. John R. Hansen also reported a fax service that was expected to begin in the fall of 1977. This service, offered by SP Communica-

tions, will include the communications as well as the terminals. The company is offering both a slow-speed machine and a high-speed subminute terminal. The inexpensive one is $42 per month and includes twenty pages of transmissions. For more than twenty pages, the price can be eighty cents per page for fifteen-minute delivery or forty cents for overnight. 3M has introduced the Express 9600, a high-speed, subminute transceiver that will also double as a low-volume office copier. It will transmit an average 300-word business letter in about 20 seconds. This is supposedly the only other machine besides Rapifax that will transmit in less than one minute.[132] The reader interested in facsimile equipment will find eight types of machines briefly described in a product guide that identifies some of the facsimile manufacturers.[133] Matsushita Electric has developed a new type of television set that can deliver a printed message to the living room. An "ink-jet system that weighs less than a golf ball and is smaller than a book of matches" is the full-color printing mechanism in the Television Multiplex Facsimile. Looking like an ordinary home TV, the set can produce a letter-size page printed in full-color in about two minutes.[134] Experimental applications of TV text and graphic display systems are cropping up throughout Europe. One two-way system, Viewdata, will be widely tested in 1978 by the British Post Office. Viewdata's signal emanates from a computer data bank and is transmitted over phone lines. TV receivers translate the signal. A viewer communicates with the computer via a hand calculatorlike key pad. About 60,000 frames of information are planned for the test.[135] The Teletext system, created by BBC and British Independent Broadcasting Authority, uses a regular TV receiver but, unlike Viewdata, uses information fed into regular broadcast signals as code carried in the vertical interval of the signal. To pick up the signal, the TV receiver needs a special encoding device.[136] Hitachi has developed a prototype device to reproduce color TV images from black-and-white microfilms with a color TV camera. The reproduction device consists of a single-tube color TV camera and monitor. A stripe filter added to the microfilm camera allows the taking of black-and-white images on microfilm that are converted into the three primary colors by the reproduction device and viewed like ordinary TV images.[137] A microfiche image transmission system (MITS) used by the navy is reported on by William L. Hopkins. The use of the system resulted from the results of a study that concerned itself with the feasibility of electronic transmission, via satellite link, of standard 24× fiche. The study reportedly showed that diazo copies can be scanned, that a helium neon laser is the most efficient source with dry silver film, that 160 lines per inch is the minimum scanning resolution, and that a single image should be scanned at one time for maximum efficiency.[138]

Publications, Research, and Professional Activities

Both the quantity and the quality of the micrographics literature of

1977 are noteworthy. Of the periodical literature, *Microform Review (MR)* continues to be of most general interest to libraries. Beginning this year (volume six), *MR* increased its frequency from quarterly to bimonthly. During the year major articles appeared dealing with such matters as microfilmed government documents (an entire issue devoted to this topic), acquisition of microforms (those by Robert Sullivan are most helpful), selecting and teaching the use of microform reading equipment, and bibliographic control of microforms.

The Journal of Micrographics, the bimonthly professional magazine for the membership of the National Micrographics Association, continued in its quality tradition to publish articles oriented toward business and industry.

Other useful and informative periodical publications that are noteworthy include the following. The 1977 edition of the *Guide to Microforms in Print: Incorporating International Microforms in Print* saw an increase in the number of entries by 70 percent.[139] A review of this important work states that "the access is easier, the layout more presentable, and the typography is clearer."[140] Cumulative volumes for 1973–77 of *Newspapers in Microform* are in the preparation stage. A monthly publication providing abstracts of literature of interest to the graphic arts industries, *Graphic Arts Literature Abstracts* (GALA), provides photocopies of the abstracted articles through the use of an order form.[141] NMA announced its 1977 *Micrographics Index* with 2,227 entries of items in its Resource Center "representing case histories, user evaluations, research and project reports, descriptions of the 'how to' of technical processes, directories, state-of-the-art reports and standards."[142]

Other items of interest include articles by Avedon on microfilm generation and polarity terminology,[143] by Jarmy on library microfilm rates,[144] and by Landau on microfiche reader human factors.[145]

Useful monographs of the year include the following: Teague's nontechnical outline of the possible use of microforms in libraries, likely to be useful in formulating a microform acquisitions policy;[146] Veaner's compilation of nontechnical sources relating to the historical and administrative aspects of microforms in libraries;[147] ALA guidelines for ordering microforms;[148] a third edition of Rice's *Fiche and Reel;*[149] a basic primer on micrographics and micropublishing by Williams and Fothergill;[150] Horder's report on the image quality of ninety fiche reports;[151] a text on microform technology and the management of microform projects;[152] and a report on library photocopying in the U.S. by the National Commission on Libraries and Information science.[153]

A number of research activities may be noted. Suzanne Dodson received a grant that will enable her to complete a guide containing descriptions of approximately 200 microfilm sets of general interest and incorporating details of the contents of each collection along with references to published reviews.[154] Anne Shaw conducted a survey of mi-

croform equipment in depository libraries. Of 796 libraries, approximately 13 percent did not have a microfiche reader, 38 percent had no fiche reader/printer, 59 percent lacked a lens to read 48× fiche, and 91 percent had no fiche-to-fiche duplicator.[155] Research on the life expectancy of specific dry silver films under different aging conditions using theoretical projections and actual aging data was performed by Kenneth R. Kurttila. During the period 1966 to 1969, types EBR and 784 dry silver films were tested. "The conclusion of these tests is that dry silver films are useful as a storage media [sic] for many applications such as COM recording. They are capable of enduring a long time using typical office storage conditions. While present data is only 8 to 10 years old, the data supports the predicted 25 or more years of life expectancy."[156] A study of the use of the University of Minnesota Library showed that (1) use of the Newspaper and Microfilm Division went up more than 10 percent last year and (2) the popularity of the Bio-Medical Library's new photocopy and delivery service is another indication of the trend by library patrons to rely more on technology to meet their literature needs.[157]

Research continued to revolve around the development of standards. The developmental process is long and difficult. The encouragement of companies to adhere to the finished standard is sometimes arduous and frustrating. A dialog between Henry Frey, a micrographics user, and Don Avedon, chairman of the NMA Standards Board, gives a useful overview of the philosophy, mechanics, and user advantages of standards.[158] The seventh draft of a developing "American National Standard for Compiling U.S. Microform Publishing Statistics"[159] was published. The purpose of this standard "is to provide a uniform method for compiling statistics on the number of microform titles published. The format in which the titles are published, or whether the titles are original microform publications or republications, are secondary considerations that serve to further identify the microform titles published." A new standard that specifies the method for measuring screen luminance, image contrast, and screen reflectance of microform readers having translucent or built-in opaque screens up to forty-six by sixty-one centimeters (eighteen by twenty-four inches) was published.[160] About midyear Francis Spreitzer was selected to chair the Z39 Subcommittee 33 to continue work on the "Proposed American National Standard for Bibliographic Information for Microfiche Headers." For several reasons, progress on this proposed standard had come to a standstill. The new committee has changed several aspects of the proposed standard including the title, which now reads "Proposed American National Standard for Information on Microfiche Headers." The proposed standard was to be balloted on in early 1978. E. Dale Cluff, chairperson of the ALA Micropublishing Committee's Subcommittee on the Monitoring of Microform Advertising, gave a progress report at the Chicago Midwinter Meeting. He reported that, to date, committee members had con-

tacted seventy micropublishers about their use of ANSI Standard Z39.26-1975 on the advertising of micropublications. Several micropublishers expressed appreciation for the efforts of the committee and indicated they would incorporate elements of the standard in future advertising. One concern of this committee is the replacement policy of micropublishers. It was found that many micropublishers either do not include one in their advertising brochures or that it is very general and nondescriptive. One company responding to a criticism of its replacement policy revised it to read ". . . takes every reasonable precaution to insure that shipments arrive complete, undamaged and free from production defects. However, if a customer receives damaged or defective materials, or if items are missing, replacements will promptly be provided. Claims should be submitted in writing within a reasonable period of time after receipt of the corresponding shipment. [The micropublisher] requests the return of damaged or defective material and will pay all return postage charges. Replacements for microforms that become missing or damaged through use may be purchased at nominal cost."[161] This statement may not be completely satisfactory for both micropublishers and buyers of microforms, but it certainly comes close to a statement that might be used as a prototype.

During the year the American National Standards Institute and the National Micrographics Association were hosts for the sixteenth meeting of the International Organization for Standardization (ISO) Technical Subcommittee TC 46/SCI, Documentary Reproduction. The meeting was held in Washington, D.C., and was the first time it has been held in the United States. According to Don Avedon, "This was the most productive ISO meeting ever held. Much of the work of the past several years is now beginning to result in either final international standards or draft documents ready for ballot."[162] The following developments were reported from the meeting: (1) A draft international standard for computer output microfiche, DIS 5126, had been balloted on prior to the meeting and the task is now to review the negative votes and comments. (2) A four-part standard for "Microcopying of Technical Drawings and Other Drawing Office Documents" is being developed. (3) An international standard "Microcopying of Newspapers on 35mm Unperforated Microfilm for Archival Purposes" is being drafted. (4) A draft international standard "Density of Silver Film—Guidelines for Operators" was completed and is ready for balloting.

Several conferences, workshops, and meetings were held during the year that devoted all or a portion of the program to micrographics. Besides ALA and NMA, the following organizations are worthy of mention: (1) Xidex Institute of Film Technology held two- and three-day professional seminars on the newest microfilm techniques at six locations in the U.S. and Canada. (2) The New England Chapter of ACRL devoted its entire spring meeting to microforms. (3) The

Third Annual Library Microform Conference was held in San Francisco. (4) A joint conference of the Institute of Reprographic Technology and the National Reprographic Centre for documentation was held in Hatfield, Herts, United Kingdom.

Some developments during the year regarding bibliographic control of microforms are noteworthy. The ALA Micropublishing Committee's Ad Hoc Subcommittee on Bibliographic Control of Microforms, with Robert Grey Cole as chairperson, submitted a proposal to the ALA Executive Board calling for a meeting of representatives from key organizations in the United States in an attempt to get microforms into the national bibliographic network. The proposal was funded and the meeting was planned for spring of 1978. Members from such organizations as the Library of Congress, Association of Research Libraries, Council on Library Resources, American National Standards Institute Committee Z39, National Commission on Libraries and Information Science, and National Endowment for the Humanities will meet along with some micropublishers to discuss a working paper prepared by the Subcommittee on Bibliographic Control.

At the ALA Annual Conference in Detroit the Resources Section and Reproduction of Library Materials Section of RTSD presented a program titled "Upstairs, Downstairs: Approaches to Selecting, Acquiring, and Processing Microforms." Harriet Rebuldela discussed the acquisition of microforms; Norman Shaffer dealt with determining a supplier; Judy Fair discussed the procedures for handling microforms upon their arrival in the library; E. Dale Cluff discussed bibliographic control of microforms; and Francis Spreitzer concluded the session with cogent summary remarks.[163]

We are finally beginning to see some promising developments related to providing direct catalog access to individual titles in major microform collections. Too often libraries have cataloged these resources at the collection level only, with no analytics. The General Library of the University of California, Riverside, has fully analyzed, in accordance with the *Anglo-American Cataloging Rules (AACR),* the microform editions of several multivolume monographic collections. Copies of the catalog cards are available on a cost basis.[164] Elizabeth Weeks, formerly with the UC Riverside project, retired during the year and started her own company, Microform Cataloging, which will catalog existing microform sets and make the cataloging information available. This is a commendable effort. A welcome salable product would be the cataloging data in machine-readable form, because many libraries would prefer not to continue to feed large quantities of cards into the endangered species, the card catalog. Also at the ALA Detroit Conference, the Catalog Code Revision Committee (CCRC) agreed that microforms should be described as such, whether they are new works or reproductions of existing works, and therefore recommended that footnote 4 to the list of General Material Designations be deleted. It was noted that there are problems in several areas of chap-

ter 13 because examples, derived from existing catalog records, do not distinguish between the original and its microreproduction.[165]

The attempt here has been to provide representative rather than comprehensive reporting of developments in a year of considerable interest and activity in the world of copying, micrographics, and graphics communications, and the author sees no reason to predict less activity or growth in 1978. The new copyright law will receive considerable attention in 1978. The macrocopying industry will adjust to the new law, as users better define what and in what quantities can be duplicated. Microform equipment will continue to roll off the production lines with more emphasis placed on low-cost, lightweight portable units. More libraries will substitute microform periodicals for paper copies by converting retrospective runs or by entering simultaneous subscriptions or both. More library administrators will look to microforms as one reasonable alternative to the space problem. Library schools will move closer to offering the option to students of specializing in micrographics. Professional associations dealing with or incorporating micrographics into their programs will continue to attract large audiences. Standards organizations will continue to feel the need for developing standards. New processes will be developed. More libraries will move closer to closing their card catalogs in favor of COM or some other automated system. The use of video will grow, especially in the home market. The facsimile industry will move toward more standardization and faster transmission. The literature related to copying, micrographics, and graphic communications will continue to be extensive.

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Developments in Serials: 1977

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Introduction

NINETEEN SEVENTY-SEVEN has been a watershed year for serials. A number of familiar projects and programs affecting serials management have reached significant stages in their development. Two long-awaited components of OCLC's serial system became operational this year: check-in and catalog card production for serial publications. The text of the second edition of the *Anglo-American Cataloguing Rules* is in the hands of the printer. The first standard edition of the *International Standard Bibliographic Description for Serials (ISBD[S])* has been completed. Reports of the Task Force on a National Periodicals System and the Library of Congress Network Advisory Group were issued. The first stage of the CONversion of SERials Project (CONSER I) has been completed. These events, together with preparation for compliance with the new copyright act, have given serialists a great deal to digest. Nineteen seventy-seven has been a year for experimenting and examining. As if any impetus were needed, increasing costs, decreasing purchasing power, and increased demand for access to information have left serials librarians anxious to investigate and use the new products and methods made available this year for improved serials control.

Economics and Acquisitions Trends

The seasoned serials librarian is used to coping with a wide variety of knotty problems affecting all areas of serials processing and service. The ability to devise workable, if not ingenious, methods for allocating a budget, which is never quite able to keep up with inflation and "periodical proliferation," without damaging the library's public service programs has become just another of those tricks of the trade that every respectable serialist is expected to pull out of some back pocket whenever needed. It will, therefore, come as no surprise that serials librarians were required to repeat this performance in 1977 as sub-

scription prices continued to increase. However, serialists everywhere may take some solace from the fact that the projected decrease in the rate of inflation predicted by Dessauer and attested to by Faxon's December 1976 figures[1] has become reality. Prices have continued to increase but at a slower pace—an encouraging trend indeed.

In the annual periodical price index for *Library Journal,* Brown reports the average price of an American periodical at $24.59, representing only a 9.2 percent increase over the 1976 average price of $22.52.[2] Excluding 1974, the rate of increase for each of the six previous years ranges from 12 to 22 percent. American serials services are another matter. Brown reports the average 1977 subscription price for such services at $142.27, or a 9.9 percent increase—the largest since 1974. This represents a 0.2 percent increase in the inflation rate, hardly enough to dampen the effect of a drop from double- to single-digit inflation for periodicals. Blackwell reports an even more dramatic reduction in the rate of inflation for British journals—a drop from 28.3 percent for 1976 to 17.3 percent for 1977.[3] Blackwell assumes that this decrease would have been reflected in rates for foreign journals but for the weakening of the pound sterling. Clasquin's 1975–77 figures corroborate these findings, showing a definite decrease in the rate of inflation for 1977 over 1976.[4] In addition, Clasquin reports a decrease in the percent of titles supplied by F. W. Faxon Company that have increased in price. Clasquin attributes this decrease to a moderation of price increases for scientific journals but cautions that this moderation may merely reflect publishers' serious concern for how much the market will bear, rather than the introduction of any overall cost controls in response to the national inflation rate. In fact, an examination of Faxon's figures through December 1977 (reflecting approximately three-fourths of the agency's dollar volume business) demonstrates an increase in both the rate of inflation and the number of titles affected for the volume year beginning January 1978.[5] The average purchase price increase by subject authority indicates that the average percent of price increase libraries must pay for scientific literature in 1978 is generally double that of 1977, resulting in double-digit inflation for a number of scientific titles. A 1977 survey of journal prices in chemistry and physics conducted by Clasquin and Cohen[6] predicts disastrous effects on the total library materials budget, as a result of the distortion caused by the abnormal cost of scientific serials, unless budgetary assistance is made available to academic libraries in the form of federal grants to support the purchase of scientific library materials, just as such grants are given to purchase expensive scientific equipment.

De Gennaro encourages libraries to "fight back" by letting the forces of the marketplace take over, creating a new environment for the journal.[7] De Gennaro paints publishing as a business that views libraries as a captive audience to be exploited and urges libraries as consumers to resist rising journal prices and twigging by refusing to buy

at inflated institutional rates or to subscribe to overpriced and underused journals. Publishers, however, do not exercise the complete control over their environment implied in De Gennaro's article. Inflation affects costs related to publishing, just as it does other industries, and, as in other industries, these rising costs are usually passed on to the consumer. Fry and White, in their study of the economic interaction between the publishers of 2,459 American research journals and libraries, report that overall such publishers are experiencing depressing financial conditions.[8-10] If the survival rate of journal titles was based solely on the decisions of the marketplace, the resulting imbalance in the economic environment would severely damage the not-for-profit sector of the publishing industry and pose a serious threat to scholarly publication in certain fields. Simply put, price increases by some journals may lead indirectly to cancellation of other journals, just as rising serial costs in many instances result, not in mass cancellation of serials, but in reduction of the book budget. Statistical support for this assumption is provided in Clasquin's figures for title activity by price range.[11]

Is there no solution then? Must we simply watch helplessly as our purchasing power decreases at the expense of service to our users? Although not as dramatic as the consumer tactics suggested by De Gennaro, solutions are being sought at all levels. Serialists are taking an increased interest in the use of price indexes as an aid in collection management. In a recent article, Lynden provides an excellent survey of the extent, development, and use of price indexes. He points out the necessity for acquisitions librarians to familiarize themselves with past and current research on materials prices and underscores the importance of local price studies to collection analysis.[12] Many serials librarians are taking a hard look at the financial management techniques and systems offered by various agencies. Time and personnel costs prohibit the local implementation of sophisticated financial controls to all but the very large research libraries, which have access to computer support. A number of American book and periodical dealers can now offer customized price reports for individual libraries. Since 1974, F. W. Faxon Company has offered its customers average-price information by subject over a three-year period on the periodicals the company supplies to them. Blackwell of North America and Baker & Taylor offer similar price data for continuations on an annual basis. Judicious use of such studies can contribute significantly to the serialist's ability to play an active role in collection management by providing the information needed to maximize the library's serials funds.

In addition to utilizing vendors as a source of local price data for tightening fiscal management, a growing number of libraries are investigating other agency services that can assist in holding down personnel costs and increase efficiency. Services offered by two major periodical vendors in the United States are examined in some detail by

Tuttle and Taylor.[13] Cost, reliability, and efficiency are three important factors in the noticeable shift to the use of agency claim service for missing issues, which many libraries in the past claimed directly from the publishers. These same factors, as they affect records control, are responsible for the growing tendency to consolidate standing orders and subscriptions with a few large agencies. One evidence of this trend is the continued growth in the use of domestic agencies for acquisitions of foreign titles.[14] Analysis of the organization and staffing of serial processing units is competing for a sizable chunk of the serialist's time in these days of shrinking budgets, yet the manpower aspects of the processing of serial materials is an area that has been neglected in the literature. As serials librarians look to agency services and automation to aid in producing more efficient and effective use of staff time, they have no statistical information on serials processing to support their arguments or guide their decisions. A first step in rectifying this situation has been taken by McGregor in a recent article on serials staffing.[15] The study does not attempt to assess the adequacy of existing serials units or to establish standards of staffing for serials processing. It does, however, provide a great deal of statistical information on serials processing in nine academic libraries, reflecting a wide variety of organizational styles for serials processing units ranging in size from approximately one to ninety thousand titles processed annually. Careful utilization of these data can aid in the preparation of budget requests, planning work flow, and the development of staffing standards. Hopefully McGregor's study will open the door to additional research in this important area of serials control.

Increasing costs continue to stimulate interest in collection development and in particular in the areas of selection and weeding. A significant share of library literature and a number of conferences and institutes were devoted to various aspects of collection development during the past year. Many of the articles that have appeared recently deal with specific approaches to collection management and deselection.[16-22] That many college and university libraries are actively engaged in some type of pruning is evident from the fact that the average price for all serial materials for academic libraries increased only 8.9 percent during 1977.[23] Cancellation of active subscriptions is one of the most difficult and hazardous tasks serialists are called upon to perform. As Perkins points out, there are no compromise solutions for a cancellation as there are for the withdrawal of a monograph.[24] Comprehensive cancellation programs may raise difficult governance issues and definitely exert a heavy impact on the library's public service programs. In such all-or-nothing situations, emotions run high on both sides, and striking a satisfactory balance between cancellectomies and public service is of paramount importance. Holland has devised a formula for determining the effect of serials cuts on service as a factor of the average number of minutes required to service a patron request

for serial material.[25] Application of this formula implies heavy reliance on interlibrary loan and resource sharing. Whether such an approach can provide a workable solution for maximizing a particular institution's materials funds depends on whether the library perceives itself as a research collection or an information service. White clearly defines the contradictory values in these two views and their likely effect on an institution's response to budgetary pressures.[26] Advocates of the former view will seek to insure completeness of the collection through elimination of duplicates and drastic reduction in the number of new subscriptions placed, while the latter view lends itself more readily to the retention of duplicates, resource sharing, and cooperative acquisitions programs.

The 1978 edition of *The ASLA Report on Interlibrary Cooperation,* to be published in late spring, will be nearly double the size of the 1976 edition, reflecting a dramatic increase in library cooperation. Libraries are investigating the implications and benefits of formal resource sharing through the formation of various network structures at the state, regional, and national levels. As we become more dependent on resource sharing to provide access to the growing body of serial literature, such formal mechanisms are necessary to monitor cooperative acquisitions programs and insure speedy document delivery. One such system, the North Suburban Illinois Library System, has inaugurated a new periodical access program offering services to libraries and systems in both Illinois and elsewhere.[27] The new Metropolitan Periodical Service will provide photocopies of articles from materials in a number of collections in the Chicago area. In April, the National Commission on Libraries and Information Science (NCLIS) Task Force on a National Periodicals System issued its report. The task force, appointed by NCLIS in November 1975, recommends a three-level program consisting of (1) local, state, and regional systems responsible for meeting a substantial portion of routine needs, (2) a comprehensive periodicals collection dedicated for lending and photocopy to meet most of the requests unfilled at level one, and (3) existing national libraries and special collections serving as a backup for the first two levels.[28] Goals for the system include a reduction of the burden on large net lenders of periodicals, substantial improvement of document delivery, provision of more adequate bibliographic and physical access to periodical materials, and more efficient use of library funds in providing this access. In its report, the task force proposes that the Library of Congress (LC) be the agency responsible for the operation of the comprehensive collection of level two. At LC's request, the Council on Library Resources is preparing a detailed plan for implementation of the national center.[29] The study will take eight months to complete and will contain the technical requirements for operation of the center. LC will appoint an advisory group to study the plan, and, if it is determined that an LC-administered center will provide the most effective means of reaching the goals outlined by the

task force and if funds are available, LC will assume management responsibility for the center.

It is obvious that any solution to the increased demand for access to information in a time of decreasing purchasing power and increasing personnel costs will be a combination of responses requiring active cooperation among libraries, publishers, vendors, and the government.

Bibliographic Control

The final text of the second edition of the *Anglo-American Cataloguing Rules (AACR* 2) is at the printer and is expected to appear in the fall. The format of *AACR* 2 will be quite different from the first edition. It will contain two parts rather than the present three. There will be no separate section for nonprint materials. The first part will contain the rules for description and the second part the rules for choice and form of entry. Even from such a bare-bones sketch of the organization of *AACR* 2, a very basic and important change is obvious: choice of entry will no longer be predicated on physical format. Of major interest to serials librarians in the total code revision is the final disposition of the present rule 6, the fate of chapter 7, a definition of corporate authorship, and the relationship of *ISBD(G)* and *ISBD(S)* to the new rules. Edgar provides a concise summary of recent developments concerning these specific matters and their implications for serials librarians and has appended a brief annotated bibliography focusing on the more salient points in the development of code revision in relation to serials.[30] The present rule 6 will not exist in the new code. There will be no separate rules governing choice of entry for serials. Instead, one general rule, the new "Rule 1," will set the stage for choice and form of entry for all materials. Consisting of several parts, this rule will allow for entry under personal author, provide for corporate authorship through an attempt to define those limited types of materials that can emanate from a corporate body, and relegate to entry under title those items not fitting the aforementioned categories. Simply put, publications representing the collective thought of the body, publications of an administrative nature dealing with the body itself, certain legal and governmental works, and publications reporting the collective work of the body will be assigned corporate authorship. Application of "rule 1" will result in title main entry for the majority of serial publications, thus bringing serial cataloging practices into closer conformity with International Serials Data System (ISDS) standards. A detailed examination of the problem of entry for serial publications is provided by Chan in a paper examining present rules in relation to developing international standards and code revision efforts.[31]

The decision of the Library of Congress to implement the new code in its entirety in 1980 and the resultant necessity for LC to close its catalogs at that time will have a great impact on all libraries using LC-supplied bibliographic data. The resulting desuperimposition of

corporate headings and the fact that many serials will span the closing date are of major significance for serials librarians. Some of the problems that must be dealt with are evident on a small scale already in the lists of partially and totally desuperimposed headings appearing in *Cataloging Service.* Although LC has stated its intent to issue corrected records through the MARC Distribution Service, users of OCLC and the *National Union Catalog*s will find most headings affected still superimposed in these sources. A clear and detailed analysis of the implications of desuperimposition is presented in a recent study by McCallum, which examines the effects on libraries of two alternative approaches that could be taken at LC.[32]

Serials catalogers everywhere are anxious for any rumors of what the new rules will look like, as evidenced by attendance at the Midwinter and Annual Conference meetings of the RTSD Serials Section Ad Hoc AACR Revision Study Committee. Now that the work of the committee is completed, its chairperson, Judith Cannan, has asked the Serials Section Policy and Research Committee to consider its future role. Serials librarians do not want their only forum for the discussion of serials cataloging problems phased out of existence simply because the work of catalog code revision is completed. It was recommended at Midwinter 1978 that the committee be made a standing committee for the discussion of problems related to all aspects of serials cataloging.

With the work of catalog code revision finished for the present and appetites whetted for the as yet unpublished results of the Cataloging Code Revision Committee's labors, 1977 has been a year for taking stock of where we have been and where we are likely to go in terms of bibliographic control. Entire issues of two library journals have been devoted to just such topics. The January issue of *Library Trends* concentrates on the international issues of bibliographic control, discussing developments from Panizzi to *AACR* 2.[33] Pulsifer has contributed an article on the special problems of serials, in which she points out the wide variation in choice and form of entry and bibliographic description that has existed and continues to exist for serial publications. Proceedings of the University of Chicago Graduate Library School's conference on the "Prospects for Change in Bibliographic Control" are contained in the July issue of *Library Quarterly,*[34] and while none of the papers deal specifically with serials, the issues discussed are pertinent to developments in the bibliographic control of serial publications.

The International Standard Serial Number (ISSN) has come into its own in 1977. Officials of the United States Postal Service (U.S.P.S.) met several times this year with staff of the National Serials Data Program (NSDP) to discuss the possible use of the ISSN as the identification number that U.S.P.S. will require to be printed on all serial publications to be regulated for second-class and controlled-circulation

mailing.[35] Under consideration is a program through which NSDP would provide U.S.P.S. the ISSNs for current serials and assume responsibility for assigning ISSNs to later titles referred to it by the Postal Service. The Copyright Clearance Center has also decided to adopt the ISSN as the identifying number to be used to expedite the payment of photocopying fees to publishers under provisions of the new copyright law. Publishers will be required to print a formatted journal article citation on the first page of each copyrighted article, the first element of which will be the ISSN. The happy result for serialists is that publishers now have real incentives for printing the ISSN on their publications and the results are already visible. The ISSN is now printed for titles listed in the advance title section of *New Magazine Alert*, and the publisher is contacted about using the ISSN before the first issue goes to press. In addition, prepublication records with ISSNs are being entered in the CONSER data base, identified by the word PREPUBLICATION in the 936 field.

Increased visibility brings with it the risk of exposing one's defects, and the ISSN is no exception. While emphasizing that the idea of an internationally accepted identification number for serial publications is a good one, Sleep has raised some pertinent questions concerning the reliability of existing ISSNs as unique identifiers for serials.[36] Sleep gives a detailed analysis of the results of a study that investigated suspected irregularities in ISSN assignments and criticizes the fact that ISSNs are not registered with ISDS before publication, leaving *Bulletin de l'ISDS* and national center publications as the only reliable sources for official ISSNs. One such publication, the long-awaited *ISSN/Key Title Register*, is presently at the Government Printing Office and should be ready shortly. The *Register* will be the first printed source providing direct access to ISSNs and key titles. Not intended as an ongoing publication, the *Register* will contain ISSNs and key titles assigned through March 1975. It is intended that the *Register* will eventually be merged with a new serials title publication as a by-product of the CONSER data base.[37]

After a year of heady discussions on bibliographic control, code revision, international standards, and the like, it is refreshing to be brought back to earth by an observation from the field. We may be able to agree on international standards and bibliographic description for serials, but at home we seem far from agreeing on what a serial publication is. In a short essay Carson examines the "singular lack of clarity" in the existing definitions of serial publications.[38] Perhaps one should not be too surprised that her attempt to clarify matters by removing the complicating materials from the scope of the definition merely expands the list and adds weight to the applicability of the Lewis Carroll quotation so thoughtfully provided at the beginning of her paper: " 'When I use a word . . . it means just what I choose it to mean—neither more or less.' "

Automation

If for nothing else, 1977 will be remembered by serialists as the year in which OCLC catalog card production for serials finally became operational. In mid-fall, serial catalogers across the land could, for the first time, produce cards from those records they had been able to view but not fully use for so many months. The system has been operating for too short a time for grass-roots reaction to have appeared in the literature. However, in the author's experience, serial cataloging via OCLC can greatly benefit both technical and public service operations. Despite the seemingly high proportion of bibliographically poor serial records, judicious use of the system can increase speed and efficiency in the cataloging operation and allow serials catalogers to provide more accurate and detailed local information for the public catalogs.

OCLC has been active in other areas of serials control as well. The check-in module of OCLC's Serials Control Subsystem has been in use for over a year now, and a number of small and medium-sized libraries have been experimenting with its use on a full-scale basis. The lack of claiming and bindery modules, however, has made conversion not worth the cost and effort for libraries with large serials collections. An evaluation of the system's effectiveness has not yet appeared. While the value of on-line check-in to both public and technical service operations is not in question, one cannot help but wonder whether a centralized system serving a large number of libraries is the most efficient solution for the on-line management of large masses of detailed and highly individual local records. The advantages of a shared bibliographic data base are obvious; however, the author has seen no arguments, convincing or otherwise, supporting the need or desirability for an on-line serials record management system to be centralized. These points are raised in a short article by De Gennaro, in which he points out quite convincingly that such local operations as serials control can be handled more efficiently and effectively with local minicomputer systems operating in conjunction with network data bases.[39] Many librarians concerned with serials record management have known this for a long time, but few institutions have had the resources to develop on-line serials control systems on their own. One exception has been Northwestern University Library, whose on-line serials control system has been fully operational for more than two years. A detailed description of the serials module of Northwestern's On-line Total Integrated System (NOTIS) appeared in 1977.[40] However, independent development of local serials systems provides no satisfactory answer either. With the bibliographic records readily retrievable from such sources as MARC(S), CONSER, and OCLC archival tapes and the hardware available in the form of minicomputers, what is needed is someone to develop the software for the library market in a similar fashion to what the vendors are presently doing for circulation systems.

Information concerning the immediate future of the CONSER project has been noticeably absent from the literature of late. CONSER I reached its conclusion in November 1977 as planned. As the Library of Congress was not yet prepared to take over operation of CONSER II, the project continues in transitional form for an unspecified amount of time.[41] During the summer, the Planning Group of the MARC Development Office completed the functional specifications for the CONSER II system, and the Development Group analyzed these specifications in order to prepare the necessary manpower estimates for LC's takeover of the project.[42] As of January 1978, the CONSER data base contained some 200,000 records, more than 72,000 of which had already been authenticated. More than 80,000 of these records have been input by CONSER participants. It is estimated that at present there are approximately 12,000 duplicates in the data base, representing about 6 percent of the total number of records. At the time of writing of this article, little action has been taken on these duplicate records. The *CONSER Manual,* including the bibliographic guide, has been revised by an outside serials consultant with funds provided by the Council on Library Resources and is available in loose-leaf form from the Cataloging Distribution Service of LC. *MARC Serials Editing Guide: CONSER Edition* is being revised to incorporate modifications made to the MARC serials format and will contain the editorial interpretations necessary for the on-line CONSER conventions.[43] OCLC presently has the masters for a key-word-out-of-context (KWOC) index to the CONSER records to be published on thirty 48× microfiche.

In order for a serials data base to serve as a national serials location system, it will be necessary for individual records to carry more specific location data than the CONSER or OCLC serials records presently provide for. In addition to the library location symbol, the ability to display local and regional holdings statements is required. A step in this direction is being taken by the Minnesota Interlibrary Telecommunications Exchange (MINITEX). With a grant provided by the Council on Library Resources, MINITEX will design a project to link standard regional and local serial holdings statements to the CONSER data base.[44] Location data from the Minnesota Union List of Serials (MULS) will be used to create an on-line holdings file to serve as the testing medium for on-line manipulation of serials holdings data in comparison with existing manual and batch operations. The results of such a study should contribute significantly to the solution of the problem of remote bibliographic access, which must be dealt with by NCLIS's proposed national periodical system. Although use of the CONSER data base allows us to share bibliographic data on serials, it is still necessary for local and regional holdings data to be compiled and maintained independently of the on-line system. A successful MINITEX experiment should assist in eliminating this wasteful duplication of cost and effort.

A closely related problem concerns the design of holdings statements, including detail, components to be included, and the degree of automatic manipulation possible. Very little has appeared in the literature regarding this problem. Another first step taken in 1977 is Grosch's investigation of holdings statements in automated serials systems, which examines this problem in some detail.[45]

With substantial progress being made in serials automation on so many fronts, serialists must resist the temptation to sit back and wait for computerized systems to eliminate all the problems of their present manual systems. Paul takes a look at the reasons for this persistent tendency, concluding that the problem areas resulting in deteriorating control over manual serials processing routines are the same for both manual and automated systems.[46] Libraries contemplating automation of any of the manual processes related to serials management must not lose sight of the fact that the advantages to be gained result primarily from the ability to provide additional services and products. An inefficiently controlled serials system will be just as unmanageable after automation as before.

Education

The RTSD Serials Section Ad Hoc Committee on Library School Education for Serials has enjoyed a certain amount of success during 1977. Library educators are becoming increasingly aware of the need for adequate coverage of topics related to serials management in the preparation of librarians. At the 1977 Annual Conference of the American Library Association in Detroit, the committee sponsored a hearing on serials management and library education jointly with the RTSD/LED Committee on Education for Resources and Technical Services. A panel composed of practicing librarians and library educators discussed the basic requirements for librarians engaged in serials management and suggested various alternatives for providing the necessary education through library school courses and continuing education programs.[47] It is no longer a rarity to find library school curriculum committees discussing these alternatives, and increasing numbers of programs are attempting to provide for this aspect of library education through courses in serials management, additions to existing courses, and workshops. Assistance in the latter endeavor is available in the form of a manual for planning, organizing, and evaluating serials workshops compiled by the RTSD Serials Section Regional Serials Workshop Committee.[48]

The Ad Hoc Committee on Library School Education for Serials is presently working on an outline of topics needing coverage in serials courses. At ALA Midwinter 1978, the committee asked to be made a standing committee, which would continue to provide input and materials for the education of serials librarians. That there is still a long way to go before the goal of adequate preparation of librarians for work with serials is reached is evident from the difficulty many institu-

tions experience in finding satisfactory candidates for serials positions at all levels.

Serials Literature and Bibliographies

Although librarians are among the most vocal critics of the growing number of serial publications and increasing subscription costs, some are loathe to see the profession take a back seat to other groups in the number and cost of professional journals. Thus in 1977 yet another library journal has appeared. *Library Acquisitions: Practice and Theory*[49] is "designed specifically to bring together all the disparate subfields and persons within the area of library acquisitions," including serials, because, in the words of the editor, the existing sources for papers dealing with library acquisitions are either too broad or too narrow in their approach to provide an appropriate vehicle for dissemination of such information.

While serialists continue to wait for an ISSN/key title register, the Chemical Abstracts Service has published the *International CODEN Directory.*[50] The directory is an index to all CODEN assigned since introduction of the code in 1954. Available through a license to copy, the directory is issued on 24× microfiche and contains listings arranged by CODEN and by title for the some 145,000 publications to which CODEN has been assigned. The directory is reissued each year and updated at midyear by a supplement. A KWOC index to the titles listed is included. Among other things, the directory provides information concerning title changes and variant language editions.

Librarians concerned with serials acquisitions and cataloging will welcome two new companions to the indispensable Ulrich directories for periodicals and irregular serials and annuals. The first, *Ulrich's Quarterly,*[51] brings up-to-date information on new serial titles and title changes and cessations and serves to cover the gap between the biennial editions of *Ulrich's International Periodicals Directory* and *Irregular Serials and Annuals.* The arrangement follows the format of these two directories, which it supplements, and the title, title changes, and cessations indexes are cumulated in each issue. The second publication, *Sources of Serials,*[52] is a name authority file for all serial publishers and corporate authors included in *Ulrich's International Periodicals Directory* and *Irregular Serials and Annuals.* The 63,000 publishers and corporate bodies are arranged by country with listings of the serial titles they publish or sponsor. An alphabetical index of the corporate authors and publishers provides access to the main text. Both publications include ISSN if available.

A number of indexes to serials literature filling various gaps in coverage have appeared in 1977. Among them is an index of libraries that maintain indexes to local and special interest newspapers. An invaluable source of local information, *Newspaper Indexes*[53] is a guide to indexes of a wide variety of newspapers, including American foreign-language papers, church publications, and such specialized subjects as

circus and *western America.* Arranged alphabetically by location under type of paper, the index provides information concerning the title indexed, dates of coverage, and location of the index repositories, including fees for checking the index for references, photocopy fees, and interlibrary loan regulations.

Another index of local information is the *Directory of State and Local History Periodicals.*[54] The directory lists currently published state and local history periodicals and major local history journals, which, although ceased, are indexed in national sources. Arranged by state with a title index, the directory also provides information on published and unpublished indexes to these periodicals. Most of the titles listed do not appear in *Ulrich's International Periodicals Directory.*

Among the specialized subject guides to periodical literature is *Periodicals on the Socialist Countries and on Marxism.*[55] A new edition of *English Language Periodicals on Communism,* the index provides annotations for periodicals in English concentrating on "subject matter of concern to students of communism whose interest lies in the social sciences, humanities or related fields." The index contains a geographical reference index by title and lists selected bookstores and agencies in the United States that handle subscriptions to serials published in socialist countries.

Copyright

The new copyright act was signed into law on October 19, 1976, and became effective January 1, 1978. During 1977, librarians spent a great deal of time and energy reading, writing, and talking about the effects the new law is likely to have on library operations. Throughout all these conferences, workshops, symposia, and articles one thing is strikingly clear: there are no pat answers to most of the questions being asked. The issues involved are complex, and the experience of the next few years will be very important to the interpretation of the law itself.

Serialists, of course, are particularly interested in the effects the new law will have on networking, interlibrary loan, and cooperative acquisitions as they relate to collection management. In regard to serials, the CONTU guidelines on photocopying for interlibrary loan state, in effect, that if a library finds it necessary to request more than five copies of articles from a title less than five years old, it ought to have a subscription to that periodical. Beyond this, the library would need to secure the permission of the publisher and perhaps pay royalties. The National Technical Information Service and the Association of American Publishers are both involved in the setting up of clearinghouses for royalty payments for the photocopying of copyrighted works, and the National Commission on Libraries and Information Science is funding a study to analyze library photocopying and the computer use of copyrighted works and to examine a royalty payment mechanism.

The long-range effects of the new law on interlibrary cooperation remain to be seen.

Librarians should familiarize themselves with the law and guidelines and keep alert for additional commission reports and administrative procedures being issued. The copyright act provides for a review of the library copying provisions in 1982 and a report from the Register of Copyrights concerning the intended balancing of the rights of owners and the needs of users. In this regard, librarians must monitor library services affected by the copyright law to determine whether user access to information is being impaired, either directly or indirectly, as a result of compliance with the act. An attorney and a librarian, both knowledgeable concerning copyright, attempt to throw some light on these complex issues in the May 1977 cover story of *American Libraries,* which contains the text of the "Fair use" (107) and "Reproduction by libraries and archives" (108) sections of the new law.[56]

Summary

Many of the major activities that have dominated the serials scene in recent years reached significant stages in their development during 1977. Although the results of these endeavors have not provided instant solutions for the problems of serials management, serials librarians now have at hand some new and useful tools to apply to the control and development of serials collections. It is somewhat ironic that as advances in the control of processing and bibliographic access for serials progress at an ever-increasing rate, the ability to produce and acquire serial publications is seriously threatened by the deteriorating economic climate. It may be, however, that much of the progress achieved in recent years reflects in part the results of concentrated efforts to seek practical solutions to the problems of decreasing purchasing power, "periodical proliferation," and a growing demand for access to information. If nothing else, these years of retrenchment have given impetus to more thorough and creative attempts to solve the problems of cooperation and resource sharing at all levels. The years ahead should be interesting ones for serialists as we watch developments in bibliographic control, automation, the emerging national periodical system, and effects of copyright legislation on resource sharing. Serialists will find their roles changing and expanding as the increasing demand for access to information breaks down the lines of form and function that have governed so much of our activity.

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Resources in 1977

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THE NATIONAL COMMISSION on Libraries and Information Science (NCLIS) recommendation to establish a National Periodicals Center and the American Library Association Preconference Institute on Collection Development were two major resource events of 1977, a year that emphasized resource sharing and collection analysis. In April the NCLIS Task Force on a National Periodicals System released its recommendation for the establishment of a National Periodicals Center,[1] and in November the Council on Library Resources (CLR) announced that it had undertaken the task of preparing a detailed implementation plan for such a center.[2] These two actions constitute a crucial step in the development of a national resource-sharing system. Any effective resource sharing also requires a thorough reexamination of collecting principles and practices. As Juanita Doares, New York Public Library, pointed out at the ALA preconference institute, "a systematic approach to collection *development* has become essential . . . since the *building* of collections is being deemphasized. The theme of the 70's will be the analysis of collections which have already been built, an indispensable foundation for interlibrary cooperation."[3]

A new concern with the relationship between collection development and interlibrary cooperation is reflected in the discussions at the ALA preconference institute and in the Association of Research Libraries (ARL) Collection Analysis Project. The new "Guidelines for the Formulation of Collection Development Policies,"[4] discussed at the preconference institute, specifically encourage cooperative activities, and a stated purpose of the ARL Collection Analysis Project is "increased cooperative action."[5] The emphasis on cooperation is clearly a reflection of librarians' concern about future funding as chronic inflation and limited budgets continue to erode library spending power. A specter of dollar devaluation also looms ahead. Librarians see collection measurement, planning, and analysis as a means of maximizing the

available materials dollars while satisfying user needs. The Title IIC grant, Strengthening Research Library Resources, funded by Congress in 1977, ties resources and cooperation together as part of its stated purpose: "HEA IIC establishes a program of grants to major research libraries to assist them in maintaining and strengthening their research collections and in making available their collections to other libraries and users not connected with the applicant institution."[6]

Resource sharing received attention during 1977 with the publication of the proceedings of the 1976 Pittsburgh Conference on Resource Sharing, which examined in detail the problems and prospects of relying on external collections to serve local needs.[7] As local libraries economize by becoming more selective, resource sharing arrangements become more important to the local user. The patron is ultimately dependent upon the document delivery systems used by the libraries sharing materials. A practical application of these principles is the new Stanford/Berkeley cooperative program, which includes a bus service moving people and books between the two campuses and a coordinated acquisitions policy.[8] Resource sharing has made access rather than acquisition an increasingly important factor in resource decision making. As Allen Kent has noted: "The emphasis is on access rather than possession, although one does not exclude the other."[9]

A central focus of the resources literature during 1977 was collection development. There were articles on the preparation of collection development policies, evaluation of collections, allocations of material budgets, and weeding. The collection development librarian is becoming a collection manager who must be aware of, and concerned about, trends in publishing, local funding, user needs, collection strengths and weaknesses, and local, regional, and national cooperation. The library is relying more and more upon the collection librarian to help reduce expenditures through the exercise of educated judgment. Last year's resource literature also contained some very important articles on the acquisition of documents, microforms, rare books, and Third World publications, all of which should help increase the efficiency of an acquisition department.

Although the rate of price increases for 1976 publications slowed somewhat, there were signs at the beginning of this year that the slowdown of 1976 price rises was only temporary. Prices of foreign library materials continue to escalate at a high rate. Serial expenditures are also reducing the research library's ability to purchase books. Herbert White reported in 1977 that "academic libraries undertook massive shifts of expenditures from books to periodicals" between 1969 and 1973.[10] This is discouraging news, particularly in view of the report by Clasquin and Cohen on chemistry and physics journals, expressing concern about the disproportionate share of dollars going to scientific journals.[11] One remedy, which resource sharing suggests, is to examine collecting policies for journals and begin to rely more heavily upon centralized storage.

In summary, the important trends for resources in 1977 were resource sharing and collection analysis. The literature of the year covered these important subjects: collection analysis and procedures; resource sharing and use studies; acquisition methods and procedures; publishing, price trends, and budgetary procedures; collection funding; and continuing education.

Collection Analysis and Procedures

Nineteen seventy-seven was a year marked by a growing interest in better management of collections. Whether librarians were reviewing budget preparation or studying circulation trends, the library's collection became a new focus of interest. Economic pressures have been a major impetus toward collection analysis. By tailoring collections to the needs of users, libraries can provide more rational and cost effective service. During the year, there were two major conferences on collection development: the ALA preconference institute and the ARL meeting devoted to "collection analysis in research libraries." Most facets of collection development were covered in the literature as well.

The ALA preconference institute, sponsored by the Collection Development Committee of the Resources Section of ALA's Resources and Technical Services Division (RTSD), featured papers and workshops on collection development policies, allocation of materials budgets, evaluation of collections, and deselection of library materials for storage and discard. The conference attendees were encouraged to participate in reviewing the draft guidelines on these topics. The paper by Charles Osburn outlines his views on collection policies, including the purposes of a policy and the special qualities of such a document, and presents a step-by-step procedure (with a time frame) for writing a collection policy.[12] A short summary of the conference has been published,[13] and the final guidelines will be published in 1978.

In October the major topic of interest for ARL's semiannual membership meeting was the Collection Analysis Project (CAP), which entered the pilot study phase in 1977, first at the Massachusetts Institute of Technology Libraries and later at the libraries of Arizona State University and the University of California at Berkeley. Talks were given by Jeffrey Gardner and Duane Webster of the ARL staff and by Jay Lucker, Donald Koepp, and Sheila Dowd of the participating libraries.[14] Organized by Duane Webster and Jeffrey Gardner and supported by a Mellon Foundation grant, CAP intends to review, describe, assess, and change the collection process at participating libraries. CAP assumes that collection funds can be used effectively by focusing on institutional needs, collection strengths and weaknesses, and user needs. CAP maintains that effective collection management requires that librarians be attuned to changes in institutional programs, promote realistic expectations from faculty and administrators, be aware of political factors, measure the needs and behavior of users,

produce collection development policies, and be involved in resource sharing. One product of CAP will be a manual that can be used by libraries for a self-study of collection development procedures.

In addition to the paper by Osburn cited above, four publications appeared on collection development policies. Kathleen Coleman and Pauline Dickinson explain how to draft a collection policy for a reference department of a university library, listing elements to include and providing a sample policy.[15] Mary C. Grattan surveyed collection practices in state agency libraries in Texas and concludes that there is a need for better management of collection building. She provides specific recommendations on the preparation of a collection policy for special libraries.[16] A compilation by Elizabeth Futas reprints twenty-six complete policies from twelve public and fourteen academic libraries as well as portions of fifty-seven other library policies, comprising a practical compendium of policies that can be used as models.[17] An ARL survey of collection policies in academic libraries includes two documents on planning and nine samples of existing policies.[18] Twenty libraries out of sixty-nine had policy statements, while eight others reported that such a statement was in development. A collection development policy can be used for guidance in selection, assistance in allocation of funds, communication of collection goals to administrators, and evaluation and assessment of collections.

The budgetary pressures of the seventies have changed the role of collection development librarians from materials administrators to collection analysts. Selectivity is more a part of collection building now than it was during the late sixties, when federal grants increased the spending power of libraries substantially. Bonnie Naifeh Hill asserts that librarians can play a significant role as selectors from their unique perspective as individuals without a vested interest, with a knowledge of the book trade, and time to pursue selection.[19] This change toward selectivity is a major theme of the year's literature, to a far greater degree than in earlier years. Barbara Rice stresses the importance of access in making the "transition from comprehensiveness . . . to high selectivity."[20] She recommends the development of written collection policies, collection deselection (with appropriate technical service consultation), cooperative acquisitions, and criteria for evaluation of working collections. James C. Baughman agrees that quality collections are more relevant now than comprehensiveness and recommends a "structuralist approach" to collection development, defined as taking into account the relationships between the users and literature. He suggests that librarians consider, for purposes of selection, citation studies, which show that "social science scholars cite non-serial literature more frequently than serial literature" and that "a few publishers account for the bulk of cited monographs."[21] By understanding the structure of subject literatures, collection development librarians can concentrate their efforts more effectively. Patrick J. Wreath believes a cost-effective acquisition program and resource sharing are essential

elements in any collection development system in these times. Although faculty participation in the selection of books and allocation of funds at North Carolina has resulted in closer relationships between librarians and faculty, he foresees the need to shift the locus of materials expenditures to the library to achieve "coordinated selection and collection development."[22] Kenneth O. Jensen reports that collection development activities at his institution are located in the acquisition department, where the chief collection development officer has primary responsibility for funds. This arrangement facilitates coordination of collection activities. Jensen sees an increasing reliance on resource sharing and is convinced that local efforts, i.e., between neighboring institutions, will be more successful than national sharing programs. Nevertheless, he feels a national periodical center can work if it has a rapid delivery system.[23]

Selection and deselection are both central parts of any collection development program, but deselection received more attention in 1977, a year of collection assessment. "A Guide to Selection Tools: Preliminary Edition," compiled by a subcommittee of the Collection Development Committee, includes a checklist for evaluating selection tools and a short list of selection tools for foreign publications.[24] A deselection document "Guidelines for Weeding Library Collections for Storage or Discard," was also produced for the ALA preconference institute with an eleven-page bibliography.[25] G. Edward Evans views deselection as an essential service in a library, permitting readers easier access to desired volumes. He recognizes the high costs of weeding and the tendency on the part of librarians to defer deselection, but the alternative is often a new facility, which can be more expensive than the process of weeding.[26] One of the purposes of weeding may be to remove less-used materials to remote storage. An ARL SPEC flyer, *Remote Storage in ARL Libraries,* covered the advantages and disadvantages of storage facilities in great detail. Another form of deselection is the cancellation of continuations. Accounts of periodical cancellation programs were numerous in 1977. Reports of serial cancellations at the University of Massachusetts, Amherst;[27] Western Washington State;[28] University of Washington;[29] University of Auckland;[30] the South Australian Institute of Technology;[31] and the University of Hull, England,[32] describe the methodology of cancelling subscriptions and serials in these respective libraries.

Collection evaluation is an essential element of any collection development program, and means of assessing collections received much attention in 1977. F. W. Lancaster's comprehensive survey of collection assessment covers standards and formulas, quantitative and qualitative methods, and evaluation by use.[33] He also includes a section on storage of little-used materials. Robert Broadus offers a short critique and appreciation of various methods of collection evaluation.[34] A draft document presented at the ALA preconference institute covers strategies for evaluating a collection, including their advantages and

disadvantages. Among the methods are: checking lists, catalogs, and bibliographies; examining the collection directly; compiling statistics; checking citations from papers of users; obtaining user opinions; and application of standards.[35] Betty Rosenberg comments on various methods of evaluation, such as comparison with other libraries' collections, analysis of interlibrary loan records, checking of "best books" lists or definitive bibliographies, and use of circulation statistics, and suggests that ultimately the best "evaluation tool is an intelligent, cultured, and experienced librarian" who asks questions about such matters as the purpose of collecting, the user's needs, and effects of cooperation.[36] Marianne Goldstein and Joseph Sedransk describe a technique for identifying characteristics of a collection through sampling. The Jewish history collections of seven university libraries in New York were measured and compared using samples of titles from shelflist cards in these libraries. "The study indicates that strengths of collections, special interest periods of heavy acquisitions and/or publishing, and book selection policies can be identified by sampling a library's collections."[37] Their methods can be used for comparing holdings at different institutions for the purposes of resource sharing and cooperative storage.

In 1977 two librarians gave us their views of collection development in the year 2000. William Webb, focusing on academic libraries, foresees more books and journals (with journals in a different format), more specialization, more inflation, more use of microformats (with improved equipment), more access to everything (through computer networks and data base brokers), more federal and state governmental involvement, and more students. Regarding the latter prediction, Webb points out that, although the rate of increase in the numbers of students will drop, there will still be more students by 2000 A.D. On the negative side, he sees too much bureaucracy and an oversaturation of information that will cause readers difficulty in discriminating among sources.[38] The other prognosticator, Virgil F. Massmann, covering college libraries, agrees with Webb about the problem of extraneous information, and he sees development of data bases for different levels of users. He also predicts that MARC records will indicate the intellectual and technical level of books, an important factor for discrimination. He foresees the possibility of centralized selection sites for college libraries, employing subject specialists and operated by a national library association. He also forecasts improved cooperation through communication among data bases. Like Webb, he believes that the changing format of journals will slow their growth rate and predicts a significant future role for the resources librarian.[39]

Resource Sharing and Use Studies

In 1977 the National Commission on Libraries and Information Science (NCLIS) recommended the establishment of a National Peri-

odicals Center. The Task Force on a National Periodicals System, originally appointed in November 1975 by NCLIS, recommended in April 1977 a three-level program with "local, state, and regional library systems responsible for meeting a substantial portion of routine needs for periodicals," "a comprehensive periodicals collection dedicated for lending and photocopy service to meet the majority of unfilled requests derived from level one (i.e., the National Periodicals Center)," and "existing national libraries and other unique collections to back up the first two levels."[40] The report envisions the Library of Congress as the organization "to assume responsibility for developing, managing, and operating the center." It is expected that services will begin in late 1978 or early 1979 with a periodical collection of roughly 45,000 current titles. In November, the Council on Library Resources announced plans to prepare a detailed implementation plan for a National Periodicals Center.[41]

The task force report outlined the reasons for establishing a national center. First, there is no coherent national system of interlibrary loan, and uneven resource development has led to a poorly balanced system of loans. Second, almost half of the interlibrary loans for academic libraries are for articles in periodical journals, and libraries in the United States have been acquiring "a decreasing proportion of the world's periodical output." Third, there is concern that libraries are reducing their budgets for books "to alarming levels" in order to support the purchase of periodicals. Fourth, an ARL study by Westat had recommended that one solution to reducing research libraries' interlibrary loan burden was a new facility similar to the British Lending Library.[42] Alphonse Trezza has described some of the major goals of such a center as "improved bibliographic and physical access to periodical materials for all users," "improved delivery of periodical materials," "reduced burden on net lenders of periodical materials," and "more effective use of individual library funds in the provision of periodical articles."[43]

The new copyright law, which took effect January 1, 1978, will have a major impact on the center's operation. At the time of the task force report, the full implications of the law were unclear and its impact depended upon how the law was interpreted in the light of the suggested CONTU guidelines. If this were the case, libraries borrowing from the center would be responsible for keeping track of items borrowed from the center and other sources on a title-by-title basis. According to the report, "it would only be possible for the Center to do the accounting for libraries using the Center on a title by title basis."[44] The task force expected that the King Research study on library photocopying in the United States would provide guidance to the center on this and other issues, such as the royalty payment mechanisms.

In April 1977 the Center for Research Libraries (CRL) also released a proposal that a national central lending library be established for "all currently published journals, books, and other library

materials."[45] This center would make these materials accessible to any library in the nation by loan or photocopy. The first priority of this center would be the acquisition of currently published journals, and it would cooperate closely with the Library of Congress, the National Library of Medicine, and the National Agricultural Library. The members of CRL offered to deed their building and resources to the nation for the use of the National Central Lending Library. Their proposal differs from the task force proposal in two ways: it broadens the type of materials offered, and it utilizes a library other than the Library of Congress.

The commitment by NCLIS to the concept of a National Periodicals Center fulfills one of the goals of the 1976 Conference on Resource Sharing in Libraries. Allen Kent, in summing up the conference, stated that the highest priority for libraries was the creation of a national periodicals bank: "This, more than anything else, will provide a foundation for the structure upon which resource sharing in periodicals will rest."[46] Other goals expressed in the conference were: "systematic exploration of relationships among the several levels of hierarchical networks, consideration of new methods of document delivery, more detailed studies of book and journal use in relation to the comparative costs of purchasing versus borrowing, and, most important of all, behavioral studies leading to a deeper understanding of the attitudes toward resource sharing of administrators, library staff, and library users."[47]

The establishment of the national Network Advisory Committee meets one of the goals set by Kent. There is a question, of course, about how well networks serve the resource-sharing goal. A study by Joe Hewitt dealt directly with the effect of OCLC on resource sharing. He found that OCLC did not significantly increase interlibrary loan borrowing among the forty-seven charter members of OCLC, but that the network stimulated direct in-house use of other libraries that were conveniently accessible. Hewitt affirms the "primacy of local collections" for a successful coordinated collection development program and suggests that the "idea of 'local collections' should be expanded to include all of those collections to which users can go with little inconvenience to screen for relevance."[48] Connie Dunlap points out that cooperation can be costly, and "the real benefits of cooperative action cannot be realized in the short run."[49] The rapidity and reliability of delivery systems need to be improved before cooperation can be successful. Frequently delay occurs within libraries rather than between them. She urges that librarians make faculty aware of the importance of cooperation and the futility of attempts at self-sufficiency. In announcing an ambitious new cooperative venture between Stanford University and the University of California at Berkeley, David C. Weber and Richard M. Dougherty call attention to the human barriers that block cooperation: "Psychological acceptance of this very fundamental change in library acquisition programs and scholarly service

will be a revolutionary breakthrough for academic communities."[50] Weber and Dougherty refer to an intense effort to adjust acquisition policies in a coordinated fashion, just part of a three-year cooperative program begun in 1977 with the support of Sloan and Mellon Foundation grants amounting to almost $600,000. The cooperative program includes direct user access between the two campuses and joint use of BALLOTS, an automated technical processing system.

Other resource-sharing activities expanded in 1977. The Center for Research Libraries (CRL) added its 100th institutional member[51] and at year's end had 170 full and associate members. The Research Libraries Group (RLG) continued its program of resource sharing with the result that interlibrary loan activity among its members has increased substantially. "Over 8000 loan requests were made among members during the year (1976/77) . . ." and RLG has drafted a coordinated collection policy that assigns collecting areas.[52] RLG also exchanges information on expensive titles and maintains a cooperative acquisition program for new serial titles that avoids unnecessary duplication.[53] In January, the Illinois Research and Reference Center Directors' Collection Development Committee announced a draft proposal for a statewide collection development program that would include a state resource directory of Illinois Library and Information Network (ILLNET) libraries, bibliographic access to all ILLNET member collections by 1985, a systematic collection of data base services, and a feasibility study of a statewide last copy storage plan.[54] In addition to these major resource-sharing programs, there were some small projects reported in 1977 that merit attention for their special applications. In the Pacific Northwest, a storage center for microforms shared by a regional group of private colleges and universities has been developed. The center subscribes to current and retrospective sets and journals on microform and loans microform copies (fiche to fiche duplication) to members.[55] In Miami Valley, Ohio, a group of hospital and medical libraries has written a cooperative acquisition policy, and each member collects in a specific subject area and lends to other members. Duplicate subscriptions are cancelled and replaced by a copy of a title unique to all members.[56]

Richard de Gennaro suggests that resource sharing will not result in major economies since the highest library expenditures are in the personnel area. He sees any savings from consortia, networking, and resource sharing being absorbed by inflation of materials prices and increasing personnel costs. He believes, however, that resource sharing "will permit us to continue to have access to a large universe of materials we can no longer afford, spending our diminishing funds on the materials we need and use most"[57] and argues that our notions of library needs have always been exaggerated anyway. According to De Gennaro, studies have shown that faculty are primarily interested in instructional rather than research materials, and their use of libraries has not been high. Use studies have shown that almost 80 percent of

all user demands can be satisfied with 20 percent of the collection. He advises libraries to learn to live within their incomes by reducing personnel expenditures and lowering their expectations and commitments. He also maintains that the current concern over the copyright law is unwarranted in view of the small number of requests that will require payment. For these requests, he suggests doing without or paying the royalty to a payments center.

Allen Kent and his associates report that 44 percent of all books and monographs acquired at the University of Pittsburgh in 1969 had not circulated in six years.[58] Statistics on journal usage indicate that a small percentage of journals accounts for most of the use. For example, the most striking observations relate to engineering journals, "where 8.4 percent of the total current collection, 58 of 687 titles, accounted for all observed journal use."[59] Kent believes that use data of this kind will help librarians make future acquisition decisions. Certainly, the implications of the journal usage study are that, as Kent states, "alternatives to local completeness may be considered favorably, particularly those involving 'de-acquisition' (involving removal to lower-cost storage facilities) and resource-sharing arrangements with other institutions."[60] With books, the decisions are more difficult.

The Pittsburgh study confirms William McGrath's conclusion that there is "a high positive correlation between subjects of books that circulate externally and those used in house."[61] Also of interest is a study of user frustration at Case Western Reserve University. According to the authors, T. Saracevic, W. M. Shaw, Jr., and P. B. Kantor, the library had acquired 90 percent of the books requested by users, and a corollary finding was that "the theoretical upper limit of demands that interlibrary loan could satisfy (if used for supplemental purposes) is some 10 percent of total demands in those academic libraries. In reality this is lower: Interlibrary loans satisfy less than 5 percent of demands in academic libraries."[62]

Acquisition Methods and Procedures

In comparison to automated cataloging systems, automated acquisition systems are in their infancy. One of the essential ingredients of a successful automated cataloging system is a large data base that can be used on-line by member libraries. Ideally, automated acquisition systems should utilize the same ingredient. There is evidence in 1977 of progress toward this goal in three automated systems, with reports from a wholesaler, a publisher, and a large research library on applications of a large centralized data base available on-line. During 1977 a new automated ordering system was introduced by Bro-Dart, one of the country's largest wholesalers. The system, named IROS (Instant Response Ordering System) uses CRTs connected on-line to a central file of book information. Libraries can use data in the system to produce three-by-five order slips for filing in their own order files or can order a book directly by pressing a single ORDER key. In the first

mode, it is not necessary to use Bro-Dart as a dealer.[63] R. R. Bowker is developing a Computer Acquisition System (CAS) that will make use of its centralized data base of machine-readable information on books and serials. Librarians or bookdealers will be able to order books by inputting only essential identification information, e.g., ISBN, title, author, etc. The system is intended to supply printed copies of orders, claims, accounting reports, etc. After locating a record on-line, a customer may add the vendor name and the number of copies, and an order would be automatically typed.[64] BALLOTS has an ordering system that is already operational at Stanford University Libraries.[65] The order records are stored in an on-line order file, the In-Process File, and are used for claiming, cancelling, receiving, and, ultimately, cataloging. The BALLOTS system produces purchase orders, claims, cancellations, and receipt forms as well as having an automatic claim capability. (The BALLOTS ordering system is not yet available to other libraries.) Libraries are not far away from the time when they will be able to check a vendor's stock via a computer terminal, immediately reserve a copy of the title if it is in, and give shipping and billing instructions on the same terminal without ever sending any paper document.

Two automated acquisition systems that use the batch mode for ordering functions were described in the year's literature. The Midwestern Regional Library system in Ontario, Canada, uses an automated acquisition system to serve forty-five participating public libraries. During 1976 this system processed 160,000 books, costing more than $1,000,000. The system produces purchase orders, claim notices, cancellation notices, and billing notices.[66] The University of California at Berkeley shifted from a manual to an automated system on July 1, 1977. The system provides purchase orders, complete fund accounting, automatic claiming, and microfiche updates. The weekly fiche supplement contains all items on order, in process, or recently cataloged and is available to the public.[67]

Approval plans appear to be an accepted part of the acquisition processes of many American academic libraries, even in this period of financial austerity. On the basis of a survey of seventy ARL libraries, William Myrick reports "participation in automatic purchase plans has not significantly decreased as a result of budgetary reversals."[68] An intensive study of approval plans in 101 academic libraries by McCullogh, Posey, and Pickett concludes that "the question of whether approval plans are a satisfactory process for libraries can probably never be generalized," and a decision on adopting a plan must be an individual, unique response by each library.[69] Kathleen McCullogh, an acquisitions librarian, questions the assumption that an approval plan is automatically an efficient acquisition system and suggests that the collection development role of the approval plan be strengthened. Edwin Posey, a subject specialist, sees the approval plan relieving him of routine selections, allowing him time to pursue more obscure titles.

Doyle Pickett, an approval vendor, emphasizes the importance of the profile to the success of any plan. In another article, William Schenck also emphasizes the importance of the profile to the success of an approval plan and cautions readers "to put much care and collaboration into it."[70] He suggests that the cost effectiveness of approval plans deserves further study.

Some significant contributions to the literature of acquisition procedures during 1977 should help make ordering more cost effective. A detailed bibliographic guide to current sources for acquiring government publications by Harry E. Walsh lists guides, sources, and addresses for federal, state, local, international, British, and Canadian government publications.[71] Merwin C. Phelps also gives some helpful hints on obtaining U.S. government documents from non-Government Printing Office sources.[72] Elisabeth S. Burns discusses ordering government documents from her perspective as a college librarian in a nondepository library.[73]

Robert C. Sullivan produced a comprehensive guide to the acquisition of microforms, describing sources and selection tools and covering ordering and evaluating microforms. Sullivan described the testing and evaluation program at the Library of Congress, which rejected more than 40 percent of microform units acquired from outside the Library of Congress during FY1976, and strongly urged librarians to inspect and test microform receipts.[74] An ALA Resources Section handbook has a section on inspection of microforms and includes microform terminology as well as detailed steps for ordering microforms.[75] The discussion on diazo and vesicular film is of particular interest since the Broadhurst report of the National Reprographic Centre in England has substantiated the statement in the *Guidelines* that says: "Diazo films are not considered archival, and are primarily used for dispensable or frequently updated materials."[76] It has been discovered that diazo film may fade after being used only a short time. A major controversy was brewing by the end of 1977 about the Government Printing Office's intention to supply documents on diazo film to selective depository libraries.

In many libraries rare book buying usually tapers off or ceases during times of financial stringency. Two articles published in 1977 emphasize the significance of collecting rare books even in times of restricted budgets. F. W. Ratcliffe argues that rare books "have to be part of the 'normal' acquisitions programme of the library, concerned with the pursuit of university scholarship, fostered by all the library staff."[77] He believes that rare books are "essential appendages to scholarship." Paul S. Koda agrees and defines a rare book as a book that has to "have some intellectual, spiritual, historical, or esthetic significance."[78] Both writers have no solution to the funding crisis but agree that personnel is an important element of any program of special collections.

A guide to book collecting edited by Jean Peters is intended to assist

the private collector, but some of its articles by special collections librarians and bookdealers should help librarians in acquisitions of rare books. Robin Halwas provides a compendium of information on buying rare books, covering directories, periodicals, booksellers' catalogs, want lists, search services, and buying books from foreign dealers. Other articles cover the topics of the antiquarian book market and buying at auction.[79]

The relationship between dealers and librarians, an important factor in improving efficiency in ordering, was the topic of two articles. Many academic librarians would like to see American dealers emulate their European counterparts, and there is often speculation about the reasons for the success of European bookdealers. Margaret Johnson who worked in the Otto Harrassowitz firm in Wiesbaden, Germany, sees one of the major differences between European and American booksellers as stemming from a different perception of roles: ". . . European booksellers perceive their role as responsive rather than aggressive, that is, they endeavor to profit from providing those services that libraries themselves demand, rather than by devising new schemes to attract attention and curiosity."[80] Dealers in Europe do not offer discounts, primarily because it has been assumed historically that their services deserve profits. The service orientation is so great among seasoned employees in firms like Harrassowitz that these "employees regard the libraries as people" and pay attention to the particular needs of a library. James Thompson suggests that we must begin to evaluate our dealers in the United States more on the merits of their service than on supply. He also believes that "this will eventually require our allowing the book trade in America to catch up to that of the rest of the world, through the general cessation of library discounts."[81] He and Margaret Johnson both argue that book vendors who receive accurate and complete order information will reciprocate with good service. It is clearly to the advantage of the library to minimize the problems for the vendor who must fill the orders.

Bookdealers and librarians issued complementary guidelines in 1977 for prepaying orders. Members of the Bookdealer-Library Relations Committee offered librarians advice on the prepayment of orders[82] at the same time that booksellers were complaining of difficulties in obtaining material after paying a pro-forma invoice.[83] Both groups specify steps that the library or bookseller can take to ascertain the reputability of the publisher offering a publication prepayment, and both indicate measures that can be taken if payment has been made and no material is forthcoming. Librarians were also warned in 1977 about "unsolicited" shipments of books. The mailing of unordered merchandise is covered by the U.S. code, which specifies that a library may keep any unordered merchandise mailed to it and dispose of it without any obligation to the sender.[84]

A continuing problem for acquisitions librarians is obtaining publications from Third World countries. In 1977 a conference to address

this issue was organized at the Library of Congress by the ALA/RTSD Council of Regional Groups, the Library of Congress Order Division, and the Philadelphia Acquisitions Information Network.[85] A common problem of acquiring materials in the Middle East, Africa, and Latin America is the lack of an organized book trade in many parts of these regions, with resulting problems in bibliographic control. Hans Panofsky gave participants some practical recommendations for acquiring elusive materials from the less bibliographically organized areas of Africa. Among his suggestions are payment prior to receipt of publications, acquisition trips (if not in person, relying on colleagues), and letter orders rather than multiple order forms. He lists the most important acquisition tools for Africa and describes the status of African national bibliographies.[86] George Atiyeh comments on sources of information on publishing in the Middle East, the centers of publishing in the Middle East (Istanbul, Beirut, Cairo, and Teheran), the conditions of the book trade, and the output of Middle Eastern publishing.[87] John Hebert reminded the participants of the great contributions of SALALM (Seminar on the Acquisition of Latin American Library Materials) in sharing knowledge of Latin American acquisitions. He emphasizes the importance of government publications from this region of the world (as did other speakers) and underscores the political problems of publishers and dealers there, which complicate a library's ability to obtain publications.[88] In a summary of the discussions following the presentations by the speakers at the workshop, Janice Carroll and James Thompson reemphasize the importance of working with dealers in individual countries, of buying trips or exchange agreements, and of prepayment.[89]

Publishing, Price Trends, and Budgetary Procedures

Continuing mergers of major U.S. publishing houses began to attract the attention of the Justice Department in 1977, and British publishing houses expanded their operations in this country, encouraged by the U.S. antitrust consent decree ending the Traditional Market Agreement that had given U.S. and British publishers "exclusive rights" in their territories. American publishers, at the initiative of the American Association of Publishers (AAP), established a Copyright Clearance Center to process payments for photocopying not covered by the fair use provisions of the new copyright law. Publishers were warned by the Book Industry Study Group of possible paper price increases in 1978 and paper shortages by 1979. Increasing costs of equipment, paper, and energy are also having their deleterious effect on book manufacturers. The Postal Service announced a 34 percent increase in the fourth-class rate for books, effective at the end of 1978.[90] Most of these developments will result in increased publishing costs and continued inflation.

Publishers Weekly (PW) changed its method of reporting statistics for

prices and title output during 1977. Henceforth, the February issue of *PW* will record only preliminary figures on the previous year's title output and prices. The final figures will be reported after eighteen months. In the preliminary figures, the title output for 1976 showed a drop from 39,372 titles in 1975 to 35,141 in 1976. However, when the eighteen-month final figure was reported, it showed 41,698 titles as the final figure, an increase of 2,326 titles, or 5.9 percent. The preliminary price figures were equally deceiving, showing a less than 1 percent increase, with the average hardcover book price rising from $16.19 (1975) to $16.32 (1976). However, the final (eighteen-month) figure shows a price of $17.39, or an increase of 7.41 percent in 1976 for hardcover books. The final figure for 1976 is more complete, since it includes 1976 titles published in 1977.[91] The publishing industry showed a moderate increase in sales during 1976, and it appears from the final figures on output that book production is growing slowly. Periodical prices also showed only moderate gains in comparison to previous years, with single-digit (9.2 percent) instead of double-digit inflation.[92] Librarians must remember that this is only a slowing of the inflation rate, not a decrease in prices. Although the Book Industry Study Group "predicts that during the next five years book inflation will 'abate at rates averaging from 5½ to 9 percent,' "[93] there were signs in early 1978 that inflation had not yet abated.

According to a study by Miriam Drake covering academic research libraries during the periods 1966–75 and 1971–75, "expenditures for materials in the median library increased at an average rate of 6.6% for the ten year period but dropped to 0.2% in the five year period. The proportion of expenditures used for materials reached a high of 39.5% in 1968 and declined to 30% in 1975. Offsetting this decline is an increase in the portion of funds spent on wages and salaries, which was 53% in 1971 and 63% in 1975."[94] Except in the so-called "sun belt" (the South, Southwest, and West), libraries have not fared well in terms of materials budgets. A report from Ohio on all types of libraries indicated that "libraries [in Ohio] are spending more money on books, but are getting less for their money."[95] Stanford University has recently announced the formation of a sixteen-member task force "to study how high quality [library] services can be maintained in an era of limited resources" at a time when "library acquisitions now rank second only to utilities in expected cost increases at Stanford."[96]

In view of the pressure to justify increasing expenditures, librarians are seeking more sophisticated methods of preparing budgets and planning their budget allocations. One area that received considerable attention in 1977 was materials price indexes. Last year the *Bowker Annual* added price information for Latin American books and library microfilm rates.[97] (For a more detailed report on library microfilm rates see the report by Imry T. Jármy.[98]) During the year special efforts were made to secure more information on the prices of foreign materials. In April, Frederick Lynden attended a conference on

European book prices and production in Leiden.[99] In fall 1977, Jane Pulis addressed the Committee on Statistics and Standards of IFLA in Brussels.[100] The goal of both of these trips to Europe was to encourage further development in Europe of national price indexes for library materials. British Library research funds have supported an index project on British academic book prices by the Library Management Research Unit (LMRU) at Loughborough University of Technology, Loughborough, England. Conceived by James L. Schofield, the index is derived from the *British National Bibliography* but records only academic titles selected by Cambridge University Library. The index of 1977 showed an overall increase of 64 percent (not including documents) for British academic books between 1974 and 1976.[101] A detailed report of price index activities in the United States was issued by Frederick Lynden.[102]

One of the most serious problems alluded to earlier in this paper is the growing encroachment of serials expenditures on the monographic budgets of many academic libraries. Richard de Gennaro reports that journals have become "the sacred cows of libraries."[103] According to Herbert White, the journal is so sacred that librarians prefer to forego new subscriptions rather than cancel old subscriptions.[104] An account of subscription cancellations at the University of Hull in England indicated that even after two successive reductions in serial titles, the serial budget continued to increase proportionately.[105] Clasquin and Cohen put this budgetary crisis in perspective by pointing out that the cost of scientific journals "creates a budgetary distortion which threatens the continued ability of many academic libraries to purchase not only scientific journals but scientific abstracting services, treatises, and books also, as well as books and journals for all non-scientific subjects."[106] They recommend that academic libraries be given supplementary budget assistance from the federal government, because scientific journals are as essential to universities as the scientific equipment purchased with federal monies.

Symptomatic of the concern on the part of libraries about inflationary increases is the large number of documents on budgetary planning published in 1977. Murray Martin emphasizes the importance of quantifying library activities and using the budget as a document for planning of future services. The process of compiling the budget can operate as a goal-setting process where libraries set priorities. In describing the resources budget process he states: "Librarians need to develop a better rationale for adding to collections, notably to demonstrate the use that is made of them and their relationship to academic programs, rather than referring to abstract standards or to the knowledge explosion."[107] During 1977, the Association of Research Libraries released three SPEC items on topics related to resource budgeting. The first, on allocation of resources, points out that libraries are developing cost and use data for the purpose of educating administrators to effects of inadequate budgets. De-

spite this effort, the pool of available money is not increasing because of the intense competition in many universities for limited resources. The most substantial reductions in budgets have been in the area of personnel costs, followed by books and monographs and serials. "Comments on the survey indicated that, in the long run, it is the collection that is suffering in the current period of retrenchment."[108] The second item deals with the budget process, which has become more sophisticated as libraries involve more staff and increase the amount of documentation. "Most submit information such as publishing trends, inflationary data, user satisfaction data, and information about the internal operations of the library in order to substantiate the budget requests."[109] According to the third title, one beneficial consequence in university libraries of pressures to reexamine the allocation process has been a review of collecting objectives in these libraries. The resulting allocation of the budget has responded more directly to the research and teaching needs of the institution. "The SPEC survey results indicate that most research libraries have had to limit the number of comprehensive collections in order to respond to demands of new programs. In making these judgments, libraries are looking at such criteria as the reputation, strength, and enrollment of individual disciplines or departments. In addition to university program needs, libraries are considering factors related to materials costs and availability."[110] "Guidelines for the Allocation of Library Materials Budgets," prepared for the ALA preconference institute, contains a description of methods and their advantages and disadvantages, with an appendix including formulas, models, and a selected bibliography.[111]

The ARL survey on allocation cited above found considerable evidence of formula budgeting. Two examples of book budget formulas appeared in the literature during 1977. The first, from the Auburn University School of Education, relies upon a measurement of enrollment in each department as well as the courses and programs offered. The formula is weighted according to the level of the program, graduate or undergraduate.[112] The second, from a small academic library in Canada, uses the following variables: enrollment by department (with special weight by course level), circulation by department, courses offered, and average cost.[113]

Collection Funding and Study Grants

In the face of the continuing inflation, there was fortunately some encouraging news in 1977 for materials funding. During 1976–77, the U.S. Office of Education spent approximately $10,000,000 under Title IIA of the Higher Education Act to help supplement resources in the libraries of some 2,591 public and private nonprofit library agencies and institutions of higher education.[114] Congress also approved Title IIC of the Higher Education Act in 1977 and appropriated $5,000,000 for "strengthening research library resources" during fiscal

year 1978.[115] The funds provided under Title IIC may be used for purposes connected with the purchase of materials, such as binding, cataloging, interlibrary loan, purchase of equipment, or hiring of additional staff. It is now expected that about twenty grants of $250,000 each will be made under this program.

Major support for collection development was made available to Florida academic libraries when the state legislature approved funds for education. Florida State University and the University of Florida received a total of $7,000,000 for collection development during 1977–78, when it was decided that "library materials" qualified as a capital investment. A total of $10,000,000 was appropriated for all state-supported academic libraries in Florida.[116] Governor Brown of California increased state library aid in California by $5.3 million, of which $500,000 will be used for the building of a statewide data base of public library holdings.[117]

The National Endowment for the Humanities (NEH) provided challenge grant funds in 1977 for research collections, their development, access, and use. For example, the University of Rochester received a $1 million endowment from the Frank E. Gannett Newspaper Foundation, plus a matching grant of $333,000 from NEH for acquiring materials in nineteenth-century history, art, and literature essential to undergraduate and graduate teaching and research.[118] Vanderbilt University received an award for the purpose of microfilming ancient manuscripts of the Ethiopian Orthodox Church, available only in the hinterland of Ethiopia.[119] Another grant went to Case Western Reserve University Libraries for a program of conservation and preservation of library materials, including refurbishing storage areas for little-used materials.[120] Many research libraries were beneficiaries of Humanities Challenge Grants for Research Collections during 1977.

The CAP study was only one of the major studies in the area of collection development supported by grants in 1977. Cornell University Libraries received a grant from the Mellon Foundation for the development of a model for future allocation of financial resources and management of collection growth and costs in academic libraries.[121] Another Mellon grant at Princeton University will assist in collection development by computer analysis of circulation data to identify heavily used material that should be duplicated and rarely used material that should be sent to storage.[122] The central administration of the State University of New York completed work on a project funded by the U.S. Office of Education (USOE) to develop management data on collection growth from OCLC-MARC tapes and also began work on a project funded by USOE to develop a responsive library acquisitions funding formula.[123]

Continuing Education

Continuing education is an important facet of library resource activities. As noted earlier, the collection manager needs to be aware of ac-

quisition and collection trends. This need was partially filled in 1977 by the creation of two new journals: *Library Acquisitions: Practice and Theory (LAPT)*[124] and *LC Acquisition Trends.* The former includes in the first issue a useful summary by James Thompson of basic acquisition tools, associations, and local sources and a helpful bibliography on the literature of library acquisitions by Scott Bullard and Mollie Arthur.[125] Subsequent issues have dealt with some significant resource issues. (A more extensive bibliography, compiled by Rose Mary Magrill and Constance Rinehart, cites publications, including ERIC reports, issued between 1966 and 1976 and gives short annotations with a count of the references.[126]) *LC Acquisition Trends,* which began publication in July 1977, replaces the National Program for Acquisitions and Cataloging (NPAC) *Progress Report* and the *Special Foreign Acquisitions Program Newsletter.*[127] *LC Acquisition Trends* brings together all the news of acquisition activities at the Library of Congress, including NPAC reports, acquisition trip reports, price data, and foreign acquisition notes. Especially valuable to the acquisitions librarian is the section called "Notes on Publishing and the Book Trade." Another publication that covers acquisition questions appropriately changed its name in 1977 from *De-acquisitions Librarian* to *Collection Management;*[128] it will include reports of theorists, researchers, and practitioners in the area of collection management. There were three practical articles on weeding in the first issue with the new title. Another increasingly important source of information for academic librarians is the Systems and Procedures Exchange Center of ARL, headed by Maxine Sitts, which surveys member libraries on specific issues and publishes this information in *Flyers* or *Kits,* many of which covered resources issues in 1977.[129]

The Resources Section of the Resources and Technical Services Division sponsored two major programs during the 1977 Annual Conference. One of the two, the ALA preconference institute, has already been covered in this paper. The other program, sponsored by the Resources Section and the Reproduction of Library Materials Section (RLMS), considered approaches to selecting, acquiring, and processing microforms. At this meeting Harriet Rebuldela discussed the type of information that should be provided by publishers when advertising and by libraries when ordering. In addition to the usual bibliographic information, she specifically mentioned format, film type, reduction ratio, and polarity.[130] Norman Shaffer cautioned librarians to check film for readability, completeness, and accuracy at the time it is received. He also suggested that the product be tested for chemicals to make certain it had been washed properly.[131] Judy Fair spoke on receipt procedures, recommending film inspection using a light box and microviewer.[132]

The Bookdealer-Library Relations Committee (ALA/RTSD/RS) began plans at the 1977 summer convention to cosponsor a six-hour program on automated acquisition systems in 1978 with the RTSD/

AAP Joint Commitee and proposed a Preconference on Acquisitions for 1979 or 1980. Barry Fast, a member of the Bookdealer-Library Relations Committee (BDLR), recommended the creation of a separate Bookdealers Discussion Group, which would serve as a forum for dealers and would educate librarians about the functions and services of library suppliers and their problems. It was agreed this group would meet at Midwinter 1978 and seek formal recognition at that time. The RTSD board formally approved the formation of a Preservation of Library Materials Group at the 1977 summer convention. This group will consider "many facets of preservation, conservation, preventive maintenance, replacement (including photoduplication), and repair of library materials. . . ."[133]

One of the major resource topics of the 1977 summer convention was prepayment of orders. At BDLR's invitation, Leo Friedman, Michigan Attorney General's Office, Consumer Protection Administration, spoke on the delivery problems of prepaid orders. His office had received numerous complaints against a publisher with addresses in St. Clair Shores, Michigan; Harper Woods, Michigan; Grosse Point Woods, Michigan; etc. (as well as post office boxes in New York City, Washington, D.C., and Chicago, Illinois) who had published encyclopedias and reference works under various firm names, taken prepayment, and never delivered. (A list of these firms and their addresses is available to librarians upon inquiry to BDLR at ALA headquarters.) Friedman indicated that the Michigan Attorney General's Office has had some success in obtaining refunds for libraries who have prepaid without receiving publications.[134] As a result of their experiences, the BDLR Committee issued guidelines in 1977 for prepaying publishers. (See earlier section, "Acquisitions Methods and Proceduers," in this paper.)

The RTSD and RTSD Resources Section serve an important continuing education function for resources librarians. For example, the RTSD Pre-order and Pre-catalog Searching Discussion Group called the attention of librarians attending their Midwinter 1977 discussion meeting to an article by Marion T. Reid on using OCLC for acquisitions verification.[135] References to professional literature and lively exchanges of ideas are a part of the discussion group's meetings. Topics from some of the 1977 meetings include claims and reports, processing of gifts, acquisition of ephemera and hard-to-get publications, out-of-print programs, criteria for off-site storage, serials review and cancellation projects, and improvement of price reporting. Frequently reports of these discussions are contained in the *LC Information Bulletin.* These kinds of topics are often not adequately covered in library school education, and, in an attempt to remedy this situation, the RTSD/LED Committee on Education for Resources and Technical Service is planning to sponsor a program on "Education for Acquisitions" at the 1978 summer convention; last summer a draft questionnaire was prepared to send out to library schools soliciting informa-

tion about curricula on acquisitions and collection development.[136]

Conclusion

Libraries shifted from collection building to collection analysis in 1977, and there was greater emphasis put on access than on possession. For this reason, computer data bases and networks are becoming more important to resources librarians. There was a stress on improved acquisition procedures rather than enlarged budgets, although there were some funding successes. However, higher costs and the maintenance of a high rate of publications continue to put pressure on the resources budget, and collection librarians are seeking to exploit management techniques to improve the effectiveness of their limited resources. Much more attention in the future is likely to be focused on measurement and evaluation of collections as a means of achieving required economies.

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NATIONAL EFFORT TO CREATE STANDARD BIBLIOGRAPHIC CONTROL PROCEDURES FOR MACHINE-READABLE DATA FILES

The Conference on Cataloging and Information Services for Machine-Readable Data Files, held March 29–31, 1978, at Airlie House, Warrenton, Virginia, concluded with a call for action. Standard bibliographic control procedures and related information services are urgently needed to improve user access to machine-readable data resources. A secretariat is being formed to facilitate work of voluntary groups who will be testing standard procedures for cataloging. An advisory committee will be formed to coordinate and direct subsequent developments. A list is being created of all organizations interested in this subject. Persons on this list will be sent a copy of the conference proceedings and information about subsequent developments. They will be invited to participate in the developmental activities that will precede creation of standardized national procedures for bibliographic control of machine-readable data files. Persons who wish to be placed on the list should write to: MRDF Cataloging Conference Secretariat, DUALabs, Suite 900, 1601 N. Kent St., Arlington, VA 22209.

The present conference advisory panel is composed of: Gordon Williams, Center for Research Libraries; Sue Dodd, Social Science Data Library, Institute for Research in Social Sciences, University of North Carolina; Joe Duncan, Office of Federal Statistical Policy and Standards; and Judith Rowe, Princeton-Rutgers Census Data Project, Princeton University.

REPORT ON RULES FOR CATALOGING MACHINE-READABLE DATA FILES

The final report (January 1976) of the Catalog Code Revision Committee Subcommittee on Rules for Cataloging Machine-Readable Data Files, edited by Elizabeth Herman and John Byrum, is now available from ERIC. The report (ED 119727) includes recommendations for revision of the *Anglo American Cataloging Rules* to integrate collections of machine-readable data files into the mainstream of bibliographic control and twelve working papers that support and detail these recommendations. Orders should be addressed to the ERIC Document Reproduction Service, P.O. Box 190, Arlington, VA 22210. Price: $0.83 microfiche and $3.50 hard copy, plus postage.

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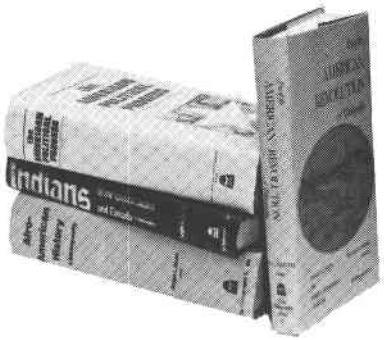

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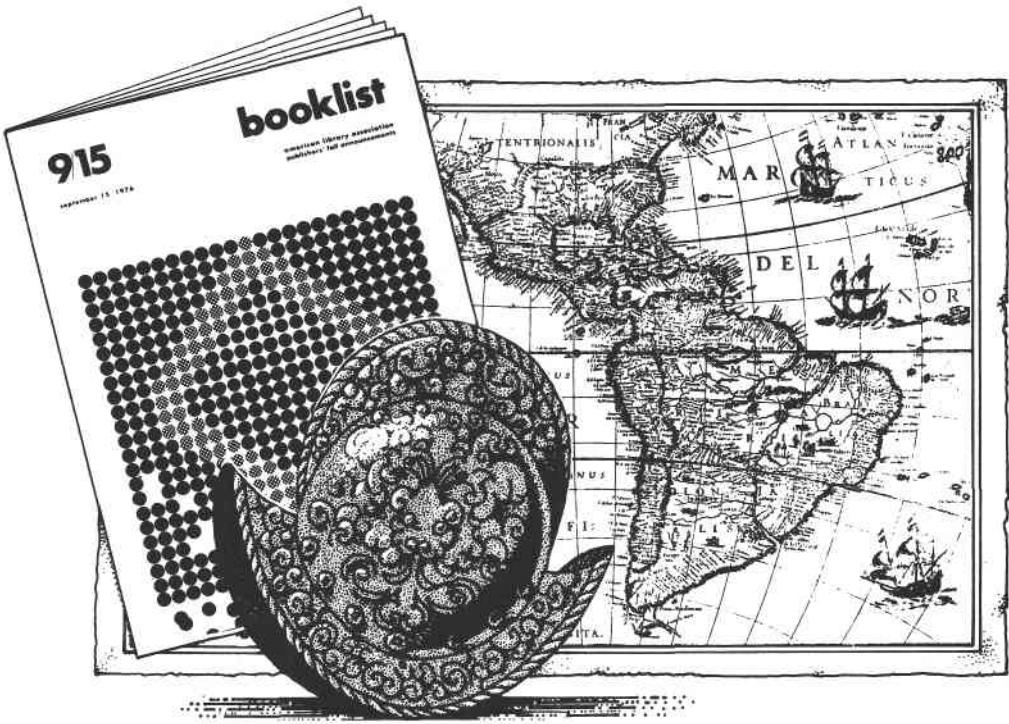

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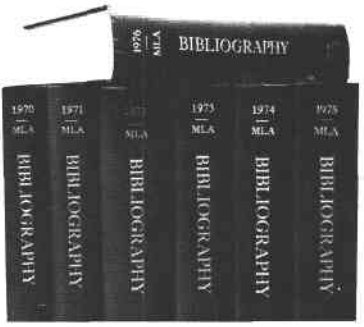

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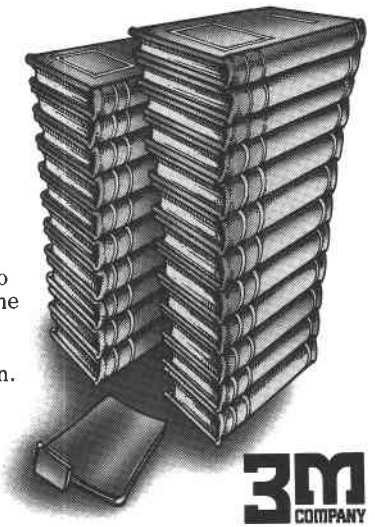

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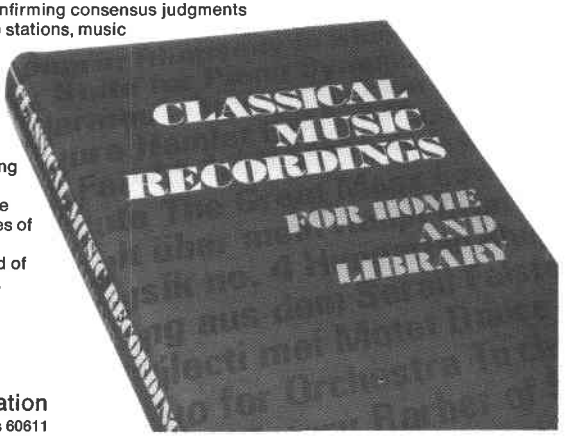

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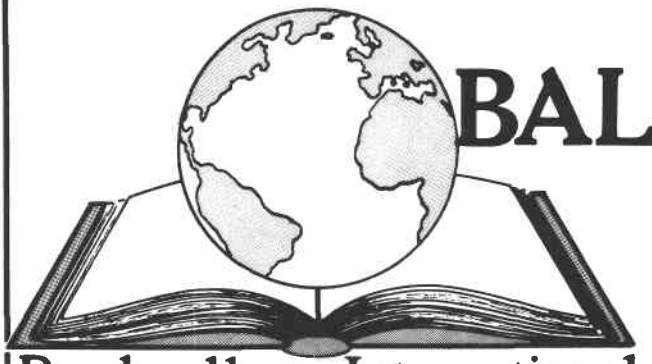

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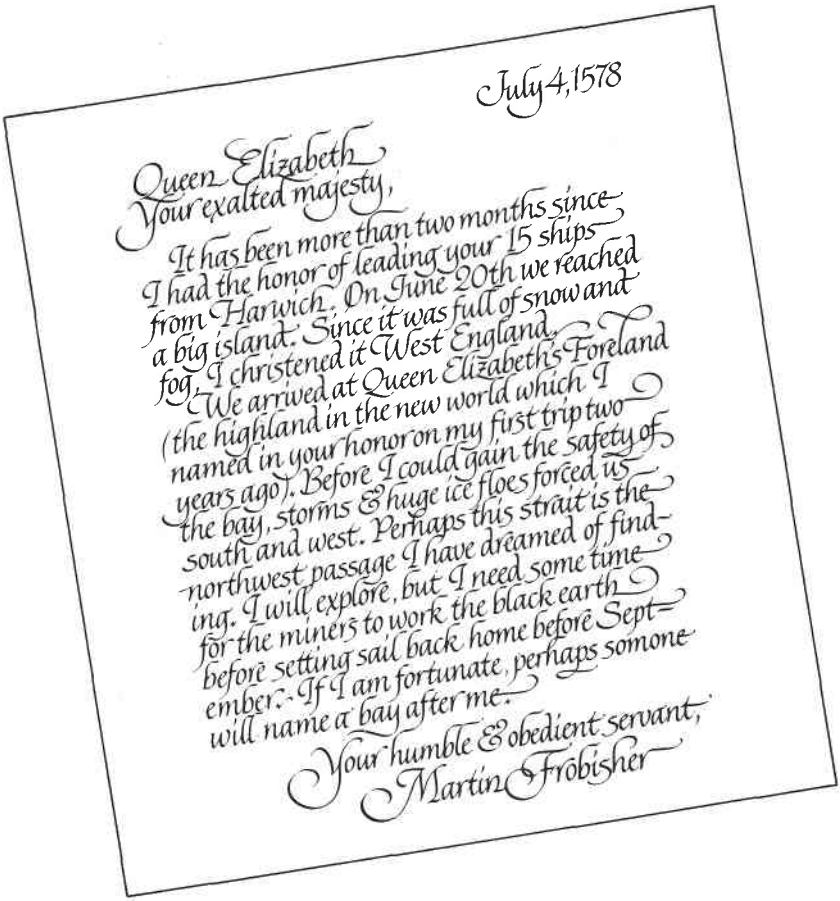

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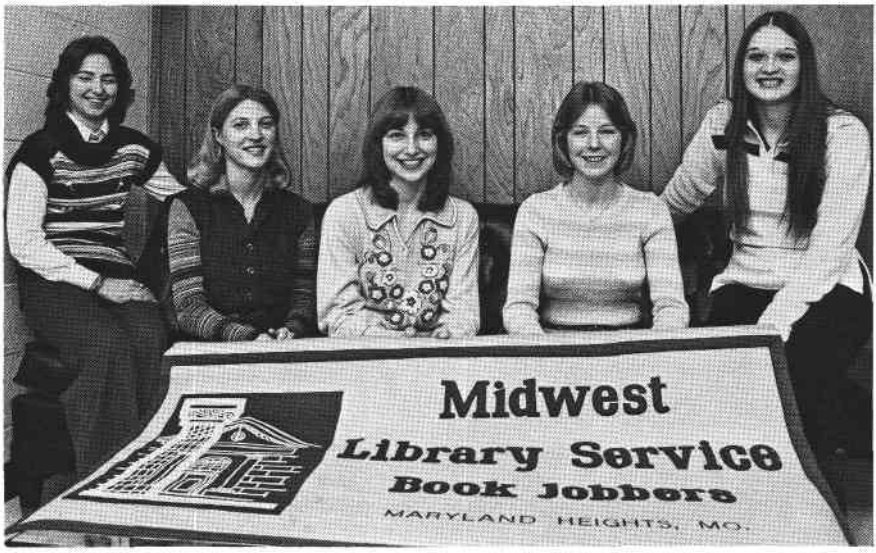

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