

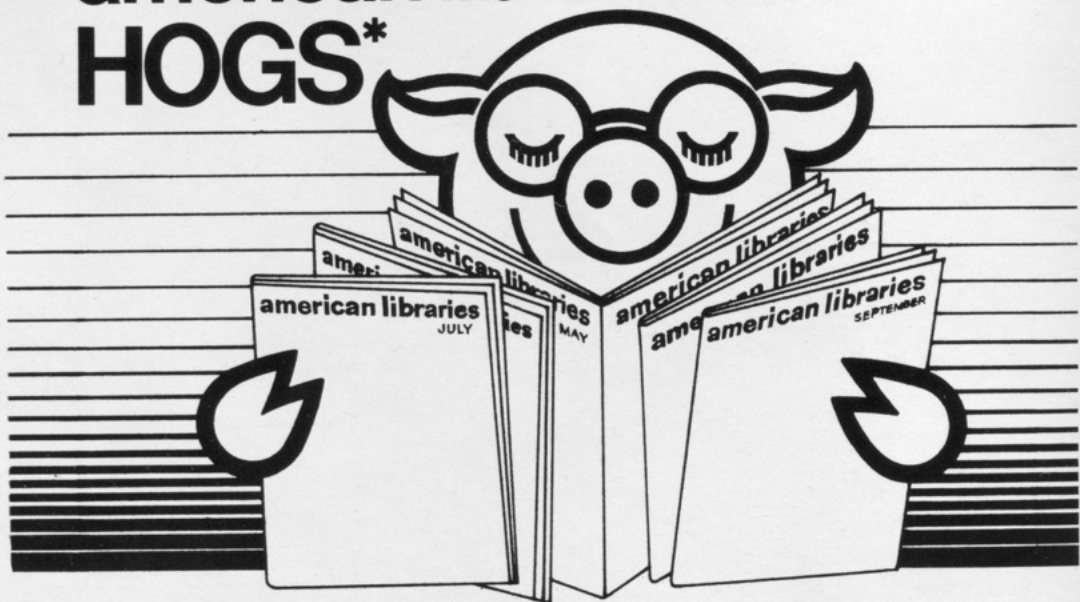
journal of library automation



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JOURNAL OF LIBRARY AUTOMATION

Volume 9, Number 1: March 1976

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ISAD and ALA: A Gap Becomes a Chasm

ISAD members are familiar with last year's adoption of a revised dues structure for ALA, with simultaneous movement toward placing the ALA divisions on a self-supporting basis. However, even before this change, the relationship between the headquarters office of ALA and its divisions was less than perfect. ALA members who peered into the world of "headquarters" often felt that informal lines had been drawn between the divisions and the rest of the ALA organization. The gap between the two parts of ALA used to be identified by complaints from divisions about the central services and also presumably by exasperation of central services with the seemingly incessant demands of the divisions.

Now the distinction between these two groups within ALA is unmistakably obvious to all. With the new form of budgetary control, ISAD is expected to support its staff and programs within two years, or is threatened with extinction if unsuccessful in its efforts to become financially viable. Potential sources of income for the Division are, among other possibilities, membership dues, advertising revenues, income from workshops and institutes, and income from publications. Basically, the programs to be supported with this income are ISAD's headquarters staff (a half-time executive secretary and a full-time secretary), and the *Journal of Library Automation*. Continuing activities such as institutes are almost always self-supporting and often income-generating. ISAD's divisional publications, with the exception of *JOLA*, are not a large factor in its budget, and are also designed to be self-supporting.

For the two-year period in which ISAD is required to find its own "legs," ALA will subsidize the Division from general funds in order to make up the difference between income and expenditures. In 1975-76, this subsidy for ISAD amounts to approximately \$11,000, or about 25 percent of the total divisional budget. It seems too large a percentage to be easily generated by ISAD from new income, but ISAD has always been a vital and active division. With two new sections, continuing education programs, and several potential publications, longtime ISAD members have felt that careful administration of the Division should result in a conquest of the budgetary problems. But let us take a closer look at the picture; what is wrong with it?

In ALA's relatively hasty shift from one form of budget accountability to another, a number of organizational and administrative policies and practices were left behind, in unfilled cracks. This is understandable; it will take some time to readjust this large organization to a new way of thinking and behaving. However, it is essential that when divisions are instructed to fend for themselves, they be allowed to do so in a manner that

is relatively unhampered by bureaucratic policies for which there is no apparent justification. Some of ALA's past and present policies are preventing ISAD from being able to stand on its own—or are at the very least making it difficult. Let us examine the major sources of income, and ALA's influence upon each one.

1. *Memberships*—in this area, the central organization has been of the most help. A small amount of money has been allocated to each division for the purpose of recruiting new members, and it is understood that ISAD has responsibility for attracting members to the Division. If any weakness can be identified, it is the inefficient procedure which must be used to obtain the membership forms from headquarters, as well as the very slow process used to change addresses and other membership information.
2. *Journal Advertising*—ALA's Publishing Services has farmed out the sale of advertising to three firms which work on a regional basis and sell advertising for all ALA journals as a package. A number of problems exist here, especially for ISAD. Potential advertisers for *JOLA* are not the same companies as potential advertisers for the other journals, which can be described as being more traditionally book-oriented. The advertising representatives do not seem to understand this concept, and frequently fail to follow up when given names of candidates for advertising. The amount of advertising in the journal, always low, is decreasing further. Unknown to any of the divisional journal editors, the Publishing Services recently negotiated an arrangement with a publisher to exchange advertising with ALA at a very low rate. A full page of advertising for this firm will appear in *JOLA*, with virtually no income to the journal itself. Finally, with two intermediaries now between the advertisers and the Division (ALA Publishing Services and the advertising representatives), when the income does reach *JOLA*'s budget, more than half of it has disappeared through commissions and overhead charges.
3. *Institutes and workshops*—as of summer, 1975, ISAD held approximately \$12,000 in income from several institutes given between 1973 and 1975. An ALA policy stated that after two years, any income from institutes might revert to ALA's general fund, but with the uncertain financial situation, the ISAD Board of Directors did not wish to spend these funds unwisely or prematurely. The income from the 1973 institutes has now in fact reverted to ALA's general fund. Strangely enough, ISAD's \$11,000 subsidy still exists at the original level. The decision was made that ISAD could not apply the reverting funds to decrease the size of the subsidy. At the January 1976 Mid-winter Meeting, ALA's deliberations on the dues transition included the proviso that income from future institutes will remain with the division. We are heartened by this decision.
4. *Publications*—ISAD has many opportunities to publish divisional

publications. However, according to policy, ISAD may not publish a divisional publication until ALA Publishing Services has had an opportunity to review the work as a possible ALA publication. It was the understanding of the division that ALA had the right of first refusal of a manuscript, and that if ALA wished to publish an ISAD-generated manuscript, ISAD had no choice but to agree. Apparently, this is a misunderstanding that has stood throughout a decade of operation—an unfortunate misunderstanding that has allowed ALA publication of proceedings of two ISAD institutes, each volume of which appeared two years late. Given adequate communication, the division would surely have elected to publish the proceedings independently, to create a timely document, and to receive the benefits of the sales, which are now received by ALA general funds.

Ideally, there should be no widening gap between ALA and its divisions. Perhaps this gap will close at some time in the future. Before that time comes, much work must be done to reformulate ALA policies to support its new structure in such a way that is equitable to all parties. ALA and its divisions have much to gain and nothing to lose by closing this gap at the earliest possible time.

SUSAN K. MARTIN

An Open Letter to Members of ISAD

Division programs of the American Library Association form an integral part of the association's activities. Representing as they do the specialized interests of many members, they extend the range and depth of ALA's program beyond that which might be expected of an undifferentiated organization. Yet ALA does not exist for the primary purpose of developing specialized interests. It exists because its members have agreed upon a common goal, "... the promotion of libraries and librarianship to assure the provision of user-oriented library information service to all." That multitudinous ways to move ALA toward this goal exist can be affirmed by the existence of thirteen divisions, ten round tables, and over six hundred committees!

Like many other voluntary organizations which depend upon its members to carry out most of their activities, ALA has always had difficulty striking a balance between the general activities supported by a majority of its members and specialized activities supported by smaller groupings. If the association becomes a collection of specialized activities it loses stability, central thrust, and is unable to bring its full weight to bear on the problems and opportunities of overall significance to the field.

On the other hand, if the activities become too oriented toward general concerns the association loses the specific impetus provided by specialized interests in moving toward targeted objectives.

In 1975 we took a major step toward strengthening division programs while maintaining the strength of the general programs. However, the allocation of member dues to division programs carries with it the responsibility to command enough member support to justify the status of a division. At the same time divisions were guaranteed two years of financial support at 1973-74 levels at the least as they made the adjustment.

The basic procedures for the adjustment were developed with the divisions and approved by the ALA Council. Those procedures have been followed to the letter in implementing the dues transition.

Over the next several years ALA will be increasingly expected to deliver its programs to the many regions of the U.S. One of the most successful programs to be delivered to the states and regions in recent years has been the ISAD seminars and institutes. We recognize that with a half-time executive secretary ISAD cannot be expected to sponsor more than a few seminars and institutes each year. With a limited membership ISAD cannot expect to be able to mount a major program of activities nor indeed carry out its present program.

On March 26, 1976, a meeting of all ALA division presidents-elect will

convene to discuss these issues. There are no simple answers to the problem of balancing specialized and general programs. Our research clearly indicates that the membership wishes both. Now that we know what resources are required to support committees, round tables, offices, and divisions we should be able to plan rationally for ALA's future.

ROBERT WEDGEWORTH
Executive Director

Automated Serials Control: Cataloging Considerations*

Mary SAUER: National Serials Data Program, Library of Congress.

INTERNATIONAL STANDARD BIBLIOGRAPHIC DESCRIPTION FOR SERIALS

Several recent developments related to serials bibliographic control in both the national and international arenas are of either immediate or potential interest to those individuals and institutions involved in serials activities. As has been stated or implied numerous times in the literature, serials cataloging is by no means a static element these days, but rather a dynamic concept subject to the influences of various emerging systems and developments. Among the more important of these is the *International Standard Bibliographic Description for Serials (ISBD[S])*, first published by the International Federation of Library Associations (IFLA) in 1974. This document represents the recommendations of the association's Joint Working Group set up by the IFLA Committee on Cataloging and the IFLA Committee on Serial Publications. The ISBD(S) standardizes the transcription and display of bibliographic information by: specifying requirements for the description of serials, assigning an order to the elements of the description, and specifying a system of prescribed punctuation for that description. Its primary purpose is to assist the international communication of bibliographic information by: (1) making bibliographic records from different sources interchangeable; (2) aiding in the interpretation of records across language barriers; and (3) assisting in the conversion of bibliographic records to machine-readable form.

At the time of publication it was recognized by the Joint Working Group that serials bibliographic control was (and is) in a transitional stage and that other emerging international programs involved in serials control were developing, as well as national systems of potential international impact. With this situation in mind, it was determined that the 1974 edition would be published, studied, used, and evaluated with a view to revising it subsequently in preparation for the first standard edition. A meet-

* This paper is based on a presentation given at an ISAD Institute entitled "Automated Serials Control: National and International Considerations," Nov. 29-30, 1975.

ing was convened October 21-22, 1975, to discuss this revision of the existing document.

Another equally important meeting with regard to the future development and structure of the ISBD program, and one which was to affect the outcome of the ISBD(S) revision meeting, was held October 16-17, immediately prior to the ISBD(S) meeting. This session was attended by representatives from the IFLA Working Groups on Monographs, Serials, Maps and Non-book Materials, as well as representatives from the Joint Steering Committee for the Revision of AACR (*Anglo-American Cataloging Rules*). The purpose of this meeting was to consider the possibility of drawing up a framework for a general ISBD which would accommodate all types of materials found in library collections and which would be adopted as the basis and general structure for all special ISBDs. As stated in the minutes of this meeting, the following principles were among those agreed to by the participants:

1. That the framework of a general ISBD was a desirable objective, and all specialized ISBDs which were being developed would conform to this structure.
2. That the meeting would aim to reach agreement on such a framework for a general ISBD (ISBD[G]) comprising areas and elements, without specifying particulars of materials except by way of examples.
3. That a new area entitled medium (or type of publication) specific area was desirable for particular types of material; in the event that it was not required, the area would be omitted from that specialized ISBD.
4. That all areas, including the new area, would appear in a fixed order within the general ISBD and the specialized ISBDs; the position of the new area would be after the edition or issue area.
5. That the framework of the general ISBD would consist of the following areas in the order prescribed:
 - Area 1 Title and statement of responsibility area
 - Area 2 Edition or issue area
 - Area 3 Medium (or type of publication) specific area
 - Area 4 Publication, distribution, etc., area
 - Area 5 Physical description area
 - Area 6 Series area
 - Area 7 Notes area
 - Area 8 Standard number (or alternative) and terms of availability area.
6. That the framework of the general ISBD would be designated as *ISBD(G)*.

The revision of AACR and publication of a new single edition, scheduled for completion by 1977, may very well be accomplished prior to publication of some of the special ISBDs. But it was generally felt by representatives of the Joint Steering Committee that AACR revision could pro-

ceed with the aim of accommodating the requirements of ISBD, based upon the specifications contained in *ISBD(G)*.

When the *ISBD(S)* revision meeting was convened a few days later, the results of this *ISBD(G)* meeting were among the important considerations discussed—along with various recommendations for revision submitted by national committees and cataloging agencies (including the North American position paper prepared by the ALA/RTSD Catalog Code Revision Committee, the Canadian Committee on Cataloguing, and the Library of Congress). Attending this meeting were delegates from twenty countries representing national cataloging agencies, committees, and International Serials Data System (ISDS) centers. Several major decisions were agreed to by representatives at this meeting, and these will be reflected in the revised *ISBD(S)*.

Those attending the meeting were requested to consider whether serials, with all the problems attendant to their instability, changeability, and unpredictability, could fit into the general framework adopted for *ISBD(G)*. It was decided that all eight areas prescribed in *ISBD(G)* were indeed needed and applicable for *ISBD(S)*. Therefore, two additional areas will be added to the *ISBD(S)*: the edition area and the medium (or type of publication) specific area. It was determined that specifications for the new edition area would be written by the reconstituted working group after it was agreed that this is an element which can be associated with serials (just as it is with monographs) and therefore warrants a separate area in the description.

Representatives attending the meeting decided that the new medium area would be used in the *ISBD(S)* for a numerical/chronological extent area and that this area would immediately follow the edition area in the description. This conforms to the North American position with regard to this element, which proposed a new area for the dates and numbering of a serial, rather than including the information in the imprint area. At the meeting it was suggested that the imprint would still carry the date of publication and that this date would always be given (even when the same as the date in the date and numbering area). In a way, this is a return to the 1941 rules. The wording for this new part of the description provided in the North American position will be used as the basis for the new area. It was also agreed that this new area would, if at all possible, specify the issue of the serial from which the description is made.

The title and statement of authorship area was one of the more crucial areas on the agenda for discussion. As this area is now constructed, it was designed to accommodate as much as possible the key title approach of ISDS—with the inclusion of a distinctive title which could serve to identify the serial and which would suffice as the basis for a key title. This requirement led to the principle of adding the author statement to the title (when the title consists of a generic term) and separating the two with a space, hyphen, space. This was a departure from the *International Stan-*

Standard Bibliographic Description for Monographs (ISBD[M])—considered the “parent ISBD” in terms of structure and specific wording—in order to accommodate the ISDS. Members of the revision meeting were asked to decide whether to continue with this approach or change the specifications of the title area to conform with other ISBDs. It was agreed by representatives at the meeting that area 1 should be confined to elements of description only, with provision for the inclusion of identification elements elsewhere in the record. It was further agreed that the precise wording of *ISBD(M)* be used wherever possible in the revised *ISBD(S)*. This agreement provides a firm basis for implementing the North American proposal for this area: that the title proper concept of *ISBD(M)* be adopted for *ISBD(S)* in lieu of the present distinctive title—thus eliminating the need for constructing a title when a generic term is involved. It was also agreed that author statements (or statements of responsibility) would continue to be recorded as they appear on the issue, including hierarchical statements when present.

It was suggested by the North American representatives that there be two exceptions to the verbatim wording of *ISBD(M)* in revising the *ISBD(S)*. In those instances where the original wording of the *ISBD(M)* seems to be either faulty or inadequate, it was proposed that it not be perpetuated in the *ISBD(S)*, but corrected or improved upon—and that subsequent changes also be made in the *ISBD(M)* at a future date.

The second instance in which it was felt by the North American representatives that the *ISBD(M)* ought not to be followed was in the series area. It was suggested that these areas in both *ISBD(M)* and *ISBD(S)* as they are now written are not only inadequate but also unnecessarily inconsistent. Since this area generally contains information about titles that are serial in nature, it would seem logical in this instance to consider *ISBD(S)* the parent ISBD, and modify the *ISBD(M)* to conform to its revised specifications. It was agreed by members at the meeting that this area would be studied and reevaluated by the working group and that their recommendations should be considered for *ISBD(M)*.

As indicated earlier, it was agreed that area 1 would be confined to description only and that provision be made for carrying elements of identification and access elsewhere in the record. Based upon this resolution, it was suggested that the ISSN/price area of *ISBD(S)* be revised to include the key title as established by ISDS—a logical location in the description for this element and recognition of the proper and unique role of this citation. Restricting area 1 to description only and including the key title in the record with its International Standard Serial Number (ISSN) would allow for a very desirable compatibility between the *ISBD(S)* and other ISBDs in title transcription as well as provide for a description that is eminently usable by the ISDS—more so than it is now, since at the moment the key title can only be derived from elements of the description.

INTERNATIONAL SERIALS DATA SYSTEM (ISDS)

The International Serials Data System, as established within the framework of the UNESCO/UNISIST program, is an international network of national and regional centers responsible for the building and maintenance of an international registry of serial publications in machine-readable form and for promotion of the use of the International Standard Serial Number. This is done by collecting essential bibliographic data for each title and assigning an ISSN and key title to each publication.

As a network, the ISDS system thus far consists of twenty-two declared national and regional centers, each at various stages of development: the National Serials Data Program (NSDP), which is the U.S. national center, ISDS/Canada, the United Kingdom, Australia, West Germany, Argentina, Finland, the Moscow Regional Center (consisting of eight national centers: Bulgaria, Hungary, East Germany, Poland, Mongolia, Russia, Czechoslovakia, and Cuba), France, Japan, Yugoslavia, Tunisia, Italy, Nigeria, and Sweden.

In addition to these national or regional centers, an International Center (IC) located in Paris at the Bibliothèque Nationale serves as the coordinating agency of the numerous national or regional centers which report to the IC on a regular basis those titles to which ISSN have been assigned. Each national or regional center is responsible for the assignment and promotion of the ISSN within their respective countries. The IC oversees this entire activity and is also responsible for assigning ISSN to titles published in countries without operational centers. In addition, the IC registers all serial titles published by international agencies (which effectively relieves the NSDP in particular of any responsibility for numbering U.N. documents).

Specifications for the structure, function, and use of the ISSN are given in the International Organization for Standardization (ISO) draft standard 45E(REV). It should be noted that the designation "ISSN" denotes either the singular or the plural form of the word. The ISSN is an eight-digit number which provides a universally accepted, brief, and unambiguous identification code for serials. It consists of seven digits plus a check digit (which is regarded as an essential and inseparable part of the number) and should always be preceded by the letters "ISSN" when displayed. The purpose of the check digit is to avoid errors generated by incorrect transcription of numbers. In those instances in which the check digit is ten, the roman numeral "X" is recorded instead of the Arabic numeral.

The ISSN does not attempt to incorporate any significance other than the unique identification of a serial. Thus it does not reflect any characteristics of a serial, such as subject, language, publisher, or country of publication. Blocks of numbers are allocated to each national or regional center by the International Center, and these numbers are then assigned to titles as the publications are processed.

ISSN are assigned to serial publications, defined by the ISDS as: a publication in print or nonprint form, issued in successive parts, usually having numerical or chronological designations, and intended to be continued indefinitely. It should be noted that this definition does not include multi-volume monographs or works in parts but that it does allow for the inclusion of unnumbered series. However, NSDP does not generally assign ISSN to unnumbered series unless specifically requested to do so by another ISDS center.

Using supplied bibliographic data, NSDP is systematically assigning ISSN to U.S. imprints currently cataloged by the Library of Congress and the National Library of Medicine. ISSN for foreign imprints cataloged by these two institutions are requested by NSDP from the appropriate ISDS center. With the advent of the CONSER (CONversion of SERIALs) project, which is an on-line cooperative data base building project undertaken by several research libraries in the U.S. and Canada, NSDP (along with ISDS/Canada) is extending its national responsibilities to include the registration of titles input into this system by CONSER participants. In addition, NSDP has begun a more concerted effort toward enlisting the cooperation of publishers in carrying the ISSN on the issues of serials. Thus, ISSN are assigned upon demand to titles at the request of publishers, and this type of request carries the highest priority for NSDP and the International Serials Data System.

Under the terms of a grant by the National Science Foundation, NSDP is also registering serial titles in the fields of science and technology, using bibliographic data and documentation provided by the National Library of Medicine and the National Agricultural Library. In conjunction with this project, the National Federation of Abstracting and Indexing Services is providing documentation for titles listed in the *Bibliographic Guide for Editors and Authors* (published by the American Chemical Society in 1974), enabling NSDP to also number these titles of interest to the abstracting and indexing communities.

In order to assign an ISSN to a serial publication, each ISDS center (including NSDP) requires documentation from the individual or institution requesting the number. This documentation includes bibliographic information essential to the identification of the serial (title, place of publication, publisher, beginning date of publication, information on former titles [if any], etc.) as well as a sample issue or a surrogate for that issue. This surrogate is generally a reproduction of the title page, cover, and masthead of the serial, or in the case of requests for ISSN prior to publication, a prepublication mock-up or artist's conception of the cover and title page. Individuals or institutions may obtain ISSN for specific publications by requesting them directly from the NSDP and providing this documentation. There is no fee for this service, and individual requests are generally processed within forty-eight hours of receipt. However, large-scale requests must be negotiated on an individual, case-by-case basis since

staffing limitations may place restrictions on the workload of ISDS centers—and at NSDP, priority must be given to publishers, the National Libraries, and CONSER.

An increasing number of these large-scale requests is both encouraging and discouraging: encouraging because it is indicative of the growing use of ISSN as control elements for serials; but discouraging in terms of NSDP's current ability to respond in the affirmative. If the number of ISSN needed by an institution is too large to accommodate at the time, it is nevertheless encouraged to use ISSN which are available through published sources. ISSN assigned to U.S. imprints cataloged by the Library of Congress are available on the LC printed catalog card and *New Serial Titles* as well as through the MARC Serials Distribution Service. The International Center of ISDS publishes a quarterly *ISDS Bulletin* which includes ISSN and essential bibliographic information for titles registered by ISDS centers. Preparation is under way for publication of an "ISSN/Key Title Register" by the Library of Congress, which will contain ISSN and bibliographic information on all titles processed by NSDP through February 1975. Titles registered after that date are being input by NSDP into the Ohio College Library Center (OCLC) system as a CONSER participant and are therefore available to anyone with access to an OCLC terminal.

A few years ago it was determined that libraries, abstracting/indexing services, publishers, and other communities involved in serials control would benefit from having a large corpus of titles numbered. In this spirit and with this goal in mind, the R. R. Bowker Company was allocated blocks of ISSN to be used in association with titles listed in the Bowker Serials Bibliography (*Ulrich's International Periodicals Directory* and the *Irregular Serials and Annuals*) as well as the 1950–1970 cumulation of *New Serial Titles*. A great deal of technical and editorial work on the part of the R. R. Bowker Company was involved in these operations, and their efforts have produced valuable sources of bibliographic information on serials. However, the ISSN registered by Bowker for titles included in these publications were assigned to entries based upon various cataloging codes or conventions which were not always compatible with the bibliographic specifications of ISDS. Therefore some erroneous assignments were unavoidable and inevitable. This ought not to unduly jeopardize the validity of these numbers, and their use is both advocated and encouraged. Only a small percentage of the ISSN are proving to be invalid and these are fairly easy to identify if the following guidelines are used:

1. If the publication in question is issued in more than one part and Bowker assigned only one ISSN, the number is probably invalid because separate ISSN are generally assigned to each section or part if it carries its own title.
2. If a title was inadvertently numbered twice (i.e., once in *Ulrich's* and

once in *New Serial Titles*), the lower number is generally considered to be the valid ISSN and the higher one(s) will be canceled by the appropriate ISDS center.

3. If a serial was entered under issuing body in a Bowker publication and that body changed, generating another entry under the new name or names, a new ISSN was assigned to the new entry. If the title did not change and if the title is not a generic term, the ISSN is potentially invalid. Again, the lowest ISSN should be considered valid and all others will be canceled by the appropriate ISDS center.

In order to regulate the allocation of ISSN and to provide a textual identifier meaningful to the information communities handling serials, it was internationally agreed that a citation acceptable to all ISDS participants would be used for serials to which ISSN are assigned. In the absence of any standardized international cataloging code for serials, the concept of the key title as a control citation was incorporated as the "handle" to which the ISSN is assigned in any given ISDS bibliographic record. The key title is basically the title as it appears on an issue or volume. If the title consists of a generic term, the author statement is added to structure a distinctive title for the publication. Since the key title must be unique, if two or more publications have the same title, they are distinguished by the addition of qualifying information, given in parentheses following the title. This qualifying information may consist of place of publication, date of publication, or any other information appropriate to resolve the conflict.

To support the ISSN and key title in an ISDS bibliographic record, additional data elements, considered essential to the identification of any given serial, are also included in the ISDS files (variant titles, imprint, dates of publication, linking entries, etc.). The specifications for these bibliographic conventions are found in the *Guidelines for ISDS*. The cataloging requirements of the ISDS are not as full nor as detailed in their specifications as are those of the AACR, since the ISDS network intends to provide a basic bibliographic record which meets the general needs of an international community. Thus there is no provision for data elements such as subject headings or structured author statements—primarily due to the fact that there is at the moment no internationally acceptable convention for the construction, transcription, and display of these data elements. Each national center or national cataloging agency, however, is permitted and encouraged to augment the basic ISDS record in their own files with the necessary data elements required to meet the needs of national users. Thus an ISDS record serves as the basis for documenting ISSN registration and also provides an internationally acceptable "building block" upon which national cataloging agencies, libraries, and other nonlibrary institutions could base a complete bibliographic record suitable to the needs and requirements of their constituencies.

CHOICE OF ENTRY

Among all the discussion about a change to the rules for choice of entry for serials, and with all the differing opinions on how the rules should be changed, one viewpoint seems to remain fairly constant: the rules as they are now written appear to be less than satisfactory. Several alternatives have been presented by a variety of individuals and institutions. Perhaps much of the current impetus for a revision of the rules for entry stems in part from a concern that AACR be compatible with emerging international standards. The *ISBD(S)* addresses itself to matters of description and visual display of the bibliographic elements associated with serials—not to choice of entry *per se*. However, the ISDS network with its guidelines for determining the entry to which an ISSN is assigned does have greater implications for choice of entry for serials.

According to the *Guidelines for ISDS*, each key title is "inseparably associated with its ISSN" as a control mechanism within the ISDS network. As the citation to which the ISSN is assigned, the key title thus becomes a kind of "main entry" in ISDS files. Effective use of the ISSN by libraries, abstracting/indexing services, and subscription agencies is obviously facilitated if the key title concept is incorporated in the files of these various communities. However, it is not a mandatory requirement for successful utilization of the ISSN. Indeed, such a requirement could jeopardize potential use of the ISSN by institutions whose existing files would not be well served by such a drastic change. One of the prime benefits to be gained from the ISSN system is its ability to provide a universally applicable, brief, and unambiguous code by which serial publications can be identified, regardless of the type or form of citation used: author/title, title entry, journal title abbreviation, key title, etc. The number serves as a common denominator which can bridge or link the varying identification conventions of libraries, abstracting/indexing services, subscription agents, and publishers or distributors. To summarize briefly, this universality of the ISSN is one of the principal merits of the system. The ISSN's key title serves as a very necessary control device within the ISDS system to regulate and control assignment. And although not required for effective use of the ISSN, the key title does serve to provide a standardized citation in the absence of any agreed upon cataloging rules or conventions, particularly in an international environment.

What is essential for successful use of the ISSN, however, is that the bibliographic entity created according to any given set of cataloging rules or conventions be compatible with the bibliographic entity created by a key title in the ISDS system. This can be done without abandoning the AACR concept of authorship and without adopting a title-main-entry approach for all serials. Joseph Howard has addressed some of the current discrepancies between AACR and the key title concept of ISDS and presented two possible approaches to a resolution of these differences, each one

equally viable. The first suggested title main entry for all serials, which, as previously indicated, would achieve successful compatibility between the two systems. Basing their decision primarily on the diffuse authorship of serials, the ALA/RTSD Catalog Code Revision Committee adopted this proposal for submission to the Joint Steering Committee for consideration. Mr. Howard's second alternative, however, would also provide a sound basis for an equally satisfying solution. In this proposal it is suggested that the AACR be amended to require title main entry for all serials except those titles which consist of a generic term or which begin with a generic term followed only by the name of the issuing body, in which case the serial is entered under author. This approach ideally provides for a one-to-one ratio between an AACR bibliographic record and an ISDS record, since a change in an AACR main entry would also be considered a change in the key title.

Additional specifications for resolving the differences between ISDS and AACR on what constitute major or minor title changes still require attention. A new ISSN is assigned and a new ISDS bibliographic record is created only when the key title undergoes what has been defined as a major change. The *Guidelines for ISDS* provide very explicit criteria for determining when a change is of sufficient importance to warrant the creation of a new record and when it is of such minor significance that it is simply noted in the existing record. Although AACR is not as exact in its specifications, there appears to be general agreement between the two systems on what constitutes a major title change. However, in characterizing minor changes, some rather important discrepancies exist between the two approaches, stemming largely from the lack of consideration given by ISDS to the effect a change will have on the location of a given title in an alphabetical file. Thus a minor change for the ISDS system may indeed be considered a major change according to the guidelines provided in AACR. The *Guidelines for ISDS* will be subject to revision shortly in order to update the existing document, and consideration will be given at that time to amending these specifications for major and minor title changes.

Another approach to the concept of choice of entry for serials, one which would not require a special rule for serials at all, has a very theoretical and practical appeal. The feasibility of one general rule for entry (to be applied to monographs as well as to serials) is closely related to the whole concept of authorship, which is never simple—especially as it relates to serials. A document which will probably have some influence in this area (both nationally and internationally) is an authoritative and definitive study on the problem of corporate authorship by Dr. Eva Verona. In this document, Dr. Verona defines corporate bodies for cataloging purposes as "All types of groups of individuals with a firm organization, as well as conferences and expeditions with a distinctive name, should be included in the meaning of the term 'corporate body for cataloging purposes'; no exceptions should be made for territorial authorities or commercial publishers."

She goes on to state that a work should be considered to be of corporate authorship "if it may be concluded by its character or nature that it is necessarily the result of the creative and/or organizational activity of a corporate body as a whole, and not the result of an independent creative activity of the individual(s) who drafted it."

As presented, this is a rather narrow concept of corporate authorship—and if used as a basis for one general rule of entry, it would result in most serials being entered under title. Dr. Verona states this explicitly: "Serials should in general be entered under their title proper; an exception should be made for serially published reports, lists of membership, programs, etc. which are, by their nature, works of corporate authorship."

The issue of choice of entry for serials as specified in the revised AACR has not yet been resolved—nor has the desirable compatibility between AACR and the ISDS conventions for ISSN assignment. But these are not unresolvable matters, and appropriate national cataloging committees and agencies are working toward a viable solution.

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Serials Data Control: Current Problems and Prospects*

Paul FASANA: New York Public Library.

INTRODUCTION

Toward the end of the Watergate affair, it was reported that Nixon instructed his aides Ehrlichman and Haldeman that, since so many things were happening and in such a speeded-up time frame, they should keep both their ears to the ground. It's unclear whether Nixon meant that each man should keep *an* ear to the ground or whether Nixon was trying to convey a sense of urgency by purposefully confusing this time-honored saying. A commentator shortly thereafter observed that it is physically impossible to keep both ears to the ground without burying one's head in the sand.

The current serials situation reminds me of these observations and absurdities. It is virtually impossible to keep abreast of current happenings; it is almost like burying your head in the sand to interpret or find a logic in many of these events.

This paper will describe three areas of current serials activity which are of importance to conventional libraries. I would like to do this in general terms, eschewing details which only seem to serve to confuse. The three areas are:

1. *Standards*. What they are, what impact they can have, what influence they currently are having on serials processing.
2. *Standards Setting Projects*. I will attempt to describe and/or define the almost incestuous intricacies of the National Serials Data Program (NSDP), the International Serials Data System (ISDS), and CONSER (CONversion of SERials).
3. *Code Revision Activities*. I will outline the influence that current standards and projects are having on code revision activities.

My comments are to be considered within the context of conventional libraries, primarily one wherein card catalogs still exist and manual processes are the rule.

* This paper is based upon presentations given at an ISAD Institute entitled "Automated Serials Control: National and International Considerations," Nov. 29-30, 1975, and at the Texas A&M Serials Seminar, June 1975.

STANDARDS

Standards currently are having both positive and negative effects on serial activities. To appreciate the influence that standards can have, a bit of background would be useful. For a number of years, technology and industry have played at something called the "standards shell game." The first rule of the game is to use an acronym, so hereafter I will refer to the standards shell game as the SSG. During the late 1960s, librarians involved in automation efforts saw the potential of SSG for library work and quickly translated and embellished it to suit their specific needs and areas of interest. Rules for playing SSG are as follows:

1. Espouse a cause and find at least two friends who will support you.
2. Identify an official standards setting organization such as American National Standards Institute (ANSI) or International Organization for Standardization (ISO). Or if no official organization strikes your fancy, choose a quasi-official standards organization of which there are even more around. The best type in this category is an international organization such as International Federation of Library Associations (IFLA), UNISIST, and Universal Bibliographic Control (UBC).
3. Choose a catchy acronym or word blend, preferably using the term "International"—for example, International Standard Bibliographic Description (ISBD), International Standard Serial Number (ISSN), International Standard Book Number (ISBN).
4. Start having meetings at which draft recommendations are written and given complex impressive numbering schemes.
5. And finally, start issuing these documents, preferably in two or more languages to various national professional associations.

This is all that is really needed to set in motion a "standard" which can almost immediately begin to influence the deliberations of planning committees, working groups, and even, as we are discovering, the ALA Catalog Code Revision Committee (CCRC). To illustrate how easy it all is and how much fun it can be, and to show how influential the process can be, let us look for a moment at what has become perhaps the most well-known "nonstandard" in library work—the MARC format.

MARC II is *not* a standard; at best, it is a convention which, more and more, especially during the past three years, has come to reflect national, chauvinistic interests and behavior. In the late 1960s, the Library of Congress submitted to ALA a document called "MARC II" which ALA promptly endorsed in principle. With no greater legitimacy than this, MARC II has since become an internationally accepted format for the encoding of bibliographic data in machine-readable form. However, if one looks carefully at MARC, one finds that MARC is not, nor has it ever been, an accepted, legitimate standard; the only standard as such that exists at present is ISO Standard 2709 (1973), which is entitled "Format for

Bibliographic Interchange on Magnetic Tape," but all that this standard specifies is the *communications structure* that is to be used for the exchange of data. It does not prescribe or define the form, content, or identification of the data or content of a bibliographic record. This is only now being addressed by an IFLA Working Group on Content Designators.¹

Unfortunately, the MARC II monograph format within the U.S. has been used as the exemplar to create formats for serials, manuscripts, sound recordings, films, and maps.²⁻⁶ In all of these applications, the inherent flaws of the original monograph format are perpetuated.

MARC II is a format that was designed to accommodate no established standard, code, or set of rules. Rather, the MARC II monograph format was designed to meet first (and to save, foremost) the requirements of the Library of Congress, and secondly the layout and content of the conventional catalog card. As additional formats have been designed, they too have tended to address themselves primarily to these limited requirements. The result is that we now have a situation wherein we have standardization efforts around the world working first toward perpetuating undesirable, local characteristics, and secondly basing their efforts upon a flawed concept—that of the MARC II monograph format.⁷

In an attempt to organize this confusion, IFLA recently issued a document entitled *MARC International Format* (provisional draft, 1975).⁸ This document was prepared by a Working Group on Content Designators and attempts to identify a "super MARC" format (UNIMARC) into which all national MARC formats can be converted. Whether a format can be designed which can normalize MARC data from various countries is moot. The data structure described in the document is so complex that it is literally impossible to test whether it can accommodate in complete detail even the U.S. MARC II format.

When one attempts to rationalize the various MARC efforts around the world with such efforts as International Standard Serial Number, International Standard Bibliographic Description, International Standard Bibliographic Number, and, the latest entrant in the field, Universal Bibliographic Control, one quickly becomes perplexed. I would like to identify and describe briefly some of these complexities, especially ISBD and ISSN, as they apply to the cataloging of serial materials in conventional libraries.

By now everyone is familiar with the ISBD for monographs, if not in its original form, then in terms of the revised or redrafted *Anglo-American Cataloging Rules* (AACR) chapter 6.⁹ It is important to note, if only in passing, that ISBD(M) was drafted and promoted by a working group within the cataloging section of IFLA.¹⁰ The first formal or standard edition of this "quasi standard" was issued in 1974, but it is still, as far as I have been able to establish, still only a recommendation of an IFLA ad hoc working group which has been endorsed by the IFLA Committee

on Cataloguing. Note, however, the effect it has already had on cataloging standards within the U.S.

ISBD(S) was also drafted and promoted by an IFLA working group, but one which initially had no formal connection with the monographs working group. In effect, the ISBD formats for monographs and serials were developed by two different groups within IFLA. This was a matter of concern to a number of librarians and precipitated a resolution by the ALA RTSD in 1973 to the effect that ISBD(M) should be held in abeyance until ISBD(S) had been fully worked out and accepted. Obviously this recommendation had little effect since the revised chapter 6 has been published and is a reality. The concern at that time involved both the substance of the two standards and the relationship between the philosophic basis of ISBD and the principles inherent in the AACR. At minimum, it was felt, the two recommendations needed to be consistent and compatible with each other if they were to be considered for inclusion in AACR and not violate the Paris Principles. But how could this be guaranteed since the ISBD serial format was not available, nor is it even now in final form? Further, any change or revision considered for the AACR had to be done relative to the entire code rather than any part. In effect, and this is extremely important, RTSD felt that the revision of AACR should *not be done piecemeal*. The integrity and consistency of the AACR was then and still is all-important.

These were and still are legitimate concerns; many of the problems currently confronting the Catalog Code Revision Committee would probably have been avoided had this recommendation been heeded. The current effort, a result of the October 1975 Paris meeting of the ISBD to develop a general ISBD which encompasses all specific formats, indicates that perhaps our international colleagues are beginning to realize the importance of developing an overall standard rather than continuing to develop ad hoc formats piecemeal.

A draft of the ISBD(S) was issued in spring 1974 after much delay. This draft, however, was a translation from the French and is ambiguously worded in several key places. It is still, however, the only official text available. The Library of Congress almost immediately proposed that the Catalog Code Revision Committee endorse this draft in principle as the basis of redrafting chapter 7 of the AACR. The Catalog Code Revision Committee agreed to this on July 11, 1974. On July 12, however, the Joint Steering Committee of AACR rescinded this decision on the part of the ALA CCRC, and reaffirmed that the revision of chapter 7 was to be done as part of the overall effort for the second edition of AACR. This action on the part of the Steering Committee at least forestalled a hasty and premature redrafting of chapter 7 by LC, similar to that which was done for chapter 6.

Let us examine some of the inherent problems of the ISBD relative to serials. Chapter 6 as redrafted includes conventions for the recording of

series statements based on preliminary, proposed ISBD(S) conventions, namely that of recording series as they appear on the piece beginning with title. For generic titles, a space-hyphen-space separating title and author statement is used. The Catalog Code Revision Committee is at this point questioning seriously whether this convention should be accepted or is even philosophically defensible within the context of AACR and the Paris Principles. It formally recommended to IFLA that this proposal be reconsidered at the following ISBD(S) revision meeting (Paris, October 1975). In essence, the U.S. position is that (1) the punctuation itself—a hyphen to introduce author information—conflicts with the use of a slash in the monograph format, and (2) this convention confounds descriptive cataloging and rules for entry in a way which is theoretically indefensible. The key title-like construction that results when applying this convention is neither descriptive data nor is it entry data.

Another area of concern to CCRC is the stability of elements or data within the descriptive paragraph of an entry. It was less than a year ago that AACR 162B was rescinded allowing data which in the past had been given as notes to be included as part of the title paragraph. This was done primarily to accommodate ISBD requirements.

The U.S.'s recommendation on this matter to the October 1975 ISBD meeting is both curious and radical. In effect the U.S. has recommended a two-level description pattern, one level suitable for the description of the single issue and the other designed to produce a concise and reasonably stable description of numerous issues of a serial title or of the serial in its entirety. This would in effect allow two standards of cataloging to exist based upon the completeness of a work. This kind of uneasy compromise is quickly becoming the hallmark of the current AACR revision effort and contrasts starkly, in my mind, with the attitude of principles characteristic of the efforts that led to the Paris Principles of 1961 and the first edition of AACR in 1967.

Though CCRC maintained that the scheduled October 1975 meeting of ISBD(S) was primarily to "iron-out" minor textual changes and would have little effect on current revision efforts, it is obvious that participants at the meeting were asked to deal with major and substantive issues. If as a consequence of this meeting the U.S. library community is required to change or modify chapter 6 for series, and if we are also forced to reconsider the decision relative to 162B, a great deal of work will have been wasted.

This lack of decision is not only wasteful but irresponsible, since the changes that were made *and* implemented immediately affected operations in every library in the nation. Much if not all of this could have been avoided had a little common sense been used and empiric research done *before* rather than after the fact.

It should be emphasized that ISBD is an intriguing concept but one which was developed to meet the needs of *nonlibrary groups*, primarily the makers of national bibliographies. The descriptive identification re-

quired by ISBD(S) is based upon a full and literal recording of the title page of the piece in hand, a practice ideally suited for listings within a national bibliography but, as any practicing serial cataloger knows, almost totally inadequate for serial cataloging.

Though ISBD claims not to be involved with entry, and therefore is *not* a cataloging code, for all practical purposes it is. According to ISBD(S) all serials are recorded beginning with the title as it appears on the piece; generic titles are handled either by attaching author information following a dash to the generic term or, if the author phrase is linked to the term, by repeating it exactly as it appears on the piece.¹¹ Because of the large number of corporate entry serials which have nondistinctive or generic titles, this convention potentially poses serious problems for conventional libraries. Two recent studies, one at the University of Iowa and a second at the New York Public Library, have shown that the occurrence of nondistinctive and/or generic titles constitutes a very large percentage of currently received serial titles in large research libraries, ranging from 20 to 30 percent.

To see what the results of adopting such a convention would be, one has only to look at the British National Lending Library catalog of currently received serials. A quick scan of several generic titles reveals more than 600 entries, or twelve full pages of *Annual Report*, and approximately 400 entries or eight full pages of *Proceedings*. Of significance is the fact that the total number of serial titles included in this catalog is approximately 26,000, a medium-sized collection.

ISBD(S) has had a direct and immediate influence and impact on library cataloging even though it is only a recommendation of a quasi-official working group within IFLA. Even more significant is the fact that radical and substantive changes have been made to AACR prematurely, without proper evaluation or review by those responsible for cataloging standards.

ISBD is not, however, the only proposed, quasi-bibliographic standard that we currently have to contend with. In fact, ISBD can no longer be considered in isolation since it was developed in parallel with ISSN.¹² These two conventions, ISSN and ISBD, are interdependent and must be considered together. This is a curious marriage if one reviews the claims of each. ISBD, it has been argued vehemently by its proponents, is not a cataloging code since it deals only with descriptive data and not entry. ISSN, however, is a cataloging code because it is primarily concerned with entry.

Let us look more closely at the ISSN. ISSN is a legitimate standard in that it has been reviewed and adopted by the International Organization for Standardization.¹³ It was developed for use within the International Serials Data System (ISDS) of which the U.S. National Serials Data Program is a national center or node.

Despite Ms. Sauer's statement, the ISSN is a standard which requires

that a unique eight-digit number *and* a "key title," similar in many respects but not identical to the distinctive title of ISBD, be assigned to every serial title.¹⁴ The key title is, in essence, the main entry for the registration of a serial within the ISDS system. The standard as written and promulgated does *not* provide guidelines for the creation of key titles. The standard requires that there be one and only one key title for each ISSN. Therefore, each time a key title changes, the work must be reprocessed, and a new number and key title generated and assigned.

On the surface these requirements seem harmless enough and probably worthwhile. However, when one attempts to correlate ISSN requirements with ISBD conventions (as is being attempted within CONSER), problems begin to emerge which are subtle, vexing, and perhaps irreconcilable. For example, the rules for deriving the ISSN key title are different from those used to generate what in ISBD is called the "distinctive title." For most periodical material, the application of the two different sets of rules produces almost the same results. However, for serials entered under author or serials with generic (or nondistinctive) titles, problems abound. With ISBD and ISSN, author information is recorded as it is found on the piece taken from any of the prescribed "prime sources." With ISBD, minor variations in distinctive titles, especially within the author portion, are disregarded. With ISSN, however, many of these same changes require the assignment of a new ISSN and the complete recataloging of the serial. Changes in title requiring a new ISSN are defined by the *UNISIST Guidelines* to include, for example, changes in the order of words; changes in the name of the issuing body; and changes from full words to abbreviations.¹⁵ Obviously if followed strictly, these ISSN requirements will necessitate considerable processing and reprocessing of live serials within the International Serials Data System.

Because of this difference in requirements between ISBD conventions and ISSN guidelines, one can have situations wherein several ISSN, therefore several key titles also, can refer to a single ISBD. This type of complication is further compounded when one superimposes on these conventions traditional cataloging rules; not only can there now be several ISSN for a single title, but there can be a variety of titles—key title, distinctive title, cataloging title—each different in small but important ways, and several types of cataloging records depending upon whether ALA "latest title" rules or AACR "successive title" rules are used. Attempting to accommodate all of these conventions and requirements in a single system, as is being attempted in CONSER, creates significant problems.

In summary, there has been a tendency in the past few years to confuse basic issues in the field of library serial planning and processing by:

1. Promulgating standards which are not in fact legitimate standards, nor even final versions of standards.
2. Promoting the use and/or inclusion of such quasi standards in projects (as in CONSER) and in AACR revision efforts simply on the

- weight that they are standards and, therefore, must be accommodated.
3. Arguing speciously that these changes are required for the machine processing of bibliographic data.

STANDARDS SETTING PROJECTS

There are currently two projects which can be considered as "standards setting" and of importance to serials. They are:

1. ISDS—the International Serials Data System
2. CONSER—CONsolidation or CONversion of SERIALS

Keeping these projects straight and unscrambled is impossible since increasingly their objectives and scopes of inclusion are purposefully being intermingled and overlapped.

The ISDS is a UNESCO-sponsored project which is attempting to establish an international computer-based network of centers. The major objective of the effort is to have national and regional centers assume the responsibility of creating and maintaining computer data bases for the identification and control of current and future serial publications. The international center which is responsible for coordinating and controlling this international network is in Paris, and to date ten or more regional and/or national centers have been established. The ISDS network is, in effect, an implementation of the ISSN standard. It is important to emphasize that the ISDS system is a tightly coordinated network of national and regional centers actively cataloging current serials according to ISSN principles and not just an idea or plan in someone's mind. The NSDP, for example, is cataloging in parallel all U.S. serials currently processed by LC, the National Agricultural Library (NAL), and the National Library of Medicine (NLM).*

It is surprising, given the long and close association between LC and the NSDP, that NSDP records are incompatible not only with AACR but also MARC II and ISBD. The ISDS format has only fifteen to twenty required elements, none of which is coded, tagged, or punctuated in conformity with MARC or ISBD. Ironically, however, since the record structure used follows the ISO MARC communications format structure, these records are said to be "MARC compatible."

The National Serials Data Program has had a long and checkered history. NSDP began in 1969 as a project sponsored by the Association of Research Libraries but funded by the Council on Library Resources (CLR) to set up and maintain a complete bibliographic data base of serials in the U.S. based upon the holdings of the National Library of Medicine, National Agricultural Library, and the Library of Congress. It was in essence a national conversion project to build an authoritative and comprehensive library data base of all serials acquired by U.S. libraries, not only those published in the U.S.¹⁶ For reasons which are still not clear, the NSDP aban-

* According to Ms. Sauer, of NSDP, this practice was recently given up.

done its original objectives and in 1972 assumed the role of being the American National ISDS Center, a totally different kind of operation, one involved with registering and describing serials currently published in the U.S. The rationale for weakening the NSDP at precisely the time that concerted efforts were being made to coordinate serials processing, efforts which have in the past eighteen to twenty-four months led directly to the CONSER project, is puzzling. One might argue that it was simply a matter of lack of coordination and communication. However, since the principal in both projects, NSDP and CONSER, are the same and the source of funds—the Council on Library Resources—to support both is the same, this hardly seems likely.

Let us look at what NSDP has accomplished in these past several years because it has been quite active, but in ways which may ultimately prove counter-productive. A major accomplishment of NSDP to date was to work with the Bowker Company to generate ISSN for all serial titles included in *Ulrich's* and the *New Serial Titles (NST)* list, 220,000 to 280,000 serials.¹⁷⁻¹⁸ This project and its product are a source of concern to serials librarians. Ms. Sauer's comments on the subject are interesting, but I would very much like to have the data made public on the 6,000 titles reviewed to date. It is difficult to believe that in fact there is only a 3 percent error rate in Bowker ISSN given the way in which the assignments were made. Bowker simply assigned numbers to each of the records in its *NST* data base. No attempt was made to check these records for accuracy, duplication, or completeness, relative to the ISDS format. And certainly no attempt was made to generate key titles as prescribed by the *UNESCO Guidelines*, an integral part of the ISSN, which requires that data be transcribed exactly as found on the serial piece being used for cataloging. This seems to me to be another example of bureaucratic bungling where getting something done becomes an end in itself. This haste will inevitably lead to waste for the library community because *NST* assignments and registrations are obviously not valid and probably in a large number of cases are inaccurate and misleading. Rather than the 3 percent mentioned by Ms. Sauer, I would estimate that at minimum 20 to 30 percent of the entries will be found to be incorrect and unusable.

In summary, the ISDS is an effort which is attempting to create a computer network linking data bases which are official national serial registers. It is a registration and control activity of great potential importance. It is unfortunate that its cataloging practices and policies are incompatible with established library practices. This may or may not have been avoidable. That possibility is past, unfortunately. We are now confronted with an international system whose philosophic base is radical and unique. But, rather than acknowledge and analyze the differences that exist and attempt to anticipate and resolve problems in advance, we continue to forge ahead, forcing a reconciliation between ISDS and conventional serials cataloging which probably can never be attained.

CONSER

Another dimension of complexity is created by CONSER, a project which may very well succeed in becoming the de facto national serials data base. CONSER began in June 1973 as the Ad Hoc Discussion Group on Serials Data Bases. The members of this original group, many of whom are still actively involved with CONSER, were concerned about the duplication of effort evident in union list activities in the U.S. and Canada. They wanted to establish a project which could coordinate these activities and create a consolidated data base sufficient to satisfy union list requirements. During the past eighteen to twenty-four months, CONSER has metastasized into a full-fledged effort with national and international significance and potential. The major stated objective of CONSER at this point is to compile a comprehensive, quality serials data base. It will accomplish this by integrating a number of existing machine-readable files, such as the Minnesota Union List of Serials (MULS) data base and the Library of Congress' MARC/Serials file. The loading of files and input by participants was originally scheduled to begin about a year ago. Because of various technical problems, the project did not become operational until late October or early November of this year; therefore, we still have very little experience in CONSER. Each of the ten or more participants has agreed to input bibliographic data representing serial titles cataloged for their collections. Participants (other than the national libraries who all seem to have special funds of one sort or another) are required to bear virtually all costs of coding and input. Estimates by participants of the potential cost of this effort range from \$30,000 to more than \$100,000. Each participant has been assigned a segment of the alphabet and is requested to input initially all active serial titles from their files within this range. If and when they finish their assigned portion, they are to proceed through the rest of the alphabet, concentrating all the while on live serials. Therefore, the initial intent is to capture live serials *only*.

Since data from a wide variety of sources are to be coded and merged into a single file, the coding procedures and input practices must be worked out in advance and followed by all participants. CONSER has attempted to do this in a document called "Agreed Upon Practices." This document attempts to specify exactly how all of the requirements and standards of all of the institutions and agencies involved in CONSER are to be accommodated. At minimum this means satisfying the requirements of ISSN, ISBD, AACR (both the 1967 edition and the current revision), the old ALA catalog code, U.S. MARC II, Canadian MARC, plus any and all cataloging variations that may have been used by any of the participants: quite a large undertaking.

Needless to say, problems have been encountered in attempting to develop these "Agreed Upon Practices." A sampling of the types of problems encountered to date and a brief idea as to how they have been resolved

are presented, not to be negative about CONSER, but to illustrate the kinds of problems that have had to be considered and acted upon by the CONSER management and advisory group.

Let us look first at the vexing problem of reconciliation in a single file created by the merging of existing files, serials cataloged using the ALA practice of *latest entry* cataloging and the AACR practice of *successive entry*. One might argue that if the data base is to be authoritative and definitive, then a single serial title should be represented either by a single record or an integrated set of records. Initially CONSER decided that this could only be achieved if participants were *required* to input all records using AACR practice. This, however, would have required an enormous amount of recataloging by participants; and since they were in essence paying their own expenses they could hardly be "required" to do this. Therefore this proposal was rejected. The possibility of resolving the problem through the use of an automated authority file was also rejected because it would have taken too long and cost too much to develop. This was probably a poor decision on the part of CONSER. CONSER's solution as of this date is as follows:

Any record entered is retained and no effort is made to cross-reference several records representing the same title.

This means that a single serial title can be represented in the file by an infinite variety and number of records.

Let us examine another problem, that of superimposition. The National Library of Canada (NLC) and the National Libraries of Agriculture and Medicine in the U.S., do not follow LC's practice of superimposition. LC, however, does as do most of the participants who will input the bulk of the records in the project. How does one cope with this situation lacking an authority system? As I understand it, the desuperimposition game within CONSER is to be played as follows: LC and NLC together are responsible for verifying all records input to the file, with NLC responsible for Canadian headings, and LC responsible for all headings other than Canadian headings. NLC will input records cataloged according to straight AACR without superimposition for all Canadian headings. Originally, LC had planned to withhold from CONSER any record that included a superimposed heading, which would have meant that a large number of serials currently cataloged by LC would not have been input. To get around this problem, LC has, with the permission of the ALA MARBI Committee, created an alternate field in the MARC serials format which will allow both forms of entry, ALA superimposed *and* pure AACR, to be included in CONSER records. In addition, LC recently announced that since NLC will input desuperimposed Canadian headings, LC will immediately desuperimpose *all* of its Canadian headings for *all* of its cataloging. This may be progress of a sort, but the wisdom of doing it in this way is questionable.

As for superimposition and the rest of the participants, the "Agreed Upon Practices" states that each library is to input whatever form of entry it has in its file but is encouraged to use desuperimposed headings wherever possible. In addition, they are urged as they search through the file to change or correct any superimposed headings that they find to its pure AACR form if available. This can only lead to chaos since the file has no authority control.

A final example of a CONSER problem and its current solution concerns NSDP participation. The National Serials Data Program is included in CONSER through LC and is responsible for securing ISSN and key titles for all serials which need them. The "Agreed Upon Practices" states that participants, as they input a title new to the file, are to supply NSDP with title page surrogates. An NSDP surrogate is defined as a photocopy of the title page of the piece that was used for the base catalog record being input. This poses problems for participants: how can one identify the exact issue used for cataloging? However, the "Agreed Upon Practices" goes on to say that if this poses too great a problem, then the participant needn't bother. It's unclear what NSDP will or will not do in such situations in attempting to assign an official ISSN or key title.

With these problems and drawbacks, it is fairly safe to predict that there is little likelihood that CONSER will achieve its objective of creating a "quality data base" of 200,000 to 300,000 records within the next eighteen to twenty-four months. Given the nature of the problems confronted to date and CONSER's solutions, perhaps one should ask rather if the project should even have been undertaken at this time. The fact remains that it does exist and is having influence and impact. In addition, LC and NLC are committed to continuing the project once CLR steps out of the picture.

CODE REVISION ACTIVITIES

The revised (or redrafted) text of AACR is scheduled to be completed by December 1976 and to be published early in 1977. This is a very tight schedule. The objectives of the current cataloging code revision effort as stated initially at the tripartite meeting in 1974 of the U.S., Canada, and Great Britain, were to reconcile differences between the North American and British texts and to incorporate into a single text all of the changes and revisions since 1967. If these modest objectives had been adhered to, two years would probably have been enough to complete the work. However, the Joint Steering Committee issued in January 1975 for CCRC's guidance the following principles to be followed in revising AACR:

1. Revision should maintain conformity with the Paris Principles on which AACR is based.
2. The second edition should take particular account of the developments of machine processing of records.
3. There is a firm commitment to conformity with ISBD as a basis for the

bibliographic description of monographs and to the standardization in the bibliographic description of all categories of materials.

There is quite a difference between the original objectives of 1974—that of simply redrafting and reconciling rules—and the objectives implied by the principles promulgated by the Steering Committee in 1975. The effort suggested by these principles seems to be more on the order of a major overhaul of the rules rather than a simple redrafting. Such an effort requires deliberation, study, and empiric research. This takes time. The months remaining hardly provide time for such necessary luxuries. It seems almost inevitable, however, that since there is a deadline, the revision committee will feel constrained to perform whatever task is put to it and yet remain within the established time limit. The Cataloging Policy and Research Committee of the Cataloging and Classification Section, RTSD, passed a resolution at its January 1975 meeting which suggests that it officially despairs of the current effort. The resolution asks that the CCS board seek to ensure that for the *next* revision of AACR proper research be encouraged and fostered.

By far the most heated and as yet unresolved issue for serials code revision to date concerns AACR rule 6, entry of serials. The pros and cons of title entry have been argued in writing, in special seminars, and at open meetings and hearings during the last two ALA national meetings.*

The latest happening in this arena was the decision by CCRC during its deliberations in July 1975 to ask the Joint Steering Committee to draft a rule which would require title main entry for all serial publications. Because of the confusion that surrounded the vote that was taken in July—one of the voting members admitted that he thought that he had voted against the proposal whereas in fact his vote was cast for the proposal—a second vote was taken by CCRC at its October meeting, which reaffirmed its earlier vote.

It is difficult to know how exactly to interpret CCRC's proposal or its vote. The most obvious interpretation would seem to be that CCRC is *in favor* of changing AACR rule 6 to require title entry for all serials and that it endorses cataloging of all serials under title. However, after talking with members of the committee I can only conclude that this is in fact *not* the committee's intention.

It would seem that the committee despaired at its July meeting of being able to draft a rule which would in fact accommodate title entry for all serials; it could not, however, gather enough votes to squelch those arguing for this approach. Therefore, by voting this proposal it passed the buck on to the Joint Steering Committee. I was reminded at one point by the chairman of the Catalog Code Revision Committee that the ALA CCRC is but one of several authors of the code; therefore, all proposals must ulti-

* The fall 1975 issue of *Library Resources & Technical Services* includes several of the papers read at the 1975 ALA Midwinter Meeting.

mately be reviewed by each author. In an even more arcane or devious frame, I was reminded that *no wording* or text was forwarded with the proposal; therefore, the proposal included in effect a hidden challenge to the Steering Committee, that of drafting a rule for entering serials uniformly under title. I am assured that the Steering Committee will not be able to do this.

It is rather disturbing to think that ALA CCRC, a body which carries the full weight and authority of the American Library Association to speak for the association and therefore the profession as a whole on all matters affecting the Anglo-American Cataloging Code, could not be more direct and candid. If in fact CCRC was unable to reach a position which it felt reflected ALA needs and concerns, it should publicly admit this and go back to its constituency for guidance.

It is likely that the members of the committee are feeling the pressure of an unrealistic code revision schedule which required that input to the Steering Committee be delivered by a certain date and by the principles promulgated by the Steering Committee which require that code revision effort take into account the developments of machine processing of records and a firm commitment to ISBD.

CONCLUSION

As I look around at what is going on, I can't help but feel that we have neglected to ask ourselves certain basic questions: is what is being proposed consistent and/or compatible with what was done? Or more importantly, do conventional libraries in the U.S. need to be bothered with such things as ISBD and ISDS? Just because they exist doesn't mean that they are good or necessary.

As a director of technical services in a large service-oriented research library, I am reminded every day by the users I serve that technical services is not an *end* in itself. It is not a *closed system* wherein I, or anyone else, is free to experiment with new ideas and concepts that change the way things are done currently, because such changes can affect files, catalogs, and collections which represent a large past investment in the organization and preservation of library materials. Technical services is first and foremost a means to an end—and that end is service. Therefore, *before* changes in practice, policy, and/or standards are considered, and *certainly* before they are implemented, we should know with some measure of precision what impact they will have on existing catalogs and records, so that we can predict *in advance* what effect they will have on service.

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Building a Serials Key Word Index

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Key word indexing techniques are being used at the University of California, Berkeley, to improve access to serial titles in the libraries of the campus. The system developed for this purpose has involved new looks at problems of machine sorting and word recognition, and has resulted in a multipurpose system for creating bibliographic listings from MARC-format records.

The Berkeley campus of the University of California (UC) has one of the largest libraries in the United States, particularly well known for its serial collections. A program to convert bibliographic and fiscal information on these serials was begun in 1971 and continues.¹ One major result of this program is the *Serials Key Word Index*, published in 1973 and again in 1974.² Another is the key system, a set of computer programs which has become a flexible and efficient system for producing bibliographic listings from MARC-format records.

The development of the key system and the key word index was evolutionary and pragmatic. Problems were approached as they were perceived, by looking at earlier products and trying to benefit by their mistakes, and by accepting workable solutions when ideal solutions seemed unattainable. This paper attempts to describe:

1. Some of the problems involved in key word indexing for serial titles and Berkeley's solutions.
2. Some of the questions involved in producing public and internal listings and making them useful, as exemplified by Berkeley's experience.
3. The current status of the key system and its significance in using MARC-format records in libraries for applications other than production of catalog cards.

PROBLEMS OF KEY WORD INDEXING

Key word indexing as a technique of listing Berkeley's serial titles was chosen for several reasons. First, the file as it existed in 1973 contained many typographical errors, some of them sufficient to misfile "identical" entries in a traditional union list. Second, the file does not contain cross-references; given the problems of recognizing (and defining) serial main entries, it was felt that a single-listing union list would not be as useful a

tool as would some format providing multiple access points. Third, even when transcribed correctly, the source records for Berkeley's conversion varied in form and in completeness of entry.

At the time of first production, the *Serials Key Word Index* was envisioned by some as a preliminary product to an eventual union list of serials for the Berkeley campus. Such a product could at a later time be produced by the key system, for reasons and with results discussed below.

Given a decision to index by key word, the first of many problems to be solved is the type of key word index. Key-word-in-context (KWIC) indexing has been used previously for serial title indexing, including such use on a UC campus. Perhaps the most persuasive argument against such use is the double-index nature of most KWIC programs: once a listing is found under a key word, an index number of some sort must be referred to in another volume or section of the index, in order to retrieve the needed location information. For direct public use, this approach seemed to be unnecessarily complicated. At the same time, KWIC indexing does provide some advantages. Phrase recognition is automatic in a KWIC index ("New York" naturally falls together in a list of "New" items, regardless of the location of the string "New York" in the entry). Also, sorting questions are somewhat less important because a relatively small segment of the entry is sorted: a list of titles containing "Food" would not be in ALA filing order by main entry but in order by whatever follows "Food" in the entry, probably in a simple dictionary sort.

However, the disadvantages of KWIC indexing in terms of ease of use and legibility caused a negative decision, even though the 1973 index was limited to one line per listing. After examining all the available key word indexes in the library, a key-word-out-of-context methodology was chosen, but with the intention of retaining some of the virtues of KWIC indexing.

Notably, the use of MARC-format records as source documents for key word indexing made it easy to discard the possibility of purchasing or leasing computer programs from an outside source; even without this factor, however, inspection of the available indexes showed that none had avoided the problems and found a sorting technique that Berkeley desired.

The specific problems in key-word-out-of-context indexing that Berkeley addressed are as follows:

1. Recognition of geographic phrases such as "New York" and avoidance of irrelevant listings (i.e., "York").
2. Distinguishing between articles and parts of place names. ✓
3. Avoiding enormous and useless lists under trivial or too-frequently used words without losing critical listings. ✓
4. Recognizing acronyms and initialisms, and dealing with words containing apostrophes or hyphens. ✓
5. Providing helpful and necessary cross-references without falsely suggesting that the index can serve as a subject catalog. ✓

6. Serving all these needs through relatively inexpensive computer processing with acceptable results.

The last problem is perhaps the most important; the resources available to the library for production of the index were quite limited, and many of the potential users were frankly skeptical of the proposed product. Another set of problems having to do with machine sorting will be addressed in the next section.

GEOGRAPHIC PHRASES

Early on, one of the most bothersome items in some other and well-regarded key word indexes was the existence of, for instance, long lists of titles containing the words "New York" under "York." These lists presented two problems: first, they made it difficult to find and correlate items with the needed key word which consisted of two words; second, they wasted paper, ink, and computer time. Regarded in potential, the full extent of the problem could be seen as enormous: for instance, if Berkeley were to produce an index including document serial titles (as did the 1974 edition), the listing under such words as "United," "States," and so on would extend to tens and hundreds of pages.

Berkeley attacked the problem by building a phrase recognition routine into the key system. Initially limited only to geographic phrases, this technique was later extended (after much debate among consulting librarians) to other frequently used phrases in which the second word is relatively less important (or simply phrases occurring with great frequency, such as "Atomic Energy"). The routine provides that if a phrase is recognized, the second word will not be treated as a separate key word; a possible cross-reference is, however, created, for those cases in which the phrase is something other than a geographic one. Thus, "ENERGY SEE ALSO ATOMIC ENERGY" is created as an internal function of the key system. This technique also solved the problem of filing serials published by the government agencies in La Paz under "Paz," as most other indexing systems would. Since "La Paz" is recognized as a phrase, the "La" is not considered to be an article.

EXCLUSIONS AND LOSS OF INFORMATION

The term "key word index" suggests that not all words are key words. In a small, specialized collection, a useful index might be created which indexed only specified key words; for most indexes, however, it is more sensible to specify "non-key" words. In indexing article or thesis titles, a brief "stop list" will generally suffice for this purpose; when indexing serial main entries, the exclusion problem becomes more complicated.

A study of article titles showed that a list of only sixteen words would eliminate 29 percent of the listings.³ However, a study of the 45,000 serial titles in Berkeley's 1973 data base showed that a list of 160 articles, short prepositions, and conjunctions, including all of the sixteen words from

the previous study, would eliminate only 10 percent of the listings.

Additionally, serial titles are frequently short and composed entirely of somewhat "trivial" words. For instance, there are serials named "Etc" and "Los." Thus, a straight stop list would create the possibility of entirely eliminating some serials from the index.

Berkeley's key system, therefore, allows a more sophisticated "exclusion" than mere prevention from listing. Words are prevented from listing through one of five techniques:

1. *Capitalization*. In the Berkeley file the initial letter of all words other than articles (within entries), conjunctions, prepositions, and other connectives is uppercase. The key word recognition routine expects words to begin with a capital letter.
2. *Phrase Recognition*. The second word of a recognized phrase is normally passed over.
3. *Excluded Words*. Words defined (in a run-time word list) as "Excluded" are accepted as key words if they appear as the *first* word in either the corporate author or the title, but are not accepted in other cases.
4. *Title Words*. Words defined as "title" are accepted as key words if they appear as the first word in the corporate author, or as *any* word in the title, but are not accepted as key words if appearing *within* the corporate author. This function is especially valuable for geographic names appearing frequently as identifiers in corporate authors, or for words such as "Society" or "Corporation."
5. *Deleted Words*. Words defined as "deleted" are only accepted as key words if they appear as the first word in the *main entry*. This function is used very sparingly, for words such as "Report."

Additionally, initial articles are recognized and passed over (as specified), but are accepted as key words if they are the *only* word in either author or title.

ACRONYMS, INITIALISMS, AND PUNCTUATION

These are cases other than phrases in which the simple rule that a word is a series of letters surrounded by punctuation does not work. In the case of acronyms and initialisms, the actual handling is relatively simple; the question is what should be done. In 1973, Berkeley handled acronyms as initialisms, filed at the beginning of each letter and with spaces between letters. In 1974, with the addition of many document titles in which it was difficult to determine whether a title was an acronym or a regular word, that decision was reversed, and all acronyms and initialisms were treated and filed as words without spacing—that is, UNESCO filed after "Unending" rather than at the beginning of the *U's*.

Punctuation creates a problem in three ways. First, words within brackets or parentheses may deserve special consideration—for instance, brackets were used to set apart imprint location in serial titles, when used to distinguish between identical titles. It was felt that these imprint locations

should not be key words. Similarly, parentheses usually surround material added (for instance, spelled-out numbers) to the original entry. The key system as finally established allows a run-time decision on square brackets and on parentheses, whether to key words within them or to pass over the material.

The second problem is hyphenated words, which may either be two separate words conjoined, or a single word split. No fully workable solution was found to this problem; the practical solution was to rely on capitalization to make the distinction: if the letter after the hyphen was a capital letter, the two segments would each be treated as a separate word (subject to phrase recognition). Otherwise, the two segments would be treated as a single word, with the hyphen removed for purposes of sorting and keyword listing. Thus, "Cooperation" and "Co-operation" are keyworded identically, filing under "COOPERATION."

The third and final punctuation problem is the apostrophe. The simple solution to this problem has so far worked well: if an apostrophe is followed by a space, an *s* and a space, or an *s* and some other punctuation, the apostrophe is considered to terminate the word. (Thus, "Who's" and "Who" both keyword as "WHO.") If any letter other than *s*, or *s* followed by another letter, follow an apostrophe, the apostrophe is stripped out and the word is continued. Elided articles (D', L', Del', Della') are recognized in the same segment of the key system; if found, the word is considered to begin at the letter after the apostrophe.

CROSS-REFERENCES AND FALSE INFERENCES

The key system allows for alteration of key words, to make them file under and appear as other key words (interfiling "COLOUR" and "COLOR," for instance). This facility could, of course, be used to a very great extent: synonymizing foreign-language equivalents of a common word, synonymizing singular and plural forms, even making subject-equivalence synonyms. The facility which provides for alteration of key words also generates cross-references.

Strenuous argument was made against use of synonymy for any purposes other than English-American equivalence and obvious misspellings, on the ground that such operations would imply that the key word index was a substitute for subject catalogs. The counter-argument was that, while the index was of course not a full substitute for a subject catalog, it would in fact be so used by many users, and these users would be better served by more integrated lists.

This argument went back and forth, with many ramifications in the process of preparing the 1973 index for publication. In the end, the first-named viewpoint won out. This viewpoint also carried with it a strong argument against the use of "suggestive" cross-references, that is, references suggesting other words to look under. Here, the additional argument was that, since it would be impossible to do a comprehensive job of sug-

gestive cross-references, it would be misleading to do any at all. The decision was made to use only machine-generated cross-references.

For the 1974 index, sheer size made it even more difficult to support the idea of synonymizing for content. A few cross-references were added in this edition, however, to cover special circumstances: the filing of acronyms, and the treatment of "U.S." (U.S. was keyworded as UNITED STATES plus the next word, to form a three-word phrase.)

As for the actual use of the key word index as a subject catalog, it seems clear that it is used in this manner to some extent. While the introductory notes in each volume of the index caution that it is not in fact a subject catalog, nor a final finding tool, there is probably no way of assuring that some users will not give up because they think the index is something it is not.

PRODUCING A USABLE PRODUCT WITH LIMITED TIME AND RESOURCES

This goal is one major justification for the purely pragmatic and case-at-a-time approach used in developing the key system. In the long run, it meant that the key system had to go through several incarnations before becoming a relatively stable and generalized product; however, the overall expenditure on programming and testing the system is probably much less than would be required for an intensive formal definition and complete solution to all the problems involved. As nearly as can be estimated, the key system has required about half a man-year of programming time and perhaps a lesser amount in terms of tests and successful computer runs; this would, then, place the development cost at about \$12,000. But during the two years required to arrive at the current key system, two highly successful index editions and a variety of other useful products were produced. Almost certainly, the key system generated products worth far more than \$12,000 to library staff and users not only at Berkeley but throughout the nation—thus, by the time documentation for the relatively stable key system of May 1975 was completed, the system could be considered to have paid for itself during development.

SORTING METHODOLOGY

In the key system all sorting decisions are made by the computer at the time of index creation. No sort field or alphabetizing number is carried with the record. No after-the-fact adjustment of sorting fields by editors is allowed for (nor would such an effort be at all practical for the Berkeley Library). Frankly, the results are imperfect.

The aim of the methodology is to achieve acceptable results, in near accordance with ALA filing rules, at a reasonable price. The avoidance of a record-carried sort field is intended to cut down overhead and to facilitate updating the file, since changes or corrections in entry fields can be made without considering the effect on a sorting field.

Some of the points used in sorting are mentioned in the discussion of key words, above. Others are given here as they were decided; as should be evident, these solutions are workable rather than ideal. Numbers appearing in entry fields are sorted as numbers (that is, *after* all letters in the same positions)—actually, adjusted to become four-digit serial numbers. This allows 12 to sort after 2 and before 111, but is not in full accordance with ALA rules (“... as spelled out in the language of the entry . . .”).⁴ No attempt is made to file historical periods in any order other than alphabetic; fortunately, the situation rarely arises in serial publications.

The article-handling routine is not language dependent, except in considering one-letter articles and in handling English-language entries. Thus, English-language entries are only checked for “The” and “An” (and, of course, “A”), but “An” and “The” are also in the list of thirty-odd articles against which all non-English-language entries are checked. This is done because the language of a serial’s title is not always the same as the language of publication and because of errors known to exist in language codes in the Berkeley file.

“U.S.” is recognized and sorted as “UNITED STATES”; ampersand is sorted as either “ET,” “UND,” “Y,” or “AND,” depending on language code (with “AND” as the default). Hyphens are either ignored in sorting or sorted as blanks, depending on the following letter. Other punctuation is ignored in sorting, except for the semicolon and bracket. Since the semicolon is normally used to indicate the end of the proper title and beginning of the subtitle and since brackets are normally used to surround added material, the replacement of each sign in the sort key with a blank allows for proper intersorting.

In the current key system, the sort key itself (created as the records are being analyzed for the desired list) is 100 characters long. The first 90 characters consist of straight text from whatever MARC fields are defined as “entry” fields in the control file, modified according to the rules given above. If 90 characters of sort key does not exhaust the entry fields, the program scans the remainder of the fields looking for blanks; the first letter following each blank is added on to the sort key, up to a total of ten letters. In practice, this sort key has proved to be sufficiently exhaustive to properly sort all but a very small handful of U.S. government publications with extraordinarily long identical entries.

The sort key is contained in positions 26–125 of the “key record,” a variable-length record which will culminate in printed listings and which derives from a MARC-format record, stripped of record directory, nonprintable characters (such as diacriticals), subfield indicators, and fields not needed for the list at hand. The first twenty-five characters of the record, which control sorting prior to bibliographic sorting, are called the “key block.” In a key word index, this is the key word itself. Any fixed-length information from the MARC record may be placed into the key block, as may a machine-sortable version of call number fields, providing an enor-

mous variety of sorting possibilities, all specified through a single control card. Whatever the overall sort control is, bibliographic sorting will take effect for otherwise identical cases.

ESTHETICS OF COMPUTER-PRODUCED LISTINGS

When the decision was made in 1973 to produce a listing of the serials then in machine-readable form at Berkeley, the initial thought was to produce a union list. One aspect of the "traditional union list" was the page format: card-like images, probably in two columns, preferably with the main entry for each unique title followed by call number, location, and holdings for each set. This style is probably the most prevalent style in book catalogs, whether computer produced or prepared by photographic reproduction of catalog cards. We might call it the "card-image format."

For various reasons mentioned above, Berkeley went instead to a key word index and to a format in which entries ran the full width of the page, with one entry for each set of a serial (Figure 1). Call number, location, entry, and holdings were each in specific areas of the printed line, in a tabular arrangement (but with holdings being right-justified), and only a single line was used for each entry. The "long-line format" met some resistance prior to publication, but gained quick acceptance when the 1973 index came out.

Much of the ready acceptance certainly came despite the format, because users were ready to use *any* tool giving better access to Berkeley's serials, no matter how ugly. However, pains were taken to make the format as aesthetically acceptable as possible, given other limitations (chiefly the strong desire to save printing costs, give close to 100 characters of entry,

ACCIDENT CALL NUMBER	Serials Key Word Index, 1974	University of California - Berkeley - General Library	Page 34 HOLDINGS
	ACCIDENT SEE ALSO INDUSTRIAL ACCIDENT (cont.)		
H5614.3.W2A35	MAIN	Washington (State) State Patrol. Division of ACCIDENT Prevention. Annual Statistical Report of Motor Vehicle Traffic Accidents, Urban and Rural.	1940- [Latest:DOCU]
H5614.3.W8A35	DOCU	Wyoming. Highway Dept. TRAFFIC ACCIDENT Facts.	1962-
	ACCIDENTAL		
	DOCU	India (Republic) Bureau of Police Research and Development. ACCIDENTAL Deaths and Suicides in India.	1969-
	AGRI	Kansas. Dept. of Health. Agricultural ACCIDENTAL Death Report.	1952-
RA407.3.A235	ITTE	U.S. Armed Forces Epidemiological Board. Commission on ACCIDENTAL Trauma. Annual Report.	1954-1960/61//
HB1323.A2U52	PUBL	U.S. National Center for Health Statistics. Vital and Health Statistics. Series 10: Statistics on Illness, ACCIDENTAL Injuries, Disability.	1, 1963-
	PUBL	U.S. Public Health Service. Division of Accident Prevention. ACCIDENTAL Death and Injury Statistics.	1961-63
	ACCIDENTES		
HV7331.A8B72	DOCU	Buenos Aires (City) Dept. de Policia. Boletin de Estadistica y Jurisprudencia: Delitos en General, Suicidios, ACCIDENTES Y Contravenciones Diversas.	[77: 81-132]
H5614.3.D6A3	DOCU	Dominican Republic. Direccion General de Estadistica. Estadistica de los ACCIDENTES de Transito Terrestre.	1936/37-
HD7262.5.D6A25	DOCU	Dominican Republic. Direccion General de Estadistica y Censos. ACCIDENTES del Trabajo.	8-15, 1953-60
EV777.P8P32	DOCU	Puerto Rico. Division of Work Accident Prevention. Boletin de Prevencion de ACCIDENTES.	1-2, 1906-09
HD7816.57A5.1906	MAIN	Spain. Instituto de Reformas Sociales. Jurisprudencia de los Tribunales en Materia de ACCIDENTES des Trabajo.	1-2, 1906-09
HD7262.57	DOCU	Spain. Ministerio de Trabajo, Sanidad y Prevision. Estadistica de los ACCIDENTES del Trabajo.	1904-24
	ACCIDENTS SEE ALSO INDUSTRIAL ACCIDENTS		
H5614.3.A6A2	DOCU	Arizona. Highway Dept. Traffic Engineering Divisions. Traffic ACCIDENTS and Accident Rates on the State Highway System.	1961-63
FH5614.3.A6A23	DOCU	Arizona. Highway Dept. Traffic Safety Division. Arizona Motor Vehicle ACCIDENTS.	1948-58
	ITTE	Association of American Railroads. Report of Committee on Prevention of Highway Crossing ACCIDENTS.	1948; 1956-59//
HD7816.N3A3	DOCU	Australia. Bureau of Census and Statistics. Victorian Office. Road Traffic ACCIDENTS Involving Casualties.	1968-
	DOCU	Belgium. Direction Generale de l'Assurance et de la Prevoyance Sociales. Rapport Relatif a l'Execution de la Loi sur la Reparation des Dommages Resultant des ACCIDENTS du Travail.	1-10, 1910-43
	DOCU	Belgium. Institut National de Statistique. Statistique des ACCIDENTS de la Circulation sur la Voie Publique.	1963-
	DOCU	Belgium. Institut National de Statistique. Statistique des ACCIDENTS du Travail.	1964-
HD7102.N3A3	DOCU	Belgium. Office du Travail. Statistique des ACCIDENTS du Travail.	1906; 1909-27
HD7262.57A4	DOCU	Bulgaria. Glavno Statisticko Upravlenie. Statistika des ACCIDENTS du Travail.	1935-40

Fig. 1. Page from the Serials Key Word Index.

and still retain 8½-by-11-inch format, which dictated a print size of 5½ points). The print size used in the index is roughly the same size as classified advertising in newspapers; it is not generally considered to be a usable size for text. Computer-printed indexes which have been reduced photographically to this size have not been highly legible even with the high quality image produced by IBM 1403 printers.

At the same time, an examination of typefaces available suggested that the print face used in producing most upper- and lowercase printouts by IBM computers, known as the "TN" face (a close relative of the Selectric typewriter "Courier" face), was actually one of the most legible typefaces around, especially in small print. This face is a square-serif face of extreme openness, which appears to be an original design of IBM. Without the loss of clarity involved in reducing computer printouts, TN/Courier performed admirably. Fortunately, a local photocomposition vendor, Arcata Graphics in San Francisco, had such a face set up for their RCA Videocomp using a "print image" program in which the composition is controlled as though the Videocomp were a computer printer.

To date, we have not seen another monotype photocomposition typeface which comes close to TN/Courier in small-size clarity. Sans serif faces, which are dominant in computer-produced photocomposition (especially in microfiche production) are known to be less legible for text than serifed faces.

Another factor to be watched closely in photocomposition is darkness; the first samples received from Arcata suffered in legibility because the letters were too black. However, this problem was resolved. Introductory material for the index was prepared by the Library Systems Office, using a Selectric typewriter; the Courier type ball and a complementary italic ball were used, providing an appearance uniform with the text of the index, if twice the size.

While the amount of information available in key system listings grew after 1973, the format remained essentially similar. The most important change was the elimination of the one-line limit, which would have hampered government-document entries. The 1974 index allowed up to five lines of entry information; the key system currently in use allows up to thirty lines, or the rough equivalent of four regular catalog cards. So far, we have seen no serial entry which, even with extensive bibliographic notes, comes close to reaching this limit.

The format used in 1973 was found to be very acceptable for the index and, in direct computer printouts, for other library lists such as a quarterly listing for each branch of serials held in that branch (Figure 2). The columnar style has been retained in the current key system, as no one seems anxious to drop the long-line format in favor of a return to card-image format. The changes, apart from multiline entries, have been in column limitations. Call numbers were restricted to twelve columns in the 1973 index. In the 1974 index and the current system, that limit has been

PUBL CALL NUMBER	Branch Serial Holdings April 75 University of California - Berkeley - General Library	Page 1 HOLDINGS
QH505.A1A3	PUBL6 Advances in Biological and Medical Physics.	1, 1948 <REC #> -45208906
RM260.A35	PUBL3 Advances in Chemotherapy. (Note: Merged with Advances in Pharmacology to Form Advances in Pharmacology and Chemotherapy).	1-3, 1964-68// <REC #> -45209406
BF721.A1A3	PUBL3 Advances in Child Development and Behavior.	1, 1963- <REC #> -115985602
RB1.A2E	PUBL0 Advances in Clinical Chemistry.	1, 1958- <REC #> -11585900
ZA170.A1A3	PUBL0 Advances in Environmental Sciences. (Note: also cited as: advances in environmental sciences and technology).	1, 1969- <REC #> -11588202
HQ763.A3	PUBL3 Advances in Fertility Control.	1-4, 1966-69// <REC #> -45210809
TX537.A25	PUBL0 Advances in Food Research.	1, 1948- <REC #> -11595206
TX537.A25S8	PUBL1 Advances in Food Research, Supplement. (Note: anals).	1, 1969- <REC #> -11595504
QE86.A1A3	PUBL0 Advances in Gerontological Research.	1, 1964- <REC #> -11596508
QH431.A1A3	PUBL0 Advances in Human Genetics.	1, 1970- <REC #> -11597100
QR180.A3	PUBL0 Advances in Immunology.	1, 1961- <REC #> -11597501
QL757.A1A27	PUBL0 Advances in Parasitology.	1, 1963- <REC #> -11600809
RJ23.A4	PUBL0 Advances in Pediatrics.	1, 1942- <REC #> -11601103
QH652.A1A3	PUBL0 Advances in Radiation Biology.	1, 1964- <REC #> -11603409
QP251.A1A3	PUBL6 Advances in Reproductive Physiology.	1, 1966- <REC #> -45213203
QL991.A1A3	PUBL0 Advances in Teratology.	1, 1966- <REC #> -11604104
SF745.A39	PUBL0 Advances in Veterinary Science. (Note: Title varies: v. 12-16, advances in veterinary science and comparative medicine).	1, 1953- <REC #> -11605406
QR360.A1A3	PUBL0 Advances in Virus Research.	1, 1953- <REC #> -10019005
	PUBL8 Adverse Effects of Environmental Chemicals and Psychotropic Drugs.	On order <REC #> -17588807
RM161.A1A3	PUBL3 Aerosol-Kongress, Bericht.	4, 1961 <REC #> -45225709
HQ1064.U5K38	PUBL0 Aging. (Agency Entry: U.S. Administration on Aging. Aging). (Note: Deposit Acct 5264)	1, 1951- <REC #> -11256904
	PUBL8 Agricultural Aviation.	on order <REC #> -15763109

Fig. 2. Branch Library Listing.

changed to twenty-one columns by a purely pragmatic process. The data base of over 150,000 records as of 1974 was analyzed for length of call number fields. Over 100 call numbers were exactly twenty-one characters long, but only six were longer.

Holdings statements were restricted to 12 columns in the 1973 index and to 104 columns (one line) in the 1974 index. In the current key system, no such restriction exists; while the last eight positions of each line are reserved for holdings, the holdings may be as long as 3,000 characters minus the length of the entry fields, with a space of 200 characters reserved for holdings if needed and otherwise unavailable.

In the 1974 index and in the current key system, the abomination of broken words is avoided as it can easily be by any competent print-formatting program. The only case in which the key system listing program will ever break a line in the midst of a word is if a word begins before column 54 of a line and goes on for more than forty-six spaces; such a limit was built in to avoid absurdly short lines but seems unlikely ever to cause split words.

The other items introduced into the key system to improve legibility involve line spacing and capitalization and headings. In all indexes and similar publications, the key word or phrase appears in all capital letters *within* the entry: thus, its location is made more apparent for those wishing to scan the context.

Second, each new key word is set out as a heading with a blank line above it, followed by all the listings including that key word. This format is common to most key-word-out-of-context indexes which are printed in book form.

Finally, in the 1974 index and the current key system, the current key word (that is, the key word or phrase of the first entry on a page) appears in the upper left-hand corner of the page, and the key word heading, including cross-references if any, appears on each new page when continuation is required, followed by "(cont.)" In the 1974 index, entries were never broken between pages; with the extended limits, this seemed unrealistic. In any new product, an entry requiring more than four lines may be broken between pages, and the continuation is clearly signalled by two devices: first, the phrase "See previous page" appears in brackets in place of the call number; second, the first line on the new page consists of the first fifty characters of the first line of the entry, followed by three dots and the word "continued" in parentheses.

The current key system allows a wide variety of spacings and headings, depending on the needs of the user; these cannot be discussed in full detail here, but include such options as putting a spacing line between each *n* entries, where *n* may be as low as one (resulting in a double-spaced listing single-spaced within entries); replacing all or part of the page headings; forcing new pages at selected intervals; and renumbering pages at selected intervals. This last option is used for branch library listings, which

are actually thirty separate lists produced as a single list; each new list begins with page 1.

THE KEY SYSTEM

The key system as it now stands is a system of producing a wide variety of bibliographic lists, all using the long-line format, and all originating from MARC-format records. The full range of options available is contained in a seventy-five-page user's guide, but some discussion of the types of flexibility belongs here.

Any combination of MARC tags or ranges of tags, up to a total of fifty, may be used to produce a listing. (A "range" of tags is defined as all tags beginning with the same number and not exceeding the number given; in all cases, it is assumed that tags are in order by first digit in the record directory.) Thus, a specification of "111-" would allow any tag from 100 through 111 to be extracted from the record. Fields defined by these tags may be used in "entry," "notes," or "holdings" segments of the key record, with the following distinguishing points:

1. The "entry" segment normally produces the sort key and is limited to a maximum of four field definitions. It is the only segment available for key word analysis.
2. The "notes" segment has the most flexibility in terms of final printed appearance: it may follow the entry in left-justified fashion, optionally beginning on a new line; each field in the notes segment may begin on a new line; or it may precede the holdings segment and be right-justified. It may also be dropped from a key record in the key word analysis process: that is, after the first key word, or main entry, has been processed, the record could optionally be shortened to include only entry and holdings segments in all other appearances.
3. The "holdings" segment is always right-justified. It may be forced to a new line, or (if multiple fields appear) each new field may be forced to a new line.

Each of the three segments may be followed by fixed-length information from the MARC record, such as country or language of publication, record number, fund, date of first receipt, or status of record.

Each tag desired is identified by a field identification card, which specifies the following:

1. The tag number.
2. Whether or not this is to be treated as a tag range.
3. Whether or not the field may occur more than once. If so, all occurrences will be processed.
4. Whether the field *must* occur. If so, the option is available to either reject records lacking the field, with a computer-printed note indicating that this has occurred, or place a note in the key record saying "No xxx Field" and continue processing the record.
5. Whether subfields other than the first are to be included. While

Berkeley avoids the use of subfields as much as possible, the key system is intended to be far more general than Berkeley's file and, in fact, a complex use of subfields does occur in Berkeley's record-creating history notes. The key system always uses the first subfield of any acceptable field and always ignores indicators. However, from one to nine specific subfield indicators may be given, or all subfields may be accepted. If a list is given, the full field will be scanned for acceptable subfields, passing over excluded subfields.

6. If multiple subfields are allowed, what text should delineate them? Typically, this might be a period and space, or two dashes, or the familiar notation of a \$ and the subfield indicator itself. However, any text up to nine characters is acceptable (although, if text is specified, the same text will be used before all subfields other than the first).
7. In many cases, the text of a field is not self-explanatory: Berkeley's history notes, for instance, consist only of the linked entry, without the nature of the linkage (determined by the tag itself). Therefore, up to twenty-eight characters of explanatory text are allowed. In a tag range specification, the same text (if provided) would appear before all occurrences; however, the specification "T" as the *length* of the explanatory text will cause the tag number itself, surrounded by angle brackets, to appear, and this will of course be taken from the actual record.
8. Similarly, some material may be desirable at the end of a field; up to nine characters may be specified. The default is a period and two blanks. These two features are used in some listings to surround certain fields with brackets or other distinctive characters.
9. Finally, space is left for sequence control of the field definition cards. While such control is not required by the key system, it will be enforced by the key system if it is present. (That is, out-of-order conditions in the last eight columns will cause the program to abort with an error message, but blanks in the last eight columns will in no case cause failure.)

Once the fields desired have been defined, some further options are available. The source of the call number may be defined, if it is not the 090 field ("local call number"), or the system may be told that call numbers are not desired for this listing. The use of the key block (see above) is also defined in the control file. One option has been added despite the knowledge that it will never be used by Berkeley itself: a sort field within the record can be defined. If such a tag number is given, the system will move the contents of the field into the sort area of the key record without inspection. The option is a bit tricky, however, in that if *no* such field is found in a record, a normal key system sort key will be prepared. Thus, if a file has some records with sort fields and some without, the fields must be prepared strictly in accordance with key system standards or very peculiar sorting may result.

The system is relatively efficient. Actual operating times and costs depend heavily on the complexity of the record definition but will typically run to about \$5-6 per thousand records, including printing, for quite complicated definitions. This cost is based on any run other than a keyword index; the cost of such an index would certainly be higher than \$6 per thousand source records, but also certainly lower than \$6 per thousand listings. These costs are based on the current pricing algorithms of the two computer facilities used by the Berkeley Library Systems Office, in which one minute of IBM System/360 Model 65 CPU time costs about \$7, each 2,000 I/O requests count as one minute of CPU time, and upper- and lowercase line printing costs \$.80 per thousand lines. Costs of computation power vary enormously, as do times of sorting (sorting is a very substantial part of key word index processing and a major, though less substantial, part of all key system operations).

Finally, all programs in the key system are written in PL/1 and are implemented in PL/1-Optimizer where available, PL/1-F in other cases. All processing is record oriented and written to take advantage of machine efficiency wherever possible, while retaining relatively straightforward program logic.

CONCLUSION

The key system has become an established, powerful tool for creating varied output products from MARC-structured records. The University of California campuses at San Francisco and Santa Barbara are both using the system for various public and internal serials lists, as is Stanford University. The Stanford union list of serials (October 1975 edition) was produced by the key system without program modification; the 1976 University of California union list of serials will be produced by the key system with trivial modifications. Tests have shown that the key system format works well for fiche usage. Whatever the output medium, more varied and widespread use of the key system, with continued slow improvement of the programs, seems assured for the future.

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The Catalog: Its Nature and Prospects

Mary Kay DANIELS GANNING: Library of Congress

On October 9-10, 1975, the Information Science and Automation Division (ISAD), the Reference and Adult Services Division (RASD) and the Resources and Technical Services Division, Cataloging and Classification Section (RTSD CCS), of the American Library Association cosponsored an institute on "The Catalog—Its Nature and Prospects." The purpose of the institute was to consider all aspects of the catalog—its use as a tool consulted by librarians and patrons, the impact of centralized cataloging on bibliographic control, and the impact of technological advances on the format of the catalog both presently and in the future. This paper summarizes the formal presentations of the institute. ISAD will publish the full proceedings at a later date.

IDEOLOGY OF BIBLIOGRAPHIC CATALOGING: PROGRESS AND RETROGRESSION

Seymour Lubetzky, formerly professor at UCLA until his retirement in 1970, and one of the foremost ideologists in the area of cataloging, first reviewed the evolution of the catalog and the ideology which has shaped it.

Overall, Lubetzky noted that three generalizations could be made about cataloging rules:

1. A rational ideology based on the nature of the materials cataloged and the functions to be served by the catalog must be adopted prior to the creation of any cataloging rules, particularly ones that will gain universal acceptance;
2. The adoption of cataloging rules not based on any well-considered ideology is bound to require remedial revision before long; and
3. Changes in technology or in the form of catalog may offer an opportunity to improve the quality of the catalog, but may also require the provision of new methods to serve the functions previously served by methods not covered under the new conditions.

In 1852, Charles Jewett's version of the cataloging rules provided for substantive changes, some of which were designed to enable the reproduction of a book catalog from individual entries embossed on plates, the principal reasons being to cut printing costs and to increase the ease with which individual entries could be changed, interfiled, and kept up-to-date. Jewett's use of this technology thus allowed:

1. Personal author entries to be entered under the latest name used by an author rather than under the earliest name or original name, and
2. Editions and translations of a work to be brought together easily.

The rules of 1908 through 1949, on which practically all of our present catalogs are based, included no provision for bringing together editions and translations of a work, except in the case of "anonymous classics" grouped by uniform title. In other anonymous works, added entries were used to relate various editions and translations. The AACR remedied this, however, by providing for the more generalized use of uniform title.

The application of automation to the catalog has stimulated much thought as to the choice and form of the catalog entry. Lubetzky noted that some of the proposals associated with the computerization of a catalog, though, are retrogressive rather than progressive in nature:

1. The abandonment of the traditional main entry in favor of a title unit entry, which represents only the book itself and ignores the collocation of variant editions of the work and the other works produced by an author;
2. The adoption of the International Standard Bibliographic Description (ISBD) which reintroduces into the rules of description for entry the repetition of the author's name before and after a title as well as esoteric punctuation that may be helpful to the computer but hardly to the reader; and
3. The entry of all serials uniformly under title, which suggests that serials are inherently different than monographs and ignores the fact that serial publications which include the name of the author in the title, such as the *A.L.A. Bulletin*, or are primarily produced to report on the activities of its issuing body, such as annual reports of corporate bodies, are really no different than monographs published by the same issuing body which are entered under author.

Lubetzky stressed that, during the application of technology to the catalog, one should never lose sight of the ideology behind the catalog.

THE CATALOG IN THE WORLD AROUND IT

Joan Marshall, chief of the Catalog Division of the Brooklyn College Library, noted from the outset that there is no such beast as "the catalog." Instead, there are many catalogs functioning in many different worlds, be it the world of the school child, the research chemist or the casual reader. In each of these worlds the user has a wide variety of information needs and exhibits a wide variety of economic, social, political, and educational backgrounds. The common ground in all of these worlds is that library users, despite their great differences, are expected to negotiate their own way through whatever catalog is presented to them. The catalog in each user's world, therefore, should meet individual information needs readily and with as much ease as is possible.

Despite the many catalog worlds, in creating and augmenting the catalog librarians have generally proceeded on the assumption that "the catalog" exists in the form of bibliographic data distributed by the Library of Congress. The question that should be asked is not whether the catalog is or should be prescriptive or descriptive, but whether or why the same prescriptions must be placed on both research and nonresearch library catalogs.

At the present time there is only one set of rules for entry and description, the *Anglo-American Cataloging Rules* of 1967, and, as stated in its introduction, "these rules have been drawn up primarily to respond to the needs of general research libraries. . . . Within the framework of this research-library orientation, however, an effort has been made to respond as much as possible to the needs of public libraries in which research considerations are not paramount. When the needs of the research libraries and those of other libraries are irreconcilable, alternative rules have been provided for the use of the latter."¹ The problem of the use of these alternative rules is that our central cataloging agency, the Library of Congress, provides only single cataloging copy. Consequently, nonresearch libraries desiring to use alternative rules must either do their own cataloging or alter LC's cataloging. The extent of this dependence of a library on LC cataloging copy has increased during the 1970s with the developments of networking and automated card production systems based on MARC tapes.

The alternate rules, therefore, though appropriate for use in a large number of institutions, have been adopted by only a few, but those few institutions serve a very large percentage of the nation's library users. There is a distinct possibility that the new edition of the AACR currently being written will omit these few alternative rules. The effect of such an action would be immense, since it must be assumed that these libraries would not stop their usual practices, such as entering nonfiction under title-page author, or refusing to use complex romanized forms of names. What appears to be needed, therefore, is a nonresearch-oriented code, a possibility which Marshall felt should at least be explored. The AACR Catalog Code Revision Committee is considering the recommendation that an abridged edition of the code should be published. Perhaps, instead, they should consider publishing a nonresearch library edition.

Subject cataloging on the whole has generally been treated as less important than descriptive cataloging. This may partially be explained by the fact that subject cataloging is much more difficult to confine to rule than descriptive cataloging. But it is also attributable to the oft-spoken thought that most serious library users approach the catalog by author and title and are seeking a specific work.

In looking at the inadequacies of subject cataloging and the subject heading list, Marshall noted that the Library of Congress' *Subject Headings; A Practical Guide*, written by David Haykin in 1951, stressed that the reader was to be the focus in all cataloging principles and practice, and that all

other considerations, such as convenience or the desire to arrange entries in some logical order, were secondary.² Such an approach, based not on logic but on the attempt to choose terminology that would be sought by a hypothetical user, makes the basis for subject cataloging wholly subjective. What is needed, therefore, are new guidelines for subject cataloging that stress objectivity insofar as humanly possible, and logic in arrangement.

As examples of the types of principles desired in such a set of guidelines, Marshall enumerated principles for establishing subject headings for peoples and people as set forth by the SRRT Task Force in Women's Committee on Sexist Subject Headings to the Subject Analysis Committee of the American Library Association and to the Library of Congress. These principles have been accepted by both groups, although Marshall noted with some distress that the Library of Congress' *Information Bulletin* has indicated that these principles would be followed only "wherever appropriate."^{3, 4}

The application of objectivity and logic to subject cataloging practices will not be enough unless the related problems of lack of specificity and timely establishment of headings are also addressed. Although LC has taken the position that headings should not be established unless the terminology seems to be valid and lasting, Marshall felt that it would be better to establish headings more quickly, even if some materials become "lost" under certain headings in the future, than to bury "live" data under non-specific headings. Furthermore, with the availability of the *Library of Congress: Subject Headings* in machine-readable form, programs could be written to retrieve all headings which had not been assigned to works in more than ten years.⁵ These headings could then be evaluated, and the material included under these headings could be reassigned to other headings if appropriate. Similarly, the computer could also be used to detect conflicting headings. In conclusion, the research libraries which are large and apparently more articulate in their cataloging needs, have received considerable attention from LC and ALA. But these libraries represent only a small percentage of library users. It is time to begin to pay attention to the cataloging needs of that larger percentage of library users represented by the nonresearch libraries.

INNOVATIVE CONCEPTS OF BIBLIOGRAPHY IN AN AUTOMATED CATALOG

Fred Kilgour, director of the Ohio College Library Center, approached the topic of the catalog in terms of an on-line computerized library. A catalog is "a systematic record of holdings of a collection," the purpose of which is "to enable a user to find the physical location of information in the collection."

The variables associated with a catalog play an important part in the design of a catalog: (1) usability (not for the library staff but for the patrons of the library); (2) availability (preferably when and where the user wants

it); (3) completeness on an up-to-date basis; (4) ability to personalize in the sense of supplying specific information for a specific individual; (5) current and future size of the catalog; (6) flexibility (for example, in the traditional, classical printed catalog there is almost no flexibility, while an on-line catalog can be redesigned or restructured with little effort); (7) format (that is, the manner in which the cataloging information is displayed, such as on a card or screen); and (8) productivity of those who produce the catalog.

To put the design of an on-line catalog in perspective, Kilgour described models of an AACR catalog. Essentially, an AACR catalog consists of an author catalog and a title catalog. An AACR author catalog, however, is incomplete from the point of view of the user since it contains no anonymous works and lists multiauthored works having more than three authors only under the name of the first author. In addition, an AACR title catalog is also incomplete since it has a half-dozen exclusions for entry under title. Thus, since both segments of an AACR author/title catalog are incomplete, it is not possible to assure a user that he can locate a reference under either author or title.

The model of an on-line catalog can be, and is, quite different. For example, there is no reason for an on-line catalog to be incomplete, because there is no need to limit the number of access points to an item. An on-line title catalog should access by AACR title, title-page title, original title, uniform title, supplied title, collective title, and any special title. A user can be assured that he can always find an entry under title. An on-line author catalog should include all personal and corporate names associated with an item, including cross-references and authority information.

Changing from either a book catalog or a card catalog to an on-line format is certain to result in new cataloging codes. On-line catalogs are not on-line card catalogs or book-form catalogs with entries in a single linear arrangement. Rather, on-line catalogs consist of a huge number of miniature catalogs that may or may not have a fixed size.

As of October 4, 1975, approximately 1,400,000 such mini-catalogs existed in the on-line catalog maintained at the Ohio College Library Center (OCLC), the maximum number of entries in each mini-catalog being 32. The average number of entries in these mini-catalogs was 3.0 for author/title searches and 2.43 for title searches. The total size of the catalog as of the same date was 1,600,069 entries, with the union catalog consisting of 6,881,000 locations attached to these entries.

From a logical viewpoint of a collection, an on-line author mini-catalog would be more complete than an equivalent AACR author catalog, while an on-line title minicatalog would be complete. The author/title mini-catalog has no counterpart under AACR. Therefore, the establishment of the "preferred" entry or main entry is not required in an on-line catalog since the user could readily access an item by any form of title, as well as by author. The user would not even need exact information because trun-

cated words are used in the search keys. In addition, the *Paris Principles of 1961* are met, since an on-line catalog allows a user to ascertain whether or not a library contains a specific author or title, and which works of an author and which editions of a work are available. The on-line catalog not only fulfills the *Paris Principles*, but considerably more.

Mr. Kilgour pointed out that an on-line catalog consisting of minicatalogs each having no more than perhaps thirty-two entries rather than being a single linear arrangement of a huge number of entries as is the case in classical catalogs would certainly not require a complex catalog code like AACR. He suggested that it may be possible to make descriptive catalog entries largely mechanically with some human intervention employing only the text on the title page. He emphasized that such descriptive cataloging could only be employed for constructing an on-line catalog and not a classical hard copy catalog, and that much research must be carried out before a code for such cataloging can be constructed.

If the variables outlined earlier are applied to an on-line catalog, the following observations can be made:

1. The usability of the on-line catalog is greater than the conventional book or card catalog both in terms of greater access and faster and more accurate access to information within the catalog;
2. The availability of the on-line catalog is greater than the conventional catalogs in terms of physical access through remote terminals and telephones;
3. The on-line catalog is more up-to-date than conventional catalogs;
4. The on-line catalog can be personalized;
5. The size of the on-line catalog does not pose any unsolvable problems;
6. The on-line catalog has great flexibility in that a variety of formats for display can be used;
7. The format of the on-line catalog may be standardized, but need not necessarily be uniform; and
8. The use of an on-line catalog for shared cataloging has increased staff productivity.

THE USE OF AUTOMATION TO MAINTAIN A CATALOG AND TO GUARANTEE ITS INTEGRITY

Mike Malinconico, assistant chief of the System Analysis and Data Processing Office at the New York Public Library, spoke on the nature and future of the library catalog in the context of computer technology. Two forces seem to be shaping the development of automated library systems: (1) a depressed economy which has tended to cause cost reduction to be placed before quality of service; and (2) the initiation of the LC MARC Distribution Service which has made authoritative machine-readable cataloging data available at such a low cost (\$.025 per record) that virtually any automated system can show some sort of economy.

The full impact of these trends on a library catalog was not noticed at

first, as the three-by-five-inch card filed into a manual catalog was still the "record of records." As a machine-readable file builds, however, it is not long before the machine file becomes more important than the manual file, especially if the file is a product of a cooperative union catalog or a consortium effort. It then becomes imperative that the machine-readable file be not just a *file* (a collection of records), but a *catalog* (a file which exhibits a coherent, logical structure). It also may become all-too-readily apparent that structure cannot be imposed on a large machine-readable file.

Before determining the structure of a catalog, the function of a catalog should first be considered. Almost a century ago, Charles Cutter viewed the objectives of the catalog as follows: (1) to enable a user to find a specific book by author title or subject, and (2) to show what a library has by author on a given subject or in a specific literature.⁶ In 1961, Paris conference participants reaffirmed this position when they agreed that the catalog of a library should be an efficient instrument for ascertaining that a library has a particular book, identified by a specific author and title, and which works by a particular author and which editions of a particular work are in the library.⁷ Both statements emphasize organization of the collection and attribution of authorship of works as well as access to specific well-defined items. Of these, the organization of the collection as represented in the catalog is probably the most important. Through added entries, access to works can be gathered together in several sequences. Thus, the catalog is not simply an index to the collection, but assists in defining the collection.

If a catalog is to fulfill any of these requirements, it must be able to respond to users' queries completely, but without extraneous citations. It must be able to represent relationships among works in the collection. How does this relate to the automated system? The machine can provide rapid and novel forms of access to the works of the collection, but only if the data on which the access is to be made have an intrinsic order imposed on them before the access is attempted.

It should also be realized, but may too often be overlooked, that data in machine-readable form can only be retrieved by machine logic. Therefore, access-point data must be accurate and consistent to within machine, not simply human, tolerances. It should further be realized that any transcription process is susceptible to error. Using a chart depicting the number of records that can be expected to contain no errors as a function of record length, Malinconico noted that assuming a 99.9 percent typing accuracy rate on average-length 400-character MARC records, 30 percent of the records transcribed would have at least one error. Furthermore, since a typical MARC record contains 116 characters of access points, 11 percent of all records transcribed would have at least one faulty access point. Unlike a manual system in which a data-creation error might be corrected during a manual process of filing a card into the card catalog, small transcription errors made during data creation for machine files can cause in-

finite displacement between records and possibly can cause the record to "become lost" for future retrieval.

Clearly, the only solution to the problem posed is to use the machine itself to control the data. First, all data access points entered into an automated file should be verified against a machine-readable authority file. Any headings that did not match an existing heading on the authority file could then be given to a cataloger to determine if an error had occurred, or if the heading is indeed new. In addition, each heading on the authority file could be given a meaningless number that could be linked with each bibliographic record using that heading in order that the correct form of the heading could be created and stored just once. In developing such an identification number, no correlation should be attached to the text of the heading and the number assigned, the number should be assigned automatically whenever a new heading is added to the authority file, and, if the form of a heading is changed, the identification number should not be changed. In terms of the last point, the particular value of this approach is that the change of the form of a heading would need to be done only once, and all bibliographic records previously linked to the old form of the heading would automatically be linked to the new form of the heading. The incorporation of such features into a file would create a machine-based catalog rather than a reference file of bibliographic records. In an automated catalog system, the clerical aspects of data entry and handling can be done with ease, but this, citing Ohmes and Jones of Florida State University, is only half of the problem.⁸ The other half is that the catalog must be responsive to change.

The rigorous mechanical control of a machine-based catalog of a single institution is thus undisputedly desirable. Furthermore, if an attempt is to be made to establish a coherent national bibliographic data base in machine-readable form, a similar control must be included as an integral feature of the collection vehicle, especially when data are collected from disparate sources.

It is easy to predict that many of the larger libraries will close their card catalogs and develop automated systems geared to user needs. But what will be the impact if the Library of Congress closes its card catalog and develops its own automated linked authority file? How will the rest of the library community keep up? The technology presently exists to create and maintain a catalog at a precise level of bibliographic control unattainable in manual systems. The cataloger can create a record and structure that are permanent but, at the same time, can be kept current with users' needs. Such a task involves creating and maintaining data bases that are organized, not ones that are created or controlled by caprice.

Malinconico concluded by noting that automated bibliographic systems are no longer small, isolated experiments, but represent multimillion-dollar investments. As a direct result, they are quite capable of creating standards in their own image, a possibility which could be detrimental to the future

of bibliographic control in the U.S. if relational principles are not imposed as intrinsic elements in the development of these automated systems.

THE CONTINUING ROLE OF THE LIBRARY OF CONGRESS IN THE FUTURE OF THE CATALOG

William J. Welsh, then director of the Processing Department of the Library of Congress and now deputy Librarian of Congress, first spoke on the cataloging services of the Library of Congress in the present and in the past, in order to set the stage for what LC proposes to do in the future.

For more than three-quarters of a century the Library of Congress has distributed bibliographic information in the form of catalog cards, book catalogs, and allied services.

Since 1968, bibliographic data have also been available in the form of MARC tapes. Although the number of direct subscribers is few, hundreds of libraries benefit through secondary distributors, such as through the Ohio College Library Center, Stanford's *BALLOTS*, and commercial services such as *BIBNET*. MARC records have also been used in the creation of book catalogs, such as those produced by the New York Public Library and the Washington State Library.

Over the next five years, the MARC Distribution Service will be systematically expanded, provided funds can be procured from Congress, to include all of the current cataloging at the Library of Congress, which amounts to approximately 230,000 titles per year. This will include 19,100 book records (10,600 Dutch and Scandinavian, 6,800 Italian, and 2,300 Rumanian) as of January 1976; 9,000 book records (covering all other Roman alphabet languages), 3,500 sound-recording records, and 2,800 music records as of January 1977; 24,000 Cyrillic alphabet records as of January 1978; and 35,000 records covering all other non-Roman alphabets as of January 1979. The inclusion of records in non-Roman alphabet languages, however, assumes the satisfactory resolution of the treatment of the great diversity of scripts and characters. An LC working group is now studying this problem.

The developmental work on the MARC system and formats for different materials have had a major worldwide impact on library automation. Working with library committees both within the United States and abroad, the Library of Congress has taken a leadership role in encouraging the standardization of structure and of content designation of machine-readable bibliographic records, as well as the character sets they require.

A new program that combines automation and cooperation of libraries, is the conversion of serials (*CONSER*) project, and another closely related effort is the National Serials Data Program (*NSDP*).^{9, 10}

A cooperative effort which is now in the pilot project stage is an effort called *COMARC*. Made possible by a grant from the Council on Library Resources (*CLR*), its purpose is to expand the current MARC Distribution Service, which is still limited in coverage by language and imprint

date, by asking COMARC participants to provide LC with machine-readable monograph records in the MARC communications format for non-MARC titles which have been converted locally using printed LC cataloging copy. These records will be processed by LC to eliminate duplicate titles and to add access points as necessary. Records will be distributed to all COMARC users without charge and to other interested libraries as a separate tape distribution service for a fee. COMARC participants are also being asked to supply location reports for the *National Union Catalog Register of Additional Locations*.¹¹ At present, the New York Public Library is the only library providing this information to LC in machine-readable form. On-line access to this file is currently being developed, and additional funds are being sought to further expand this file and to study the possibility of its publication in a microform edition.

Part of the COMARC grant from CLR also includes monies to fund a study to develop a format for machine-readable reports for *NUC*. Based on the premise that it is feasible to define characteristics of an *NUC* report at a level lower than a full MARC record, the study is aimed at (1) determining what that lower level of MARC encoding would be and (2) determining if the lower level of MARC encoding that would be acceptable for *NUC* reports could later be upgraded to full MARC encoding. Such a reporting format would have implications not only for gathering cataloging data, such as through the COMARC project, but also for building location information as well.

In looking to future services to be provided by the Library of Congress, Welsh emphasized that LC recognizes its responsibility as a national bibliographic center to meet the needs of libraries that cannot take advantage of the new technology. Traditional services of cards, proofslips and book catalogs, therefore, will continue to be provided as long as there is a need for them.

New products and services made possible through automation are as follows:

1. Authority data being input in machine-readable form as of January 1976 for all name headings used in current MARC records, along with all new and changed headings for non-MARC headings, will be used to produce an enlarged version of name headings in book and microform. Authority data will also be made available through the MARC Distribution Service on-line. Gradually, authority records will be provided retrospectively for all name headings in the MARC Data Base, which should amount to 1,000,000 MARC name headings by 1980.
2. Coverage of *LC Subject Headings* will be expanded to include places and regions, structures such as buildings and bridges, chemical compounds, and systematic names in botany and zoology. The eighth edition, which was prepared according to the older guidelines and is now available in book form and in microfiche, will be kept current with regular, cumulative supplements. Although the Library of Congress

not begun yet 5/19/76

feels unable to undertake a comprehensive study of the subject heading structure at this time, Welsh did indicate that the task might be undertaken by a specialist outside LC. Meanwhile, LC will do what it can to insure that the list evolves dynamically.

3. Dewey Decimal Classification Numbers will be applied to all MARC records, which will involve an enormous increase in the application of Dewey numbers as MARC expands to include more languages and forms of materials.
4. In 1976, the Library of Congress will begin to convert its preliminary cataloging records, using a subset of the MARC format, to build an automated process information file (PIF) which will be used to control items in the technical processing flow until they are represented by LC cards. As the automated process information file is expanded, it is anticipated that LC will use records created by other national bibliographic centers. To date, agreements with both the National Library of Canada and the Bibliothèque Nationale have been reached, and permission has also been received to redistribute these records in an unaltered form. Since preliminary cataloging records and redistributed national records will be available earlier than full cataloging data, they will also be offered through the MARC Distribution Service as an aid to acquisitions work.
5. In terms of changes to the traditional bibliographic services, more services will be made available in microform, which is faster, cheaper and more easily updated than hard copy. The *LC Subject Headings* is already available in microform, and the *NUC Register of Additional Locations* will become available in this form shortly.
6. While continuing to provide services to individual libraries, LC will continue to cooperate in the development of networks so that, wherever possible, these networks can become secondary distributors of MARC data on-line. In assisting network development, LC will encourage building on current networks rather than on building new ones.

Along these lines, LC is undertaking a network study funded by the National Commission on Library and Information Science (NCLIS) to identify the role of the Library of Congress in networks, both nationally and internationally, near-term and future, and what will be required for the development of a national bibliographic network system, including products and services. In related activities, the Library of Congress is one of six members of the National Bibliographic Control Committee established by the National Science Foundation, the National Commission on Libraries and Information Science, and the Council on Library Resources, whose mission is to provide information on how to coordinate the activities of the three sponsoring organizations and to recommend priorities for action.

Welsh noted that a fully developed network should relieve individual libraries from having to maintain their own copies of the full master data

base since subregional systems would keep that part of the data base which related to their activities and could also have on-line access to the central regional system. To test this possibility, the Library of Congress and the Research Library Group (RLG), consisting of New York Public (NYPL), Columbia, Yale, and Harvard, are embarking on a pilot project in two phases: Phase I will permit the RLG to access the MARC Master Data Base at the Library of Congress on-line through the use of the computer system at NYPL to support cataloging activities at NYPL and Columbia, and later at Yale and Harvard; and Phase II, through the use of mini-computers at both NYPL and LC, will allow on-line access from LC to NYPL and will improve the access from NYPL to LC. Welsh emphasized that this project will benefit all libraries by providing early experience in network design, communications protocol, and data-base access and may set the stage for decentralized input of both bibliographic and name authority records.

In terms of the prospects of an automated catalog of the Library of Congress:

1. By 1980 all current cataloging will be in MARC, and users of the catalog will primarily consult it on-line. The transition to this system will be evolutionary, with components of the system being implemented, tested, and evaluated in stages. At present, all 600,000-plus MARC monographs can be searched on-line by title, name and title, and LC card number compression keys, a searching capacity currently in use by some divisions within LC in part of their daily work.
2. When the automated system has proven itself, new cards will no longer be added to the public or official catalogs. These card catalogs, however, will remain indispensable guides to LC holdings not represented by MARC records.
3. The MARC Data Base will be considered complete for cataloging purposes. By adhering to this concept, LC will be able to alter subject headings as needed, and to make complete name and subject-heading information readily available.

What effect will this have on other libraries? Larger libraries are facing the same problems and decisions as LC, and may well choose to close their card catalogs, particularly if automation plans are pending. Smaller libraries, however, will undoubtedly choose alternate plans, perhaps adopting the policy of linking old and new subject headings with see also references. Whatever immediate difficulties are imposed by these changes, they will be more than compensated for by the long-range benefits of bibliographic control and the vastly increased potential for collaborative effort on a national scale.

THE CATALOG AS A PUBLIC SERVICE TOOL

Marvin Scilken, director of the Orange (New Jersey) Public Library spoke about the catalog as a public service tool: how useful it is in its

present form, how it can be made more useful, and what might be done to further benefit the user. In looking at the catalog as a tool, Scilken noted that librarians have largely created the catalog for themselves rather than for users. In fact, it is complex and often frightening to users who find it inaccessible without trained help. It seems apparent, therefore, that librarians need to work on this tool so as to make it usable in and of itself.

Although few catalog-use studies have been made in the public library area, it has been established that perhaps 10-30 percent of the American public use the public libraries (only 2 percent of that same American public read hardback books). From his own observations, Scilken added that less than one-half of the public library users approach the collections through the catalog. Consequently, the public library must not only cherish its users, it must actively promote its services.

As a result of hearing Lubetzky's talk, Scilken noted that it occurred to him that when the original cataloging rules were developed, the only users of libraries were well-educated people. Today, this is no longer true, since the main public library user is an adult nonstudent. Consequently, the rules that were developed to serve one user group's needs might no longer be the best set of rules to serve the current user group's needs.

Charles Joyce, in an article that appeared in *Library Journal*, suggested that there is no need to file all cards for the subject since (1) the classification number given on a guide card on a specific subject should be sufficient to provide subject access to the collection; (2) if a user desired to know the library's holdings, this could be done; and (3) only cards for books dealing with the subject and *not* bearing the usual number need be filed behind the guide card.¹² This approach can work well, as long as the books on the same subject are not scattered throughout the classification. At the Orange Public Library, Scilken noted that the policy of filing subject cards by date has been adopted and confirmed by the results of a Yale catalog-use study that indicated that newer materials are the ones most frequently sought.¹³ This practice also saves time in filing cards into the catalog.

Scilken observed that LC's CIP program is really not useful as a cataloging aid in the public library since the data provided have a higher degree of error than "regular" LC cataloging and may also encourage libraries to type single sets of cards.¹⁴ As a result, therefore, CIP data should be used in the public library as an educational tool, i.e., to inform readers what subject information may be found in a catalog. The practice of filing order slips in the catalog is of particular merit in that it saves both the user and the librarian from looking in more than one place for materials on order.

Overall, Scilken's primary criticism of the catalog as a tool, and of catalog cards in particular, is that too much unneeded, useless, confusing data are included on the typical catalog card. Cards should be kept as simple as possible. The specialized punctuation and abbreviations required by the International Standard Bibliographic Description, for instance, are an insult to many people interested in public service.

At the American Library Association 1975 Annual Conference in San Francisco, Peter Drucker noted that librarians should know what users want and should respond to their needs, or the accountants will take over. Yet, all librarians share the problem of constructing catalogs with little or no user feedback. Scilken stressed that public libraries must make sure that the material it has is actually available, and that the catalog allows the user to find at least some of the desired materials every time the library is visited. To reach this goal, the different names used by the same author could appear not only in the catalog, but also on a card, sheet of paper, or label pasted in the book.

Scilken described some of the techniques used in the Orange Public Library to help the catalog user: (1) on the few cards prepared by the Orange Public Library, all catalog elements on the catalog card are identified; (2) special fiction cards are included in the catalog telling readers where to look; (3) the names of fictional characters are also filed in the catalog; (4) titles occurring in more than one medium, such as movies and books, are sometimes cross-referenced; (5) variant forms of title or subtitles are included in the catalog and are also traced on the shelflist card; (6) special subject cards are filed in the same catalog and include see also references to related topics and call numbers; (7) if an old subject heading is cut off, special cut-off cards are also added to the catalog; (8) whenever circumstances dictate, special topical subject headings, such as for Bicentennial information, are also made and included in the catalog; and (9) one element of esoteric ISBD punctuation on LC copy is changed to normal English language usage, i.e., modifying the ISBD "/" separating the title and the author statement to the word "by." In summary, Scilken emphasized that "less is more," i.e., that less information on an individual catalog card may lead to more use of the catalog by more readers.

THE ELECTRONIC CATALOG

Hugh Atkinson, director of the Ohio State University Libraries, spoke on the electronic or computerized catalog found at the Ohio State University Libraries. First, though, he prefaced his remarks with comments on positions taken by previous speakers with which Atkinson felt he must disagree:

1. Patrons of large research libraries are really no different than patrons of public libraries. They have not been bred on the classics or taught to read the seventh edition of *LC Subject Headings*. Many are probably less sophisticated than users of the public library.
2. The rational organization of a library by type of material, such as pointed out in the historic ideology concepts stated by Lubetzky, is not the most important aspect to the Ohio State University libraries. Rather, education is the primary mission of the OSU libraries, to put materials into the hands of their users, and, hopefully, the contents of those materials into the students' heads. The whole concept of drawing together editions by author is a literary concept which supposes

that all disciplines are drawn together in a similar fashion, which simply isn't true. The author unity concept is fine in the areas of history and literature, but is much less meaningful in the sciences.

3. In terms of the ideology associated with the electronic catalog, the patrons of the Ohio State University (OSU) libraries don't seem to demand the precision that Malinconico recommended. The OSU library patron seems to be able to handle "horses" and "horseradish" on the same screen, or of retrieving an author by the name of Samuel Clemens when Mark Twain was requested. The real problem is, of course, when no link is available in the electronic catalog between the form of the name requested and the form of the name carried in the catalog.

Atkinson, in describing the ideology of the OSU libraries' catalog, felt that Marshall was right in that there is no such thing as "the catalog" in the modern world, but specific catalogs in specific worlds. The ideology of the Ohio State University libraries' catalog, therefore, is not bibliographic control, but is location of those materials required to enhance education.

In dealing with the nature of the catalog, how it is created and maintained, Atkinson stressed that, as an administrator, he has to deal with the catalog as part of the problem of allocation of resources. There are not enough resources to do all the things that a library should do, and the catalog is but one of the functions within the library. In such a real world if a student can not discern the difference between "Trilling, L.," "Trilling, Lionel Y." and "Trilling, Lionel Edward," it is a problem for the English Department, not for the OSU library catalog. It is also in such a real world that both faculty and students demand that books and materials should be purchased and that the library should be kept open, rather than increasing the cataloging staff or cleaning up the catalog.

To Atkinson, the ideal, large research library would be fully decentralized, consisting of as many as forty to fifty units each matching the society it would serve. Each unit would ideally consist of a single librarian, a few clerks and students, and an adequate collection. The outer limit on this unit would be twelve people, because if more than twelve people were in such a unit, some bureaucracy would evolve, and wasted overhead and loss of work would be the result.

When talking in terms of forty or fifty units in a library, one has to talk in terms of how that would affect the ultimate form of the catalog. Electronics, therefore, is especially important to Atkinson in that it is a vehicle which would allow library processes as well as buildings to be decentralized. In addition, the responsiveness of a library to its community could be more assured in that each small unit could determine its own allocation of resources among reference, cataloging, circulation, and acquisition services, while the controls for these services would still be managed centrally via electronics.

Since 1971, a large portion of the Ohio State catalog has been on-line.

Using an abbreviated record approximately 103 characters long for each of the titles in the OSU libraries' shelflist, a machine-readable file was created that has been used for remote catalog access and circulation, as well as for specific item searching. If one recalls the study at Yale done on catalog use, approximately 80 percent of the searches made were for known items.¹⁵ At OSU last year, over 3,000 known-item automated searches were recorded. During this same period of time, the card catalog was also available (and it will continue to be available for this kind of search), but as far as the staff at OSU could determine, OSU patrons appeared to prefer the automated control system.

In looking at the catalog itself, there is still little known of how or why people use it. A study by Ben-Ami Lipetz, however, indicated that much of the complexity of the catalog is not needed by most of the patrons.¹⁶ And, at OSU at least, it is true that the most complex portions of the catalog, including subjects, series, added entries, and cross-reference structures provided for linkage, are the least-used portions of the catalog. Large catalogs are incredibly expensive to maintain and increasingly impossible to use, and as the catalog grows it becomes less and less used on a "per item contained" basis, yet the demands for speed, accuracy, and at least elementary Boolean search capabilities continue to increase. It is in such a situation that the Library of Congress has made a clear decision to close its card catalog in 1979 or 1980.

It is also now the time, since the required technology is available, and since the basic cataloging information data are already being produced in machine-readable form, for OSU to close its catalog and to continue the analysis of its collections, and the guides to them, through an electronic retrieval system rather than a manual one. This does not mean that the electronic system which is expected to appear in its full form on July 4, 1976, will completely replace the card catalog or cause it to be thrown out. Instead, the electronic system will continue the catalog in an automated form.

To Atkinson, the serious problems are not the theoretical ones of cross-references, syndetic structures, or technical complications of authority files but the real ones of the number of terminals required and the speed at which interactive systems can provide data. At Ohio State, two algorithms, or search keys, have been developed which provide searches in three seconds or less: (1) an author-title key consisting of the first four characters of the author surname and the first five characters of the first word of the title, and (2) a title search key consisting of the first four characters of the first word of the title and the first five characters of the second word of the title. The lack of precision in such a search has not proved to be detrimental and has sometimes even proved an advantage when the user can't spell well or doesn't have an exact citation. In addition, searches can be repeated so quickly that as many as seven or eight automated searches can be completed in the same amount of time it takes to complete one manual

search. The number of terminals required, therefore, must be understood in terms of the speed at which a search can be performed.

In other experiences that Ohio State is having with shared cataloging programs housed at OCLC, searches on data bases containing 300-400 character records are much faster than a search in the card catalog, but are significantly slower than searches on the 103-character, average-length, machine-readable records maintained locally. When the *New York Times* data base, which is truly an interactive system, is added to this, subject searching proves to be much slower than author/title or title searching, i.e., specific item searching. Searching can be programmed, however, so that faster, specific-item searches are handled on one series of terminals, while slower, subject searches are handled on another series of terminals.

Both staff and patron access to the system appear to be desirable in the OSU system since (1) the two terminals located next to the card catalog and designated for patron use are the most heavily used in the system, (2) patrons often prefer to use the terminal first and the card catalog second, and (3) skills for specific item searches can easily be taught from the terminal (skills for subject searches can also be taught, but this has proven to be expensive and slow). An advantage of the automated system is that the explicit, precise subject-oriented searches which often proved difficult in the manual catalog are easier with Boolean logic and BASIS 70, providing the data are there. In addition, the technology is available and is cheap, since many terminals now cost less than \$100 a month.

Perhaps the greatest potential advantage of the electronic catalog is the ability of that catalog to deal more adequately with serial literature. It is now possible, with electronics, to match titles in one's own catalog with those in a professionally or commercially produced machine-readable data base such as ERIC, and simply add that information which is desired, with little or no intervention, to one's own catalog.

In summary, the electronic catalog advantages are (1) remote access, (2) ability to provide at least some Boolean logic approaches to the file, (3) ability to use previously prepared catalog copy, (4) ability to segregate fast from slow searches, and (5) the distant independence of any electronic device.

What will the catalog look like? Instead of a large card catalog there would be, at least in the case of Ohio State, a bank of fifteen terminals, six of which would be staffed and nine of which would be provided with simple instructions for patron use. In addition, personnel who formerly occupied the catalog information desk would be wandering around the terminals assisting patrons. The same problems of bibliographic instruction would be there; only the device would be different.

In looking to the future of the electronic catalog, Atkinson suggested that it is likely that the electronic catalog will provide the ability to contain only the most necessary analysis. Furthermore, it seems reasonable to suggest that somewhere between ten and twenty-five years of data will be

maintained on-line, and that older data weeded electronically on an annual basis will be included in another medium, such as a cumulating microfiche, that can be approached by the same access points as found in standard American cataloging. The structure of the catalog that Atkinson envisions is (1) the old card catalog, (2) the cumulative microfiche of items produced after 1976 which are older than twenty-five years, and (3) the on-line catalog of newer items. With such a system, Atkinson suggested that very few people will use the access to the older literature through the card catalog or microfiche catalog since the author/title and title indexes to all the items in the catalog would be available on-line, and items older than twenty-five years would probably be sought most frequently by specific citation. If this proves true, other decisions about these older catalogs may be made at a later date.

THE FUTURE OF THE CATALOG IN AMERICAN LIBRARIES

Ken Bierman, assistant director of the Tucson Public Library in Tucson, Arizona, spoke on the physical format of the catalog as it is found now, and as it is likely to be found in the near future, in North American libraries of all sizes and types excluding school libraries. An article upon which this paper is based appeared in the December 1975 issue of *JOLA*.¹⁷

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Bylaws of ISAD Sections

AUDIOVISUAL SECTION

At its 1976 Midwinter Meeting, the Executive Board of the Audiovisual Section of the Information Science and Automation Division approved the following bylaws for the Section and directed that the ISAD Bylaws and Organization Committee submit the Section bylaws for approval of the membership of the Section.

The Section membership will vote on these bylaws as part of the 1976 ALA election, and the vote will be requested on the ISAD-Audiovisual Section ballot. Please read the bylaws and record your approval or disapproval of them on the regular ISAD-Audiovisual Section ballot when it arrives.

The members of the ISAD Bylaws and Organization Committee are: Lois M. Kershner, Harriet Rebuldela, Stephen R. Salmon, and Helen F. Schmierer (ch.).

AUDIOVISUAL SECTION BYLAWS

Article I. Name

The name of this body shall be the Audiovisual Section of the Information Science and Automation Division of the American Library Association. As used hereafter, the word "Section" shall mean all current members in good standing of the Audiovisual Section.

Article II. Object

The object of this Section shall be to provide the leadership and educational opportunities for those who are concerned with the use of audio and visual media in all types of libraries. The Audiovisual Section shall provide for the exchange of information, sponsorship of programs, and for the furthering of communication between members with such interests.

Article III. Relationship to the Information Science and Automation Division

This body is a section of the Information Science and Automation Division. The Bylaws of that Division and the Constitution and Bylaws of the American Library Association, to

the extent to which they are applicable, take precedence over these bylaws.

Article IV. Membership

Sec. 1. *Members.* Any member of the Division who shall elect membership in this Section according to the provisions of the Bylaws of the Division thereupon shall become a member of this Section.

Sec. 2. *Classification.* Membership classes of the Section shall consist of the same classes as those of the American Library Association.

Sec. 3. *Dues, rights, and privileges.* Only personal members of the Section shall have the right to vote and to hold office. Dues for the Division paid to the American Library Association shall constitute the dues of members. The date of payment of dues to the American Library Association shall be considered the date of payment of dues to this Section. The designation by a member of the American Library Association, on its membership form, of this Section as a section to which the member wishes to belong shall be considered as election of membership in this Section.

Sec. 4. *Membership, fiscal, and conference years.* The membership, fiscal, and conference

ence years shall be the same as those of the American Library Association.

Article V. Officers, Terms of Office,
and Duties

Sec. 1. *Officers.* The officers of this Section shall be a chairperson and a vice-chairperson (who shall also be the chairperson-elect).

Sec. 2. *Terms of office.* All officers shall serve until the adjournment of the general meeting at which their successors are announced. Procedures for filling vacancies in the offices of chairperson and vice-chairperson are specified in Article VI, Sec. 3.

(a) *Chairperson.* The chairperson shall serve for one year and shall not be eligible for the office of chairperson or chairperson-elect for a period of at least one year following service as immediate past chairperson.

(b) *Vice-chairperson.* The chairperson-elect shall serve for the first year after election as vice-chairperson, the second year as chairperson, and the third year as immediate past chairperson.

Sec. 3. *Duties.* Except as otherwise provided in the bylaws, the duties of the officers shall be such as are specified in the parliamentary authority adopted by the Section, and such other duties as may be approved by the Executive Committee.

Article VI. Executive Committee

Sec. 1. *Composition.* The Executive Committee shall consist of the officers of the Section, the immediate past chairperson of the Section, and two members at large. *Ex-officio* members of the Executive Committee including the executive secretary of the Division, the representative of the Section on the editorial board of the Division's journal, and other *ex-officio* members as shall be from time to time so designated by action of the Executive Committee shall not have the right to vote.

Sec. 2. *Powers and duties.* The Executive Committee shall have authority over the affairs of the Section during the period between meetings of the Section provided, however, that none of its acts shall conflict with or modify any actions taken by the Section. The annual and any other budget requests shall be subject to the approval of the Board of Directors of the Division. The Executive Committee shall perform such other duties as are specified in these bylaws, and shall report upon its work at the regular meeting of the Section.

Sec. 3. *Vacancies.* Vacancies in the elected

membership of the Executive Committee shall be filled as follows:

(a) *Chairperson.* If the office of chairperson becomes vacant, the vice-chairperson shall succeed to the office of chairperson and shall serve in the capacity of chairperson, subject to the provisions of Article VI, Sec. 3(b).

If the offices of both the chairperson and vice-chairperson become vacant within the same year, the Executive Committee shall appoint one of its members to act as chairperson until a chairperson is duly elected. At the next election two candidates shall be elected, one to take the office of chairperson and to serve for one year, the other to serve as vice-chairperson (chairperson-elect).

(b) *Vice-chairperson.* If the office of vice-chairperson becomes vacant, two candidates shall be elected at the next election, one to take the office of chairperson and to serve for one year, the other to serve as vice-chairperson (chairperson-elect). If the vacancy occurs between the close of nominations and the adjournment of the general meeting in one year, the vacancy shall be considered as having occurred in the office of chairperson in the following year, in which case two candidates shall be elected at the election in the following year, one to take the office of chairperson and to serve for one year, the other to serve as vice-chairperson (chairperson-elect).

(c) *Members at large.* If the office of a member at large becomes vacant, a member at large shall be elected at the next election to complete the unexpired term.

(d) *General provisions.* If the successful candidate for an elective office dies or withdraws between the close of nominations and the adjournment of the general meeting, the resulting situation shall be considered as a vacancy having occurred during the term for which this candidate was elected.

Sec. 4. *Terms of office.* Members at large shall serve for two years. They shall be elected for terms expiring in alternate years.

Sec. 5. *Officers.* The officers of the Section shall *ex-officio* be the officers of the Executive Committee.

Sec. 6. *Meetings.* The Executive Committee shall meet in conjunction with each general meeting of the Section. Special meetings may be called by the chairperson, and shall be called upon the written request of a majority of the members of the Executive Committee.

Sec. 7. *Quorum.* A majority of voting mem-

bers shall constitute a quorum of the Executive Committee.

Sec. 8. *Votes by mail.* Votes may be taken by mail as provided in the Bylaws of the Division.

Sec. 9. *Rules of order.* The Executive Committee may adopt rules for the transaction of its business, provided they shall not conflict with the bylaws of the Section.

Sec. 10. *Duties of members.* Each member of the Executive Committee shall perform the duties attached to membership in the Executive Committee. In the case of continued failure of a member at large to participate in the deliberations of the Executive Committee, the Executive Committee may, by vote of three-fourths of its members, declare the office of such member at large vacant.

Article VII. Meetings

Sec. 1. *General meeting.* The Section shall hold a general meeting of the Section at the time and place of the annual conference of the American Library Association.

Sec. 2. *Special meetings.* Special meetings may be called by the Executive Committee and shall be called by the chairperson upon the written request of twenty-five members of the Section. At least thirty days notice shall be given and only business specified in the call shall be transacted.

Sec. 3. *Quorum.* Twenty-five members shall constitute a quorum.

Sec. 4. *Votes by mail.* Votes by mail may be authorized by the Executive Committee between meetings. Such mail votes shall be conducted under the same requirements as votes at meetings.

Mail ballots shall be conducted by the executive secretary in such manner as the Executive Committee shall determine. A copy of the ballot shall be mailed by the executive secretary to each member simultaneously. The Executive Committee shall have the authority to set the time limit during which votes will be recorded, but if no such time limit is set, no vote shall be counted unless received within thirty days from the day the text of the ballot or question voted upon was mailed properly addressed to those entitled to vote on the matter involved. A proposal is carried if it receives the same proportion of affirmative votes from among all votes cast as would be required to carry the same proposal if voted upon at a meeting. Unless otherwise specified in the proposal, if carried, it becomes effective upon publication of the result of the ballot.

In the case of a vote by mail, the Execu-

tive Committee may designate publication of the ballot or questions submitted in the official journal of the Division as the appropriate method of submitting the matter to the members for their determination.

Article VIII. Other Committees

Sec. 1. *Standing and annual committees.*

(a) *Establishment.* The Section may establish standing and annual committees to consider affairs of the Section which require continuous or repeated attention by the members. The Executive Committee shall recommend the name and size of each such committee, and may recommend special regulations for its appointment, composition, and term of office of members.

(b) *Composition.* Unless otherwise provided for by these bylaws or by action of the Section, each standing and annual committee shall be composed of an odd number of not less than three members, each of whom shall be an active member in good standing of the Section.

(c) *Terms of office.* Unless otherwise provided for by these bylaws or by action of the Executive Committee, members of standing and special committees shall be appointed for terms of two years, and may be appointed for a second term but in no case shall a person serve on a committee for more than four consecutive years. The terms of approximately one-half the members shall expire each year. Members of annual committees shall be appointed for terms of one year.

Sec. 2. *Special committees.* Committees not authorized as standing or annual committees are special committees. Special committees may be authorized by the Section or by the Executive Committee. Each special committee shall continue in existence until its purpose is accomplished or it is discharged by the Section or by the Executive Committee.

Sec. 3. *Intersectional committees.* Intersectional committees with sections within the Division and other intra-Division committees may be established by the Section upon recommendation of the Bylaws and Organization Committee of the Division and the approval of the Executive Committee.

Intersectional committees and other committees formed with units that are outside the Division and that are within the Association may be established only as provided for in the Bylaws of the American Library Association.

Sec. 4. *Joint committees.* The Section or the Executive Committee may recommend to

the Division that joint committees, either standing or special, be established with other organizations when the functions of the proposed committee cannot appropriately be delegated to a single Division or Section committee. Joint committees with organizations outside the American Library Association shall be established only as provided for in the Bylaws of the American Library Association.

Representation of the Section in organizations outside the Association may be authorized by the Division or the Board of Directors of the Division, with the approval of the American Library Association.

Sec. 5. *Notification.* The chairperson shall inform the executive secretary of the Division annually of the establishment and functions, or discontinuance of all committees of the Section.

Sec. 6. *Appointments.* Unless otherwise provided for by these bylaws or by action of the Executive Committee, each committee member and representative shall be appointed, with the approval of the Executive Committee, by the vice-chairperson (chairperson-elect) of the Section, or the chairperson of the Section, under whose term of office as chairperson the member shall commence service, and shall serve until the adjournment of the meeting at which a successor is appointed.

Vacancies on committees shall be filled by the chairperson of the Section with the approval of the Executive Committee.

Sec. 7. *Votes by mail.* Committee votes may be taken by mail, provided all members are canvassed simultaneously. In case of dissent among members, a second vote shall be taken after each member has been acquainted with the views of every other. Each committee shall have the authority to set a time limit within which the votes of its members shall be recorded, but if no such time limit is set, no vote shall be counted unless received within thirty days from the day the text of the matter to be voted upon was mailed properly addressed to those entitled to vote.

Sec. 8. *Reports.* Unless otherwise specified in these bylaws, or in the act authorizing a committee, each committee shall report on its work at the general meeting of the Section in the following manner:

Committees shall transmit their reports to the chairperson of the Section not later than thirty days before the general meeting of the Section.

Reports containing recommendations for action by the Section shall be presented at the general meeting. If a copy of a report was distributed to the membership either

before or at the beginning of the meeting, and unless a majority of the members present and voting demand a reading of the report, its presentation may be limited to a summary of the findings and a reading of the recommendations.

Other reports shall be published in full or in summary or be transmitted otherwise to the membership not later than four months after the general meeting. Such reports shall be cited, and their disposition announced, at the general meeting.

Article IX. Discussion Groups

Sec. 1. *Establishment.* Any group of ten or more members of the Section interested in discussing common problems which fall within the object of the Section may form a discussion group upon written petition from the group and upon approval of the Executive Committee. The petition shall include the purpose of the group and the requirements for membership, if any.

Sec. 2. *Membership.* Membership is open to members of the Section who are interested in the purpose of the group and who fulfill the requirements for membership in the group.

Sec. 3. *Officers.* Each group shall elect a chairperson annually. In addition to the regular duties of this office, the chairperson shall see that the group's activities are limited to discussion of common problems within the purpose of the group, that the group engages in no activity in conflict with the program of the Section, and that the Section bylaws are observed by the group.

Sec. 4. *Discontinuance.* Each group shall continue in existence until its usefulness has ceased when it shall be dissolved by action of the Executive Committee.

Article X. Nominations and Elections

Sec. 1. *Nominations.* The Nominating Committee shall present candidates for the positions of vice-chairperson (chairperson-elect) and members at large of the Executive Committee when required. Other nominations for these offices may be submitted in writing by any ten members and shall be filed with the chairperson of the Section and with the executive secretary of the Division. Any such nominations shall be included on the official ballot.

No candidate shall be presented whose written consent has not been filed with the executive secretary of the Division. No candidate shall be presented who is not a personal member in good standing of the Section at the time of nomination.

Sec. 2. Nominating Committee.

(a) *Composition.* The Nominating Committee shall consist of three to five members of the Section. No member of the Executive Committee shall be appointed to the Nominating Committee.

(b) *Terms of office.* The Nominating Committee shall be appointed for a one-year term, ending with its final report to the membership, by the vice-chairperson (chairperson-elect) under whose term of office as chairperson its final report will be made, and with the approval of the Executive Committee. Members of the Nominating Committee, upon expiration of their terms, shall not be eligible for immediate reappointment.

(c) *Duties.* The duties of the Nominating Committee are those specified in the Bylaws of the Division. In addition, the Nominating Committee shall report to the executive secretary of the Division, and the executive secretary shall notify each member by mail of the nominations for elective offices in the Section at such time as is prescribed by the Bylaws of the American Library Association.

Sec. 3. Elections. Elections shall be conducted in accordance with the Bylaws of the Division and Bylaws of the American Library Association.

Sec. 4. Extraordinary circumstances. If, for reasons beyond the control of the Section, no general meeting is held in any one year, terms based on the date of the general meetings shall be determined by the anniversary of the last general meeting at which an election was reported, unless a different date is authorized by the American Library Association. The election results shall be mailed to each member.

Article XI. Amendment of Bylaws

Sec. 1. Proposals. Amendments to the bylaws

may be proposed by the Executive Committee or, in writing to the Executive Committee, by any Section committee, or by petition signed by ten members of the Section. Proposed amendments shall be presented in writing to the chairperson of the Section and the executive secretary of the Division at least ninety days prior to the date at which they are to be acted upon; they shall then be referred by the executive secretary to the Bylaws and Organization Committee of the Division, which shall report upon them to the Section membership.

Sec. 2. Notice. The text of any proposed amendment shall be mailed to each member of the Section at least thirty days prior to the meeting at which it is to be acted upon.

Sec. 3. Voting. The bylaws may be amended by a two-thirds majority vote of those members participating in the vote to amend. The vote shall be taken either at the general meeting of the Section, or by mail, and, if by mail, preferably as a part of the mail vote for election of officers.

Sec. 4. Adoption. A proposed amendment or new bylaw becomes effective when it has been approved.

Article XII. Notice by Mail

Publication of notices in the journal of the Division or the Association shall be considered sufficient to fulfill the requirement of notice by mail.

Article XIII. Parliamentary Authority

The rules in the latest edition of *Robert's Rules of Order (Newly Revised)* shall govern the Section in all cases to which they are applicable provided they are not inconsistent with the bylaws of the Section, the Bylaws of the Division, or with the Constitution and Bylaws of the American Library Association.

VIDEO AND CABLE COMMUNICATIONS SECTION

At its general meeting at the 1975 Annual Conference, the membership of the Video and Cable Communications Section approved Section bylaws with the proviso that all terminology perpetuating sexual stereotypes be removed from the bylaws. At the 1976 Midwinter Meeting, the ISAD Bylaws and Organization Committee submitted bylaws meeting the requirements of the proviso, and the VCCS Executive Committee accepted the bylaws.

The approved Video and Cable Communications Section bylaws are identical to the Audiovisual Section bylaws, printed above, except as follows:

VIDEO AND CABLE COMMUNICATIONS SECTION BYLAWS

Article I. Name

The name of this body shall be Video and Cable Communications Section of the Information Science and Automation Division of the American Library Association. As used hereafter, the word "Section" shall mean all current members in good standing of the Video and Cable Communications Section.

Article II. Object

The object of this Section shall be: to investigate the current status and use of video and cable technology for library services; monitor technical developments of video and cable and related facilities significant to library applications; monitor legal and regulatory development of cable communications; investigate ALA cooperation with other concerned organizations to integrate efforts in gaining recognition and consideration for the library community's need for utilizing video and cable technologies and work together in common legislative efforts; facilitate and encourage special interest programming by various Association divisions and units; sponsor programs and institutes of general interest to the Association; encourage the development of standards of library video and cable communications including bibliographic control and interlibrary exchange; and act as technical advisor to ALA Committee on Legislation in legislative and regulatory matters dealing with video and cable communications.

Article V. Officers, Terms of Office, and Duties

Sec. 1. *Officers.* The officers of this Section shall be a chairperson, a vice-chairperson (who shall also be the chairperson-elect), and a secretary.

Sec. 2. *Terms of office.*

(c) *Secretary.* The secretary shall serve for two years.

Article VI. Executive Committee

Sec. 3. *Vacancies.*

(c) *Secretary and members at large of the Executive Committee.* If the office of secretary or a member at large becomes vacant, a secretary or a member at large, as the case may be, shall be appointed by the Executive Committee until a replacement is elected at the next election to complete the unexpired term.

Sec. 4. *Terms of office.* Members at large shall

serve for three years. They shall be elected for terms expiring in different years and shall not be eligible for consecutive terms.

Sec. 5. *Officers.* The officers of the Section shall be the officers of the Executive Committee.

Sec. 6. *Meetings.* The Executive Committee shall meet in conjunction with each general meeting of the Section. Special meetings may be called by the chairperson or shall be called upon the written request of a majority of the members of the Executive Committee.

Article VIII. Other Committees

Sec. 7. *Votes by mail.* Committee votes may be taken by mail, provided all members are canvassed simultaneously. Each committee shall have the authority to set a time limit within which the votes of its members shall be recorded, but if no such time limit is set, no vote shall be counted unless received within thirty days from the day the text of the matter to be voted upon was mailed properly addressed to those entitled to vote.

Article X. Nominations and Elections

Sec. 1. *Nominations.* The Nominating Committee shall present candidates for the positions of vice-chairperson (chairperson-elect), secretary, and members at large of the Executive Committee when required. Other nominations for these offices may be submitted in writing by any ten members and shall be filed with the chairman of the Section and with the executive secretary of the Division. Any such nominations shall be included on the official ballot.

No candidate shall be presented whose written consent has not been filed with the executive secretary of the Division. No candidate shall be presented who is not a personal member in good standing of the Section at the time of nomination.

Sec. 2. *Nominating Committee.*

(a) *Composition.* The Nominating Committee shall consist of three members of the Section. No member of the Executive Committee shall be appointed to the Nominating Committee.

Article XIII. Parliamentary Authority

Roberts' Rules of Order (Newly Revised) shall govern the Section in all cases to which they are applicable provided they are not inconsistent with the bylaws of the Section, the Bylaws of the Division, or with the Constitution and Bylaws of the American Library Association.

Proposed Amendments to Bylaws of the Information Science and Automation Division

At the 1975 Midwinter Meeting, the ALA Council adopted a resolution stipulating that ALA publications and official documents avoid terminology that perpetuates sex stereotypes. The ISAD Bylaws and Organization Committee has reviewed the Division bylaws with respect to this stipulation and with the approval of the ISAD Board of Directors proposes the following amendments to the ISAD bylaws. (Refer to *Journal of Library Automation* 8:63-69 for present ISAD bylaws, approved in the 1975 ALA election.)

The membership of ISAD will vote on these amendments as part of the 1976 ALA election, and the vote will be requested on the ISAD ballot. Please read the amendments and record your approval or disapproval of them on the regular ISAD election ballot when it arrives.

Article IV. Officers, Terms of Office, and Duties

Sec. 2 (a) Strike out the entire subsection and insert: "(a) *President*. The president shall serve for one year and shall not be eligible for the office of president or president-elect for a period of at least one year following service as immediate past president."

Sec. 3 (a) Strike out the entire subsection and insert: "(b) *Vice-president*. In addition to the regular duties of this office, the president shall see that the bylaws are observed by the officers and members of the Board of Directors and that the orders of the Board of Directors and of the Division are carried out. The president shall identify actions in the interest of the Division and shall recommend such actions to the Board of Directors. The president shall perform such other duties as the Board of Directors may assign to this office."

Sec. 3 (b) Strike out the entire subsection and insert: "(a) *Vice-president*. In addition to the regular duties of this office, the vice-president shall perform such other duties as the Board of Directors may assign to this office."

Sec. 3 (c) Strike out the entire subsection and insert: "(c) *Executive secretary*. In addition to the regular duties of this office, the executive secretary shall submit an annual report to the Division and other reports as required by the Board of Directors. The executive secretary shall perform such other duties as the Board of Directors may assign to this office."

Article V. Board of Directors

Sec. 3 (a) Strike out the first paragraph of this subsection and insert: "(a) *President*. If the office of president becomes vacant, the vice-president shall succeed to the office of president and shall serve in the capacity of president, subject to the provisions of Article V, Sec. 3 (b)."

Sec. 3 (d) Strike out "he" before "was elected" and insert "this candidate".

Sec. 10. Strike out the first sentence and insert: "Each member of the Board of Directors shall perform the specific duties attached to membership on the Board."

Article VII. Committees

Sec. 1 (a) In the second sentence strike out "chairman" and insert "chairperson".

Sec. 5. In the second sentence, strike out "He" and insert "The executive secretary".

Sec. 6. In the first paragraph, strike out "his" after "shall commence".

In the first paragraph, strike out "his" after "meeting at which" and insert "a".

Article VIII. Sections

Sec. 2. Strike out the first sentence and insert: "Any member of the Division may affiliate with as many sections as desired, and shall enjoy all privileges of membership in each section joined."

Sec. 3 (b) Strike out the entire subsection and insert: "(b) *Representation on the Board of Directors.* The chairperson of each section shall be a voting member of the Board of Directors of the Division. Any chairperson of a section who is unable to attend a meeting of the Board of Directors shall notify the executive secretary promptly, and the chairperson-elect of that section shall become a voting member of the Board of Directors for that meeting. If the chairperson-elect of the section is unable to attend a Board of Directors meeting as a substitute voting member for the chairperson of the section, such chairperson-elect shall notify the chairperson and the executive secretary promptly; under these circumstances the chairperson of the section may designate a substitute voting member from the governing body of that section."

Article IX. Discussion Groups

Sec. 3. In the first sentence, strike out "chairman" and insert "chairperson".

In the second sentence, strike out "In addition to his regular duties, the chairman" and insert "In addition to the regular duties of this office, the chairperson".

Article X. Nominations and Election

Sec. 1. In the second sentence of the second paragraph, strike out "his" after "at the time of".

Article XI. Amendment of Bylaws

Sec. 1. In the second sentence, strike out "him" after "referred by" and insert "the executive secretary".

In addition to the amendments proposed to remove terminology perpetuating sex stereotypes, the ISAD Bylaws and Organization Committee with the approval of the ISAD Board of Directors also proposes the following amendment to clarify election procedures. The membership of ISAD will also vote upon this amendment as part of the 1976 ALA election, and the vote will be requested on the ISAD ballot.

Article V. Board of Directors

Sec. 3 (b) In the first sentence, strike out the comma after "becomes vacant" and insert "before the close of nominations for the next election,".

TECHNICAL COMMUNICATIONS

Initial Articles; Computer Filing; Networks

The September issue of *JOLA* contained an article by Charles P. Bourne on problems and possible solutions in the computer filing of initial articles.¹ As is customary with Bourne, this article is meticulously researched, well-written and conceived, full of useful data, and highly thought-provoking.

Based upon his and other data, we would like to make the following observations:

1. The omission of initial articles from titles for filing and space-saving purposes has a long, honorable, much-used and not computer-connected history in bibliographic work. Such omissions, however, are not sanctioned by such current library and bibliographic standards as AACR (either version of chapter 6) or ISBD. This should certainly be considered as these standards are revised.

2. Bourne correctly notes the difficulty of having keyboarders do editing to eliminate initial articles. His discussion of the problems of manual editing prior to keyboarding, however, applies only to situations in which the original record contains initial articles. If we are discussing newly cataloged titles, it seems doubtful if either omitting initial articles or tagging them to indicate they should be ignored would add significantly to costs of cataloging. Tagging does add significantly to keying and proofreading costs. Bourne seems to make an (at present) realistic assumption that we are either keyboarding already cataloged data containing untagged initial articles, or that we are using machine-readable catalog copy which does. If we changed our cataloging rules to omit initial articles not to be filed on, we would presumably slightly lower input keying costs without adding to cataloging costs (assuming the cataloger understands the language of the title). This step would make program loops to suppress initial articles (tagged or untagged) in forming sort keys unnecessary. Human suppression

of initial articles need occur only once and would make unnecessary program loops for their suppression at each using installation—this is feasible since one of the few things we do all agree on about filing is that we ignore initial articles.

3. If we did change our rules to permit omission of initial articles when original cataloging is done, Bourne's suggestions become an excellent and economic guide to conversion of existing machine-readable records by their ingenious combination of man-machine abilities. Error rates would be extremely low, and residual errors could be manually corrected when they were detected in using the catalog.

4. It seems and is comparatively easy and comparatively error free to write loops to deal with initial articles, tagged or untagged. The cost of tagging may seem comparatively low. When considered in the context of tagging and writing look-up routines for a whole host of other filing situations, however, the situation is a bit more hairy.

5. The key to information access is the ability to arrange entries in a convenient, logical, and easily fileable and researchable order. We do have differing ideas as to what constitutes a "convenient, logical, and easily fileable and searchable order." It is clear, however, that having to write sort key routines (each simple by itself though the sum of those required are likely to be bewilderingly complex) to deal with data for which the input format was not designed for filing, is currently producing arrangement orders which few people believe to be logical (e.g., interfiling the subdivisions of one subject with entries for other subjects which happen to begin with the same words, or interfiling inversions with subdivisions and subordinating them as subdivisions).

6. Admittedly, many attempts to cut the Gordian knot applied in nonlibrary situations have been even more disastrous: arbitrary limitation of entry length then resulting in inconsistent abbreviation; forbidding inversion, which produced interesting effects when applied to personal names as subjects and, in at least one instance, resulted in the bold idea of treating forenames as parenthetical qualifiers;

forbidding punctuation other than parentheses in entries; and other instances where any practicing librarian or indexer would have known better.

7. Progress is being made, however, in recognizing that *any* technology requires us to adapt somewhat to it, in order truly to adapt it to our needs—witness the Library of Congress' recent decisions (to cite only two examples) to make geographic subdivision consistently indirect and to add dates to all period subdivisions. These represent, really, the way things should go, in that they seem pretty clearly provoked by machine considerations—but that they also do not upset existing apple carts and are (and, ironically, always were) of clear benefit to ordinary human filers and users.

8. All too much of our effort up to now seems to have been somehow to automate handling of our data without departing from sanctified formats designed for other

means of manipulation, presumably to avoid problems to those with large existing files. Bourne's and other data seem to show that it is now time to consider a truer systems approach and that we know enough now to realize that we can undertake input format revision which will cut down on input keying costs by minimizing tagging and redundancy, make programming simpler, lower data storage transmission costs, make decentralized input compatible with, say, MARC less costly—all at least without damaging quality, while often we may be able to enhance it.—*Theodore C. Hines, Chairman, Library Education/Instructional Media Program, University of North Carolina at Greensboro.*

1. Charles P. Bourne, "Initial Article Filing in Computer-Based Book Catalogs: Techniques, Problems, and Article Frequencies," *Journal of Library Automation* 8:221-47 (Sept. 1975).

Statement of Ownership and Management

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Extent and Nature of Circulation

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Statement of Ownership, Management and Circulation (PS form 3526, Jan. 1975) for 1975 filed with the United States Post Office Postmaster in Chicago, September 29, 1975.

NEWS AND ANNOUNCEMENTS

Editor's Note. Because of time constraints, the *Highlights of Meetings* of the ISAD Board of Directors which usually appears in the March issue will appear instead in the June issue. The reports of the Nominating Committee and the Bylaws and Organization Committee, however, which must be announced to the membership before the ALA election, have been included in the March issue.

Corrigenda

In the December 1975 issue, two references were made in the article by Stephen M. Silberstein to "Figure 4." The first reference is erroneous and should be deleted; it is the second full sentence on page 306.

It has been brought to the attention of the editors that inaccuracies exist in the report of a study conducted by the Illinois Institute of Technology Research Institute (IITRI), issued by the Association for Library Automation Research Communications (LARC). The author is Martha Williams, with Peter Schipma as joint author. Copies of the publication with the correct title page and table of contents may be obtained from the National Technical Information Service (NTIS).

Videocassette Applications at the University of Utah

For a fast-growing number of University of Utah students, cramming for exams now includes slipping on a headset, flipping a switch, and viewing a TV monitor.

The popularity of electronic quick-study has boomed since Marriott Library installed videocassette playback units two years ago. Only 45 persons tuned in during December 1973, shortly after the system was first made available, but in April 1975 the viewing audience had grown to 4,763 students.

On-demand viewing includes capabilities for the viewer to stop, reverse, and start a tape as desired. Video viewing rooms also are available for small groups or entire classes. Program material ranges from academic course offerings in the sciences to ethnic studies and speech communications. Over 700 offerings are available including library orientation spots shown during class breaks.

For further information contact: By Sims (801) 581-6773.

NTIS and Ei to Provide Integrated Searches

The National Technical Information Service and Engineering Index, Inc., announce agreement to jointly publish a series of integrated searches of their respective data bases. This new cooperative effort will provide wide-ranging and timely abstracts, citations, and indexes in topical and selected subject areas of science and technology.

Specific subject areas will be determined by the staffs of both organizations from time to time to create these searches. The resulting service will be of such quality and timeliness to be responsive to the needs of the users. In this way, the selective information of both NTIS and Ei will be made available in a single source.

Video Bluebook Lists 5,000 Available Programs for Managers, Trainers, and Personnel Directors

The first complete guide to training and informational programs in the video format, known as the *Video Bluebook*, has been copublished by Knowledge Industry Publications and Esselte, Inc.

The *Video Bluebook* catalogs over 5,000 programs for video users by publisher, by title, and by subject classification, indicating the form in which each program is available. There are also 500 suppliers of video services listed in the directory.

Programs for business, government, and industry account for half of the subjects in the *Video Bluebook*. General interest subjects that are business related represent the other half.

Titles—offered for sale or rent by about 100 publishers—range from accounting to women in management. Electronic data processing, sales techniques and training, engineering, careers and career development, ecology, and environmental problems are among the more prominent categories in the 370-page directory.

Video Bluebook is available from

Knowledge Industry Publications, 2 Corporate Park Dr., White Plains, NY 10604. The cost per copy is \$29.50.

Identicon Corporation Receives Contract from Library of Congress

Identicon Corporation has been awarded a contract by the Library of Congress to supply optical scanning hardware for use in the library's processing system. The bar code scanning hardware to be supplied to the library incorporates light pen, multiplexing and microprocessor technology, and Universal Product Code (UPC) reading capability.

Essentially an inventory control system, the new system is designed to facilitate book processing by enabling administrators to keep track of the location of each book as it travels from station to station through the library's processing network. The system will consist of an identifying bar code label affixed to each book as it is received; a network of 98 "light pen" or optical wand stations throughout the library; ten Identicon Model 635 Multiplex decoders, each capable of monitoring sixteen individual "light pen" stations; and a central IBM System/7 computer to receive, interpret, and report information supplied by the decoders. IBM will have overall responsibility for installing and maintaining the system.

Master Calendar of Meetings in the Information Processing Field Being Developed by AFIPS

A master calendar of all meetings scheduled in the computing and information processing field is currently being developed by the American Federation of Information Processing Societies, Inc. (AFIPS). Plans call for publication by December 31, 1975, of the initial calendar which will provide a comprehensive listing including meetings of the fifteen AFIPS constituent societies, and all other meetings of significance by any established group involved in computer science and data processing techniques, technology, or applications.

All societies, associations, organizations, and groups active in the computing field are urged to send available information on their upcoming meetings to AFIPS. Information should be forwarded to John B. Brokenshire, Director of Finance and Administration, AFIPS, 210 Summit Ave., Montvale, NJ 07645.

Areas to be covered include such fields as computer science, data processing, information science, hardware and related technology, and EDP applications. In addition to national meetings, the calendar will list regional conferences, special interest symposia and workshops, and related gatherings.

Organizations providing information will be furnished with a complimentary copy of the completed calendar and will have the opportunity to update their information on a regularly scheduled basis. In addition, the calendar will be available for publication in various magazines, journals, and newsletters.

Science Citation Index Now Searchable On-Line

The Institute for Scientific Information (ISI) has announced that it will work with Lockheed Information Systems (LIS) to provide on-line, interactive, computer searches of the journal literature from the full range of scientific disciplines. Now fully operational, the ISI/LIS service is called SCISEARCH and is designed to give quick, easy, and economical access to one of the world's largest multidisciplinary science literature files. Initiation of the service marks the first time the complete *Science Citation Index (SCI)* data base will be available for on-line searches.

SCISEARCH will offer every significant item (articles, reports of meetings, letters to the editor, editorials, correction notices, etc.) from about 2,500 of the world's most important science journals and will offer initially a file of about 800,000 items published from January 1974 to the present. Each month approximately 40,000 new items will be added. By July 1976, the file will cover the most

current thirty months of the literature and will total over one million items.

Searchers will be able to use SCISEARCH twelve to fifteen hours each weekday; six hours on the first and third Saturdays of each month.

Gaylord Announces New Centralized Computer Circulation Control Systems

A new computerized circulation control system, designed to improve patron service and meet the data-handling needs of all sizes of libraries and library networks, has been introduced by Gaylord Brothers, Inc.

The system's computer-sharing approach is well established in commerce and industry. It requires only minimal equipment in the library itself.

The basic library requires a terminal and a minicomputer. The remote "host" computer—the master service center—is linked to the minicomputer by telephone line. A branch library would normally require only the terminal and telephone connection to the minicomputer at the main library.

Daily transactions are transmitted to the host computer, which processes all system data. The host computer returns a daily summary report of transactions to each installation, and also prepares printed overdue notices, and weekly, monthly, and annual statistical reports for each library.

The system meets virtually all circulation needs, is economical, and is simple to operate. Staff personnel can be trained in its use in about one working day.

Cyphernetics Announces New Language

The Cyphernetics Division of Automatic Data Processing, Inc., an international remote computing service, has announced the availability of IPL, an Information Processing Language. Now available for general use after extensive field testing, IPL is a high-level language emphasizing ease of use and flexibility in data base management and transaction processing applications. IPL is specifically designed for the fast and cost-effective

development of systems to collect, organize, validate, update, report, and control management information. Through a unique combination of features, IPL provides the benefits of flexibility in the design of systems while retaining efficient processing.

IPL offers a variety of techniques for the storage, retrieval, and analysis of large quantities of information. Data can be structured to meet special requirements and to permit multiple applications of a data base with one-time input. IPL's validation techniques filter data at the source to ensure accuracy. Data bases can be updated at will with low cost, while IPL's built-in security controls limit access to sensitive information. Should requirements change or new information be required, the entire data base may be reorganized through a single "transform" command. A flexible reporting system facilitates the creation of both production and ad hoc reports in any format desired. Unlike most data base management and transaction processing systems, IPL systems may be integrated into existing applications that use standard languages or other Cyphernetics information management products. IPL may be used with any standard remote computing terminal and is ideal for applications requiring data entry and reporting from multiple locations. The ease with which modifications may be made to both data bases and reports makes IPL particularly attractive in fast-changing environments where conventional data base systems and standard languages such as FORTRAN, COBOL, or BASIC are impractical. For further information contact Don Fostle (313) 769-6800.

Study of Automated Circulation Control Systems

The automation of circulation control is becoming a matter of increasing interest as libraries seek methods to reduce operational costs while at the same time increasing, or at least not decreasing, the quality of their public services. In the past, automation has been a realistic possibility almost exclusively for those li-

libraries which have extensive local support in systems analysis and design, programming, and electronic data processing equipment. Consequently, the typical library utilizing automated techniques in the U.S. has, heretofore, been a medium to large-size academic library. However, with the advent of new technologies and new marketing strategies by vendors, many libraries, particularly public libraries, can for the first time seriously consider the automation of their circulation control functions.

In an effort to provide librarians with information concerning the automated circulation systems being utilized in libraries, *Library Technology Reports* commissioned Barbara Evans Markuson, then an independent library consultant and currently director of the Indiana Cooperative Library Services Authority (INCOLSA), to produce a review and analysis of automated commercially vended circulation control systems. The report by Ms. Markuson has been edited by Howard Pasternack, *LTR* assistant editor, for publication as a special combined July and September 1975 issue of *Library Technology Reports*.

The introductory section to the report includes a discussion of basic concepts and terminology, and of decision factors relating to the automation of circulation. The introductory section is followed by individual reports on five circulation control systems selected for study: CLSI LIBS 100, IBM System/7, Checkpoint/Plessey Library Pen System, Check-A-Book, and Mohawk. These five reports were generated from literature submitted by the vendors, from information obtained during vendor site visits, and from site visits to libraries to observe the systems in operation. The complete report, titled "Automated Circulation Control Systems: An Overview of Commercially Vended Systems," numbers some 170 pages and is available for purchase by nonsubscribers for \$35 from *Library Technology Reports*, American Library Association, 50 E. Huron St., Chicago, IL 60611.

More Than 100 Sessions Planned for 1976 National Computer Conference

The 1976 National Computer Conference, to be held on June 7-10 in New York City, will feature over 100 sessions emphasizing the needs of computer professionals, specialists, users, corporate managers, and educators. The program will assist all computer users by providing comprehensive in-depth analyses of the latest trends and issues affecting performance, productivity, and profit.

The conference program, under the direction of '76 NCC program chairman, Dr. Stanley Winkler of IBM, will be organized into ten or more major program areas scheduled to run throughout the four-day NCC. The program areas will cover such topics as "Complex Systems," "Hardware Technology," "Software and Components," "System Architecture," "Computer Communications," "Management Concerns," "Education and Training," "Advanced Applications," and "Societal Issues." In addition, plans are under way for presentation of major survey papers tracing important historical developments within the field of computing and information processing.

The program will also include more than twenty special one-day "minisymposia." Plenary sessions covering topics of unusual interest to all data processing professionals are also being formed, and these will feature prominent speakers from major business areas, such as banking and finance.

NLM and CAS Enter into Cooperative Program

The National Library of Medicine (NLM) has entered into a one-year \$156,200 contract with the American Chemical Society's Chemical Abstracts Service Division for information and services in support of NLM's Toxicology Information Program. The contract extends cooperative efforts between NLM and CAS in which the CAS chemical registry system and other portions of the CAS data base have been used to supply information for NLM's TOXLINE and CHEM-

LINE computer-based information retrieval services.

Under the new contract CAS will assist NLM in resolving substance identification problems, develop and install a maintenance system for updating and creating new generations of NLM's CHEMLINE file, which provides access to substance-related information in the TOXLINE data base and other NLM on-line services, and develop search aids and indexes to assist users in conducting structure and substructure search of CAS systematic nomenclature in the CHEMLINE file. CAS also will cooperate with NLM in developing a search profile for extracting from the CAS data base citations, abstracts, and index entries for documents in toxicology and related fields for use in the TOXLINE data base, enrich NLM's *Toxicity Bibliography* file by adding to it the *Chemical Abstracts* chemical substance and general subject index entries for those citations in the file that are also covered by CAS, and evaluate, in cooperation with NLM, the usefulness of tagging toxicology-related data and concepts in CAS's *Chemical-Biological Activities (CBAC)* computer-readable file, which comprises part of the TOXLINE data base. A selected group of TOXLINE users will help select the types of data and concepts to be identified by special tags or codes in the CBAC file and assess the utility of the tagging.

TOXLINE, a major component of NLM's Toxicology Information Program, is an on-line, computer-based bibliographic search and retrieval service in toxicology and related fields. Its data base is drawn from a variety of component data bases, including those of NLM's MEDLARS system, CAS, BioSciences Information Service, the Environmental Protection Agency, and the American Society of Hospital Pharmacists. The associated CHEMLINE file, which is derived in part from the CAS chemical registry system, provides a mechanism for on-line searching of names, CAS registry numbers, molecular formulas, name fragments, mo-

lecular formula fragments, ring analyses, and other identifying information for more than 76,000 chemical substances referenced in the TOXLINE data base and other NLM computer files.

INPUT

To the Editor:

I enjoyed reading "State of the Nation in Networking" in your September 1975 issue. Brett Butler's paper was nicely written and extremely informative.

I would like to update the article by drawing your attention to an example of networking that is now taking place in Illinois. The Suburban Library System is using a CLSI LIBS 100 for circulation control purposes. Nine libraries are currently connected into this network. It is planned to expand this system to include many more libraries in the system into the network. The North Suburban Library System, next door, is using an identical LIBS 100. At this time, seven libraries are connected into this network. The Northern Illinois Library System has started a smaller network, which is also using a LIBS 100 to automate the circulation control and audiovisual booking functions of the Rockford Public Library.

Each small network allows the connected libraries to inquire of the joint collections of all the libraries in that network. The CLSI LIBS 100 gives up-to-the-minute information showing if the book is available at any of the on-line libraries, if it is on the shelf, if it is out, when it is due back, etc. The LIBS 100 networks in each of the library systems are connected into a wider network including a LIBS 100 at the Illinois State Library. This wider network, which is still in an experimental stage, currently allows the headquarters library of each system and the Illinois State Library dial-up access to each other's collections.

Bela R. Hatvany

Computer Library Services, Inc.

Book Reviews

Illustrative Computer Programming for Librarians: Selected Examples for Information Specialists, by Charles H. Davis. Westport, Conn.: Greenwood, 1974. 112p. \$7.95.

According to its preface, the general purpose of this book is to promote an understanding between scientists and humanists, since most librarians are trained in the humanities and most computer programmers are trained in science and technology. What the book in fact sets out to do is to provide a number of examples of library problems, showing how they can be programmed using PL/1.

Perhaps the level at which the book is written can best be described by saying that it should provide the computer programmer with an introduction to library problems. Since the problems are relatively simple, the programmer will need sufficient guidance to avoid falling into the trap of believing that all library problems are simple. Despite the simplicity of the examples, made necessary by the rather limited size of this work, the material cannot readily be approached by librarians lacking programming experience. The book would be very difficult to understand if it were the reader's first exposure or practical introduction to using computers.

The best use for the work would seem to be as a supplementary text. It offers good exposure to the verbs used by PL/1 and format statements in general. Thus it supplements but in no way replaces the literature available about specific library applications of computers.

Jerry G. Pennington
Hennepin County Library

Computer/Aided Information Retrieval, by Andrew E. Wessel. Wiley-Becker and Hayes Series. Los Angeles: Melville Publishing Company, 1975. 176p.

Information retrieval, in its various contexts, is an area so studied about, talked about, and written about, that the term itself is often a meaningless cliché. How-

ever, Wessel takes a rather critical, practical view of the elysian promises and projections for fully automated machine analysis and retrieval.

In this thoroughly documented and surprisingly readable work, the author begins by presenting a few core concepts (e.g., well-structured and ill-structured information, free text indexing, thesaural indexing, etc.) and describes the pros, cons, and interrelationships in terms that require very little technical background. Then, drawing on a formal training in philosophy, he sets up dialectics on free text indexing with its "problems and paradoxes." Having set down the hypothetical and theoretical considerations of this approach (with apparent emphasis on reasons for its failure), Wessel proceeds to dissect two real indexing "failures," ESRO/ELDO-RECON and U.S. Patent Office's PROJECT POTOMAC. These examinations are clear and concise in the light of his preceding theoretical presentation. At this point, the foundation has been laid for an investigation of an alternative to what he calls "the conventional approach to automation of information retrieval processes."

As part of the transition, Wessel highlights "four quite interesting grounds underlying continued attempts to achieve full automation for information retrieval." From these four points, he suggests in almost Mosaic terms, that we should "turn away from fully automated machine analysis of texts" and proposes, rather, "computer aids to the human indexer." The underlying philosophy of such an approach is "systematically to aid the processes of human judgement for both indexing and search."

In the remainder of the book, Wessel proceeds to posit answers to: (1) What sort of thesauri structures do we need for use by human indexers aided by machines? (2) What are the design specifications for the computer software to demonstrate the feasibility of these "new" kinds of thesauri? Though his discussion may become a bit technical for some ("Multiple User Operational Software and Problems of Change Routines"), this second half is

ultimately as well laid out and readable as the earlier material.

Though primarily concerned with indexing and thesauri building, this work pushes for the importance of the human element in information systems (which, in itself, may make it worthwhile—if only to examine his arguments). For the serious designer or manager of a library or information system, the type of clarity represented by Wessel's analysis can make the difference between success or failure in any information system.

K. K. McNulty, Jr.
Kittanning, Pennsylvania

Video Resources in New York State. New York: Film and Video Bureau (250 West 57th St.), 1975. 64p. \$3.00.

In the 1970s there was no doubt that informational resources utilized by the public extended far beyond the print medium. During this decade video has become a prime resource for storing, obtaining, and displaying information. Video has become a communicative information source—yet video resources are frequently not readily available.

The availability of resources is usually limited by our knowledge of what resources are indeed available. There are defined places where to look to find print informational resources but where do we look for video resources—resources of recorded video materials, resources allowing for the production or display of video materials or resources facilitating the delivery of video information? Where do we obtain the most up-to-date information on video? *Video Resources in New York State* goes a long way to solving this problem.

This sixty-four-page book is a listing of who does what with whom where in video in New York. It is the "yellow pages" of the video world in New York State. The listing was prepared by the New York Film and Video Bureau with financial support from the New York Council on the Arts.

New York State, for the purposes of the listing, is divided into six geographic

regions and within each region video activities are listed. The categories of activities, which are all encompassing include:

- Community facilities (for borrowing, producing, and obtaining information on video)
- Broadcast television stations
- Cable television (identifying the type of public access facilities and special programming)
- Museums, galleries, and historical societies
- Libraries (public community libraries)
- Colleges and universities
- Schools
- Boards of cooperative educational services (serving, primarily, schools)

Presented at the conclusion of the listing is a short section reviewing the "state-of-the-art" of videotape and the requirements for broadcasting from ½ inch video tape. Technicians will find points to argue with in this short essay on "Broadcasting and Cablecasting ½" Tapes."

Even though this publication deals with New York State, it should have value to people outside of New York. First, it presents examples of places where video resources can be found. Many of these examples are representative of other states. It might help develop ideas of video services that should be made available. Secondly, this publication should be a model reference tool that other states (through library/information-service professional associations, such as affiliates of the Association for Educational Communications and Technology or the American Library Association) must produce. This New York reference piece has the potential for being a valuable aid for all people wishing to make use of video resources.

Entries for each video resource are complete, giving specifics on the resources capabilities, names of contact people, addresses, and telephone numbers. The value of this publication will be maintained only if it is frequently updated.

Gerald R. Brong
Information Futures

Applications of Minicomputers

to Library and Related Problems

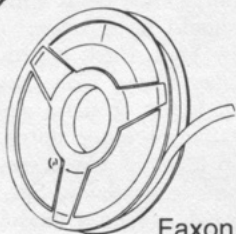
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edited by F. Wilfrid Lancaster

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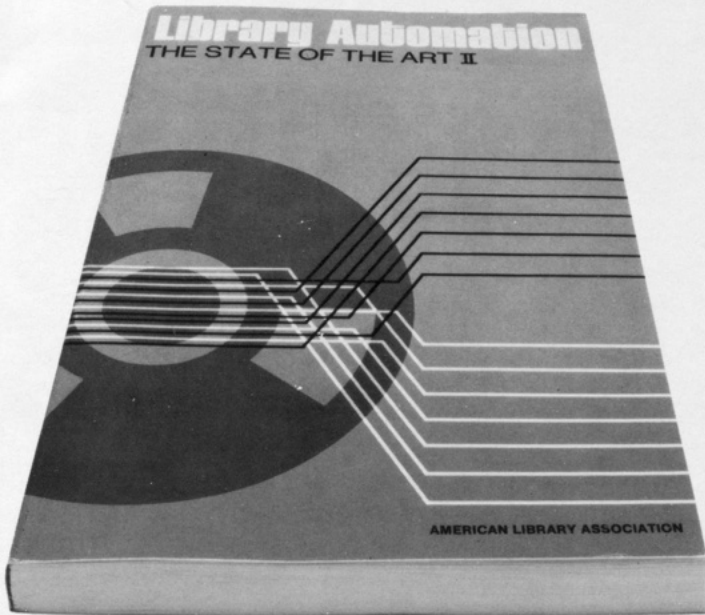
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Library Automation

THE STATE OF THE ART II

Susan K. Martin and Brett Butler, editors

These proceedings of the preconference institute, held at Las Vegas, Nevada, in June of 1973, review and evaluate the advances in library automation since the earlier institute in 1967. Unlike the proceedings of the first meeting, they focus on operating systems and operational technology. Leaders in the field present papers reviewing changes in the past five years, a hardware review, four applications reviews (public services, cataloging, acquisitions, and "innovative" applications), a statement of personnel needs, and a forecast for the future. Discussion periods are included in the text and are a valuable supplement to the prepared talks. The volume also includes an extensive bibliography compiled by Martha W. West.

200 pages Paper LC 75-20168 ISBN 0-8389-3152-9 (1975) \$7.50



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