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Automating Acquisitions: The Planning Process

Bonita Bryant

Much has been written on automating acquisitions and on library planning; this article adds to the literature a number of detailed recommendations for long-range planning for automating library functions. The suggestions are based on and exemplified by the experience of a large academic library in preparing for the automation of its acquisitions and fund accounting functions. The article discusses the preliminary activities essential to the formulation of the functional and technical requirements segment of a request for proposal and to the preparation of a library staff well equipped to implement the system.

THE PROCESS OF PLANNING for automation of library functions is crucial to the success of the system ultimately selected and installed. Library literature of the past ten years and more is replete with echoes of agreement on this point. Matthews and Williams recently emphasized that "careful long-range planning *before* a commitment is made to a particular system is critical."¹ In 1981 the University Libraries of the State University of New York at Albany (SUNYA) embraced the philosophy that, regardless of perceived prospects for the realization of its automation goals, long-range planning for these goals would be essential to optimal staff involvement in the library's future systems developments and to the justification of funding requests for state-of-the-art automation of one or more library functions.

Generalized advice on elements to be considered in automation planning is abundant in the literature. Epstein's² and Malinconico's³ *Library Journal* columns lead the library from request for proposal (RFP) to full implementation with increasingly specific and practical advice. Nowhere in the literature, however, does one find an account of how a given library has heeded the admonition to plan, plan, *plan ahead* for the day when an RFP can be issued. Epstein⁴ and Merilees⁵ provide useful, though slightly conflicting, assistance on the content of an RFP, but no one has described a logical and practical process that leads to the writing of this all-important document.

This article recounts the process followed at SUNYA in preparing for the automation of its acquisitions and fund accounting functions. Some

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improvements are prescribed, in retrospect, which may be beneficial to libraries adopting this approach. The steps outlined can be modified for planning the automation of other library functions, such as circulation or the online catalog.

The optimal process for long-range automation planning is one that:

1. is initiated before pressures are exerted to meet deadlines, such as those imposed by sudden availability of funds with time restrictions on their expenditure;
2. identifies and takes into account specific local goals that an automated system should achieve;
3. brings together staff who will be affected by the automation project and provides an opportunity for them to share their collective expertise;
4. involves many staff members, educates them about the realities of automation, and assures those who are eager to automate library functions that the library indeed intends to do so, while minimizing the anxieties of those for whom automation is an unfamiliar phenomenon;
5. analyzes existing procedures, identifying elements essential to the function and those unique to the library—which may or may not need to be replicated by the automated system—and examining alternatives made possible by available or projected systems;
6. does not focus on any one system, since the marketplace is in a constant state of flux and bid processes may prevent purchase of a favorite;
7. results in a report that contains several preliminary elements of the eventual RFP; i.e., the library's functional and technical requirements of the system it seeks;
8. offers some immediate improvement of manual procedures as interim evidence of value received for the time invested in long-range planning.

LOCAL GOALS

Some libraries' top priority in planning for automating acquisitions may be the generation of management information, a natural by-product of an automated system but a very expensive derivative of a manual system. For other libraries, the most important benefit may be to eliminate multiple typings of the same (usually bibliographic) information; for still others, it may be elimination of multiple files. The latter two goals imply reductions of staff time for acquisitions work. Automatic claiming is an additional time-saver. Because the systems now available do not fill all these functions equally well, it is vital that the library know at the outset what its priorities are among them.

Although the ideal planning process may very well be aimed toward installation of a librarywide integrated system, factors such as economic conditions and the need to renegotiate contracts on existing hardware may make piecemeal automation of library functions a more realistic goal. An outmoded online circulation system, which was drawing intense user criticism and was becoming increasingly expensive to main-

tain, precipitated SUNYA's first automation planning project. In 1982 a library task force addressed the problem; an RFP was issued in 1983 and a new system was installed in 1984.

Once planning for circulation was well under way, attention was focused on the acquisitions and fund accounting functions. Mandated shrinkage of the corps of state employees was adversely affecting the Acquisitions Department's labor-intensive activities. An increase in the proportion of the acquisitions budget that could be devoted to purchase of monographs exacerbated the staffing problem's impact on the typing and filing of orders and the processing of claims, reports, and invoices.

Concurrently, pressure was growing from within the library and from the university administration for compilation of data on all aspects of collection development. An integral part of the New York State Education Department's program for state-funded higher education is periodic review of each academic program, including a description of the resources the library provides in support of the program. Local university governance and curriculum planning bodies use a similar review process that also calls for a report from the University Libraries. As early as 1980 the library was asked to include in these reports an account of dollar amounts devoted to the various types of library materials serving the disciplines being examined. The only response the library's fiscal planning and accounting systems could provide was a subject allocation figure for non-approval-plan monographs and initial orders for continuations; all other data was type-of-material-oriented only. In January 1982 the university administration asked for the amounts allocated to all academic programs for all types of library materials.

Coupled with the realization that in the future the library must be able to give more exact responses to these requests was the library's own desire to obtain and analyze subject-oriented data in order to plan its collection development activities realistically and wisely. The collection development coordinator and the head of the Acquisitions Department began immediately to design a manual process by which most of the data needed could be generated for the 1982/83 fiscal year which, in New York, begins on April 1. This labor-intensive project further compounded the effects of staff shortages.

Automating the acquisitions and fund accounting functions appeared to offer some hope for alleviating these problems.

ELEMENTS OF THE PLANNING PROCESS

SELECTING PARTICIPANTS

The planning process formally begins when the director of the library selects a group to address the automation need and presents it with a clearly defined charge. In deciding whether or not to serve as a member of the planning group, a library director might very well consider these factors:

1. the size of the library's staff—the larger the staff, the less reason for the director's firsthand involvement (many larger libraries now have assistant or associate directors specifically assigned to planning);

2. the time required of contributing group members—such a commitment is not small, and automation is usually only one of many focuses for the attentions of a library director;
3. the director's commitment to staff development via participation in planning; and
4. the director's own special expertise in substantive aspects of the task ahead.

Members of the SUNYA Task Force on Automation Planning for Acquisitions and Fund Accounting were the library's systems analyst who served as chair; the head of acquisitions; the head of collection development; the head of administrative services (whose purview includes the library's accounting unit); and the assistant director for planning and resource development, who acted as the group's administrative liaison with the director. Other libraries, with different organizational structures, would naturally include some persons holding different positions within the library on such a task force. Whatever the administrative structure of the group, there are important characteristics someone in the group must possess. They are:

1. a vested interest in the outcome of the process—those whose daily activities will be affected functionally and/or administratively;
2. prior knowledge of automation in the library, in other libraries, and/or the marketplace—especially valuable is a member or consultant with technical understanding of hardware and software;
3. group process skills;
4. organizing, synthesizing, and expository writing skills.

In addition, one member of the group must serve as liaison with the library's director, if the director is not a participant, and bring to the group a sense of the parent organization's attitudes and activities related to automation in general.

Members need to know why they were selected and what functions they will be expected to perform. For instance, it is important to appoint at the very beginning an editor for the group's final report; this person should also serve as archivist. The editor should be a person who enjoys writing and is not responsible for managing the group process or for providing the bulk of its intellectual content. Many a group endeavor has achieved less than its desired end because this task has been perceived as a natural outcome rather than a planned activity: the writing assignment is accepted by default by an already overburdened group leader or the disjointed "finished" product is merely a compilation of individual contributions, which could not adequately persuade the group's audiences of the library's needs and could not serve as the basis for a bid proposal.

Other members of the library staff may be involved in the process in a variety of ways. Flowcharting and analysis of existing procedures provide an excellent opportunity for involving staff. Both are activities that educate staff in the use of a technique that reduces tasks to their essentials and relates the job of each person to those of others. As a result they provide new insights into the importance of each individual in the organization and may stimulate both improved job performance and creative revision of manual processes. Distribution of task force meeting minutes

or fairly detailed regular progress reports to the total staff creates a heightened awareness of how some of the staff's co-workers are spending their time and energies when not at their usual work sites. These in-house public relations activities may also elicit contributions to the group's efforts in the form of additional perspectives on the acquisitions function, identification of implications for other library functions, and descriptions of similar activities at other libraries. Surveys of staff and library patrons may be helpful in documenting use of the various files spawned by the acquisitions process, as well as informing the respondents of the complexities of acquisitions work and, hence, encouraging their patience and cooperation in requesting new library materials. When the task force report is complete, it should be made available for staff questions and commentary. SUNYA's report was placed on reserve, and the staff was invited to brown-bag luncheons for discussion before the report was forwarded for administrative consideration.

Each task force must make its own decisions about the breadth and depth of its consultation with library constituents, but it must not forget this important aspect of planning.

ASSIGNING TASKS

The planning group's first official act must be to establish a framework for the project. The SUNYA task force spent considerably longer on this step than will be necessary for groups that adopt the process outlined here. It is the product of the SUNYA experience.

The steps toward fulfillment of the group's charge, in the form of a final written report, should be clear at the outset, even though they may be modified as the project proceeds. Individual assignments should be made, assuring a "fair share" for each person and containing a mix of familiar tasks and new experiences. (The testimony of many previous writers on the planning process—that it serves as a staff development tool—is not to be taken lightly.)

The SUNYA report format and the group's activities evolved into the following:

- I. Introduction
 - A. Trends affecting future use of an automated acquisitions system
 - B. Short-term objectives
 - C. Options for automated acquisitions systems
 - D. Long-term goals
 - E. Options for integrated systems
- II. Present system
- III. Criteria for evaluating acquisitions systems
 - A. Functional requirements
 - B. Data requirements
 - C. Report requirements
 - D. Capacity requirements
- IV. Evaluation of candidate systems
- V. Cost study
 - A. Assumptions

- B. Anticipated changes in the present manual system
- C. Costs for individual systems
- D. Cost summary

VI. Recommendations

Other libraries may choose variant report formats, but the final written report should contain those functional and technical requirements that will form the basis for an RFP.

DEVisING A TIMETABLE

Then a timetable must be prepared. It must be specific to the tasks identified and assignments made in response to the director's charge. It must be flexible enough, within the mandated target completion date, to allow for some modifications of the group's activities. It must also contain sufficient time lapses for all members to study and discuss the literature and data gathered and to arrive at a consensus on evaluations and recommendations. Realistic timing is vital to prevent excessive strain upon participants, who obviously have other library responsibilities, and to prevent a loss of momentum that might yield diminishing returns for the time invested.

PROVIDING THE FOUNDATIONS

Staff assigned to the task of searching the literature should look for descriptions of the automation of specific library functions and information on integrated systems. Fortunately for the SUNYA project, primers existed in the form of Richard Boss' work^{6,7} and the papers of the 1980 LITA institute on automated acquisitions work.⁸ The literature search should also cover articles describing libraries' experiences in using specific systems, vendors' promotional brochures on both present and projected systems, and system documentation. The literature search group should expand its file with its own transcripts of interviews with users and vendors of systems identified for concentrated study and with new publications appearing during the life of the project.

Someone must be assigned at the very beginning not only to assemble and screen the results of the initial search, referring only useful materials to the remainder of the group, but also to scan contents pages of incoming journal issues, write or call vendors for unpublished systems descriptions, and attend demonstrations of systems at professional meetings, documenting that experience to share it with all group members.

Members of the group whose primary library assignments are within the parameters of the functions to be automated should concurrently prepare flowcharts of their operations. SUNYA's task force charted pre-order search, acquisitions of all types of materials, and accounting procedures within the library, the university, and state purchasing organizations. A narrative expression of the flowcharts will assist members of the task force to identify undocumented activities vital to an automated system and, conversely, to eliminate existing local practices not essential to the eventual automated version of the acquisitions process. It will also benefit readers of the final report who are not versed in either acquisitions complexities or flowchart use, helping them to understand the issues involved.

This activity provides a model from which lists of required and desirable traits for an automated system can be compiled. The required/desired "shopping list" becomes the basis for examination of available and projected systems. Re-evaluated and modified throughout the life of the project, this list evolves into the "Criteria for Evaluating Acquisitions Systems" to be included in the task force report and can become the functional and technical requirements section of an eventual RFP.

Although it may be tempting to use other libraries' RFPs as prototypes for this facet of the study, Merilees warns against using them as more than checklists to ensure that items of interest have not been overlooked.⁹ Local goals and priorities are not likely to mirror those of other libraries. Parent-organization accounting and payment requirements are usually unique. Thus a borrowed RFP may not emphasize the functions and details that would yield the best system for the substantial investment anticipated. In addition, available and proposed systems offer a wide variety of features, all of which should be considered by each library entering the bid process. Current systems undoubtedly contain innovations not available when the other libraries prepared their RFPs. To seek an outdated system in this way, in an era of rapid change, would surely be more than an embarrassment.

Analysis of existing procedures offers an interim benefit—a fresh opportunity to redesign and streamline manual procedures. Some libraries may even conclude after further study that the manual system is most cost-effective and can be modified to achieve library goals without automation.

EVALUATING SYSTEMS

The SUNYA group identified five types of systems with potential for solving the acquisitions problems of a large academic library:

1. bibliographic utilities' subsystems;
2. integrated vendor-supported systems;
3. stand-alone vendor-supported acquisitions systems (some using microcomputers, others minis);
4. book wholesalers' systems; and
5. in-house design of a system to run on the library's own computer or on a campus mainframe computer.

All were examined for the sake of answering potential questions of persons outside the library who would have influence over the final decision, although the fifth type of system received little more attention than the cost estimates that proved it not a viable option.

Specific systems, representative of the first four categories, were selected by the SUNYA task force for concentrated study. These systems were: (1) the RLIN Acquisitions System (a segment of the bibliographic utility of the Research Libraries Group) and the OCLC Acquisitions Subsystem (an optional part of the Online Computer Library Center's bibliographic utility); (2) the GEAC Materials Acquisition System (available as a stand-alone module or as an integrated component of the GEAC Library Information System; GEAC is a Canadian-based firm); (3) INNOVACQ (Innovative Interfaces, Inc.) and NONESUCH (Ringgold Management Systems, Inc.); and (4) LIBRIS II (Baker &

Taylor Company). Because the marketplace is constantly changing, libraries adapting the SUNYA process will no doubt choose to concentrate on some other systems than these. SUNYA's task force intentionally eschewed systems designed solely for serials acquisitions and control.

The concentrated study will include review of the literature and documentation on each system, attendance at exhibits of the systems during professional meetings, and telephone or in-person interviews with vendors and users of the systems. The variety of approaches is necessary for several reasons. System documentation can be too general or too detailed or nonexistent; it may describe systems in use but still evolving or systems not yet in operation anywhere. Brief viewing of systems in operation at a convention provides less information than prospective buyers need because of time constraints, the deceptive nature of a system running without interruption by real everyday problems and usually on a very small database, and the press of other viewers, both serious shoppers themselves or the merely curious. When exhibit viewing is incorporated into a formal study, a list of specific questions must be carried to the exhibit and applied to all systems seen; the viewer must find time and space to record answers on the spot, for details fade from memory quickly and it is the details that are important when the information is taken home to group partners.

The SUNYA task force, lacking funds and time for on-site visits to vendors or users, decided to carry out a systematic telephone interview with each vendor and at least one user-library of approximately the same size as the SUNYA University Libraries. An outline of the desired information was compiled to form the framework for these in-depth interviews (see appendix). Kountz¹⁰ and Schwarz¹¹ have published question lists comparable to those used by SUNYA.

To preserve the information gathered by telephone, two members of the task force participated in each interview—one person talked while the other took notes on the conversation, prompting the interviewer to cover all elements on the interview question list. It is essential to adhere rigidly to the interview questions. Extraneous details, as they are interjected into the conversation, should be noted on a separate sheet of paper; these "asides" are vital to the end product and may yield new questions for future interviews, but they can't be allowed to deflect the interviewer from obtaining direct answers to the original questions. It is useful for the interview note taker to have the questions written out, one to a page or at least with sufficient space for handwritten answers. At the end of the interview, the interview team should immediately prepare and edit a transcript of the information gathered as a permanent record to be shared with the rest of the task force and possibly included as an appendix to the final report.

Some questions on the original SUNYA interview list were dropped after several interviews when it was found that the answers for all systems would be identical or it was determined that the function involved would not in the end be a criterion upon which a decision would be

based. When new questions were generated, either as a result of new documentation or previous interviews, follow-up calls were made to all previous interviewees so that a consistent record for all systems would be the final product. Terminology must be used carefully and clarified during interviews; SUNYA interviewers found that they were either omitting important information or confusing it because they initially asked about fund accounting capabilities and system reporting capabilities at separate times during the conversations and were not specific enough about where the two elements coincided and differed.

If all task force members are to address all elements of each system objectively, it is necessary to distill the interview transcripts into charts. When one or two members of the group are "resident experts," as was the case with SUNYA's systems analyst and head of acquisitions, it is very easy for the group to depend upon their assessments of individual systems. The chart process provides facts in such a way that preconceived predilections for one system or another cannot sway the group's later evaluation of all systems. It also provides for contiguous display of responses from vendors and users of a single system, which may be divergent and revealing.

The chart can begin on newsprint and then be reduced to sheets suitable for photocopying and distributing to group members. A final version may eliminate columns for questions that received identical responses for all systems. Horizontal columns can identify each system with vendor and then user responses charted down the page, while vertical columns align individual interview questions identified across the top of the page with keywords or question numbers keyed to the interview sheets. In some columns, the only notation may be "yes" or "no," while answers to other questions may require phrases or even paragraphs to define variations among systems. If questions were added or dropped after the first or later interviews, it is vital to reorganize and renumber all of the interview transcripts before recording them on the chart.

The next step is to write descriptions of each system studied. A general description of the system (history, specifics about the vendor, a list of known users at comparable institutions—whether they were interviewed or not, description of hardware and software) should be followed by a description of system capabilities (How does it meet the required/desired "shopping list" elements—not necessarily how *well*, but what steps are necessary to effect specific functions? How complicated is use of the system in terms of types of personnel required, their training, etc.?).

A list of the strengths and weaknesses of the system follows each such description. It is important to compare systems to prepare this list. From the chart of interview responses, facts can be derived to substantiate value judgments. These facts should be inserted into a second chart before the strengths/weaknesses section for any system is written because it is very easy to describe the strength of one system as the weakness of another when relying on a conception of the system as a whole or on the narrative description provided in the interview transcripts.

This second chart should list library goals in horizontal columns with names of the systems ranged across the top of the sheet. When facts from the first chart are entered in the second one, failure to meet a library goal becomes a weakness in the system description. This chart may become part of the task force report, while the interview response chart may remain only a working document. Interview transcripts became appendixes to the SUNYA report as documents of record; the chart did not.

Objectivity is difficult when more than two people do interviews, see a few systems in actual operation, or know more about a system than the other members of the group. Yet the assessment of strengths and weaknesses is vital to the continuing refinement of the required/desired "shopping list"; it can attain its final form only through examination of systems and identification of specific features that the library needs, wants, rejects, or can live without. The group will probably want to weight the relative importance of its goals (and system strengths and weaknesses). For example, a system that places orders, receives books, and pays bills smoothly but has an unsatisfactory fund accounting module could rate highly in comparison with other systems but not fulfill the library's goal of obtaining useful management reports.

DETERMINING COSTS

The final system-oriented data that must be assembled is cost. Users may be willing and able to discuss some elements of cost; vendors frequently hesitate to give exact figures or any figures at all. Systems change rapidly and equipment costs do too. It is not necessarily a mark against a system that its vendor is unable to quote, but it is essential to the library to have at least comparable information on all systems. Of course, the final arbiter will be the bid process, which may be far ahead at the time the task force is at work. But if the library is to persuade the administration that any system at all is viable for funding, it must know what it can about costs before the RFP is prepared so that very expensive elements are not included in "required" categories when they may really only be "desired."

Cost data for an automated system must be compared with an analysis of the library's current cost for a manual system. The cost-comparison portion of the report must not only address costs of hardware, software, supplies, and telecommunications (where applicable) but an analysis of the numbers and salary levels of personnel involved. The SUNYA report described the existing personnel costs and the cost of each system separately and in detail. Only a total cost for each system was shown in comparative chart format; other libraries might wish to prepare comparative charts for individual facets of the systems. They should do so with the awareness that some of the data can only be estimated.

FORMULATING RECOMMENDATIONS

The SUNYA task force's recommendations, the culmination of its report, ranked the types of systems in terms of their desirability and their ability to meet SUNYA's needs. It used specific systems only to describe

features that met or failed to meet SUNYA standards. On the basis of projected cost alone, a locally developed unique system was labeled least desirable. Bookseller systems were shown to be viable interim solutions to some problems prior to acquiring a totally integrated system. Bibliographic utilities were also considered as interim systems pending an integrated system (whether it eventually comes from the utilities or not), and stand-alone systems were given preference only if integrable with systems designed for other library functions.

The most important part of the report is the preparation of the required/desired lists of functions and capacity parameters, for when the library finds itself ready to prepare an RFP, the functional and technical requirements sections will need only updating. Thus another recommendation of the SUNYA task force was that one or more persons be charged with continuing review of the literature and the systems marketplace, so that the updating process can be less labor intensive than the initial planning process.

A final recommendation of the SUNYA task force was a by-product of two activities—flowcharting and examination of campus computing facilities—and proposed that an interim fund accounting system, an extension of the 1982/83 manual process, be instituted for 1983/84 using MAPPER software on the campus mainframe UNIVAC.

CONCLUSION

The process described above meets the challenges of the eight criteria for optimal long-range automation planning cited at the beginning of this article.

The SUNYA staff has found that the methodology of the interviews, charts, and system descriptions has made continuous updating of the report results relatively easy. The functional and technical requirements list is currently being used to evaluate a specific system for possible purchase with a minimal investment of time.

Libraries adopting this planning format will be assisted by literature published after the SUNYA task force issued its report. Acquisitions systems available in 1984 have matured considerably since the 1982 SUNYA study. Future task forces will want to consider the options several acquisitions systems now offer for serials control in comparison with the merits of interfacing with utilities' serials subsystems or with serials vendors' systems. They will want to include in their "shopping lists" greater attention to interface with jobber and publisher databases and prospects for telecommunication of orders to them.

The increased availability of published information on automated acquisitions systems and users' experiences with them does not obviate the necessity for the individual library to carry out the planning process. It enhances the library staff's ability to evaluate responses to RFPs and to pursue implementation of the system purchased with a command of details not likely to be found in a staff not previously involved in planning activities. The value of the process as a staff development tool cannot be minimized—it creates a cadre of technically well-informed librarians who can transfer their analytic skills to other library issues.

REFERENCES

1. Joseph R. Matthews and Joan Frye Williams, "Oh, if I'd Only Known," *American Libraries* 14:408 (June 1983).
2. Susan Baerg Epstein, "Systems, Automation, & Libraries," *Library Journal*, 108:1109-10 (June 1, 1983), 1334-35 (July 1983), etc.
3. S. Michael Malinconico, "Technology, Change & People," *Library Journal* 108:1663-64 (Sept. 1, 1983), 1853-55 (Oct. 1, 1983), etc.
4. Susan Baerg Epstein, "Procurement without Problems: Preparing the RFP," in "Systems, Automation, & Libraries," *Library Journal* 108:1109-10 (June 1, 1983).
5. Bobbie Merilees, "RFPs and On-line Library System Selection," *Canadian Library Journal* 40:15-19 (Feb. 1983).
6. Richard W. Boss and Deanna B. Marcum, "Online Acquisitions Systems for Libraries," *Library Technology Reports* 17, no.2:115-95 (Mar.-Apr. 1981).
7. Richard W. Boss, *Automating Library Acquisitions: Issues and Outlook* (White Plains, N.Y.: Knowledge Industry Publications, 1982).
8. "Automated Acquisitions Systems: Papers Presented at the LITA Institute—Part I," *Journal of Library Automation* 13:155-95 (Sept. 1980) and "Automated Acquisitions Systems: Papers Presented at the LITA Institute—Part II," *Journal of Library Automation* 13:221-64 (Dec. 1980).
9. Merilees, "RFPs and On-line Library System Selection," p.15.
10. John Kountz, "Automated Acquisitions Systems: A Survey," *Journal of Library Automation* 13:250-60 (Dec. 1980).
11. Philip Schwarz, "Surveying Users of Automated Turnkey Systems," *Information Technology and Libraries* 2:290-95 (Sept. 1983).

APPENDIX

QUESTIONS TO ASK USERS AND VENDORS

NOTE: When interviewing vendors, be sure that all answers correspond to a single version of the system and that the version is actually in use in at least one library. Get the version or release number.

GENERAL

1. Multilevel password security.
2. Authorized operator can override all defaults and warnings.
3. All notices available within one working day.
4. In case of system recovery, all files can be recovered to their status after the last successfully completed transaction.
5. Who is actually using the system (preferably within tie line call and of comparable size)?

FUND ACCOUNTING

1. Can break down by external account, fund code (subject), and type of material independently.
2. Immediately updated and displayable online.
3. Do you do all fund accounting for acquisitions on the system?
4. Warning if fund account overspent.
5. Machine-readable history file can be on magnetic tape indefinitely and used to trace transactions for a specified fund account, vendor, order, or invoice. Acceptable alternative is a nonmanual readable history (e.g., microfiche) cumulated yearly and accessible by purchase order number and invoice number within vendor.
6. Encumbrances are easily and automatically transferred to the new fiscal year at fiscal year changeover.

ORDERING

1. Bibliographic and vendor information filled in automatically from bibliographic and name/address files.

2. Multiple copies for multiple locations from multiple requesters can be produced as a single order.
3. Order record can be displayed and updated immediately after entry/update.
4. Operator can set up standard work forms with default values.
5. Name/address file includes field to enter notes (e.g., subject specialty, discount).

RECEIVING

1. Machine-readable invoices from vendors can be loaded.
2. Invoices are automatically balanced.
3. Order records can be retained for later en masse purge or automatically purged at time of receipt at option of library (for financial accounting, to prevent duplicate orders, to show cataloging in process).

CLAIMS

1. Default claim can be internally overridden.
2. Claims can be produced on a schedule or on demand.

CHANGE/RE-ORDER

1. Fund accounts automatically updated if price or quantity change.
2. Converts currency for foreign orders.

INQUIRY

1. Order file: by author, title/series, ISBN/ISSN, vendor name, purchase order number, unique order number.
2. Fund accounts: by fund account number.
3. Up to 256 characters each for author and title/series.
4. Shows all records with similar search keys for detecting duplicate orders.

ONLINE REPORTS

1. Summary of fund accounts: allocation, encumbered, expended, balance.
2. List of records on hold for a certain reason (reason codes to be defined by the library: no money to order, requester review needed, supervisor review needed, etc.).
3. Can they provide samples?

OFFLINE REPORTS

1. Orders outstanding more than specified time period, sorted by vendor.
2. Vendor performance: fill rate, turnaround time, cancels, average discount, average price of orders.
3. Average cost of purchases by type of material, fund (subject).
4. Ordering and receiving activity by vendor.
5. Can be generated while online system is up.

SERIALS

1. System does fund accounting for serials (i.e., input invoices).
2. System spawns separate bibliographic records for nonperiodical serials received.
3. System maintains all serials as open orders.

INTERFACE

1. Comprehensive MARC bibliographic database—does the system have an online interface to OCLC? To RILIN?
2. Online catalog—on-order/in-process records transferred to it.
3. Circulation system—can place holds on on-order/in-process records.
4. Word processing—can produce form letters for price quotations, availability inquiries, invoice claims, voucher claims, etc.

SERVICE AND MAINTENANCE

1. On-site maintenance available locally.
2. Response within one working day by contract.
3. Swap now, repair later preferred.

COST

1. Equipment.
2. Installation and site preparation (e.g., electrical wiring, air conditioning).
3. Telecommunications.
4. Network or subscription fees.
5. Manuals and training.
6. Transaction costs.
7. Supplies (forms, stationery, postage).
8. Personnel.

Source: Task Force on Automation Planning for Acquisitions and Fund Accounting, "Final Report" (Albany, N.Y.: State University of New York at Albany University Libraries, Feb. 10, 1983), p. 85-88.

Pittsburgh Regional Library Center Serials Cancellation Project

Ruth C. Carter and Scott Bruntjen

The Pittsburgh Regional Library Center Serials Cancellation Project originated as a result of substantial cuts in serial subscriptions by many libraries in western Pennsylvania in 1980. To make cancellation decisions and yet retain as broadly based a serials collection as possible in the region, the libraries attempted to communicate with each other in traditional nonmachine ways. Under development at the same time, the Pennsylvania Union List of Serials, a large, widely available database of bibliographic and holdings records, seemed to have the potential to communicate cancellation decisions as they occurred. This article reviews the history of the Serials Cancellation Project conducted by the Pittsburgh Regional Library Center with a grant from the Council on Library Resources. Technical details for implementing the project via the OCLC database are discussed and the findings of the project summarized. It was concluded that the use of large-scale online databases such as union lists of serials offers considerable potential to aid collection development officers and library managers.

INTRODUCTION AND BACKGROUND

In the spring of 1980, a cyclical phenomenon occurred in the libraries of western Pennsylvania. Although not limited to libraries in the economically depressed area of western Pennsylvania, those libraries, including libraries in or close to the city of Pittsburgh, were exceptionally hard hit.

This recurring event was caused by the inadequacy of budgeted funds to cover the renewal cost of current subscriptions, much less any it might be deemed desirable to add. Therefore, there was a more or less simultaneous mandate in many libraries in the western Pennsylvania region to cancel existing serial subscriptions. The libraries included the University of Pittsburgh, Duquesne University, Carnegie-Mellon University, and the Carnegie Library of Pittsburgh, all of which had a tacit understanding and interdependence with each other regarding access to serial resources.

There were a number of factors behind the timing of the 1980 crisis. Some tended to be local in nature, such as institutional budget constraints, which made it difficult to increase monies for the acquisition of

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library materials; some were external, such as the decreasing value of the dollar in the world market. Libraries with a sizable percentage of subscriptions to foreign journals were particularly susceptible to a subscription budget that no longer covered existing commitments.

When the budget crises occurred, the library managers and collection development officers of the various institutions tried to coordinate the cancellation of journals. It was important to them that, insofar as possible, the only current subscription to any single title that existed in the region not be cancelled. Concern existed that the collective regional serial resources be as broad and comprehensive as possible.

Consequently, considerable attention was directed to attempts to find out which institution still held a given title and which titles any one institution might be considering cancelling. A number of methods were employed to exchange information on proposed or implemented serial subscription cancellations. These methods included: (1) meetings of library directors and collection development officers, (2) telephone calls, and (3) exchange of paper lists.

Lack of currency and/or limited distribution of the information were serious limitations of the methods to communicate actual or probable cancellations. At the very same time that cumbersome methods were being employed to coordinate the serial cancellation crisis, a powerful on-line tool, which could be used to transmit this and other collection development information on a current basis to a widespread audience, was in development. This was the Pennsylvania Union List of Serials (PaULS).

The development of PaULS has been described in detail by Carter and Bruntjen.^{1,2,3} PaULS was funded with LSCA monies by the State Library of Pennsylvania. Active work on the Pennsylvania Union List of Serials began in the fall of 1979. It had significant impact early because it incorporated the existing online union lists of the Pittsburgh Regional Library Center (PRLC) and the University of Pittsburgh. In the spring of 1980 there were already more than forty thousand titles with holdings online. The holdings were displayed in Local Data Records (LDRs) and indicated which specific volumes were held by an institution. A holdings statement could include note information and later the ANSI codes contained in the *American National Standard for Serial Holdings Statements at the Summary Level*.⁴

Staff of the Pittsburgh Regional Library Center and the University of Pittsburgh were actively involved in the development of PaULS. It seemed to them that it had many as yet untapped or barely tapped potential applications. One of these was the capability of communicating cancellation decisions as they were made.

This paper describes the process by which the idea to use online union list information to aid collection development officers and library managers was funded, tested, and analyzed.

PROPOSAL DEVELOPMENT

When the idea occurred that the large-scale online union lists of serials

are a natural mechanism for the communication necessary to maintain a broadly based regional serial collection, the next step was the identification of an appropriate agency to fund a pilot project. The Council on Library Resources (CLR) was approached because of its expressed interest in related applications that might receive widespread adaptation in regional and national academic and research libraries.

In response to an initial letter of inquiry, CLR staff indicated that they were interested in a pilot project. CLR requested that PRLC demonstrate that the problem to be addressed, in this case coordinating serial cancellation decisions as one portion of cooperative collection development, would have widespread applicability and utility if results were positive.

The next step was to telephone or write librarians at geographically dispersed institutions to inquire as to the utility of developing an online system of communicating cancellation of serial subscriptions. In addition, relevant literature was examined. Although there was no clear record of any previous attempt at communicating collection development decisions in an online mode as soon as they were made, there were previous attempts at coordinating serial cancellation decisions on a regional or type-of-library basis. Medical libraries were in the forefront of this type of cooperation. C. Lee Jones in his tenure as medical librarian, Columbia University Medical Center, advocated regional cooperation in serials acquisitions by medical libraries.⁵ Many of his suggestions were implemented by the Regional Coordination of Biomedical Information Resources (RECBIR) program.⁶

Documentation to support demonstrated need and utility of an online mechanism for communicating cancellation decisions as they are made was an integral part of the proposal letter submitted to CLR on February 19, 1981. Subsequent discussion resulted in a revised budget conveyed in a letter of April 3, 1981. On April 30, 1981, the Pittsburgh Regional Library Center received the letter from CLR awarding the grant to carry out the work described in its earlier letters.

Essential to the proposal to CLR was a preliminary agreement with OCLC regarding the use of its system to communicate serial subscription cancellation decisions. Project developers approached OCLC with a preference to indicate a cancellation decision via the use of a code in the "Acquisition Status Code" field of summary holdings. Unfortunately, the code suggested, an 8, was not part of the existing *American National Standard for Serial Holdings Statements at the Summary Level*.⁷ OCLC personnel concluded that use of the code was unacceptable because it did not follow existing national standards. Ultimately, it was agreed that the cancellation decision would be communicated in the form of a note in the fields for holdings statements.

Shortly after news of the award was received, one of the authors participated in a meeting of OCLC's Union List Task Force. At that meeting on June 1, 1981, it was agreed that subfield n of the SCHD and SIHD fields of the OCLC Local Data Records would be used to record the cancellation decisions. The wording adopted was:

cancellation effective with (vol):(no) (year):(month)
for example:
cancellation effective with 9:6 1981:12

The issue and the date cited are those of the last issue received.

While technical details for transmitting critical information were being agreed upon for use within the OCLC system, the PRLC Serials Cancellation Project was seeking other key participants. Temple University, Pennsylvania State University, and Marshall University agreed to participate with the other PRLC contributors to the Pennsylvania Union List of Serials.

An advisory committee to the project was formed with the following members: Susan Brynteson, University of Delaware; Hendrik Edelman, Rutgers University; Barbara Markuson, Indiana Cooperative Library Services Authority; Marilyn Norstedt, Virginia Polytechnic & State University; George Parsons, Council on Library Resources; Ruth Carter, University of Pittsburgh; and Scott Bruntjen, Pittsburgh Regional Library Center.

DESCRIPTION OF THE PROJECT

Originally, the project was scheduled for the period from August 1, 1981, through October 31, 1982. Its active work was eventually extended through December 31, 1982. The final report on the Serials Cancellation Project was submitted in December 1983.⁸

In August 1981, with the project formally under way, selected libraries were invited to be part of the cancellation project. Temple University and Penn State were participants in some of the initial stages of the Pennsylvania Union List of Serials but, as RLIN libraries, were not committed to comprehensive input of their serial collection data into PaULS. Marshall University, as a West Virginia library, was outside the initial focus of PaULS. All Pennsylvania libraries that were members of PRLC and also PaULS participants were requested to report cancellation decisions for serial subscriptions as those decisions were made.

In essence, the project consisted of asking participating libraries to notify PRLC of decisions to cancel serial subscriptions as soon as they were made. This requirement recognized the fact that a cancellation decision could be made but that it would often be a year or more before the last issue of a subscription would be received in the library. A second reporting step was absolutely essential.

Apparently, for a combination of reasons, it was not easy for participants to grasp the fact that cancellation decision recording, if it were to be useful for collection development purposes in a live situation, means two-step reporting. Many libraries that were requested to report cancellation decisions as they were made reported closed holdings or reported open holdings but then did not report closed holdings when the last issue arrived. The lack of general understanding of the purpose of the two-step reporting limited the overall usefulness of the actual project. However, it must be made clear that the two-step reporting is clearly an im-

portant and necessary step for cooperative collection development using online tools. Communication of that information is essential if these applications of online tools are to give full value by providing current information.

Although the capability existed for most participating libraries to enter cancellation decisions directly online, it was decided to centralize input for reasons of quality control and monitoring activity level during the pilot project. PRLC furnished reporting forms to all project participants. These were returned by participating libraries to the cataloger hired half-time for the project. The cataloger was located at the University of Pittsburgh. Part-time inputters assisted the cataloger with the input of holdings and necessary bibliographic records. More than twelve hundred cancellation decisions were posted in the course of the project. Titles cancelled by the University of Pittsburgh were input directly by staff there.

THE PROJECT ADVISORY COMMITTEE: STANDARDS

The advisory committee to the serial cancellation project met twice: November 30, 1981, and December 8, 1982. Both meetings resulted in valuable direction and/or assessment for the project.

In the first meeting the members spent a great deal of time discussing the relationships of the project to standards and considering how the workshops planned for the project could be made meaningful. The workshops were the easy part. The advisory committee suggested that materials be furnished to the workshop participants in advance so they could work through various exercises and come to the workshops with some hands-on experience. The project staff accepted this advice and the workshops benefited from this pre-meeting online experience of the participants.

The standards issue was a much more difficult area in which to accomplish specific project goals. It has already been noted that one of the original goals was a new status code within the "Acquisition Status Code" of the *American National Standard for Serial Holdings Statements at the Summary Level*. It seemed logical to the individuals who proposed the cancellation project that there should be a new acquisition status code created for serials for which the subscription cancellation had been entered but the title was still being received in the library.

In general, the advisory committee to the project concurred. In fact, its discussion led to a recommendation for the creation of four new acquisition status codes to aid collection development officers. These were:

- 2 Acquisition under consideration
- 3 On order, not yet received
- 7 Cancellation under consideration
- 8 Cancelled, last issue not received.

The above suggestions for acquisition status codes were submitted to ANSC Z39 Subcommittee E, which was in the process of working on standards for serial holdings statements at the detailed level. The draft

standard which went out for a vote, however, did not include the addition of the above values to the "Acquisitions Status Code" list of values. However, the fact that the advisory committee authorized the recommendations recognized the potential of online bibliographic databases shared by many institutions for an active role in collection development.

One developing de facto standard did incorporate a mechanism for communicating cancellation decision information. This was the "USMARC Format for Holdings and Locations," which was in the initial stages of being drafted at the time of the cancellation project.⁹ Members of the advisory committee helped influence development so that the draft communications format included provision for cancellation decision information. It is likely that there will be increased interest in the question of communicating collection development decisions in a standardized fashion as the focus shifts in many libraries from acquisition of materials to provision of access regardless of location.

CANCELLATION PROJECT WORKSHOPS

Five regional workshops were conducted as part of the PRLC Serials Cancellation Project. These were hosted by the University of Pittsburgh, Mercyhurst College in Erie, Pennsylvania, Temple University, Pennsylvania State University, and West Virginia College of Graduate Studies.

Practice exercises sent to the registrants in advance provided basic training in searching the Pennsylvania Union List of Serials online in the OCLC database. They included information about searching other union lists available through OCLC and made it possible for a collection development decision maker to take into account the holdings for a title of concern that might be located outside of the immediate area.

Another important part of the pre-workshop materials sent to participants were two questionnaires, one on current serial acquisitions and the other concerning cooperative collection development issues. Together the two questionnaires asked for information on topics such as the following: number of serial titles currently received; the number currently purchased; the number acquired through gift or exchange; the number of serial titles cancelled in 1981 and in 1982; the number of new titles ordered in 1981 and 1982; other libraries consulted, if any, and how they are consulted in making serial cancellation decisions; the libraries, if any, consulted when adding a serial title; the usefulness of cooperative collection development decisions and tools; and the most appropriate mechanism for cooperative collection development decisions.

The workshops were well attended. There were approximately 125 persons overall for an average of 25 per workshop. Responses regarding general interest in or perceived value of online communication of serial subscription cancellation decisions varied on a regional basis. In the urban areas, for example the Pittsburgh area, where the libraries are physically close and there was a significant amount of walk-in patron use from one library to another, there was considerable concern regarding the communication of cancellation information and real interest in cooperative collection development. On the other hand, in a region with li-

braries more dispersed geographically, as in central Pennsylvania, there was less expressed desire for prompt communication of serial cancellation decisions. This input led to the project conclusion that if the serial is not held within a convenient distance of the potential user, it might as well be available via interlibrary loan as in another institution within the region.

Overall, the workshops were an important and significant part of the project. They made it possible to introduce what were, in some cases, new concepts to a large number of librarians in West Virginia and Pennsylvania. In some cases, the topic of conscious regional collection development was considered seriously for the first time.

PROJECT CONCLUSIONS

Members of the advisory committee of the PRLC Serials Cancellation Project reached a number of conclusions about the project. The conclusions, limited to that project and outlined in its final report, are:

1. Cancellation reporting is best appreciated as one part of overall collection management information;
2. The next time budgets are decreased, librarians will appreciate that the system is in place even if it has not been fully utilized previously;
3. In the short term, the value was perceived most readily in those areas where users can easily commute to other libraries;
4. It was an off year in which to test the utility of communicating cancellation decisions because the dollar was high and most libraries did not cancel many serial titles during the project;
5. There is a widespread lack of sophisticated use of any online system outside the conventional, narrowly defined, subsystem-specific uses;
6. The majority of librarians do not seem to care whether they have a voice in developing new strategies for problem resolution;
7. There should be an established code in the ANSI standard for summary levels 2 and 3 to aid machine manipulation;
8. In general, participants better understood and appreciated the uses of online files for more than passive applications at the end of the project;
9. Technical procedures to implement the communication of serial cancellation decisions have been incorporated into the manual for the Pennsylvania Union List of Serials and should be incorporated into the procedures for other union lists for maximum effect;
10. Inclusion of the provision for cancellation information communication in the draft of the "MARC Communications Format for Holdings and Locations" may have been influenced in part by this project;
11. The project reaffirmed and emphasized the value of online technology as an aid to collection development;
12. The value of systematic reporting of cancellation decisions was demonstrated, and the procedure should be adopted by others;

13. The project helped raise the consciousness of librarians to the interrelationship of activities in various areas, and librarians appreciated this awareness of other areas;
14. The cost of actually maintaining the cancellation information is minimal;
15. The maintenance of up-to-date cancellation data will be facilitated by the capability for decentralized online maintenance;
16. Maintenance of cancellation data should become part of normal routines in libraries;
17. Applications such as entering cancellations move bibliographic files from a passive position to that of an active applications tool; and
18. Library managers need greater awareness of the strength of online tools in managing their collections. This project has demonstrated that can be done.¹⁰

SIGNIFICANCE OF THE CANCELLATION PROJECT TO LIBRARIES

There are now widely available machine-readable bibliographic databases. These databases, including RLIN and OCLC, have many thousands of serial titles in their files. The PRLC Serials Cancellation Project was an attempt to demonstrate that large machine-readable bibliographic databases can support many applications. In this particular case, the application was that of using the serials database online with OCLC as an active tool for collection development and collection management.

The middle and late 1980s will see increasing emphasis on access to library materials rather than acquisition of those materials. Nevertheless, an item, to be accessed, must be held someplace. The best method of providing access to a given serial title depends upon the frequency of use in a particular institution. It may be acquisition by the local institution or regional availability or availability anywhere. After considering the most current information on the availability of a given title, a librarian must still decide either to acquire a specific title or to provide access to the title through the holdings of another institution. This issue was discussed by Carter in relationship to online services and collection development in serials.¹¹

Communication of collection development decisions online, as was tested for subscription cancellation decisions in the project described in this article, is an important step in making optimum collection management decisions. The large-scale bibliographic databases have just begun to have their potential tapped in terms of special applications. The serial cancellation project represents an attempt to heighten the awareness on the part of collection development officers and library managers of a potentially valuable tool at their disposal.

The next time there is a widespread budget deterioration in a group of libraries accustomed to cooperating or among libraries in a particular geographic region or state, there will be a need to communicate in a timely, systematic manner the collection development decisions about

serial cancellations. The librarians participating in the PRLC Serials Cancellation Project will be in a more favorable position then because there is a mechanism in place to facilitate the communication of their cancellation decisions. In the meantime, it is hoped that additional institutions will begin to use the online, shared databases for collection development information of mutual concern in today's environment of interdependence and cooperation.

REFERENCES

1. Ruth C. Carter and Scott Bruntjen, "The Pennsylvania Union List of Serials: Initial Development," *Serials Librarian* 5:57-64 (Spring 1981).
2. _____, "The Pennsylvania Union List of Serials: Continuing Development," *Serials Librarian* 6:47-55 (Winter 1981/Spring 1982).
3. _____, "The Pennsylvania Union List of Serials: From Development to Maintenance," *Serials Librarian* 8:55-67 (Summer 1984).
4. American National Standards Institute, *American National Standards for Serial Holdings Statements at the Summary Level, ANSI Z39.42-1980* (New York: ANSI, 1980).
5. C. Lee Jones, "A Cooperative Serial Acquisition Program: Thoughts on a Response to Mounting Fiscal Pressures," *Bulletin of the Medical Library Association* 62:120-23 (Apr. 1974).
6. Regional Coordination of Biomedical Information Resources, *Final Report, Submitted to New York Metropolitan Regional Medical Program* (New York: June 30, 1976).
7. ANSI, *American National Standard for Serial Holdings Statements*, p.13.
8. Ruth C. Carter and Scott Bruntjen, *Serials Cancellation Project, a Final Report presented to the Council on Library Resources* (Pittsburgh: Pittsburgh Regional Library Center, 1983).
9. "USMARC Format for Holdings and Locations Draft 1/31/84," p.29.
10. Carter and Bruntjen, *Serials Cancellation Project*, p.20-22.
11. Ruth C. Carter, "Online Services and Collection Development: Serials," *Serials Review* 9:69-71 (Summer 1983).

IEEE Conference Publications in Libraries

Karl E. Johnson

Surveys were conducted to determine how libraries handle the conference publications of the Institute of Electrical and Electronics Engineers, the availability of suitable cataloging, and the preference of library patrons regarding access to these publications. The conclusions were that most libraries fully catalog their IEEE conference publications, using readily available but sometimes difficult to retrieve Library of Congress cataloging, and that library patrons frequently require series access to these valuable publications.

THE CONFERENCE PUBLICATIONS of the Institute of Electrical and Electronics Engineers (IEEE) are unquestionably of inestimable value to engineers and scientists in many areas of high technology. But these same publications, which many libraries spend approximately five thousand dollars annually to purchase, have long posed handling and cataloging problems for libraries. Although some of these publications are truly monographs, a significant number are serial in nature, in that they come forth annually from various units of IEEE. However, frequent changes in titles, issuing bodies, and formats make recognition of individual issues difficult at best and of long-standing serial entries virtually impossible. The Library of Congress (LC) reacted, understandably enough, to this situation by cataloging more and more of these serial publications as monographs. This method in turn forced libraries to access and use many more individual pieces of cataloging than would have been necessary had the publications been suitable for serial cataloging. Along with this need to access more and more cataloging came a concurrent emphasis on computer retrieval of cataloging data by subprofessional staff. In the case of IEEE conference publications, with their varied and often short, one-word titles as well as their frequent changes in name of issuing body, the incidence of successful computer retrieval of LC cataloging data can drop to unacceptably low levels. In numerous instances, the only way to retrieve exact LC cataloging data efficiently from a computerized database is via LC card number, which for many years was not often found with any degree of correctness in either the publications

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themselves or the *Index to IEEE Publications*.¹ The net result for libraries was likely to be a backlog of uncataloged IEEE conference publications and/or an inordinate reliance upon professional catalogers either to retrieve LC cataloging data belatedly from the *National Union Catalog* (NUC) or to provide original cataloging.

THE SITUATION AT THE UNIVERSITY OF RHODE ISLAND

By the mid-1970s, the backlog of uncataloged IEEE conference publications at the University of Rhode Island (URI) was increasing rapidly. It was during this time, while trying to assist bibliographic searching staff, that this author discovered the need for accurate LC card numbers if computer retrieval of exact LC cataloging data was to be achieved from the OCLC computerized bibliographic database. By the end of 1980, approximately five hundred IEEE conference publications were uncataloged and virtually inaccessible to the library's patrons. At that time, this author conducted a hasty examination of twenty-three IEEE conference publications along with relevant computer-retrieved cataloging data, of which approximately one-third was produced by LC, provided by the bibliographic searching staff. In essence, the conclusions were that the publications could be cataloged but that considerable professional effort would be necessary. From this study came a proposal, by this author and subsequently largely implemented by the URI Library, to place IEEE conference publications in a special collection, arranged by IEEE catalog number, with bibliographic access provided through the *Engineering Index* and the *Index to IEEE Publications*. In early 1983, with administrative encouragement and the granting of 20 percent release time from normal cataloging duties, this author proposed a research project to study further the relationship between IEEE conference publications and libraries. This proposal, subsequently approved, was the basis for the following investigation.

THE IEEE CONFERENCE PUBLICATION RESEARCH PROJECT

Four surveys were conducted during the course of the investigation. They included a survey of the literature, a survey of libraries purchasing IEEE conference publications, a survey of the OCLC computerized bibliographic database, and a survey of library patrons from the URI engineering and computer science departments.

SURVEY OF THE LITERATURE

A largely computerized literature search covering five computerized indexes and one printed index discovered few references relative to libraries and the Institute of Electrical and Electronics Engineers. Peregoy² was critical of IEEE for the confusion caused serial librarians by the constant changes in their publications in both names of issuing bodies and titles. Cole³ recognized the problems involved in cataloging IEEE conference publications as serials, due to frequent bibliographic

changes, and advocated monographic cataloging instead. Amir,⁴ after consultation with other concerned catalogers, entered a plea for cooperation between IEEE and LC in the hope of reducing the complexities in cataloging these publications. Jerrill,⁵ stated that IEEE advises conference publications editors to maintain title consistency between cover and title pages as well as between successive titles in the same series, but admitted that many justifiable complaints to IEEE from librarians pertain to exactly these points and are the result of volunteer editors failing to comply with IEEE's suggestions. Unsworth,⁶ though recognizing the difficulties involved in cataloging the conference publications as serials, nevertheless recommended serial cataloging whenever possible because of lower costs to libraries and greater benefits to library patrons. Penick⁷ acknowledged that IEEE is aware of and deplors the problems these publications cause libraries but has virtually no control over the conference publications, which are products assembled under the direction of volunteer editors far removed from IEEE.

LIBRARY SURVEY OF IEEE CONFERENCE PUBLICATIONS

A survey of libraries purchasing the conference publications of the Institute of Electrical and Electronics Engineers was conducted through the cooperation of IEEE staff who mailed a questionnaire to 193 libraries via their confidential subscriber list. Unfortunately, only 63 (33 percent) of the libraries surveyed responded and not all libraries answered all questions. Data regarding budget, staff, and number of patrons served were particularly scanty, and, totals did not, and in fact were not expected to, tally up to 100 percent within the broad categories. But, in general, it is probably safe to conclude that the predominant responses are a reasonably accurate indication of how most libraries are handling the conference publications of IEEE. The data provided was evaluated for overall response and then separated into categories related to type of library (i.e., academic, company, government, public, and other), a breakdown suggested by the fifth edition of the *Directory of Special Libraries and Information Centers*. The response from academic, company, and government libraries was further evaluated; the response from public and other libraries was not deemed worthy of further evaluation due to scarcity of returns (2 public, 4 other) and lack of homogeneity. All libraries responding currently catalog IEEE conference publications (i.e., provide bibliographic access to individual issues). Most libraries use LC cataloging data and access this cataloging via OCLC. Most libraries provide standard author/title/subject access and a significant number (12, or 19 percent) find it necessary to provide series access also. Most libraries still maintain a card catalog and use the LC classification system. Although the majority class these publications only in series, almost as many class some in series and some separately. Interestingly, company libraries (13, or 21 percent) are more likely to classify these publications only in series, while academic libraries (9, or 14 percent) are more likely to classify both separately and in series. Most libraries

surveyed were main libraries. All but 1 of the academic libraries holding these publications grant doctoral degrees, and only 7 (11 percent) of the libraries responding indicated displeasure with the frequent name changes found in the IEEE conference publications and the cataloging problems resulting therefrom (see table 1).

TABLE 1
IEEE CONFERENCE PUBLICATION
CATALOGING PRACTICES IN 63 LIBRARIES*

| | Overall No. (%) | Academic No. (%) | Company No. (%) | Govt. No. (%) |
|--|--------------------|---------------------|--------------------|------------------|
| 1. Libraries responding | 63 | 21 (33) | 25 (40) | 11 (17) |
| Central (main) | 53 (84) | 16 (76) | 23 (92) | 8 (73) |
| Departmental (branch) | 9 (14) | 5 (24) | 2 (8) | 2 (18) |
| Unknown | 1 (2) | — | — | 1 (9) |
| 2. Type of catalog | | | | |
| Book | 6 (10) | 1 (5) | 3 (12) | 1 (9) |
| Card | 37 (59) | 16 (76) | 14 (56) | 5 (45) |
| Microform | 14 (22) | 5 (24) | 3 (12) | 6 (55) |
| Online computer | 22 (35) | 3 (14) | 11 (44) | 5 (45) |
| 3. Utilize for cataloging | | | | |
| Library of Congress | 48 (76) | 19 (90) | 20 (80) | 7 (64) |
| Original | 32 (51) | 11 (52) | 9 (36) | 7 (64) |
| Other | 14 (22) | 9 (43) | 2 (8) | 3 (27) |
| 4. Access cataloging via | | | | |
| NUC | 9 (14) | 3 (14) | 4 (16) | 1 (9) |
| OCLC | 26 (41) | 14 (67) | 9 (36) | 1 (9) |
| RLIN | 6 (10) | 1 (5) | 4 (16) | 1 (9) |
| Other | 15 (24) | 5 (24) | 4 (16) | 5 (45) |
| 5. Bibliographic access | | | | |
| Author | 61 (97) | 21 (100) | 23 (92) | 11 (100) |
| Series | 12 (19) | 4 (19) | 3 (12) | 3 (27) |
| Subject | 61 (97) | 20 (95) | 25 (100) | 10 (91) |
| Title | 61 (97) | 21 (100) | 23 (92) | 11 (100) |
| 6. Classification system | | | | |
| Dewey | 9 (14) | 4 (19) | 3 (12) | 2 (18) |
| LC | 41 (65) | 15 (71) | 19 (76) | 5 (45) |
| Other | 13 (21) | 2 (10) | 4 (16) | 4 (36) |
| 7. Classify | | | | |
| Separately | 14 (22) | 6 (29) | 5 (20) | 2 (18) |
| Series | 23 (37) | 5 (24) | 13 (52) | 3 (27) |
| Both | 21 (33) | 9 (43) | 5 (20) | 4 (36) |
| 8. Publication name changes perceived as problem. | 7 (11) | 4 (19) | 1 (4) | 1 (9) |

*Responses from 2 public and 4 other libraries included in overall category only. Totals do not and should not be expected to tally up to 100% within the categories.

OCLC DATABASE SURVEY

A survey of the OCLC computerized bibliographic database was conducted during 1983 to determine how much suitable cataloging was available for URI's uncataloged IEEE conference publications. The procedure involved examining individual IEEE conference publications and photocopying any portion (e.g., cover, title page, title page verso, etc.) that displayed bibliographic information. These photocopies (usually two) then became a work form, representing the publication, to which were added any variant spine title, pagination, and IEEE catalog number (if not already present). The work forms were then searched against the OCLC database by LC card number, title, various author/title combinations, and/or International Standard Book/Serial Numbers (ISBNs/ISSNs). Retrieval by LC card number was found to be quickest and most likely to result in exactly matching cataloging to publication. Title retrieval, for the one-word titles and acronyms frequently used on these publications, was often impossible, as the search key retrieved more bibliographic records than the computer could process. Author/title searches, although frequently productive, accessed comprehensive displays requiring additional searching, thereby slowing efficiency of retrieval considerably. ISSN/ISBNs were seldom found in these publications and therefore did not constitute a significant search strategy. Work forms, for which exact or related LC cataloging was not found, were then searched in the *Index to IEEE Publications* and/or the *Library Information Update*,⁸ a supplement to the *IEEE Publications Bulletin*, for LC card numbers or ISBN/ISSNs. Work forms, for which additional data was located, were then searched a second time in the OCLC database. Work forms, for which a second OCLC search was not productive, were then searched in the NUC for LC card numbers, and a third OCLC search was initiated for any LC card numbers found. The findings were categorized into exact LC cataloging, related LC cataloging (i.e., LC cataloging for another issue, etc.), and contributed cataloging (i.e., original cataloging input by member libraries). Information as to whether the cataloging was monographic or serial was noted, and a short title was assigned to each publication in the hope that it would ultimately assist in connecting serial issues. The resulting data was organized by IEEE catalog number and printed out with the aid of an Apple II microcomputer. A total of 758 IEEE conference publications, extending over a period of sixteen years (1968-83), were searched for cataloging data (see table 2).

In reading table 2, note that the totals in the three cataloging categories as well as the monograph and serial categories do not equal the number of publications searched. This discrepancy is due to the fact that LC-related cataloging and contributed cataloging were intentionally retrieved for the same publication and that both monographic and serial cataloging are sometimes available for the same publication.

Exact LC cataloging was located for 574 publications (76 percent). Related LC cataloging was located for an additional 116 publications, and contributed cataloging also was located for many of these. Mono-

graphic cataloging was available for 489 publications (65 percent), and serial cataloging was available for 279 publications (37 percent). The totals displayed in table 2 indicate that LC is cataloging most IEEE conference publications. The decrease in availability of exact LC cataloging and the simultaneous increase in contributed cataloging, shown from 1981 through 1983, are probably due to the normal lag in availability of LC cataloging and presumably do not indicate a change in LC policy.

TABLE 2
RESULTS OF OCLC SEARCHES FOR
IEEE CONFERENCE PUBLICATIONS*

| Year | Pubs. Searched | LC Exact | | Cataloging LC Related | | Contributed | | Monograph | | Serial | |
|-------|-------------------|----------|------|--------------------------|------|-------------|------|-----------|------|--------|------|
| | | No. | (%) | No. | (%) | No. | (%) | No. | (%) | No. | (%) |
| 1968 | 1 | — | — | — | — | 1 | — | — | — | 1 | — |
| 1969 | 2 | 1 | — | 1 | — | — | — | 1 | — | — | — |
| 1970 | 7 | 5 | (71) | 1 | (14) | — | — | 4 | (57) | 4 | (57) |
| 1971 | 12 | 5 | (42) | 4 | (33) | 5 | (42) | 9 | (75) | 3 | (25) |
| 1972 | 14 | 8 | (57) | 5 | (36) | 5 | (36) | 8 | (57) | 7 | (50) |
| 1973 | 43 | 21 | (49) | 12 | (28) | 15 | (35) | 20 | (47) | 22 | (51) |
| 1974 | 17 | 7 | (41) | 8 | (47) | 8 | (47) | 12 | (71) | 6 | (35) |
| 1975 | 15 | 6 | (40) | 5 | (33) | 8 | (53) | 11 | (73) | 6 | (40) |
| 1976 | 36 | 22 | (61) | 13 | (36) | 14 | (39) | 21 | (58) | 15 | (42) |
| 1977 | 56 | 48 | (86) | 7 | (13) | 7 | (13) | 37 | (66) | 19 | (34) |
| 1978 | 72 | 63 | (88) | 8 | (11) | 8 | (11) | 51 | (71) | 21 | (29) |
| 1979 | 95 | 89 | (94) | 2 | (2) | 4 | (4) | 55 | (58) | 39 | (41) |
| 1980 | 108 | 98 | (91) | 7 | (6) | 7 | (6) | 70 | (65) | 39 | (36) |
| 1981 | 106 | 92 | (87) | 10 | (9) | 14 | (13) | 69 | (65) | 44 | (42) |
| 1982 | 114 | 80 | (70) | 17 | (15) | 29 | (25) | 80 | (70) | 33 | (29) |
| 1983 | 60 | 29 | (48) | 16 | (27) | 27 | (45) | 41 | (68) | 20 | (33) |
| Total | 758 | 574 | (76) | 116 | (15) | 152 | (20) | 489 | (65) | 279 | (37) |

*Note that the totals in the three cataloging categories as well as the monograph and serial categories do not equal the number of publications searched. This is due to the fact that LC-related cataloging and contributed cataloging were intentionally retrieved for the same publication and that both monographic and serial cataloging are sometimes available for the same publication. Percentages refer to the number of publications searched within each year.

UNIVERSITY OF RHODE ISLAND USER SURVEY

A user survey of faculty, staff, and students in three engineering departments (Electrical, Mechanical, and Ocean Engineering) and in the Department of Computer Science was conducted by this author and Mimi Keefe, chair, Public Services Department, URI Library. As noted previously, the library shelves the IEEE conference publications in a special collection by IEEE catalog number with bibliographic access provided by the *Engineering Index* and the *Index to IEEE Publications*. Of the twenty-four respondents, 79 percent were satisfied with the current method of access, although 67 percent indicated that standard author/ti-

tle/subject access through the library's catalogs would provide better service. When asked if they would prefer to see IEEE conference publications shelved along with other items in their subject, 50 percent opposed the proposal, while 38 percent approved.

SUMMARY

The literature and the responses from librarians surveyed suggest that IEEE conference publications pose a cataloging problem, for at least some libraries, in that the frequent name changes, in both title and issuing body, make serial identification and cataloging difficult. Examination of the OCLC database reveals that retrieval of LC cataloging data for IEEE conference publications can be difficult without correct LC card numbers due, at least in part, to the one-word titles often found in these publications. Correct LC card numbers were found, with increasing frequency, in later IEEE conference publications, and the *Index to IEEE Publications* and the *Library Information Update* were found to be of considerable assistance in locating LC card numbers not found in the publications. The user survey at URI suggests an appreciation, on the part of the patron, for having IEEE conference publications shelved in series, or at least available by IEEE catalog number, in addition to having standard author, title, and subject access. These conclusions are reinforced by the findings of the library survey in that 37 percent of all libraries responding class IEEE conference publications only in series, 19 percent of all libraries responding find it helpful to provide series added entries, 100 percent of the libraries responding do catalog these publications, and 97 percent of the libraries responding provide standard author, title, and subject access.

REFERENCES

1. *Index to IEEE Publications* (1973-). (New York: Institute of Electrical and Electronics Engineers).
2. Marjorie Peregoy, "Only the Names Have Been Changed to Perplex the Innocent," *Title Varies* 1:13 (Apr. 1974).
3. Jim E. Cole, "Conference Publications: Serials or Monographs?" *Library Resources & Technical Services* 22:172 (Spring 1978).
4. Michlean J. Amir, "Open Letter to IEEE," *Special Libraries*, 69:6A (Nov. 1978).
5. Richard Jerrill, "Getting Proceedings Out: Stumbling Blocks and Strategies," in *Conference Literature in Science and Technology*, ed. Gloria J. Zamora and Martha C. Adamson (Marlton, N.J.: Learned Information, 1981), p.158-62.
6. Michael E. Unsworth, "Treating IEEE Conference Publications as Serials," *Library Resources & Technical Services* 27:221-24 (Apr./June, 1983).
7. Patricia H. Penick, "IEEE Conference Publications," paper presented at a session entitled "Perspectives on Proceedings," sponsored by the ACRL Science and Technology Section at the American Library Association Conference, Los Angeles, Calif., June 27, 1983.
8. Supplement: IEEE Publications Bulletin: Library Information Update. Apr. 1980- (New York: Institute of Electrical and Electronics Engineers).

The Place of the Journal in the Scholarly Communications System

Charles B. Osburn

THE TASK OF DEFINING the role of the journal in the scholarly communication system can be facilitated by referring first to the mission of any major university in North America. In examining the mission statement, we would quickly find that it can be interpreted in terms of the transmission and creation of knowledge. Transmission of knowledge refers to the teaching function of universities, while both the creation and transmission of knowledge refer to the research function. Although the methods applied to research, as that function frequently is defined, may differ somewhat from the less rigorous approaches of general scholarship, it is important to bear in mind that both research and scholarship are expected to culminate in the transmission of new knowledge to a broader peer group that can benefit from and build upon that knowledge. It is not merely by coincidence that the French word *scholies*, meaning "footnote," and the English word *scholarship* are derived from the same root.

For reasons that are not entirely clear to me, we tend—at least in the United States of America—to apply the word *scholarship* to fields of the humanities and arts, while the word *research* is associated more widely with fields in the sciences, applied sciences, and more and more commonly, with the social sciences. To be sure, the structure and methodology usually understood to be fundamental to research are followed with greater rigor in these fields than are the various approaches to scholarship in the humanities, for example, the reason being the requirement of replicability in the sciences. Yet the general goals of creating new information, a new theory, or a new perspective, and communicating that to peers in the field, are fundamental common features of research and scholarship in all fields. In other words, there really are more basic similarities than differences among the categories of knowledge as they are represented throughout our bureaucratic academic enterprise. Our separation of what we call in English "sciences" from other fields, such as the humanities, is a very artificial separation that no doubt is convenient

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for some purposes, but is otherwise misleading.

To gain a sense of the full significance of the journal in the twentieth-century university, one must comprehend that communication really is the essence of science and that the journal is in fact and in symbol the very heart of the enterprise that creates and transmits knowledge.

Much has been written about the sociology of the natural sciences in the past quarter century both because there has been a lingering mystique about it and because the patterns of practitioners in the field are assumed to be totally objective and thus easier to follow. The latter may be a false assumption, but it is nonetheless largely responsible for the considerable attention given to the sociology of science. There is also value to be gained in analyzing relevant aspects of the sociology of science because sociological patterns that have evolved in the so-called hard sciences since World War II increasingly have served as models for the development of other fields within academia. As a help in gaining insight into the present place of the journal in our universities, we can look briefly into the history of the development of that medium of scholarly communication. Perhaps, also, an understanding of that past can help us predict some of the chief considerations for the future of the scholarly journal.

THE NURTURING ENVIRONMENT

It appears to be an undisputed fact that the first scholarly journal was the appropriately titled *Journal des scavans*, initiated by Denis de Sallo on January 5, 1665, in France. It was at least the first successful such journal issued in the Western World. *Journal des scavans* was followed just two months later by *Philosophical Transactions of the Royal Society*, in England, and these leads were imitated quickly throughout Europe. Both journals continue to be regarded as important media of scholarly communication even today.

When you hear the purposes of the *Journal des scavans*, as stated more than three hundred years ago, I believe you will be struck by the similarity of purpose to journals as we know them today. The stated purposes of the *Journal des scavans* in 1665 were to describe new books, provide obituaries of leaders in science, summarize experiments, discoveries, inventions, and observation of natural phenomena, disseminate principal decisions of tribunals and universities, and monitor current events in the world of letters.

Although the journal was not considered at the time of its beginnings to be the definitive form of publication of new findings and interpretations—a position then held by the book—it is clear that the general purpose was to encourage research and facilitate the flow of information about research and scientific thought nationally and internationally. The time was ripe for the institution of the journal in the middle of the seventeenth century, and it is worth noting that its beginnings constituted so much of an evident new stage in the history of scholarly communication that it was recognized widely even by contemporaries as an invention.¹ A number of elements converged to create this receptive atmosphere. Learned societies were on the rise, and with them the critical debate that refines science and scholarship. In that milieu, both the pro-

cess of critical review by peers and the scientists' means of establishing priority claim for discoveries or theories had already been evolving. The formal expression of these sociological considerations was to be found in correspondence, however. Letters from one scientist to another, announcing a discovery, invention, or theory, were written with the expectation that they would be shared by others in the learned society and that they would be critiqued in return correspondence, also to be shared.

It is very easy to see the limitations of this method of scholarly communication, which depended so much on the circulation of one document among a growing number of interested scientists. At the same time, newspapers, having been developed earlier in the seventeenth century, were also gaining influence and acceptance as a means of communication. The combination of this mechanism of general communication with the more focused purposes of scholarly communication structured by the learned societies certainly paved the way for the successful creation of the journal.

While the form for scholarly communication was well along in its evolution by the middle of the seventeenth century, the substance of science also was evolving in ways that would be conducive to an innovative medium of communication. For the seventeenth century was the age of experimental science, and Francis Bacon usually is credited as a primary influence in its development. The rejection of untested scientific law and assumption, as promulgated and repeated by generations of earlier scientists, led to the integrated use of laboratories for testing and observation. Experimentation required brief information about similar experiments, and this exchange further encouraged the establishment of communication patterns about experiments.² Scientists no longer worked and thought in isolation from each other, but became part of a community, creating a new body of knowledge that would no longer be static, but rather one that would constantly be refining itself and growing. The rational method of science, codified chiefly by Descartes in the middle of the seventeenth century did much not only to structure a model for the behavior of scientific inquiry, but also to create a mystique about the objective and rational nature of science that only in our own day is being dispelled.

Because of the experimental approach, it was convenient and useful—in terms of proceeding both with caution, yet with the possibility of establishing priority claim for a discovery—to publish results in stages, rather than in one definitive report upon completion of a full study. This, of course, was a need that could be met well by the journal format, and this capacity became, therefore, a guarantor of the immediate success of the journal as a medium of scientific communication.³ To the extent that accuracy of information, testing, and critical debate were and are crucial in the evolution of society, the journal is also. For the journal became in the seventeenth and eighteenth centuries the most important single forum to insist on these conditions.

From the second half of the eighteenth century through the end of the nineteenth century, a new influence on the development of the journal implanted itself. This was the increasing importance of the university, generally, and the associated trend toward the focus of research and pro-

fessional scholarship within universities. Largely inspired during the Enlightenment, the public had begun to become aware of an emerging relationship between science and the national economy, so that for some time journals reflected the mixture of professional and lay involvement in science. However, universities began to dominate the field, which was then made less accessible because of the requirements of costly laboratories for experimentation. At the same time, science began to grow, for as science was carried on in the bureaucratic structure of academia, areas of specialization were developed in ever-narrowing subfields, always rendering science intellectually less accessible to the public. And, as might be expected, the creation of areas of specialization had three major effects on science and its chief tool of communication, the journal. These were a constantly growing work force in science; competition; and the consistent creation of new journals reflecting the new areas of specialization. This situation repeated itself in cycles.

Whereas in the early eighteenth century the journal was still largely a medium of education and of the dissemination of established ideas, by the middle of the nineteenth century it had become a medium directed expressly to a specialized audience of scientists. It is worthy of note that the cycle of scientific growth and university involvement outlined above was strengthened commensurate with the level of government support to science during the nineteenth century and early twentieth century, on a country-by-country basis.⁴ It was in this context, in the twentieth century, that the United States emerged as the chief competitor with Germany in demonstrating a dynamic science of high quality.

Thus did the journal rise to dominance over the book as the primary, if not definitive, medium of scientific communication. In the increasingly competitive environment of the newly formed and rapidly growing scientific community, swiftness in establishing priority claim, swiftness in participating in critical debate, and swiftness in gaining access to needed information had become the criteria by which the media of communication were to be judged. On the basis of these criteria, the journal was found to be more appropriate than the book.

Next arises the question of the development of the scholarly journal in fields other than the natural sciences, particularly in the humanities and social sciences. Just as government support for science expedited its early growth, its specialization, and the creation of subfield journals, so did this cycle continue at an even greater pace following World War II. So, also, were these patterns replicated in the humanities and social sciences, the latter of which really is a twentieth-century development. As we observed earlier, although the common belief is that there are great distinctions separating the motivation and methods of the sciences, at one extreme, from those of the humanities, at the other, there is good evidence that there are far more fundamental similarities than differences and, therefore, that the purposes served by journals are the same except in relative importance of the criterion of swiftness. The history of the journal serving the humanities developed later than that of the sciences, perhaps by more than a century. But it did so in the tradition established in the sciences. Similarly, the humanities journal evolved from

one serving the tastes of the amateur of letters into a forum serving the more scientifically oriented needs of specialist scholars at a later date, perhaps beginning in the second half of the nineteenth century.

Specialization in these fields came about just as it had in the sciences. For example, philology split into language and literature. And when study of the classical languages and literatures, and subsequently of the older national languages and literatures, became saturated with scholars, further subfields were created by legitimatizing the study of texts of more recent date. One has only to examine the range of specialties in a present-day university English department, and particularly the variety of journal titles reflecting these areas of specialization, to see that the pattern of the sciences applies to the humanities.

A curious fact that most of us will probably find amusing is that Derek J. de Solla Price, long a student of the history of science, has entitled his chapter on literature growth "Diseases of Science."³ In this case, literature growth and the historical statistics of journals are one and the same, given the importance of the journal to science. But de Solla Price tells us more useful facts than that, and they are quoted widely by historians of science. For example, he observes that growth in the number of journals is exponential, doubling every ten to fifteen years; that the relationship between the number of scientists and the number of publications has remained constant for three hundred years (about three per scientist); that the rate of publication is higher in countries where the government supports science and that the rate is highest in countries in which such support is a new condition. This latter fact stimulates speculation about future growth of the literature in consideration of developing nations and their emerging role in the world.

By the late eighteenth century, there were nearly eight hundred scientific journals in the Western world, half of them published in Germany.⁶ By 1895 there were about nine thousand, by 1950 fifty thousand, and by 1970 seventy-five thousand.⁷ There are now probably more than one hundred thousand journals published currently in the fields of science and technology. In the United States, it is estimated that the number of learned journals in all fields increases at the rate of 2 to 3 percent annually, half of these in the humanities and social sciences, and the other half in science and technology.⁸

Now, of course, nobody can actually read all these fine journals. Heaven knows, we can't even keep track of them. And, in fact, in view of the statistics cited earlier, that has been the case for more than two centuries. Concern began to be expressed rather seriously and consistently about the increasing number of journals during the second half of the eighteenth century, and it was around that time that abstracting journals first made their appearance, relieving some of the pressures of growth. Having emerged as part of a loose but developing bibliographic control system that included index journals and review journals, the abstract journal of those early years evolved intermittently as the result of heroic efforts made by enormously energetic and altruistic individuals. The growth of abstracting journals throughout the past two centuries parallels the growth of journals⁹ and reflects at once the increasing interna-

tional character of research, the intensifying need to keep abreast in an organized fashion, and, of course, the heightened degree of specialization.

The first specialized abstracting journal, the *Chemisches Journal für die Freunde der Naturlehre*, was founded by Lorenz von Crell and lasted six years. We should bear in mind that, although the beginning of these journals is owed to individuals, the fact that they have flourished and number in the thousands today is owed to the professional and scholarly societies that soon took responsibility for their maintenance.¹⁰ And, furthermore, while it is obvious that individuals certainly could not sustain these large and complex enterprises, it is also true that in the earlier segments of their history—as well as in many cases today—commercial houses tended to avoid responsibility for abstracting journals, finding their production too expensive in view of the low revenue expected.

PURPOSES AND PROCESSES

Over the past three centuries the role of the journal in the scholarly communication system consistently has become more complex, but it also has become firmly rooted. The rapid communication of information is, of course, the most obvious function. But that is only the most manifest expression of a deeper role played by the journal in what Merton calls the “communism of science,” a phrase which contains the principle that ideas should not be withheld from others for one’s own personal benefit.¹¹ The need to exchange ideas is fundamental to the notion of science and scholarship operating as a community, in which the journal not only is a repository of completed work, but also is consulted by practitioners in all fields in order to learn of work in progress. Those who are not participants in the inner circles of the community, which is referred to frequently as the “invisible college,” still are afforded by the journal an avenue to exposure for their ideas and a means of access to information and because of that mechanism those scholars are not isolated completely. In that connection, new journals are begun as a convenience, whereby the scattering of relevant information can be controlled while attention is attracted to the emerging area of specialization.

The whole issue of establishing priority claim and of validating the worth of one’s work and one’s self has been important in science and scholarship for several centuries, having intensified in importance as science and scholarship have become increasingly competitive and professional. Garvey observes that, “in almost every scientific discipline today, the socially accepted medium for establishing priority is the scientific journal article.”¹² It is important in the scientific and scholarly ethos not only to be able to document that the contributor was the first to publish a fact, observation, or interpretation, but also that he or she was the first to recognize the significance of the contribution. And so it is in the social sciences, as well, where, according to Lindsey, “the journals govern the behavior of scientists through the control of access to the public forum.”¹³ The journal is the key instrument of science, the social sciences, and of much of the humanities for the assessment and validation of an individual’s work, “thus linking the individual to the community and its tradition.”¹⁴ It is through publication in this medium that per-

sonal authority and legitimacy are established within a community that determines its own norms.

Now, most of us are aware that a large proportion of the substance of journal publications is made public—in a limited sense—prior to final publication as articles. If that is so, then the question arises about how all this business of validation and priority claim really works and about the true significance of the journal in that context. What exactly is it that makes the journal so important a part of the scholarly communication system?

The answer lies in the review process of submitted manuscripts, in the inherent character of journals, and in the understanding of the place of the journal held commonly by those who make up the community of scholars. In his study of the publication system of the social sciences, Lindsey finds that the journal is the only medium that allows critical discussion and dialogue, pointing to the sections for comments, letters to the editor, and dialogues with authors that stimulate debate, “revealing the passionate side of science.”¹⁵ Many articles are made public first by publication in conference proceedings, which generally are considered the informal media in comparison to the more formal publication in a scholarly journal. The difference is quite important and resides in the informal exchange that takes place surrounding the proceedings publication and from which the journal article is developed. According to Garvey, this informal process allows discussion and debate on the basis of unfinished, speculative, or unorthodox information which, while essential to progress in the field, is eliminated—in that raw form—from the final published journal article.¹⁶

But the fundamental premise on which rests the crucial role of the journal in the research enterprise is the trust of the community in a process that results in the published journal article. Of course, this trust originates in the selection of only a few manuscripts from among the many submitted to the journal editor for consideration of publication. Review of the manuscript by peers in the field who are qualified to judge the significance of the contribution has been the basis of the substantive role of the journal since its beginnings in the seventeenth century. This process suffers from all the political and personal quirks that you might imagine, these being the subject of a great deal of sociological study, but it remains the essential characteristic of formal scholarly communications, having been replaced by no other. The peer review process that regulates the growth of knowledge demands collectively a great deal of time, energy, and thought, but it is essential to the quality of information as well as to the dialectic on which the scholarly communication system depends.

It is no secret that journals must be economically viable and, therefore, that subscription levels and production costs are of constant concern to those responsible. Nonetheless, a relatively recent survey of journal publishers reveals that ranking high among their objectives are a number of considerations that relate to the traditional important role of journals in the scholarly communication system.¹⁷ These objectives include the following: to serve as the primary and fastest intermediary between author and reader; to publish work of the highest intellectual qual-

ity; to uphold the scientific tradition of open information exchange; to present information in the form and style acceptable to the community; to attract good authors, editors, and reviewers; to achieve the reputation or status as a publisher of a superior journal.

Journals considered prestigious are those that are successful in achieving these goals. They are the journals that are perceived by the community to meet their expectations for role fulfillment of the journal within the scholarly communication system. It has been found that the prestigious journals in a given field cite each other, leading scholars to reliable information on related topics and thus clustering sources for relative ease of location by the scholar.¹⁸ As is well known by those familiar with Bradford's principle of scattering, this mechanism concentrates a great deal of power to distribute information in a few journals. Consequently, as the National Enquiry informs us, the average scholar in the humanities and social sciences scans seven journals, follows four or five regularly, and reads three to five articles per week. Scholars in large universities, where research is part of the mission, subscribe personally to more journals than do their counterparts in non-research-oriented universities, even though they have access to a larger selection of journals in their institutional libraries.¹⁹

A recent survey of researchers in science and technology shows that practitioners in those fields use journals for the same purposes now as they have for the past three hundred years: to keep up to date in their field; to follow relevant developments in other fields; to get ideas for new research; to identify other individuals with similar interests; to screen out irrelevant material and retrieve the relevant; to minimize cost, time, and inconvenience in retrieval of information.²⁰ The role of the journal in the scholarly communication system clearly has changed little in the past three centuries except that greater dependence is placed on it than ever before. Authors depend upon the journal to establish intellectual ownership, to gain recognition thereby enhancing career mobility, to establish personal contacts, to fulfill contractual obligations, to share information, to educate the next generation of practitioners, and generally to adhere to tradition and standards.²¹

EDITORIAL RESPONSIBILITY AND THE FUTURE

Where there usually has been editorial responsibility in this evolving environment, the burden of that responsibility consistently has intensified. The growing number of scholars under increased pressure to be productive has converged over the years with an ever more clearly defined role for the journal, such that the editorial burden of responsibility seems now to be nearing its limitations. The criterion of swiftness is strained by the multitude of manuscripts submitted and by the tendency toward even higher degrees of specialization. The large number of would-be articles poses logistical problems to the peer review system, especially in view of the goal of swiftness, while increased specialization renders less and less likely the probability of substantive review by peers whose expertise may not be at the heart of the specialty. Imagine the burden on that relatively small and select group who would be expected to review thoughtfully the nearly two-hundred thousand scholarly arti-

cles published annually in the United States alone.

So while the purposes of the journal have not changed much in at least two centuries, there have been other developments that are beginning, collectively, to have an effect on the way those purposes can be met or on the extent to which they can be met. To wit: (1) the number of participants in the scholarly communications system has increased very dramatically and, in a so-called information society, is likely to increase even more; (2) whereas prior to World War II most subscriptions were to individuals, most now are to institutions; (3) the number of journals, of articles, and of manuscripts places enormous strain on the whole system, perhaps rendering it less effective than it once was, and; (4) most seriously, publishers may be pushed to the point of abandoning their very important responsibility for guaranteeing high quality of information for the intellectual advancement of knowledge. Should this really come about, you can imagine the great chaos into which the selection function of research and special libraries would be launched.

In the mid-1960s the historian of science, John Ziman, was correct in his clever observation, "It is extraordinary to consider that the general form of a scientific paper has changed less, in nearly 300 years, than any other class of literature except the bedroom farce."²² But now it appears that even the form could change as the various technologies of home computing, electronic storage, and telecommunications merge with what is now being called electronic publishing.

For some time, competition within the research community has been mounting, as we noted earlier. Consequently, some researchers have felt compelled to bypass the learned journal as a means to establish prior claim and gain recognition by turning to the more rapid media of news journalism, which of course, operate outside the tradition and standards of science and scholarship. As one response to this tendency, according to Garvey, the *New England Journal of Medicine*, considered the most prestigious in its field, will no longer accept manuscripts whose substance already had been revealed in the mass media, because such action "does violence to the normative system of establishing priorities of scientific discovery."²³ However, with the unprecedented ease of making public announcements that technology now makes possible, there is the real threat of a great flow of unharnessed and uncontrolled contributions whose significance or accuracy has not been validated. The motivations of authors are not likely to change very much in the next few decades, but the opportunities to circumvent a valuable system, and the temptation to do so, will assume a much greater presence. Maurice Line summarizes quite usefully a number of the advantages and disadvantages of the electronic journal,²⁴ and it appears that, in terms of practical matters, the advantages are ahead; but, where matters of the advancement of knowledge are concerned, we are presented primarily with disadvantages. We could be confronted with an overwhelming amount of noise in the system.

CONCLUSIONS

Publication is not a peripheral function of research; it is rather an integral part of the scholarly process that would be rendered incomplete and

valueless without it. By proportion, the journal is the most characteristic expression of the spirit of science and scholarship, and its history embraces the contribution of science and scholarly research. The processes of the journal are responsible for the cumulative nature of the sciences and for the integration of scholarship in the humanities. Let us hope that we have the collective wisdom in the remaining part of the twentieth century to guard and strengthen what has proved to be valuable about this positive force in the scholarly communication system and to control those elements that would detract from it.

REFERENCES

1. David A. Kronick, *A History of Scientific and Technical Periodicals* (2d ed.; Metuchen, N.J.: Scarecrow, 1976), p.53.
2. Martha Ornstein, *The Role of Scientific Societies in the Seventeenth Century* (Chicago: Univ. of Chicago Pr., 1938), p.198.
3. Arthur J. Meadow, *Communication in Science* (London: Butterworths, 1974), p.68.
4. Jean G. Shaw, "Patterns of Journal Publication in Scientific Natural History from 1800 to 1939," in *Development of Science Publishing in Europe*, ed. A. J. Meadows (Amsterdam: Elsevier, 1980), p.171.
5. Derek J. de Solla Price, *Science Since Babylon* (Enl. ed.; New Haven, Conn.: Yale Univ. Pr., 1975).
6. Bernard Houghton, *Scientific Periodicals: Their Historical Development, Characteristics and Control* (London: Clive Bingley, 1975), p.19.
7. *Ibid.*, p.102.
8. *Scholarly Communication; the Report of the National Enquiry* (Baltimore: Johns Hopkins Univ. Pr., 1979), p.37-39.
9. Bruce M. Manzer, *The Abstract Journal, 1790-1920: Origin, Development and Diffusion* (Metuchen, N.J.: Scarecrow, 1977).
10. Houghton, *Scientific Periodicals*, p.81.
11. Arthur L. Stinchcombe, "Merton's Theory of Social Structure," in *The Idea of Social Structure; Papers in Honor of Robert K. Merton*, ed. Lewis A. Coser (New York: HBJ, 1975), p.23-24.
12. William D. Garvey, *Communication, the Essence of Science* (New York: Pergamon, 1979), p.69.
13. Duncan Lindsey, *The Scientific Publication System in Social Science* (San Francisco: Jossey-Bass, 1978), p.13.
14. Bernard H. Gustin, "Charisma, Recognition, and the Motivation of Scientists," *American Journal of Sociology* 78:1126 (Mar. 1973).
15. Lindsey, *The Scientific Publication*, p.14.
16. Garvey, *Communication*, p.64-65.
17. Reported by Wayne I. Boucher, "The Place of the Author in the Coming Information Society," in *Strategies for Meeting the Information Needs of Society in the Year 2000*, ed. Martha Boaz (Littleton, Colo.: Libraries Unlimited, 1981), p.123.
18. M. M. Kessler, "Bibliographic Coupling between Scientific Papers," *American Documentation* 14:10-25 (Jan. 1963), as cited by Houghton, *Scientific Periodicals*, p.115.
19. *Scholarly Communication*, p.43-44.
20. Boucher, "The Place of the Author," p.124.
21. *Ibid.*, p.121.
22. John Ziman, *Public Knowledge* (Cambridge, Eng.: Cambridge Univ. Pr., 1968), p.105.
23. Paraphrased by Garvey, *Communication*, p.75.
24. Maurice B. Line, "Redesigning Journal Articles for On-Line Viewing," in *Trends in Information Transfer*, ed. Philip J. Hills (Westport, Conn.: Greenwood Pr., 1982), p.31-46.

The Catalog of the Austrian National Library as a Bibliographic Resource for U.S. Libraries

John Rutledge and Willy Owen

The study examines the microfiche edition of the catalog of the Austrian National Library as a bibliographic tool for American libraries. After briefly sketching the history of the Austrian National Library to help define the catalog, the article offers an objective description of it and indicates some of the problems with its use. Some methodological considerations of drawing a random sample from a microfiche catalog are discussed. On the basis of a random sample, the authors describe the holdings of the Austrian National Library in terms of place, date, language of title, and nature of the material. The same sample is used to compare this catalog with other more familiar tools, namely the National Union Catalog, covering pre-1956 imprints, and the Gesamtverzeichnis des deutschsprachigen Schrifttums (1700-1911). The Austrian National Library catalog provides a substantial range of bibliographic information beyond the other two. An attempt is made to define the types of materials identified only in the Austrian National Library catalog.

ONE OF THE BENEFITS of microfilm technology has been that catalogs of the world's most significant libraries can now be collected in microformat and consulted with relative ease. Microfiche seems the ideal format for non-English-language catalogs where use in the United States might not justify the large expense nor space necessary to house a print copy of the same material. The catalog of the Austrian National Library (ANL) has now been microfilmed and is being marketed.¹ Since the purchase price is considerable, most libraries will want to investigate this tool thoroughly before making a decision to purchase. To facilitate this investigation we have attempted (1) to provide a helpful description of the ANL catalog, (2) to evaluate it as a bibliographical tool, and (3) to compare it to other bibliographical resources, primarily the *National Union Catalog Pre-1956 Imprints*² (NUC) and the *Gesamtverzeichnis des deutschsprachigen Schrifttums*³ (GV).

The ANL is one of the premier libraries of Europe, a gathering of

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books from over four centuries. Among libraries in the German-speaking lands, the holdings in the ANL are the most complete.⁴ The director of the ANL from 1949 to 1967, Josef Stummvoll, suggests that in it is gathered an almost complete collection of the entire book production of the German-speaking areas of the Hapsburg Empire from the sixteenth and seventeenth centuries.⁵ Because the empire was geographically so far-flung, imprints from Hapsburg territories—especially from Czechoslovakia (Bohemia), Holland, and Italy—are well represented.

Naturally enough, the ANL functions as a *bibliotheca patria* for Austrian history and, to some extent, for European history as well. The ANL also houses classes of materials that would not necessarily have been exported, such as school books, military manuals, devotional books, and publications of clubs and organizations (Vereinschriften), sometimes referred to as "gray literature."⁶

It is important to recognize that the ANL catalog has certain time constraints. Only printed materials between 1501 and 1930 are included in the old card catalog, and hence in this microfiche edition. Thus incunabula and manuscripts are excluded. The ANL began to function as a national library after the Great European War, when the library became the property of the Austrian Republic upon the collapse of the monarchy.⁷ The significant acquisitions of the ANL in the second quarter of the twentieth century, when it began to produce the *Österreichische Bibliographie*, are not recorded in this catalog.

The year 1930 is a watershed date for the ANL because in that year the oversize (17.5 cm. by 22.5 cm.) handwritten card catalog was discontinued and a new card catalog using the international format was begun. Thereafter, new accessions printed before 1929 were cataloged for inclusion in the old catalog; works bearing an imprint of 1930 and after were cataloged according to the Prussian Instructions and listed in the new catalog. It had been hoped that the holdings from 1501 to 1929 would be included in a projected *Bandkatalog* that was to be printed; regular supplements were to appear when works printed after 1930 were acquired, but the project collapsed under the stress of the Second World War.⁸

The typed card catalog, which forms the basis for the microfiche edition, was produced by the ANL in 1966. Its purpose was to provide adequate public access to the holdings of the library. It replaced the old handwritten card catalog, which existed in a single copy! The 1966 catalog was produced on electric typewriters. By a system of linkages to four "dummy" machines, additional copies of each card were generated. These extra copies were used to create a subject catalog and a technical services catalog for official use.⁹

The microfiche edition of the ANL catalog reproduces the 1966 card catalog on 808 microfiche. Each microfiche holds 39 × 35 cards, or 1,365 entries. There are 1,101,774 entries, including cross-references. The cards are filed according to the in-house rules promulgated in 1901.¹⁰ This filing system is similar to the Prussian Instructions (which the ANL began using in 1930) in that the filing order is grammatical rather than mechanical in concept. The first noun in the title (called the

ordinal word) usually determines where the title will be filed. An adjective before the noun is considered to be merely an upbeat to the first important word. Thus "*politische Abhandlungen*" is found under "*Abhandlungen, politische.*" (The publisher of the microfiche edition provides a filing guide to the ANL catalog in German.)

By modern bibliographical standards, the amount of information provided by an average entry in the ANL catalog is not luxurious. One is tempted to say that the 1966 ANL card catalog perfectly combines Austrian efficiency with Prussian charm. Transferring the information on the handwritten cards to the smaller format necessitated the shortening of many unwieldy titles dating from an age in which book titles were often much longer than they are today. On the other hand, it was possible to make some improvements and corrections in certain classes of materials when the 1966 catalog was produced.¹¹ Generally, one finds in the ANL catalog the author, a title (often abridged), the place and date of publication (insofar as the handwritten catalog contained this information), and the call number. Typographical errors are not infrequent.

What sort of a collection is represented by the ANL catalog? Given the collecting patterns and interests of the Hapsburgs and their librarians over four centuries, one may note historic accretions to the collection, either as individual items or as larger collections. We decided, however, to try to understand it not by recapitulating its history, but rather by devising a random sample study. This random sample study helped us arrive at some objective information about its contents and enabled us to compare it to its American and German cousins and cousins-german.

SELECTING THE SAMPLE

Before we began our study, we took a small sample of the entries from the ANL catalog for the purpose of discerning some broad outline of the constitution of its contents. This preliminary investigation revealed that about one-third of the entries were cross-references, that the majority of the titles included were Germanic in place of origin and language, and that over half of the titles might be duplicated in the NUC or the GV. A few calculations, based on this small sample, showed us that by choosing 300 titles at random we would be assured of obtaining at least 200 entries (rather than cross-references) that could be checked against our chosen control bibliographies, and that an analysis of two hundred titles would provide us with a confidence interval of less than ± 5 percent, at a 90 percent confidence level.

We chose to use a modified random sampling technique to select our entries for study. To simplify the practical arrangements of producing printed copies from the microfiche, we chose to select the catalog card reproduced in the upper right-hand corner of every microfiche whose number ended in 3,5,8, or 0. In this manner we were able to insure that our sample spread evenly across the entire alphabet. When photoduplication was completed, we had a file of 312 xeroxed entries.

We had anticipated that a third of our selected entries would be unsearchable cross-references; we were pleasantly surprised to discover

that this was not the case. Although a few of the cross-references were designed to lead the user from an archaic spelling of an author's name to the modern spelling, many more simply referred to a joint author or to a series entry. (This is one of the advantages of the ANL catalog that we had not anticipated—series access.) These cross-references provided nearly as much bibliographic information as the main entries and sometimes more. Consequently, we were able to search them and include them in our final tallies. We had anticipated discarding approximately 100 of the entries as "defective"; in fact, out of 312, only 13 failed to provide sufficient bibliographic information to allow us to search them against the other bibliographies. We were thus left with a sample population of 299 titles upon which to base our conclusions. Our analysis of this sample population allows us to comment with some confidence on several aspects of the ANL catalog as a bibliographical tool.

PLACE OF IMPRINT

One piece of information we naturally examined was the place of imprint (see table 1). Not surprisingly, most of the holdings, slightly more

TABLE 1
PLACE OF IMPRINT OF SELECTED ENTRIES FROM
THE AUSTRIAN NATIONAL LIBRARY CATALOG

| Place | Frequency | Percent |
|----------------|-----------|---------|
| (no imprint) | 4 | 1.3 |
| Germany | 121 | 40.5 |
| Austria | 50 | 16.7 |
| Italy | 21 | 7.0 |
| France | 21 | 7.0 |
| Czechoslovakia | 19 | 6.4 |
| Poland | 12 | 4.0 |
| Holland | 11 | 3.7 |
| England | 7 | 2.3 |
| United States | 6 | 2.0 |
| Switzerland | 4 | 1.3 |
| Sweden | 4 | 1.3 |
| Spain | 4 | 1.3 |
| Hungary | 3 | 1.0 |
| Belgium | 3 | 1.0 |
| Yugoslavia | 2 | 0.7 |
| Russia | 1 | 0.3 |
| Rumania | 1 | 0.3 |
| Portugal | 1 | 0.3 |
| Norway | 1 | 0.3 |
| Finland | 1 | 0.3 |
| Estonia | 1 | 0.3 |
| Denmark | 1 | 0.3 |
| | 299 | 99.6 |

than 40 percent, originated in Germany (not Austria). Austria represents, after all, only a small portion of the German-speaking area of Europe. Austrian imprints account for just slightly more than 16 percent of the titles in the ANL. France and Italy as places of publication are equally represented (7 percent each). Czechoslovakia and Poland, with 6 percent and 4 percent of the total sample, respectively, testify to the strength of Slavic holdings in the ANL. Almost 4 percent of the imprints are from the Netherlands, no doubt because of the long tradition of quality printing in the Netherlands and because of the Hapsburg involvement with the Low Countries. Imprints from the European periphery are marginally represented.

LANGUAGE OF TITLES

Just slightly more than half (53 percent) of the titles in the ANL are in the German language—a testimony to the breadth and diversity of the ANL (see table 2). The language best represented after German—to our great surprise—is Latin (11 percent), explained no doubt by the widespread use of Latin during the periods when the ANL flourished as the court library. Only 10 percent of the holdings are in French, a figure that seems low, given the virtual hegemony of French culture over much of the rest of Europe during the seventeenth and eighteenth centuries. Italian is well represented with 6 percent. English is somewhat underrepresented with 5 percent. The Czech and Polish languages (4.6 percent and 3.3 percent, respectively) are represented somewhat less than are those countries as places of imprint, probably due to publications in German and Latin from those areas.

TABLE 2
LANGUAGE OF TITLE OF SELECTED ENTRIES FROM
THE AUSTRIAN NATIONAL LIBRARY CATALOG

| Language | Frequency | Percent |
|------------|-----------|---------|
| German | 159 | 53.1 |
| Latin | 34 | 11.4 |
| French | 30 | 10.0 |
| Italian | 19 | 6.4 |
| English | 15 | 5.0 |
| Czech | 14 | 4.7 |
| Polish | 10 | 3.3 |
| Spanish | 5 | 1.7 |
| Swedish | 3 | 1.0 |
| Hungarian | 3 | 1.0 |
| Serbian | 2 | 0.7 |
| Norwegian | 2 | 0.7 |
| Russian | 1 | 0.3 |
| Rumanian | 1 | 0.3 |
| Portuguese | 1 | 0.3 |
| | 299 | 99.9 |

DATE OF IMPRINT

Despite the antiquity of the ANL and its long history of book collecting, more than one-third (37 percent) of the titles in the microfiche catalog date from the twentieth century. This currency is a reflection of the remarkable size of the German book production before the First World War—by 1910 it had reached 31,000 titles each year (see table 3). Even the last publishing year officially recorded in the ANL catalog (1929) saw some 27,000 titles produced.¹² Such figures were not seen again until the year after the Second World War. Another one-third (40.7 percent) of the ANL holdings date from the nineteenth century. Seven percent of the holdings were printed in the eighteenth century, with approximately the same amount from both the seventeenth and the sixteenth centuries.

THE ANL CATALOG AND THE NATIONAL UNION CATALOG, PRE-1956 IMPRINTS

The NUC is so universally acknowledged to be an indispensable tool for historical research and bibliographical verification of all kinds that it should not be necessary to perorate on its bibliographic richness. Although it is found in practically every research library both here and abroad, it should not be expected to provide the same depth of coverage of German-language materials as the foremost German-language library. Another imbalance in the comparison is that by definition a union catalog is likely to be more complete than the catalog of a single library.

Can it be safely assumed that, for example, the ANL catalog better documents Austrian history and literature than the NUC? What can be said with certainty about the strengths of the ANL catalog vis-à-vis the NUC? How much extra bibliographic strength would one gain by owning the ANL catalog in addition to the NUC? To answer these questions, we checked our random sample of 299 items from the ANL against the NUC. We were forced to conclude that the ANL catalog does give a large boost in bibliographic horsepower. Fully 43 percent (129 entries) of the sample items were not found in the NUC. One can state the same information in another way: the NUC holds fully 57 percent of the items listed in the ANL catalog. From an English-speaking or American point of view, the ANL is a rather specialized library, the library of record for Austria. It would be alarming if it did not hold many central European items absent from American libraries no matter how large.

What sort of materials can be identified in the ANL catalog and not in the NUC? To answer this question, we examined the characteristics of the 129 ANL catalog entries not found in the NUC. We can provide some information about the date, place, and language of imprint of these items. As might be expected, the majority are from Germany (31 percent) and Austria (25 percent). Another 10 percent were printed in Czechoslovakia. The language of the items not located through the NUC was mainly German (51 percent), with Latin comprising another significant portion (13 percent). Another 8.5 percent of the items were in Czech; 6 percent were in Polish. In terms of date of imprint, most items

TABLE 3
DATE OF IMPRINT OF SELECTED TITLES FROM
THE AUSTRIAN NATIONAL LIBRARY CATALOG

| Date | Frequency | Percent |
|-----------|-----------|---------|
| 1510-1519 | 1 | .33 |
| 1520-1529 | 4 | 1.34 |
| 1530-1539 | 2 | .67 |
| 1540-1549 | 3 | 1.00 |
| 1550-1559 | 1 | .33 |
| 1560-1569 | 1 | .33 |
| 1570-1579 | 2 | .67 |
| 1580-1589 | 1 | .33 |
| 1590-1599 | 3 | 1.00 |
| 1600-1609 | 4 | 1.34 |
| 1610-1619 | 3 | 1.00 |
| 1620-1629 | 3 | 1.00 |
| 1630-1639 | 2 | .67 |
| 1640-1649 | 1 | .33 |
| 1650-1659 | 2 | .67 |
| 1660-1669 | 2 | .67 |
| 1670-1679 | 1 | .33 |
| 1680-1689 | 0 | 0 |
| 1690-1699 | 3 | 1.00 |
| 1700-1709 | 2 | .67 |
| 1710-1719 | 2 | .67 |
| 1720-1729 | 1 | .33 |
| 1730-1739 | 3 | 1.00 |
| 1740-1749 | 2 | .67 |
| 1750-1759 | 2 | .67 |
| 1760-1769 | 2 | .67 |
| 1770-1779 | 2 | .67 |
| 1780-1789 | 6 | 2.01 |
| 1790-1799 | 1 | .33 |
| 1800-1809 | 3 | 1.00 |
| 1810-1819 | 3 | 1.00 |
| 1820-1829 | 6 | 2.01 |
| 1830-1839 | 5 | 1.67 |
| 1840-1849 | 18 | 6.02 |
| 1850-1859 | 14 | 4.68 |
| 1860-1869 | 18 | 6.02 |
| 1870-1879 | 10 | 3.34 |
| 1880-1889 | 23 | 7.69 |
| 1890-1899 | 23 | 7.69 |
| 1900-1909 | 28 | 9.37 |
| 1910-1919 | 41 | 13.71 |
| 1920-1929 | 38 | 12.71 |
| 1930 | 2 | .67 |
| no dates | 5 | 1.67 |
| | 299 | 99.95 |

(45 percent) not found in the NUC date from the nineteenth century. Another 21.6 percent come from the first three decades of the twentieth century. Only eight percent bear eighteenth-century dates of imprint.

No single subject group was particularly large, although a conglomerate of religious works, hagiography, and theology accounts for roughly 10 percent of the total. Plays and works for the stage—serious and otherwise—make up a significant percentage of the items not found in the NUC. Monographs on law in Latin or German, usually from a fairly early period, are well represented. Elementary school texts are another class of items that can be located or verified through the ANL and not the NUC. Commemorative publications that celebrate, for example, the visit of some potentate to a city, or a parish anniversary, comprise another subclass of literature. There are also a number of annual reports of institutions and agencies. Another 10 percent could loosely be labeled “literature” of all sorts, including translations, criticism, almanacs, calendars, novels, and editions of classical writers.

More subjectively, an American, looking at the titles from the ANL that were not found in the NUC, must be struck by the number in the Slavic languages and by the number of items from the sixteenth and seventeenth centuries. Admittedly, many of the items are true exotica, such as a treatise on wagon construction or an essay on schnapps taxation in Austria-Hungary.

The ANL's strength from a transatlantic point of view is in its unusual materials. We found very few scholarly monographs and trade editions in the ANL that were not also in the NUC. This finding supports the commonsense notion that it is precisely for identifying unusual and out-of-the-way materials that the ANL catalog would be most useful. One does not need it to identify the staples of scholarly research; indeed, other more familiar tools do a better job.

THE ANL CATALOG AND THE GESAMTVERZEICHNIS DES DEUTSCHSPRACHIGEN SCHRIFTTUMS

Scholars and librarians alike have long lamented the lack of an equivalent to the NUC for German-speaking Europe. A proposed *Deutscher Gesamtkatalog* was begun in 1931, ran through the entry “Beethordnung,” and ended in 1939. An important new project to create a unified German catalog is now nearing completion. This monumental tool, the *Gesamtverzeichnis des deutschsprachigen Schrifttums* (GV), when completed, will be a reliable approximation of a German national bibliography for some periods. This multivolume publication (also available in microfiche) brings together the entries from the various trade bibliographies (Heinsius, Kayser, Hinrich) and some 178 special bibliographies. The listing is divided by date into two parts: 1700 to 1910 and 1911 to 1965.

The question naturally arises as to the relationship between the ANL catalog and the GV. The GV, which contains more than 2 million German-language titles, is more than twice the size of the ANL catalog with its 800,000 entries. Still, there may be certain types of material that can be verified in the ANL and not in the GV. Further, in terms of bibliographic utility, a more complicated question must be posed: If one has

the NUC *and* the GV, what additional bibliographical power boost, if any, is provided by the ANL catalog?

To learn something about the relationship of the ANL catalog to the GV, we next compared our same ANL sample against the GV. Two major problems were encountered in making the comparison. First, some of the items in the ANL catalog are not appropriate to the GV, which as an editorial policy excludes titles not in German and titles not printed in German-speaking countries. The ANL, by contrast, holds whatever it pleased the Hapsburgs and their librarians to collect. Secondly, while the newer part of the GV is complete, the older part (1700–1910) was complete only through half the alphabet when this research was undertaken. Thus it was impossible to check all 299 items of the ANL sample against the GV, since a portion of our sample was naturally and intentionally taken from the second half of the alphabet; some of the titles in our sample were English, Slavic, or Italian imprints, and hence inappropriate to the GV. Of the original sample drawn from the ANL catalog, 131 had to be eliminated because they were not appropriate to the GV; another 57 had to be ignored because the corresponding volumes of the GV had not yet appeared. We were left with a sample size of 111 items. Because of the smaller sample size, the confidence interval is increased to ± 8 percent for this comparison.

Most of the ANL sample items that were appropriate to the GV were indeed found there: fully 76 percent of the ANL items that we searched were listed in the GV. Another 24 percent were appropriate to the GV but did not appear there. The conclusion that we draw is that the ANL catalog provides a significant amount of added bibliographic coverage for German-language imprints (92 percent of the items were in German).

Despite the reduced sample size, we can still make some inferences about those items that are held by the ANL and not listed in the GV. Not surprisingly, most of the items were printed in Germany or Austria. (If they had not been printed in a German-speaking country, one would not expect to find them in the GV!) Place of publication exerts a strong influence on the language of publication; thus 93 percent are in German. The remaining 7 percent are in Latin. Many of the items (44 percent) dated from the first three decades of the twentieth century. In sum, one may say that the extra bibliographical coverage provided by the ANL catalog beyond that provided by the GV is mainly for German-language material from the early twentieth century. This amplifies the usefulness of the ANL catalog since so much of German historical research is directed towards the late nineteenth and early twentieth centuries.

One of the tests for richness and strength in a bibliographical resource is the number of rare and unique items that it holds. We discovered that the ANL catalog holds a number that are unique in terms of this study, i.e., they could not be located in either the NUC or the GV. We included in this category all titles not appropriate to the GV and not found in the NUC, as well as all titles searched in both the NUC and the GV and found in neither. We excluded from our analysis any titles that we were unable to search in the GV because the appropriate volumes had not yet

appeared. Thus there may be in our sample a few more truly unique items than we have here described. This would mean a slightly greater proportion of German and Austrian titles than our figures indicate.

A surprisingly large portion (25 percent) of our sample was not to be found in either of the two major bibliographies with which the ANL catalog was being compared. Slightly more than 14 percent were Czech imprints and 10 percent were Polish, making the ANL catalog a good source for Slavic materials, if a Slavic specialty bibliography is not available. Austrian imprints accounted for only 13 percent of the items not identified in the NUC or the GV.

In terms of language, only one quarter (25 percent) of the items identified only through the ANL catalog were in German. Latin and Czech each accounted for 14 percent, Italian for 13 percent. French items made up only 6.5 percent. If we look at the non-German Hapsburg countries, Spanish-language titles accounted for only 3.9 percent, Hungarian another 3.9 percent. Spain was lost to the Hapsburg Empire after 1700, a fact that might explain the rather poor showing of Spanish language titles in the court library in Vienna. Political vicissitudes certainly have some effect on the official collection of books, but so many factors are at work that it seems impossible to single out particular political events as an important cause of collection strength or weakness.

It is difficult to discern any trends in the date of imprint of the sample "unique" items, but most of them are from the second half of the nineteenth century onwards, with the decade 1910-19 alone accounting for 10.5 percent. This is then the strongest period for the ANL's unique items compared with the other two bibliographic entities.

VIENNESE EXCURSUS

Having described the catalog of the ANL in some detail and having compared it to similar bibliographic tools, we have only one task left to complete in order to portray the primary bibliographic tools for the Austro-Hungarian Empire and the pre-Nazi period. Scholars in this field will also want access to the catalog of the Vienna University Library (VUL), mentioned earlier. It also is now available in a microfiche edition that covers printed works up to 1931.¹³

Use of this tool is not without difficulties. The "Old Catalog" of the VUL currently consists of seventy-one folio-sized volumes of 71,079 pages, known as the *Bandkatalog*. Entries were added by hand in the various volumes of this book-format catalog. A charming feature is that the many "library hands"—for the most part quite legible, with the exception of those entries in Sütterlin script—vary over time and one can discern period styles of writing. Space was left between entries for the listing of future additions to the collection, but it sometimes happened that not enough space was left, so that there is an absence of strict alphabetization in the catalog. Periodically the bound volumes had to be unbound so that new clean pages could be added to accommodate new accessions. Despite the difficulties of using the VUL catalog, there are some very good reasons for availing oneself of the store of books held by this library, which before World War I was the largest university library in the German-speaking lands.

Since the ANL and the VUL overlap only slightly, an argument could be advanced in favor of treating them as two complementary entries forming one bibliographic utility. Yet if the library of the University of Vienna is to be included, why not also include that of Graz (recently announced for publication), and perhaps Innsbruck and Salzburg? It seems to us that the status of the ANL as a national library merits its individual treatment. Some practical considerations come into play here as well. Our research on the ANL was basically completed before the VUL catalog became available. Moreover, irregularity of script size and spacing in the *Bandkatalog* of the VUL make it more difficult to draw a scientifically random sample. The fact that the VUL catalog is handwritten makes searching it costly in terms of staff time.

Even in the nineteenth century there was some division of responsibility between the university library and the court library, which later became the ANL. Because the court library was not open to the public, the university library bore the burden of providing scholarly literature for the capital city. The VUL was one of the largest and most used libraries of the German-speaking lands.¹⁴ The VUL, it was understood, was not to engage in bibliophilic extravagance, but was rather to serve the practical needs of students and scholars.¹⁵

By means of a sequential sampling technique, we estimate that the collection in the VUL overlaps that of the ANL by approximately 33 percent. We began checking our original sample of ANL catalog entries against the VUL catalog for duplication. After 105 searches had been completed, we were able to predict, with 90 percent confidence, that the duplication rate was no more than 40 percent. Sequential sampling is a modified method of sampling randomly that allows one to sample up to the point where one is satisfied with the results. In our case, we were not interested in pinpointing the exact amount of duplication that could be expected; once the level of duplication clearly dropped below a reasonable figure (plus a margin of error), we stopped sampling, satisfied that the VUL catalog provides a significant expansion of bibliographic informativeness.

CONCLUSIONS

As we have seen, the ANL catalog is a bibliographical resource with strong character traits—real strengths and some annoying faults; these give it a personality that one can come to esteem, if not love. As a source for *Austriaca*, it is probably unrivaled. A researcher armed with the ANL catalog and the catalog of the University of Vienna Library (also available on microfiche) should be able to identify, verify, and locate a very large number of Austrian and German imprints from all periods. The ANL catalog will help to expand scholarly bibliographies and to identify much raw material for research. Researchers in central European history of the nineteenth and early twentieth centuries will be the group most aided by this tool.

Libraries that hold the NUC will find that many titles can be identified and verified through the ANL catalog when they are not found in the NUC. If an item is not found in the NUC, one is statistically most likely to find it in the ANL catalog when the item is (1) from Germany,

Austria, or Czechoslovakia, (2) in German or Latin, (3) dates from the nineteenth century. Of course any title with an earlier imprint date is a likely candidate if it meets the other criteria and comes from a Hapsburg territory. The ANL catalog is probably best used to discover materials that in the American context would seem exotic.

If one has the *Gesamtverzeichnis* at one's disposal, when does the use of the ANL catalog begin to form part of an effective search strategy? Since the GV is much larger than the ANL catalog, it is more reasonable to search first in the GV, unless the item is (1) not in German or (2) not printed in a German-speaking country. The generally higher quality of bibliographical information in the GV further indicates the GV as the first place to verify an item. There is still a significant body of material that can be identified only through the ANL catalog. A well-informed hunch—never to be ignored in scholarly research—about place, date or language of imprint, or appropriateness to the ANL might occasionally send the researcher first to the ANL catalog.

REFERENCES

1. Österreichische Nationalbibliothek, *Katalog der Druckschriften 1501-1929: (Nominal)* (Hildesheim; New York: Olms Microform, 1982).
2. *The National Union Catalog, Pre-1956 Imprints: A Cumulative Author List Representing Library of Congress Printed Cards and Titles Reported by Other American Libraries* (London: Mansell, 1968-80).
3. *Gesamtverzeichnis des deutschsprachigen Schrifttums: 1700-1910* (München; New York: K. G. Saur, 1979-).
4. Karl-Heinz Weimann, *Bibliotheksgeschichte: Lehrbuch zur Entwicklung und Topographie des Bibliothekswesens* (München: Verlag Dokumentation, 1975), p.154.
5. Josef Stummvoll and Laurenz Strebl, "Der Nominalkatalog 1501-1929 an der Druckschriftensammlung der Oesterreichischen Nationalbibliothek," *Biblos* 17, no.1/2:85 (1968).
6. *Ibid.*
7. Weimann, *Bibliotheksgeschichte*, p.153.
8. Stummvoll and Strebl, "Der Nominalkatalog," p.82.
9. *Ibid.*, p.86.
10. *Ibid.*, p.81.
11. *Ibid.*, p.83.
12. Hans Widmann, *Geschichte des Buchhandels vom Altertum bis zur Gegenwart* (Wiesbaden: Harrassowitz, 1975), p.155.
13. Universitätsbibliothek Wien, *Nominalkatalog bis 1931* (Hildesheim; New York: Olms Microform, 1982).
14. Ladislaus Buzas, *Deutsche Bibliotheksgeschichte der neuesten Zeit (1800-1945)* (Wiesbaden: Dr. Ludwig Reichert Verlag, 1978), p.41.
15. Ladislaus Buzas, *Deutsche Bibliotheksgeschichte der Neuzeit (1500-1800)* (Wiesbaden: Dr. Ludwig Reichert Verlag, 1976), p.37.

Artificial Intelligence and Authority Control

Robert H. Burger

Artificial intelligence (AI) is already part of the cataloging world. To support this contention, four AI concepts that have relevance for information retrieval systems are discussed and applied to the area of authority control in automated catalogs. Existing automated authority control systems are then analyzed, using two other AI concepts, augmentation and delegation. In conclusion, several implications of the relationship between AI and authority control are drawn.

THE CONCEPT OF ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) is an integral part of machine-readable cataloging, even though it may seem far removed from the everyday work of catalogers. After all, catalogers deal with concrete mundane things such as publications, catalogs, classification schedules, subject heading lists, Anglo-American cataloging code, and, increasingly, with handbooks that specify correct codes for the tagging of bibliographic records for use in bibliographic utilities. AI, on the other hand, is more often thought of in terms of robotics, pattern recognition, machine translation, and other esoteric applications. But any cataloger who has had dealings with machine-readable records has already been affected by AI and, in fact, has helped to create it. The purpose of this paper is to discuss certain AI concepts and to relate them to automated library catalogs, especially to automated authority control.

As the systems we use become more complicated and the preparation of bibliographic records for these systems increasingly requires painstaking care for data definition, it will be necessary to apply the knowledge gained in other related disciplines to solve the problems of automated library systems. One way of applying other disciplines to cataloging before the problems overwhelm us is to show the relationship between elements of such disciplines and elements of automated library systems. Artificial intelligence is a discipline that can be used to describe some of the processes that take place in automated library catalogs. Smith has provided a framework in which automated library catalogs can be discussed.

Smith discusses four AI concepts that have significance for informa-

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tion retrieval systems and, by extension, automated library retrieval systems. These four concepts are pattern recognition, representation, problem solving, and learning. As far as automated library systems are concerned, these concepts can be discussed in the following manner:

1. Pattern recognition "is the identification of an object with a particular set of features as the member of some class."¹ When a document surrogate (bibliographic description with access points) is prepared and a query is formulated (the choice and form of access points), the process is essentially a selection of features that represent a document. The results of this selection will eventually allow a document to be placed in a class with similar documents and also enable that document to be retrieved (see "Problem solving," below). The cataloger deals primarily with the preparation of document surrogates using rules that assume a particular nature of a query. An item is retrieved from a file if the features selected in a query match those features used in preparing the document surrogate.
2. Representation: This is "a formalism for the knowledge possessed by a system"² or "a set of conventions about how to describe things."³ A document representation (catalog record) "is a formalized statement of the nature of a document."⁴ The problem of representation consists of taking the available information and representing it in a way that the computer can store and manipulate and respond to queries about the information. This concept of representation includes not only the preparation of documents and queries in a form understandable to the computer (e.g., tagging and search keys) but also includes specifications about relations among documents (e.g., 76x, 78x fields in serials) and among certain features (e.g., names and subjects in an authority file). Representation must also include the representation of this information to the user (often in a form different from the original encoding by the cataloger).
3. Problem solving "is the art of using knowledge effectively to attain desired goals."⁵ For library catalogs, the problem is to identify, in response to each query, the part of the file that should be retrieved. Using heuristics in this regard "could be the use of techniques which allow one to quickly select the subset of the file satisfying the query. On-line systems must be designed to include consideration of how best to build the user-computer interface so that poorly constructed queries can be converted to well-structured forms that the computer subsystem can handle."⁶ Although this concept relies heavily on pattern recognition and representation, it also takes into consideration the less-than-ideal behavior of the user and the imperfect nature of the bibliographic world. It can include, for example, such things as menus of items that are presented in response to a query that then force the user to specify the subclass desired with more precision in order to retrieve the document surrogates sought.

4. Learning: The three foregoing concepts are all chosen by the designer of a system before the system is put into use. There must be a way for the system to adapt to use so that the initial design does not limit the system's abilities. Smith remarks: "Learning requires both the ability to evaluate performance so that improvement can be judged and a way to store and use the results of previous experience."⁷ For the automated catalog this means the recognition that a catalog is a dynamic, changing entity. It must be kept current by providing up-to-date terminology (e.g., changes in subject headings) or new manifestations of names used in bibliographic records so that they may be integrated with the existing system.

Without straining one's imagination, we can see that AI is already an integral part of automated library systems and that catalogers not only use existing artificial intelligence but, in fact, provide the equivalent of human brainpower for artificial intelligence on a daily basis. One element of the cataloging process that is central to all of these AI concepts as applied to automated library systems is authority control. The rest of this paper will describe authority control, will discuss present implications of AI for authority work, and will speculate on the future applications of AI for authority control.

AUTHORITY CONTROL

In any bibliographic system, authority control accomplishes three goals by means of an authority file:

1. It is a record of decisions regarding the proper form of an access point for bibliographic descriptions.
2. If no precedent exists in the authority file, it may provide guidance for the formation of new headings.
3. It provides a linking mechanism, by which related bibliographic surrogates are joined (e.g., uniform titles, serials).⁸

The application of AI to the *choice* of access points for specific bibliographic items is certainly feasible and has already been explored.⁹ AI works by using unambiguous rules that do not require the machine to make judgments that would be appropriate for a human only. So, for example, "if there are more than three authors, enter the work under title" is an unambiguous rule and requires only that the machine can determine what an author is. But an action such as "choose the most commonly used form of name used by an author as the authorized form" is not appropriate for AI because it requires judgment by the cataloger and reference to a knowledge base beyond the control of the machine. But even if rules could be formulated that would point unambiguously to the most commonly used form of name, such an expenditure of effort would not be necessary. I will show that the cataloger need only record all the variants of a name and this cluster of variants can be used to identify a given author. The determination of an authorized form thereby becomes irrelevant. AI then comes into play in the *retrieval* of desired items from a bibliographic file using any variant from this cluster

of variants. Comprehension of this latter possible application for AI, however, requires an understanding of how authority files and bibliographic files can be related.

In online catalogs there are two ways of relating the authority file and the bibliographic file:

1. The authority file and bibliographic file are separate entities. The authority file is consulted much like a dictionary and is used to determine the correct form of name to be used for retrieval in the bibliographic file; or
2. The authority file and the bibliographic file are linked to indicate the relationship of individual authority records with bibliographic records. This latter type of configuration can be of two kinds.
 - a. The authority file is linked with the bibliographic file but must still be treated as a dictionary, resulting in at least two search commands to retrieve a record—the determination of the proper form of name and then a search for all bibliographic records linked with that proper form from the authority record.
 - b. The authority file is linked with the bibliographic file. A search can consist of one command: a search for a name and retrieval of all bibliographic records associated with that name.

There are several examples of the first type of non-linked file in existence. The OCLC system is perhaps the best known and the most widely used. The authority file consists of Library of Congress (LC) authority records. A name can be searched in the authority file to determine the correct, authorized form of name, as per LC. That name, or its variants, can then be searched in the online bibliographic file to determine which bibliographic records are associated with it. (Of course, records can be retrieved without consulting the authority file, but the resulting search may not be comprehensive due to the use of different forms of name by different libraries.)

The Washington Library Network (WLN) is an example of the linked file of the second type. When a search is made of the authority file, the user finds the correct form of name and then uses that form to retrieve bibliographic records with another search. As in OCLC, the bibliographic file can be searched and bibliographic items retrieved. But the WLN system exercises rigorous control over the headings used in bibliographic records and hence provides greater assurance that a search will be comprehensive if the authority file is used.

The University of California Union Catalog system, MELVYL, is another example of the second type of linked system by which a search in the authority file will automatically retrieve the bibliographic records associated with a given name. Before a more complete discussion of this system is given, it will be necessary to discuss two other AI concepts.

AI AND AUTHORITY CONTROL

In a recent paper presented at a conference in Berlin, two other concepts of AI were discussed that are relevant to information retrieval systems in general and that have special relevance to authority control. These two concepts are the paired terms *augmentation/delegation*, synonyms with *machine-aided/machine intelligence*.¹⁰

Augmentation is machine-aided intelligence. It augments the natural intelligence of the user as does the use of a dictionary. It is like a novice who, when unsure of what task to perform next, asks his master for guidance. *Delegation* is machine intelligence. The user delegates all responsibility to the machine to perform a specific task. All the responsibility lies in the hands of the novice who has received unambiguous instructions and proceeds according to them until the task is completed.

Augmentation occurs where there is a feedback mechanism in the information retrieval system that presents the user with choices that determine the machine's further actions. With delegation, once the search process is begun, an algorithm, or previous system design, proceeds without intervention by the human user. These two types are also reflected in the word pair *machine-aided/machine intelligence*. Smith traces the use of these concepts as they apply to translation and expands their use to information retrieval systems. With machine intelligence the task is delegated to the machine, and a product or result is obtained without further intervention. With machine-aided intelligence, there is a feedback mechanism that allows human intervention. As far as automatic translation is concerned, machine intelligence would produce a translation that would be adequate for some applications, but would probably not be editorially acceptable. Machine-aided intelligence would provide the translator with an automated dictionary to assist in translation, or would translate a document leaving the clarification of ambiguities to the human translator. With information retrieval systems, especially library systems, both types of AI are used.

For example, let us take a typical author search in the OCLC online database. After entering a search key in accord with OCLC conventions, we may obtain three different results.

1. The search will be unsuccessful; that is, there will be no author in the system index that matches the search key;
2. One bibliographic record will be retrieved that corresponds to the search key. This retrieved item may or may not be the desired item; or
3. More than one bibliographic record that matches the search key may be retrieved.

The first two instances are examples of delegation. The system responds within its own limits (its database) and those set by the user (the search key) to produce a result. The result may not be the desired one, but an unambiguous response is given to a query. The third instance is an example of augmentation. The system responds with abbreviated entries and forces the user to make a choice, to which the system may or may not be required to respond. If none of the brief entries are desired, then the interaction ceases. If one of the entries is the desired item, then a further command is given to the system to display more complete information. This latter step is delegation. With this command there is no further feedback, only retrieval of the item desired.

But in all of the above cases, no authority file is being used. The desired items are retrieved by use of a search key that is matched with a search key index that is produced from the bibliographic records in the database. The use of the authority file presents a case of a specialized

dictionary that can be utilized to improve the searching of the bibliographic file, but is neither linked directly to that file nor necessary to its use. In fact the authority file itself functions like a specialized database of names that is searched in essentially the same way as the bibliographic file and yet is independent from it. There is some confusion about this among users of both systems, a confusion that can be discerned in the use of the phrase "OCLC authority file." Actually it is an authority file produced by the Library of Congress and other libraries cooperating in the Name Authority Cooperative project and provided to OCLC users as a service. It is not an authority file for the OCLC bibliographic database, primarily because the two files (databases) are not linked in any way.

It may appear to the user that the two are linked, however. In a search for an authority record, the instruction "For bibliographic records, enter 'bib' " makes it appear that the authority record is linked to the bibliographic file. What the command "bib" does, however, is to display the bibliographic record that was displayed immediately preceding the authority search. The bibliographic record is not linked but simply stored temporarily in a buffer in the terminal.

In a system where the authority file is linked to the bibliographic file, we have a slightly different problem. In the Washington Library Network system, although the individual authority records are linked to their bibliographic records, there is not one command that will directly retrieve a bibliographic record by searching the authority file. These are the possibilities for direct bibliographic file searching:

- by name keywords: author (generic search), corporate, or conference
- by title
- by series
- by subject heading keywords: subject (generic search) or corporate or conference name.¹¹

But with such searches the user is examining a file that contains a heading in very much the same form as it appeared in a bibliographic record. In other words, the user is limited by the form that appears in the original bibliographic record. If the search key used does not match this form, then the search is not successful. On the other hand, in a search of the authority file for a name, the definition of the type of search desired can be much more precise. In addition, the indexes searched contain variant forms of names that are stored in the authority file as cross-reference records. If a name/subject/uniform title is searched in the authority file and found, the user may give an additional command and retrieve the bibliographic records that are linked to the authority record retrieved. In terms of our augmentation/delegation model, the searching of the authority file itself can result in augmentation or delegation, much in the same way the searching of the LC authority file provided by OCLC does. On the other hand, the searching of the bibliographic file in conjunction with the authority file is *still* a two-step process, and therefore is only augmentative. Either the authority file is searched and then the linked bibliographic records are retrieved with a command, or the

authority file is searched and then the bibliographic file is searched using the information available from the search of the authority file.

In the MELVYL system, both augmentation and delegation are applicable to the searching of the database. This differs from WLN as presently installed in Washington and Australia as follows:

1. All searches in the MELVYL system are routed through the authority file, if the search key used warrants such action.
2. If the search key used is matched unambiguously with a heading in the authority file, whether the match is an authorized heading or a cross-reference form, then all bibliographic records associated with that authority record set (i.e., bibliographic records that have pointers from those authority records) will be retrieved and displayed in summary fashion (if more than one) or in full (if only one).¹² This would be, in terms of our augmentation/delegation scheme, an example of a delegated search.
3. If, however, the search key matched several authority records, then a summary display of authority records would be given. After examining the authority summary and possibly the authority records themselves, the user would give an additional command that would retrieve the bibliographic record(s) associated with the chosen authority record. This, in terms of our augmentation/delegation scheme, is augmentation. The authority file, as a specialized dictionary, acts to assist us in choosing the appropriate form for retrieval. In contrast with the present WLN system, it will avoid the re-keying of the "correct" search key to retrieve a bibliographic record.

The one area where such a system shows strength is in terms of learning (see above). There is at present some allowance made for recording the successes and failures of specific types of searches, a feature that can be used to evaluate the system and improve it.

IMPLICATIONS FOR AUTHORITY CONTROL

The MELVYL system and WLN system have tremendous implications for authority control as well as benefits for the users of the system.¹³

If the whole concept of an authorized form of name is invisible to the user and a bibliographic surrogate is retrieved in spite of the form of name used in searching, then, for all intents and purposes, the "authorized" form loses its meaning for the following reasons.

First, the technology of the dictionary card catalog is no longer sufficient. It is the technology of card, book, or COM catalogs that requires an authorized form of name for gathering purposes. The physically separated, non-machine authority file serves to dictate which name must be used in the linear file for retrieval of bibliographic items for which a given name is a valid access point.

Secondly, a system that is not dependent either on a technology requiring an authorized form of access directly appended to each bibliographic description, or one that is not limited by the ways in which a

bibliographic description is accessed, no longer needs an authorized form per se. All it actually needs is a form that should be displayed with each record, or a form that depends solely on the statement of responsibility in a bibliographic description.

Therefore, we may speculate that authority work will become a different proposition altogether. It will shift from choosing a proper heading, with applicable cross-references, to identifying only the various manifestations of a name under which a user would search. Furthermore, it would mean looking at a name, not as an authorized or non-authorized form, but, as a phoneme. In linguistics a *phoneme* is a set of distinctive features that define the uniqueness of a term so the different manifestations of the same name would serve to identify the person or corporate body that is identified by these various manifestations.¹⁴

No attempt will be made here to suggest rules for such authority work, nor the means by which non-unique names can be identified (this is already done in part in the MARC format for authorities).¹⁵ A set of rules will be needed to determine the forms of manifestation of a name needed in authority work, based on the bibliographic evidence. This set of rules would constitute the brain cells of the artificial intelligence that lies at the base of authority control.

CONCLUSION

The goal on these pages has been to suggest that artificial intelligence is already used in libraries and to suggest that one of the major responsibilities of catalogers, machine-based authority control, is a form of artificial intelligence. In doing so, I hope to aid the future improvement of authority control systems. Such systems, as pictured above, clearly have benefits for the user in the form of easier and more rapid access to desired bibliographic descriptions, and from there to documents and ultimately to information itself. Further, it changes the paradigm for authority work, from a process where occurrences of forms of names may sometimes be counted in order to choose the predominant form, to a process of discovering the different forms of name that exist or that any potential searcher might use. Development of this paradigm will be dependent upon ongoing research in user behavior and the online catalog.

This is a primary area for the application of AI research. It could conceivably include, in addition to AI, such new disciplines as Cognitive Science and Knowledge Engineering.¹⁶ These latter two disciplines will be applied to the evaluation and improvement of such systems, benefiting library worker and library user alike.

REFERENCES

1. Linda C. Smith, "Artificial Intelligence Applications in Information Systems," *Annual Review of Information Science and Technology* 15:72 (1980). For a more elaborate discussion of pattern recognition, see John R. Anderson, *Cognitive Psychology and Its Implications* (San Francisco: Freeman, 1980), p.32-42.
2. *Ibid.*, p.73. See also Anderson, *Cognitive Psychology*, p.61-160.
3. Patrick Henry Winston, *Artificial Intelligence* (Reading, Mass.: Addison-Wesley, 1977), p.15.

4. Brian C. Vickery, "Document Description and Representation," *Annual Review of Information Science and Technology* 6:113 (1971).
5. Smith, "Artificial Intelligence," p.73. See also Anderson, *Cognitive Psychology*, p.255-364.
6. *Ibid.*, p.74.
7. *Ibid.*, See also Anderson, *Cognitive Psychology*, p.161-254.
8. For two different, but related notions about the goals of an authority file, see Michael S. Malinconico, "Bibliographic Data Base Organization and Authority File Control," *Wilson Library Bulletin* 54:36-45 (Sept. 1979) and Helen F. Schmierer, "The Relationship of Authority Control to the Library Catalog," *Illinois Libraries* 62:599-603 (Sept. 1980).
9. Ann Sandberg Fox, "The Amenability of a Cataloging Process to Simulation by Automatic Techniques" (Ph.D. diss., Univ. of Illinois at Urbana-Champaign, 1972).
10. Linda C. Smith, "Machine Intelligence vs. Machine-Aided Intelligence in Information Retrieval: A Historical Perspective," in *Research and Development in Information Retrieval: Proceedings. Berlin, May 18-20, 1982*, ed. Gerard Salton and Hans-Jochen Schneider (Lecture Notes in Computer Science, 146; Berlin, New York: Springer-Verlag, 1983), p.263.
11. Gwen Miles Culp, "Authority Control within the Washington Library Network Computer System," in *Authority Control: The Key to Tomorrow's Catalog*, ed. Mary W. Ghikas (Phoenix, Ariz.: Oryx Pr., 1982), p.77.
12. Barbara S. Radke, Katharina E. Klemperer, and Michael G. Berger, "The User-Friendly Catalog: Patron Access to MELVYL," *Information Technology and Libraries* 1:359-60 (Dec. 1982).
13. For a theoretical discussion of the basis for such a system, see also Ritvars Bregzis, "The Syndetic Structure of the Catalog," in *Authority Control* (see ref. 11), p.19-35.
14. R. Jakobson and M. Halle, "Phonology and Phonetics," in *Roman Jakobson: Selected Writings*, 2d expanded ed., V.1, *Phonological Studies*, (The Hague: Mouton, 1971), p.464-504.
15. *Authorities: A MARC Format*, 1st ed. (Washington, D.C.: Library of Congress, Processing Services, 1981), p.28 (008 field, byte 32).
16. Smith "Artificial Intelligence," p.90-93. For an extended discussion of cognitive science and its implications, see Marc de Mey, *The Cognitive Paradigm: Cognitive Science, a Newly Explored Approach to the Study of Cognition Applied in an Analysis of Science and Scientific Knowledge* (Dordrecht, Boston: D. Reidel Pub. Co., 1982).

Better Dead Than Read: Further Studies in Critical Classification

A. C. Foskett

Although the past several years have seen improvements in the information retrieval tools in common use in libraries, there are still many anomalies and prejudices to overcome. Some of these are illustrated by examples from the ninth edition of the Library of Congress Subject Headings, the nineteenth edition of the Dewey Decimal Classification, and the third abridged edition of the Universal Decimal Classification. With the tremendous opportunity afforded by the freezing of the Library of Congress card catalogs effectively ignored, it is suggested that we need to reassess the purpose of shelf classification and subject headings in the light of the increasing use of computers for information retrieval.

I hope I never ridicule what is wise or good. Follies and nonsense, whims and inconsistencies *do* divert me, I own, and I laugh at them whenever I can.¹

It is now some thirteen years since I wrote "Misogynists All";² in the interval, we have had two editions of the *Library of Congress Subject Headings* (LCSH), the eighth (LCSH8) and the ninth (LCSH9),³ and two editions of the *Dewey Decimal Classification* (DDC), the eighteenth (DDC18) and nineteenth (DDC19).⁴ The new edition of the *Bliss Bibliographic Classification* (BC) is slowly making an appearance;⁵ the Library of Congress classification (LCC) continues its policy of continuous revision, republishing various schedules, notably the "Social Sciences" in Class H.⁶ Sanford Berman has continued his attacks on both DDC and LCSH,⁷ and has been joined by others.⁸ In 1981 the Library of Congress (LC) closed its card catalog, combining a change to AACR2 with its intended change to online bibliographical services.⁹ Have we seen major changes in the tools we use, reflecting thirteen years of progress in both practise and theory? Or are we still saddled with the same hindrances to better information retrieval as we were more than a decade ago? One can only give a partial answer to this question; if, as we claim, classification and cataloging lie at the heart of professional librarianship, we can only echo

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the immortal words attributed to the poet laureate writing on the occasion of the illness of the Prince of Wales:

Across the wires the electric message came:
He is no better; he is much the same.¹⁰

DDC is much improved, and a positive effort has been made to remove some of the worst examples of inadequate or wrongheaded schedules; LCSH has been tidied up, but the enormous opportunity afforded by the closing of the catalog has been passed over. Reviewers can still write of DDC:

Each new edition of the *Dewey Decimal Classification (DDC)* is a reproach to the professionalism of librarians. Each new edition adopted by librarians and bibliographers emphasizes the disregard that has overtaken classification as a professional technique . . . the nineteenth edition of *DDC* remains antique in conception, confused in principle, cumbersome in operation, and idiosyncratic in detail.¹¹

Comments on LCSH seem to concentrate on the lack of management skills shown, for example, by the production of the ninth edition without the detailed list of common subdivisions included in the eighth; the list has had to be issued as a separate. Apparently it could not be included because it was not computer typeset,¹² though as an excuse, or even as an explanation, this must be considered as something less than adequate. Both schemes are certainly better than they were, but we can still open the pages almost at random and find examples of peculiarities that can raise a smile, albeit in some cases a wry one. The sensitive subjects—religion, politics, sex—are still sensitive, as the following examples will attempt to show.

Part of the problem with LCSH appears to be a deeply pessimistic view of humanity, and catalog users in particular. For example, we find one heading, for the Bartlett family, with no fewer than eleven *see* references from variant spellings, and there are other similar examples. In addition, we have to admit that there is still a bias against the female sex, as we found immediately on turning to the headings in the eighth edition for “Boys” and “Girls.” Several of the *see also* references were common to both, but there were interesting differences in the others. The thorough revision that was promised for LCSH9 tidied up some of the anomalies, but left most of them untouched.

The reference from girls to woman not paralleled by a reference from boys to men has gone, and girls no longer have anecdotes, facetiae, and satire written about them. But girls—not boys—may still be delinquents; girls and women still get education, but boys get Christian education, though it seems they no longer have a religious life. “Boys,” *see also* “Boy Scouts”; “Newsboys”; and “Newspaper carriers.” (As being a newsboy is an essential step along the path to becoming a millionaire—if we are to believe the biographers—we can understand why Sears also has references “Child labor” *see also* “Apprentices”; “Hours of labor”; “Newsboys”). We may still have daughters, but not sons. Both may be juvenile participants in wars, but only boys will be participating as soldiers.

When the two groups reach adolescence, the differences become even more noticeable. In LCSH8, the cross-references are particularly pointed:

Adolescent boys

- sa* Religious education of adolescent boys
- x Teen-age boys
- xx Boys
 - Puberty
 - Youth

Adolescent girls

- sa* Pregnant schoolgirls
- x Teen-age girls
- xx Girls
 - Puberty
 - Youth
- Juvenile literature

Boys get religious education, girls get pregnant—and have juvenile literature written about them, though I must say that the juvenile literature I read as an adolescent was very definitely about boys, and girls were only allowed in on suffrance. Perhaps the above differences explain why we do not have “Grandfathers”; “Grandparents,” yes, and “Grandmothers,” but no “Grandfathers,” though the biological facts are against this.

Grandfathers

See Grandparents

Grandmothers

Grandparents

The ninth edition has tidied this up to some extent, but there are still differences:

Adolescent boys

- sa* Church work with adolescents
 - Religious education of adolescent boys
- x Adolescents
 - Teen-age boys
- xx Boys
 - Puberty
 - Youth

Adolescent girls

- sa* Adolescent mothers
 - Church work with adolescents
 - Menarche
 - Pregnant schoolgirls

Boys still get religious education, girls still get pregnant, but there is now a recognition that not all pregnant schoolgirls become adolescent mothers; and adolescent girls have legal status, which adolescent boys do not. There are adolescent mothers, but no adolescent fathers; this is presum-

ably accounted for by the fact that there are delinquent girls, but no delinquent boys—it must be the Christian education.

Adolescent fathers???

Adolescent mothers

Adolescent parents

Delinquent boys???

Delinquent girls

If we compare the *see also* references in LCSH8 under “Delinquent girls” and “Delinquent women,” we find some strange differences again:

Delinquent girls

- sa Delinquent women
 - Unmarried mothers
- x Girls as criminals
 - Girls, Delinquent
- xx Delinquent women
 - Delinquents
 - Girls
 - Juvenile delinquency

Delinquent women

- sa Delinquent girls
 - Reformatories for women
- x Female offenders
 - Woman—Crime
 - Women as criminals
 - Women, Delinquent
 - Women delinquents
 - Women offenders
- xx Crime and criminals
 - Delinquent girls
 - Woman—Social and moral questions

Under “Delinquents” there were echoes of the attitude of H. E. Bliss mentioned in “Misogynists All.”¹³ Defectives *were* delinquents; delinquents were linked to “Idiocy,” “Insanity,” and “Inefficiency, Intellectual,” while the solution was simple: castration. Apart from the attitude implicit here, the system itself was shoddy; there was a *see also* reference to “Delinquent girls,” but not to delinquent women, nor did delinquent boys—and I am sure there must have been one or two—figure anywhere. LCSH9 has patched and darned here too. We no longer have “Defective and delinquent classes” and “Inefficiency, Intellectual” is no longer seen as necessarily associated with delinquency. Instead, we have a cross-reference to delinquency from handicapped!

Delinquents

- sa Castration of criminals and defectives
 - Crime and criminals
 - Degeneration
 - Delinquent girls

- Education and crime
- Heredity, Human
- Idiocy
- Incorrigibles (Juvenile delinquency)
- Inefficiency, Intellectual [deleted in LCSH9]
- Insanity
- Juvenile delinquency
- Problem children
- Social work with delinquents and criminals
- Vice
- x Defective and delinquent classes [deleted in LCSH9]
- Defectives [deleted in LCSH9]
- Delinquent classes
- xx Crime and criminals
- Degeneration
- Handicapped
- Heredity, Human
- Social problems

This sad view of the female sex is shared by LCC; in Class Z, we do not have the expected wine, women and song, but wine, women—and wool:

- Z7951 Wine and wine making
- Z7961-65 Woman
- Z7971-75 Wool

The misanthropic view of LCSH towards the young is further illustrated by the near-orphan “Groupies,” to which there is only one lead, from “Youth.” Looking for similar headings which might have been linked to it, I found “Camp followers” (the old name for “Groupies”), who are, it seems, necessarily women. This does tie up with the “Boys as soldiers” heading; perhaps the writer of the song “Where Have All the Flowers Gone?” had been scanning LCSH.

Groupies

- xx Youth

Camp followers

- x Women camp followers

Groupies are of course linked to “Rock music,” or rather to “Rock musicians” and “Rock groups,” but not by LCSH, even though all three headings are used. Pop music does not appear at all, but we do have a reference from the direct form “Popular music” to the inverted heading “Music, Popular (Songs etc.).” Here we find that various kinds of pop music are recognized: “Bluegrass,” “Country,” “Gospel,” “Rock,” and “Salsa,” a heading which must be in continuous use; but “Soul music” does not rate a heading of its own, while “Reggae music” is specifically limited to Jamaica.

Pop art

(Pop music???)

Popular music

See Music, Popular (Songs, etc.)

Music, Popular (Songs, etc.)

- sa Bluegrass music
- Country music
- Gospel music
- Rock music
- Salsa
- x Popular music
- Popular songs
- Songs, Popular
- Soul music
- Jamaica
- sa Reggae music

This kind of inconsistency is not limited to music, of course. Turning to the word *baroque*, we find that it is not used as an entry term, all headings being in the inverted form—with one exception: “Baroque literature.” The reproduction of maps is under “Maps—Reproduction,” which is legitimate—were it not that the very next heading is “Reproduction of money, documents, etc.” Are maps not documents? Why the difference? Who can explain it to a puzzled reader?

Some fourscore and seven years ago our fathers brought forth on another continent the Universal Decimal Classification (UDC)¹⁴ which seems to share many of LC’s doubts about humanity. In “Social strata, (income) groups and classes,” we find a reasonable sequence, until at the bottom of the social heap we find “Clergy,” whose members are supposed to be above money, and “Officials,” who should be much higher on the list if even a fraction of the bribery allegations we hear are true.

323.3 Social strata, (income) groups and classes

- .31 Upper class. Nobility. Landed gentry
- .32 Middle class. Bourgeoisie
- .33 Working class. Workers generally
- .34 Slaves. Serfs
- .35 Clergy
- .37 Officials (including civil servants)

However, it is clear from the schedule for “Qualified and unqualified work” that officials are not doing much of a job anyway, though here again we may take exception to the structure of a facet that confuses the *work* and the *worker*. Under “Categories of labour and employment,” we find that women and children get a rough deal; “Convent labour” and “Apprentice labour” are both singled out as examples of work at reduced rates of pay, along with “Handicapped labour.”

331.7 Qualified and unqualified work or employment, skilled and unskilled labour

- .71 Professional and intellectual work
- .713 Professional (excepting creative artists)
- .714 Artists, actors, etc.
- .72 Self-employment
- .76 Manual and craft labour

- .761 Skilled, specialized
- .762 Unskilled, general
- .77 Clerical work. Officials
- 331.3/.5 **Categories of labour and employment**
General problems here (if desired), but use relevant 3-05 . . . for special problems, e.g. 331.25-055.2 Pensions for women
- .3 Child and youth labour, employment
- .4 Female labour and employment
- .5 Labour and employment at reduced rates of pay
- .51 Prison labour
- .53 Convent labour
- .54 Contract labour
- .55 Apprentice labour
- .57 Forced labour. State labour
- .59 Handicapped labour: war disabled, etc.

On the other hand, we do find a realistic approach to businesses and professions under "Various taxes and levies," where "Entertainment taxes" are specifically listed.

Looking at the facets for political parties, we may see the kind of confusion that can greet the bewildered voter. The "Christian Democrats" are sandwiched between "Communists and Bolshevists" on the one hand, and "Nationalists" and "Fascists and National Socialists" on the other. "Democrats" and "Republicans" can take comfort from the fact that they are neither "Monarchists" nor "Revolutionaries and Anarchists," and while there is but a limited choice of religious parties, "Independents" are neatly linked to "Parties representing special interests," which seems reasonable.

- 329 **Political parties. Party system**
- .11 Conservatives
- .12 Liberals
- .13 Radicals
- .14 Socialists, *e.g.* Labour party [of the U.K.]
- .15 Communists. Bolshevists
- .16 Christian Democrats
- .17 Nationalists
- .18 Fascists. National Socialists
- .21 Monarchists
- .22 Democrats
- .23 Republicans
- .28 Revolutionaries. Anarchists
- .31 Catholic parties
- .33 Protestant parties
- .62 Independents
- .63 Parties representing special interests

Does the concentration on UDC and LCSH mean that DDC is now above criticism? By no means. "There are more things in Heaven and Earth, Horatio, than are dreamt of in your philosophy," as Hamlet ob-

served. It is therefore progress to see that where the eighteenth edition referred to "Controversial and spurious knowledge," DDC19 has modified this to "Controversial."

DDC18

001 **Knowledge and its extension**.9 **Controversial and spurious knowledge**.93 **Curiosities**

Well-established phenomena not scientifically explained, e.g., frozen mammals in Siberia, fire walking

.94 **Mysteries**

Reported phenomena not explained, not fully verified, e.g., unidentified flying objects, Loch Ness monster

DDC19

001 **Knowledge**.9 **Controversial knowledge**.93 **Curiosities [as in DDC18]**.94 **Mysteries**

Reported phenomena not explained, not fully verified

.942 **Unidentified flying objects (UFOs, Flying saucers)**.944 **Monsters and related phenomena.**

Examples: Loch Ness monster, abominable snowman

However, I still have a lingering feeling that when the little green men from Mars do finally land, their first command will not be the expected one, but "Take us to your lawyer!", where they will promptly file suit alleging discrimination on the grounds of size, colour, sex, and ethnic origin. At least DDC does recognize the difference between a flying saucer and an unidentified flying object; LCSH simply refers us from UFOs to flying saucers. In view of the fact that some UFO sightings have variously been identified as aircraft, the aurora borealis, and the planet Venus, it would seem desirable to continue to make the distinction.¹⁵

People, including women, girls and presumably Martians, have customs, as we saw in "Misogynists All." Has DDC's view changed since then? A little, but not enough. Among "Customs of life cycle" we find "Birth customs," including as an example, "infanticide," which would appear to render the following "name giving" and "baptism" superfluous. "Courtship and betrothal" is followed quite properly by "Wedding and marriage," leading to "Relations between sexes." So is this the right place for the files of *Playboy* and *Penthouse*? From the example, "chaperonage," it would seem more suitable for "Dear Abby."

390 **Customs, etiquette, folklore**392 **Customs of life cycle and domestic life**.1 **Birth, puberty, majority**.12 **Birth customs**

Examples: couvade, infanticide, name giving, baptism

.3 **The home and domestic arts**.4 **Courtship and betrothal**

Examples: bundling, infant betrothal, bride purchase

- .5 **Wedding and marriage**
- .6 **Relations between sexes**
Example: chaperonage
- .9 **Treatment of aged**
- 393 **Death customs**
- 394 **General customs**
Including swearing
- .1 **Eating, drinking, using tobacco**
- .2 **Special occasions**
- .3 **Games, toys, dances**
- .4 **Official ceremonies and observances**
- .5 **Pageants, processions, parades**
- .6 **Fairs**
- .7 **Customs of chivalry**
- .8 **Dueling and suicide**
- .9 **Cannibalism**

Swearing is now so common that it is included in the heading "General customs," dammit! General customs end with dueling, suicide, and cannibalism. The latter found a place in the scheme quite early on, as an example of "Customs of war;" in the eighteenth edition, 1971, it was moved to "General customs" with its own heading at 394.9. It is not clear whether this signifies a change in the customs of war, or a recognition of the overall world food shortage. UDC has a place for "Cannibalism," too. Under "Private and family life 392" we find "Meals" at 392.8, with two subdivisions only: "392.84 Vegetarianism" and "392.89 Cannibalism"; what kind of family life is that?

DDC shares LCSH's dislike of women and youth. In "History of World War 2," children are listed along with other noncombatants, pacifists and enemy sympathisers; not even a hint of "juvenile participants." "Wife beating as a crime" is cited as a "specific aspect of marriage," while infanticide is given, along with genocide, as a method of population control. As W.C. Fields would, I am sure, have said had he thought of it: "Any man who beats his wife and hates children can't be all bad."¹⁶ We should also note that intercultural marriage includes marriages between citizens of different *countries*, a good example of subliminal nationalism.

DDC19E¹⁷

- 306.8 **Marriage and family**
Class . . . a specific aspect of marriage with the aspect, e.g., wife beating as a crime 364.1555 . . .
- .84 Types of marriage
- .845 Intercultural
Class here marriages between citizens of different countries
- 304.66 Population control
Class here birth control, abortion, infanticide, genocide, sterilization

Ethics also has some interesting quirks. "Ethics of social relations"

includes "Personal appearance," "Friendship and courtship," and "Love," but between them are inserted "Slavery and discriminatory practices." "Profanity, blasphemy, obscenity in speech" are (like swearing) "ethical norms." "Respect and disrespect for human life lists as examples "genocide, homicide, suicide, capital punishment and dueling," all of which imply a disrespect for human life. The only subdivision enumerated is "Abortion"; does this mean that the ethical aspect has already been settled?

- 170 **Ethics (Moral philosophy)**
- 177 **Ethics of social relations**
 - .1 **Courtesy, politeness, hospitality**
 - .2 **Conversation, gossip, scandal**
 - .3 **Slander, flattery, truthfulness, lying**
 - .4 **Personal appearance**
 - .5 **Slavery and discriminatory practices**
 - .6 **Friendship and courtship**
 - .7 **Love**
- 179 **Other ethical norms**
 - .1 **Respect for life**
 - .2 **Treatment of children**
 - .3 **Treatment of animals**
 - .4 **Experimentation on animals**
 - .5 **Profanity, blasphemy, obscenity in speech**
 - .6 **Courage and cowardice**
 - .7 **Respect and disrespect for human life**
Including genocide, homicide, suicide, capital punishment, dueling
 - .76 **Abortion**
 - .8 **Vices, faults, failings**
Not otherwise provided for
 - .9 **Virtues**
Not otherwise provided for

Wherever people are involved, sex rears its ugly head, and DDC is no exception. In DDC18, we have some remnants of past prejudices: "Homosexuality" is included under "Abnormal sexual relations," while "Sex instruction, guides and manuals" are part of "*Marital* sex relations" (hence the pregnant schoolgirls, abortions, infanticide, etc.?). An example of confusion of facets is shown by making "illegitimacy" (a *property*) a subdivision of "Premarital relations" (an *activity*) (presumably extra-*marital* realtions did not lead to illegitimacy because by then you had had a chance to bone up on the guides and manuals).

DDC19 and, to an even greater extent, the expansion of "Sociology" (DDC19E) seem to have gone to the other extreme in trying to give all forms of sexual activity equal space. "Institutions pertaining to relations between the sexes" include courtship, premarital relations, unwed parenthood, incest, sadism, masochism, extramarital relations, prostitution, and homosexuality, but does not have even a cross-reference to marriage. The extended schedule does remedy that omission, and

makes the nice distinction between nonmarital and extramarital relations, citing *ménage à trois* as an example of the former. My acquaintance with *ménages à trois* is admittedly limited, but those I have known have involved husband, wife and third party; all very confusing, and very difficult for the classifier. Under "Sexual practices" we find "306.773 Sodomy," with a cross-reference to "306.774 Oral sex," which happens to be the next heading in the schedule; there was a time when the criterion for a heading in DDC was the presence of twenty books on the subject on the shelves of LC, but even if those days have passed it seems gratuitous to make this particular reference to the subsequent heading. The enthusiasm with which DDC has expanded this section of the schedules reminds one of the parody of Walter Savage Landor's poem "Finis":

I warmed both hands before the fire of life
I thought the heat and smoke were pretty swell;
But now I cannot cease from mental strife—
Should I have warmed my poor old feet as well?

Yet on certain matters DDC remains strangely silent. Kissing is not in the schedules, nor in the index; "Bundling" is, as an example under "Courtship." "Courtship" itself has two entries in the index: "Customs 392.4" and the somewhat cynical "*Other aspects see Sexual relations.*" Your place or mine?

When we turn to LCSH, we find that here too there seems to be some kind of fixation on sex; it is everywhere. One heading is missing: "Sex in humor, wit, etc."; yet I am sure that material exists. There has been at least one very serious study of the dirty joke¹⁸—but perhaps it is still "in process" at LC. "Sadism in moving-pictures" has its own heading, but "Pornography in motion pictures" is non-preferred; we are told to *see* "Sex in moving-pictures," as if sex and pornography were synonymous. And note the nice distinction between motion pictures and moving-pictures.

Sex in advertising

Sex in business

Sex in dreams

Sex in espionage (but no *sa* Bondage!)

Sex in literature

Sex in marriage (yes, we do need those guides)

Sex in mass media

Sex in moving-pictures

Sex in television

Sex in the arts

Sex in the Bible

Sex in the performing arts

Sex in the theater

But no "Sex in humor, wit, etc." How perverse!

We are nearly all to be educated about sex, or at least *instructed*; the preferred heading is "Sex instruction," but it is carried out by "Sex educators." Nearly all, because the mentally handicapped are not to be

included unless they are children while, conversely, physically handicapped children are out while the physically handicapped are in. With the flood of literature that appeared in 1981, the International Year of the Disabled Person, it seems improbable that these omissions can still be justified.

UDC has its peculiarities in this field also. What are we to make of the sequence in "Sex customs" leading from "392.62 Concubinage" through "392.63 Celibacy" to "392.64/.65 Promiscuity and prostitution?" One is reminded of King Harry's battlecry: "Once more unto the breach, dear friends, once more!"¹⁹

To anyone with a Puritan upbringing, the mention of sex brings thoughts of sin. In the index to DDC, there is an entry for "Sin in Christianity"; for other religions we are told to see "Moral theology." LCSH has a similar bias, shown, for example, in the headings for demonology; "Christian demonology" is "Demonology"; it is only the rest that have to be specified. A similar problem seems to arise with the DDC schedule for "Comparative religion"; at what point on the scale do we classify the leaders of particular sects? Are they interpreters of religion, divinely inspired, or endowed with supernatural powers?

290 **Other religions and comparative religion**

291 **Comparative religion**

 .6 **Leaders and organization**

 .61 Clergy and counselors

 .62 Persons endowed with supernatural power

 .63 Divinely inspired persons

 .64 Interpreters of religion

Perhaps it depends on the point at which the prophet becomes exempt from income tax.

Let I should be accused of some kind of fixation myself, I will present one quite different kind of example. It took LCSH some twenty years to acknowledge that "Computers" was an acceptable heading; now we find that errors are appearing in their expansions. At "Computers" we find *see also* references to "Information storage and retrieval systems" and to "Minicomputers," but not to "Microcomputers," although this heading does exist:

Computers

sa . . .

Information storage and retrieval systems

Minicomputers

Used computers

At the heading "Microcomputers," we find a *see also* reference to the Zilog Model Z-80 (computer); the Z80 is in fact a microprocessor, but there is no cross-reference to "Microprocessors," though that heading is also used, and there is a reference to it from "Minicomputers." Would you buy a used computer from this library?

Do all these foibles really matter? Are readers really concerned about the arrangement on our shelves, or headings in our catalogues? I believe the answer to both of these questions is a resounding YES. For many

years we have claimed classification and cataloging as the core of our professional activities; if this is the best we can do, can we be surprised that we are not really taken seriously as *professionals*? If we are not taken seriously as professionals, can we expect to be *paid* as professionals? In "Misogynists All" I offered no solution, only a problem; thirteen years later, I am still not able to offer a final solution, though I hope I have shown that the problem still exists. The solution, if there is one, may lie in an "agonizing reappraisal" of what it is we are trying to do, combined with a greatly increased use of the computer for subject retrieval of information—but that use must be a great deal more sophisticated than our present "try(w)it(w)and(w)see" approach.

I believe that the day of the very large collection in classified order has passed. Critics of close classification have pointed out often enough the problems posed by long notation when it is applied to books on shelves: problems for the readers who try to use the shelf arrangement, problems for the library staff who try to maintain it. Yet without close classification, we find that a large collection becomes unmanageable for browsing purposes—and if shelf classification is not meant to assist browsing, then what is its purpose? I suggest that we have to think in terms of smaller browsing collections, classified to an extent that will permit the shelf to become the "browsing unit" and be backed up by closed stacks, accessible through computer-based bibliographical services. We may still want to use detailed classification in our catalogs and indexes, but this does not present a problem; once programmed, computers can handle long and complex notation without difficulty, as anyone who has looked at their identification in a computerized billing system will know. The computer has already forced LC to make certain changes in LCSH, and other improvements may follow.²⁰

I also believe that the time when our readers will no longer tolerate the kind of folly we now impose on them is approaching; I am amazed that we ourselves have tolerated it for so long. Indeed the tools that we are using now would be "better dead than read."

REFERENCES

1. Jane Austen, *Pride and Prejudice*, Bantam Classic ed. (Toronto; New York: Bantam, 1981), p.42-43.
2. A. C. Foskett, "Misogynists All; a Study in Critical Classification," *Library Resources & Technical Services* 15:117-21 (Spring 1971).
3. Library of Congress, Subject Cataloging Division, *Library of Congress Subject Headings*, 8th ed. (Washington, D.C.: Govt. Print. Off., 1975).
_____, 9th ed. (Washington, D.C.: Library of Congress, 1980).
4. Melvil Dewey, *Dewey Decimal Classification and Relative Index*, 18th ed. (Lake Placid Club, N.Y.: Forest Press, 1971).
_____, 19th ed., ed. under the direction of Benjamin A. Custer (Albany, N.Y.: Forest Press, 1979).
5. Henry Evelyn Bliss, *Bliss Bibliographic Classification*, 2d ed., ed. J. Mills and Vanda Broughton. (London; Boston: Butterworths, 1975-_____).
6. Library of Congress, Subject Cataloging Division, *Classification, Class H: Subclasses H-HJ (Social Sciences, Economics)*, 4th ed. (Washington, D.C.: Library of Congress,

- 1980); _____: *Subclasses HM-HX (Social Sciences, Sociology)*, 4th ed. (Washington, D.C.: Library of Congress, 1980).
7. Sanford Berman, *Prejudices and Antipathies; a Tract on the LC Subject Heads Concerning People* (Metuchen, N.J.: Scarecrow, 1971); and his *The Joy of Cataloging; Essays, Letters, and Other Explosions* (Phoenix, Ariz.: Oryx Pr., 1981); Hennepin County Library, Cataloging Section, *Cataloging Bulletin* (Edina, Minn.: The Library, 1973-).
 8. Estelle I. Arawaka and Frank W. Knecht, "Don't Buy 'DDC 19'," *Library Journal* 105:1555-56 (Aug. 1980).
 9. "Freezing the Library of Congress Catalogs," *Cataloging Service Bulletin* no. 8:3-8 (Spring 1980).
 10. Alfred Austin, "On the Illness of the Prince of Wales, Afterwards Edward VII," in *The Oxford Dictionary of Quotations*, 2d ed. (London; New York: Oxford Univ. Pr., 1953), p.23. The attribution has been disputed.
 11. G. Bull and N. Roberts, review of *Dewey Decimal Classification and Relative Index*, 19th ed., *Journal of Librarianship* 12:139 (April 1980).
 12. Library of Congress, Subject Cataloging Division, *Library of Congress Subject Headings*, 9th ed., p.viii.
 13. A. C. Foskett, "Misogynists," p.119.
 14. Universal Decimal Classification, used first in 1895, was published by the International Federation for Documentation as the *Manuel du Répertoire bibliographique universel* (Bruxelles, 1905).
 15. Libby Jones, "Extraterrestrials in the Dewey Decimal System; or, A Study of the Dewey Decimal Classification as Pertains to the Contact of *Homo Sapiens* with Extraterrestrial Sentient Life," *Library Resources & Technical Services* 26:188-91 (Apr./June 1982).
 16. The line attributed to Fields is "Anyone who hates children and dogs can't be all bad!" in John Bartlett, *Familiar Quotations*, 14th ed. rev. and enl. by Emily Morison Beck. (London: Macmillan, 1968), p.951b.
 17. John P. Comaromi and Margaret J. Warren, *DDC Dewey Decimal Classification: 301-307 Sociology. Expanded Version Based on Edition 19* (Albany, N.Y.: Forest Press, 1982).
 18. Gershon Legman, *Rationale of the Dirty Joke: An Analysis of Sexual Humor* (London: Cape, 1969-).
 19. William Shakespeare, *King Henry the Fifth* in his Complete Works, ed. W. J. Craig (The Oxford Shakespeare. Oxford: Clarendon Pr., n.d.) Act 3, scene 1, line 1.
 20. Michael Gorman, "Fate, Time, Occasion, Chance, and Change; or, How the Machine May Yet Save LCSH," *American Libraries* 11:557-58 (Oct. 1980) and subsequent correspondence.

Margaret Mann Citation, 1984: Dorothy Anderson

The Margaret Mann Citation in Cataloging and Classification for 1984 is awarded to Dorothy Anderson for her sustained creative and pragmatic efforts to define and achieve "universal bibliographic control" of library materials through international exchange of standardized cataloging data, for her peerless leadership in stimulating communication among cataloging practitioners and teachers in both developed and emerging nations, and for her unselfish gift of time and energy toward overcoming national barriers to the sharing of bibliographic information.



Dorothy Anderson, award recipient (center), Lizbeth Bischoff, and Leroy D. Ortopan.

Dorothy Anderson

The Margaret Mann Citation in Cataloging and Classification for 1984 was presented during the American Library Association Annual Conference in Dallas to Dorothy Anderson in recognition of her contributions to the achievement of "universal bibliographic control" through the international standardization of cataloging data.

Dorothy Anderson was born in New Zealand and received her B.A. and M.A. (with first class honours in history) from the University of New Zealand. From 1945 to 1947, she worked in cataloging and acquisitions at the New Zealand County Library Service, which was in the process of developing into the National Library of New Zealand, starting a national bibliography and maintaining a union catalog.

In 1948 she married an Englishman and went to live in London, where she became librarian at the Hendon College of Technology, now part of Middlesex Polytechnic. While there, she took a year off to obtain a postgraduate diploma in librarianship from the University of London.

In 1958 she resigned and returned for six months to New Zealand, where she worked on the historical bibliography of New Zealand. For the next ten years she worked part-time at various library and research projects, while undertaking her own historical research leading to the publication of *Miss Irby and Her Friends* and *The Balkan Volunteers*.

From 1958 to 1961, Anderson was research assistant to David Mitrany, the first permanent member of the Institute for Advanced Studies, Princeton University. His functional theory of international government, the idea that international activities develop better and more easily if they are based on common economic, social, or professional interests, undoubtedly influenced her commitment to the International Federation of Library Associations and Institutions (IFLA).

It was also in 1958 that Mrs. Anderson began her involvement with IFLA as organizing secretary of the preliminary meeting that preceded the International Conference on Cataloguing Principles held in Paris in 1961. After the Paris conference, she edited the ICCP report, the preliminary edition of the annotated *Statement of Principles*, and the 1967 edition of *Names of Persons*.

Meanwhile, Hugh Chaplin as chairman, and Joel Downing, as secretary of the IFLA Committee on Uniform Cataloguing Rules (later the IFLA Committee on Cataloguing), proposed that an analysis be made of the descriptive cataloging practices of national bibliographies as a basis for a statement of common principles for bibliographic description. This analysis, made by Michael Gorman, formed the basic study of the International Meeting of Cataloguing Experts held in Copenhagen in 1969. Dorothy Anderson was called away from her research for a third historical book to become organizing secretary for this meeting, which led to the first international standard bibliographic description (ISBD).

Between 1970 and 1971, Mrs. Anderson worked with Hugh Chaplin on the study of the cataloging practices of the various institutions that

were to come together as the British Library, as the basis for creation of an integrated cataloging system. This study was published in 1973 as *The British Library and AACR*.

The concept of international agreement on basic principles for cataloging, born in Paris in 1961 and confirmed in Copenhagen in 1969, combined with the application of automation to library catalogs and national bibliographies, made a permanent center to coordinate efforts to achieve bibliographic standardization essential. In 1971, Dorothy Anderson became executive secretary of the IFLA Cataloguing Secretariat, which in 1974 became the IFLA International Office for Universal Bibliographic Control.

Under her direction the UBC Office has made itself a vital force in international communication, publishing more than forty titles, serving as secretariat to a multiplicity of working groups, and acting as IFLA liaison with the International Serials Data System and the International Organization for Standardization.

Mrs. Anderson has been tireless in her commitment to bibliographic standardization as a basic means of sharing bibliographic resources. She has initiated, planned, and spoken at innumerable library-related meetings on every continent and has never allowed her colleagues to refuse to discuss a problem simply because it seemed overwhelming. In addition to her two historical works, she has written position papers and bibliographic studies for IFLA and Unesco. Since her retirement from the IFLA Office for UBC in 1983, she has worked for Unesco at a meeting in Tanzania and a seminar in Mexico.

She is a collector of Torquay pottery ware, attends the Wimbledon tennis tournament rain or shine, and has resumed the preparation of her third historical work, which had to be abandoned in favor of IFLA's claim on her time.—*Frances Hinton, Chief, Processing Division, Free Library of Philadelphia.*

Esther J. Piercy Award, 1984: Lizbeth J. Bishoff

The Resources and Technical Services Division of the American Library Association presents the Esther J. Piercy Award for 1984 to Lizbeth J. Bishoff. The Piercy Award acknowledges Liz Bishoff's leadership in the profession at the local, state, and national levels. This leadership has been characterized by her enthusiastic participation in a wide range of association activities and by the technical and conceptual skills she has brought to substantive committee assignments and job responsibilities.



From left to right, William I. Bunnell, Lizbeth Bishoff, award recipient, Susan Brynteson and William J. Myrick.

Among many contributions to the profession, some are most noteworthy. As a member of the Catalog Code Revision Committee for AACR2 from 1974-1978, her considerable energies and skills were aimed at making that code applicable to all types of libraries. She then played a vital role as a member of the AACR2 Introductory Program Committee from 1977-1979. Since 1979, she has been ALA representative to the Decimal Classification Editorial Policy Committee. She has been particularly effective in gaining the involvement of users in the work of this committee. She has served as Chair of the Cataloging and Classification Section of the RTSD for 1983-84. Another very practical accomplishment, perhaps unique

among libraries and librarians, was Liz Bishoff's role in developing an arrangement for sharing OCLC terminal access among several public libraries in the North Suburban Library System in Illinois. One result was the production of almost 25,000 records in one year on a single terminal. Also, no small accomplishment in the existing economic climate, was her role in the passage of a referendum for a new building for the Ela Area Public Library after three prior referendum failures.

The Piercy Award acknowledges in Liz Bishoff these personal and professional qualities that epitomize Esther J. Piercy, for whom the award was created. Several of those who wrote in support of Liz's nomination were careful to describe not only her accomplishments but also to list those qualities of character that led to the accomplishments.

Liz Bishoff's accomplishments and enthusiasm for her work hold great promise for continued success in the fine tradition of Esther J. Piercy and past recipients of this award.

Lizbeth J. Bishoff

Lizbeth J. Bishoff is the recipient of the 1984 Esther J. Piercy Award. She is a graduate of Western Illinois University and received her M.A. in Library Science from Rosary College in 1974. Early in 1984 Lizbeth Bishoff became Principal Librarian for Public Services of the Pasadena Public Library after an outstanding record of service in Illinois libraries, including the period (1977-1984) when she was director of Ela Area Public Library (Lake Zurich).

As is often the case, Lizbeth Bishoff's involvement with library technical services began prior to her professional career. Not so common has been the dedication and leadership that she has exhibited from the beginning—particularly in the areas of technical services administration and the implementation of new standards and technologies. She was a member of the ALA/RTSD Catalog Code Revision Committee for AACR2 from 1974-1978 and played a key role making that code applicable to all types of libraries. She was also a member of the AACR2 Introductory Program Committee from 1977-1979 and, therefore, a part of the very successful effort to acquaint the entire library community with this new cataloging code. Since 1979 she has been an ALA representative to the Decimal Classification Editorial Policy Committee and has been particularly effective in gaining the involvement of users in the committee's work. Bishoff has served on a number of CCS committees, including the Subject Analysis Committee, the Subcommittee on Subject Analysis of AV Materials, and the Nominating Committee. She has served as the representative to the Public Library Association's Cataloging Needs of Public Libraries Committee. And, she has also served as Chair of the Cataloging and Classification Section of RTSD for 1983-1984.

Numerous other professional activities, both past and present, only serve to illustrate further the qualities of "enthusiasm, efficiency, and devotion" that many have said characterize Lizbeth Bishoff's contributions to librarianship. It is perhaps somewhat unusual that co-workers, colleagues, and professional acquaintances express a rather harmonious view regarding the influence of Lizbeth Bishoff in library work and professional activities. One can only wonder at the resourcefulness which she evidently exhibited in developing a cooperative arrangement for sharing terminals among several public libraries, which resulted in the production of almost 25,000 records on a single OCLC terminal in one year. And, in the present constrained economic climate, there is probably no greater indication of success than Bishoff's efforts resulting in the approval by voters of a new building for the Ela Area Public Library after three previous referendum failures. Such accomplishments tend to have the result that both the persons involved and the institutions become models for others. And, by reputation, that has certainly been the case.

Several persons who supported the nomination of Lizbeth Bishoff for

the Esther J. Piercy Award commented on what they felt were attributes on her part that corresponded with those for which Piercy was known. Among those listed were interest in library users, excellence in her specialty, a broad perspective, and the ability to synthesize and integrate issues. The Esther J. Piercy Award is intended to recognize individuals who, while relatively young in the profession, show outstanding promise for continuing contributions and leadership. Liz Bishoff's leadership in the profession at the local, state, regional, and national levels is certainly indicative of that promise. She has devoted considerable effort to promoting increased participation in RTSD by public, school, and special librarians and has helped design RTSD activities of interest and benefit to all types of libraries. Likewise, her contributions to the application and utilization of new methods in library technical services give evidence of a continuing commitment to making libraries work. It is probably not too far afield to suggest that receiving the Piercy Award is not a milestone but a point of departure for Lizbeth J. Bishoff.—*Don Lanier, Chair, Esther J. Piercy Award Jury.*

Resources Section— Blackwell North America Scholarship Award, 1984:

Coordinating Collection Development: The RLG Conspectus

by Nancy E. Gwinn and Paul H. Mosher

This article is a thorough and complete explanation, including background and philosophy, of a method for detailed and standardized description of library collections. Developed for use by the Research Libraries Group, the method can be used by all types and by various groupings of libraries. It provides a basis for coordination and cooperation to whatever extent is desired, and makes use of, although it is not dependent on, the online technology only recently available.

The pioneering work described here has been taken up and is being further developed by the Association of Research Libraries, and many smaller groups of libraries will find the method valuable for coordinating collection development, for resource sharing, or simply as a way of displaying information that has not previously been available.

The clarity and precision of the description given, as well as the understanding of library needs and problems shown by the authors, will be of continuing value to librarians interested in the "conspectus" procedure.

The Resources Section-Blackwell North America Scholarship Award for 1984 has been awarded to Nancy E. Gwinn and Paul H. Mosher for their article "Coordinating Collection Development: The RLG Conspectus," published in *College & Research Libraries*, March 1983.

The award includes a citation and a \$1,000 scholarship to the library school chosen by the author(s). This year's award will go to the School of Library Science of The University of Michigan.

Presentation of the award was made at the membership meeting of the Resources and Technical Services Division on June 25.

This award has been given each year since 1976 to honor the author or authors of the best publication for the past year in the field of acquisitions, collection development, and related areas of resources development in libraries. Since 1981 it has been funded by Blackwell North America, Inc.

The RLG Conspectus is a method for evaluating and recording the

collecting strengths and levels of member libraries in detail and making the values of each member available to the others (hence the term *conspectus*, coined by Paul Mosher). The resulting descriptions, whether made available online or on paper, provide a basis for cooperation in collection development, resource sharing, shared cataloging, and preservation that is much more detailed and flexible than has been available before. Work on the conspectus has been proceeding steadily in the Research Libraries Group, and the Collection Development Task Force of the Association of Research Libraries is testing the potential for using the conspectus format to create a National Inventory of Research Collections.

The method is applicable also to other groupings of various types of libraries (e.g., academic libraries in a region or multitype libraries in a metropolitan or other designated area), and the information base can be as general or as detailed as the situation requires. It is a way of using recently developed computer technology to achieve ends for which many librarians have worked in the past and which are likely to be wanted even more in the future.

The article chosen for the 1984 award was written by two people closely connected with the development they are describing. Nancy Gwinn was formerly Associate Director of Program Coordination, Research Libraries Group. She received her B.A. degree in English from the University of Wyoming and an A.M.L.S. from the University of Michigan. She began her professional career as a special recruit in the Library of Congress and spent several years in the Congressional Research Service. From there she moved to the Council on Library Resources, where she served first as Information and Publications Officer and subsequently as Program Officer. In 1980 she became Associate Director of Program Coordination for the Research Libraries Group. In spring 1984, she was appointed Assistant Director for Collections Management of the Smithsonian Institution Libraries. Her honors include a Fulbright scholarship and the Distinguished Alumnus Award of the University of Michigan School of Library Science. She has written numerous articles for library publications.

Paul Mosher is Associate Director for Collection Development, Stanford University Libraries and, since 1979, Vice-Chair of the Collection Management and Development Committee, Research Libraries Group. He did his undergraduate work in history at Portland State University and was awarded M.A. and Ph.D. degrees by the University of California—Berkeley. He has taught history at the University of Washington and library science at the University of California—Berkeley and was a CLR senior fellow at the UCLA library school in 1983. Since 1975 he has been in charge of collection development at Stanford. From 1982 to 1984, he worked with the Alaska State Library and the University of Alaska to develop a statewide multitype library resource sharing program. He has been active in RTSD and in ACRL and has published numerous articles. He has been invited by the Swedish Delegation for Scientific and Technical Information to lecture on collection development at six Swedish universities in September 1984.—*Mona East, Chair, Blackwell/North America Scholarship Award Jury.*

***NOMINATIONS FOR 1985
MARGARET MANN CITATION***

Nominations for the 1985 Margaret Mann Citation are now being accepted. They should be submitted by December 1, 1984, to Carol A. Mandel, Chair, Margaret Mann Citation Committee, Asst. University Librarian for Access Services, University of California—San Diego, San Diego, CA 92037.

The Margaret Mann Citation is awarded annually for outstanding achievement in cataloging or classification through:

- publication of significant professional literature;
- contributions to activities of professional cataloging organizations;
- technical improvements and/or introduction of new techniques of recognized importance;
- distinguished teaching in the area of cataloging and classification.

Renominations of nonrecipients are acceptable.

***NOMINATIONS FOR 1985
ESTHER J. PIERCY AWARD***

Nominations for the 1985 Esther J. Piercy Award are now being accepted. They should be submitted by December 1, 1984, to Martin D. Joachim, Chair, Piercy Award Jury, Cataloging Dept., Indiana University Libraries, Bloomington, IN 47405.

The Piercy Award was first presented in 1969. Its purpose is to recognize contributions to librarianship in the field of technical services by a younger librarian—one who has no more than ten years of professional experience and who has shown outstanding promise for continuing contributions and leadership.

The award may be granted for:

- leadership in professional associations at local, state, regional, or national levels;
- contributions to the development, application, or utilization of new or improved methods, techniques, and routines;
- a significant contribution to professional literature;
- conduct of studies or research in the field of technical services.

Renominations of nonrecipients are acceptable.

***NOMINATIONS FOR 1985 RESOURCES
SECTION—BLACKWELL NORTH AMERICA
SCHOLARSHIP AWARD***

Nominations for the 1985 Resources Section—Blackwell North America Scholarship Award are now being accepted. They should be submitted by December 1, 1984, to Marilyn P. Fletcher, Chair, RTSD/RS Blackwell North America

Scholarship Award, Serials Dept., General Library, University of New Mexico, Albuquerque, NM 87131.

This award is presented to honor the author or authors of the outstanding 1984 monograph, article, or original paper in the field of acquisitions, collection development, and related areas of resources development in libraries. Blackwell North America will donate a \$1,000 scholarship to the U.S. or Canadian library school of the winning author's choice. The school will select a student concentrating in the acquisitions or collection development areas to receive the scholarship.

***NOMINATIONS FOR 1985 SERIALS SECTION
BOWKER/ULRICH'S SERIALS
LIBRARIANSHIP AWARD***

Nominations for the 1985 Serials Section Bowker/Ulrich's Serials Librarianship Award are now being accepted. They should be submitted by November 15, 1984, to Jean A. Wright, SS Bowker/Ulrich's Serials Librarianship Award, General Technical Services, Vanderbilt University Library, 419 Twenty First Ave., South, Nashville, TN 37240-0007.

This award consists of a citation and \$1,500 cash, contributed by the R. R. Bowker Co.; the award may be split among two or more individuals who have participated in the achievement for which it is granted. The award recognizes distinguished contributions to serials librarianship within the previous three years, as demonstrated by:

- participation in professional associations and/or library education programs;
- contributions to the body of serials literature;
- conduct of research in the area of serials;
- development of tools or methods to enhance access to or management of serials;
- other advances leading to a better understanding of the field of serials.

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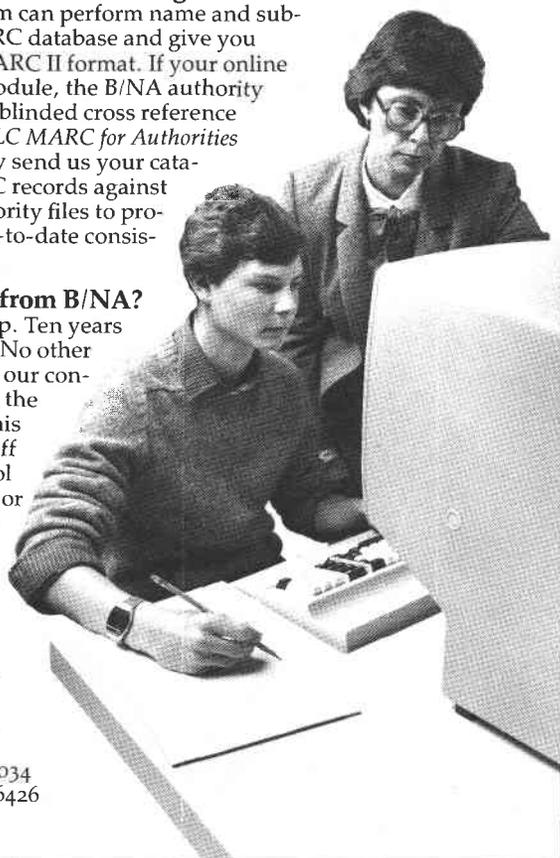
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RTSD

Annual Reports, 1983/84

Report of the President

Susan Brynteson

1983/84 was a productive and dynamic year for the Resources and Technical Services Division which, in its twenty-eighth year, is the largest type-of-activity division and the second largest in membership among the eleven divisions of the American Library Association.

RTSD is charged with addressing and monitoring activities in ALA in the areas of acquisition, identification, cataloging, classification, the preservation of library materials, and the development and coordination of the country's library resources. To carry out this charge, RTSD uses the talents found in its eighteen division-level committees, twenty-one discussion groups, the Council of Regional Groups, and five sections. Complete reports on the activities of the sections—Cataloging and Classification (CCS), Preservation of Library Materials (PLMS), Reproduction of Library Materials (RLMS), Resources (RS), and Serials (SS)—follow this report.

The divisional and sectional awards were presented at the annual membership meeting in June. The Esther J. Piercy Award, given to a person with less than ten years experience who has made a substantial contribution in the area of technical services, was presented to Lizbeth J. Bishoff. Dorothy Anderson received the CCS Margaret Mann Citation for her outstanding accomplishments in the field of cataloging and classification. The RS-Blackwell North America Scholarship Award, given for the best publication of the past year in the field of acquisitions, collection development, and related areas of resource development, was presented to Nancy E. Gwinn and Paul H. Mosher for their article, "Coordinating Collection Development: The RLG Conspectus" published in *College & Research Libraries* 44:128-40 (March 1983).

The RTSD Planning and Research Committee, chaired by Judith N. Kharbas, was charged with developing a long-range plan for RTSD. The committee held an open hearing in Dallas as a part of a major effort to determine the effectiveness and future directions of RTSD. In an effort to solicit evaluations of how well the division is presently meeting the expectations and needs of its members, the committee mailed a membership survey to a 10 percent random sample of RTSD members. The open hearing at the ALA Conference provided an opportunity for those members who did not receive the survey to express their views on the goals, mission, organization, and effectiveness of RTSD, and for those who did receive the survey to supplement their evaluations. Further information about the results of the membership survey and the hearing will be forthcoming.

The division's journal, *Library Resources & Technical Services (LRTS)*, under the enlightened editorship of Elizabeth Tate, continued to publish high-quality ar-

ticles during the year. The step taken the previous year to discontinue certain advertising arrangements for *LRTS* and establish a staff position for advertising promotion and sales for *LRTS*, *RQ*, and *Top of the News*, with costs to be shared with the divisions as appropriate, proved profitable and successful.

The *RTSD Newsletter*, which began in January 1976 as an information exchange among members, continued to evolve into a substantial publication containing short articles in addition to notices of forthcoming RTSD events. Its frequency was increased in 1984 from six to eight issues per year. The term of its capable editor, Arnold Hirshon, ends in July 1985, and procedures to identify his successor were undertaken. The appointed search committee, chaired by Robert C. Sullivan, advertised the position, screened applicants, and made recommendations to the board. At the Annual Conference the board confirmed the appointment of Thomas W. Leonhardt of the University of Oregon as editor-designate. He will assume a three-year term as editor for the period from July 1985 through the 1988 Annual Conference.

During the past year the division continued to present programs in the form of institutes on topics of great current interest in all regions of the country. A Collection Management and Development Institute was cosponsored with the University of Cincinnati and the Greater Cincinnati Library Consortium, with additional Collection Management and Development Institutes scheduled for the University of California at Irvine, Trinity University in San Antonio, Texas, and the University of Washington, Seattle. A Library of Congress Subject Heading Institute was held in both Seattle and Boston and an additional LCSH Institute, scheduled for Chicago, to be given in cooperation with the Resources and Technical Services Section of the Illinois Library Association. The first Nonbook Materials Institute was held in San Diego with additional non-book institutes scheduled for Washington, Chicago, Boston, and Orlando, Florida. The latter is to be given in cooperation with the Technical Services Caucus of the Florida Library Association. Authorities institutes were held in Albuquerque, New Mexico, and Fort Lauderdale, Florida, and will conclude in Boston. All of the institutes were well attended and, based upon participant evaluation, given an excellent reception. Two preconferences prior to the Dallas Annual Conference were undertaken, one on collection management in public libraries and another on serials. Other planned programs include classification and acquisitions preconferences prior to the ALA Annual Conference in Chicago. In addition, a program on RTSD's involvement in the international scene is planned for Chicago, and preservation regional institutes are scheduled for Washington and Palo Alto, California. Further, planning continues for a series of serials cataloging regional institutes, the first probably to be held in 1986.

At the Midwinter Meeting, the board voted to change the status of the division to that of an association. This would require a change in the bylaws, which requires a membership vote at an annual membership meeting. This would also result in a change of name for the division, the proposed new name being "Association for Library Resources and Technical Services (ALRTS)." The reasons for and against the proposed change in status and name were presented in the *RTSD Newsletter*. To gain a wider perspective on this issue, the board also decided to conduct a nonbinding ballot to solicit membership opinion about the name and status change. This nonbinding vote was passed by the membership, 732 to 627. At the annual membership meeting in Dallas, after formal presentations both for and against the change and after considerable debate from the floor, the change in name and status, and thus the consequent change in the bylaws, was defeated.

Guidelines for selection and appointment of members to represent RTSD at

international meetings were adopted by the board, which also revised its procedures for adopting the annual budget plan and established an intern policy for service on RTSD divisional and sectional committees.

There was a loss of membership in the division, particularly from organizational members, presumed to be a result of the dues increase from \$15 to \$25, but a loss felt to be recoverable over a period of time. In 1983 the total membership was 6,071. In 1984, the total membership was 5,506, a loss of 565 personal and organizational memberships. In April 1983 there was a total of 4,768 personal members. In April 1984 there were 4,529 personal members, a loss of 239 personal members. There was a total of 1,303 organization members in April 1983 and a total of 977 organization members in April 1984. Total revenue, however, increased, leaving the division in sound fiscal health.

In January 1984 an ALA Divisional Leadership Enhancement Program, organized by the Association of College and Research Libraries, was held and attended by more than one hundred ALA divisional leaders. RTSD was well represented at the program with attendees including three past-presidents and the executive director.

RTSD could not thrive and flourish without the capable and dedicated assistance of divisional headquarters staff. William I. Bunnell, completing six years as executive director, was ably assisted by William Drewett, deputy executive director, and Ann Menendez, administrative assistant. The division is appreciative of their leadership, their wise counsel, and their creative industry. The flow of paperwork and the complex communication channels were enhanced by the use of a purchase during the previous year, new word processing equipment. Both the quantity and timeliness of reports and other issued documents reflected successful use of the new acquisition.

In summary, I report to the membership that you have a vigorous, healthy division with more than 5,500 paid members, a division which is financially healthy and ably managed, a division with programs at conferences and pre-conferences and regional institutes that are attended by thousands, and which issues two respected and widely read publications.

I thank the RTSD membership for allowing me to serve you as your president for the past year. I am appreciative of the assistance of past-president Norman J. Shaffer, vice president/president-elect William J. Myrick, the section and divisional chairs, and committee members. RTSD is fortunate to have them and all of you working on its behalf.

Cataloging and Classification Section (CCS)

Liz Bishoff, Chair

The activities and accomplishments of RTSD's Cataloging and Classification Section during 1983-84 were many and diverse, reflecting the varied interests and activities of the section's committees, task forces, and discussion groups. The *Guidelines for Using AACR2 Chapter 9 for Cataloging Microcomputer Software* was published by the ALA Publishing Division, a list of uniform titles for constitutions of Asian and African countries was approved and recommended for publishing. "Guidelines for Standardized Cataloging of Children's Materials" was published in *Top of the News* (Fall 1983), three subcommittees to review the proposed Dewey Decimal Classification schedule changes were established; the five-year review of the International Standard Bibliographic Description

was completed, plus many more committee and subcommittee activities designed to further the charge of the section. All of this work was done by some 113 individuals from school, public, special, and academic libraries as well as library-school educators who served on the sixteen committees, task forces, and discussion groups of the section.

As in past years CCS has taken the lead in standard setting in the area of cataloging and classification. The five-year review of the ISBDs was undertaken by a Committee on Cataloging: Description and Access (CC:DA) task force chaired by Charles Simpson, University of Illinois—Chicago, and including Karen Muller, Nancy John, Janet Swan Hill, and Arnold Wajenberg. This review constituted ALA's portion of the International Federation of Library Associations' review of the ISBDs.

In response to the increased acquisition of microcomputer software by many libraries, the CC:DA appointed a task force to draft guidelines for the descriptive cataloging of microcomputer software building on AACR2, chapter 9. In cooperation with OCLC and Library of Congress, the task force completed the guidelines in late 1983, with CC:DA and CCS approval coming at the Midwinter Meeting in Washington. The guidelines were published by ALA in time for the 1984 Annual Conference. Ben Tucker, Library of Congress, chaired the task force which included Arnold Wajenberg, Nancy Olson, and Sue Dodd.

Work on guidelines for the subject analysis of microcomputer software followed close on the heels of the guidelines for the descriptive cataloging of the materials. Joan Mitchell, Bell Laboratories, is the chair of the Subject Analysis Committee task force that is preparing the guidelines for the subject analysis of microcomputer software, which will address both classification and subject headings. It is anticipated that the committee will complete its work by the 1987 ALA Midwinter Meeting.

Three subcommittees of the Subject Analysis Committee are reviewing the proposed revisions of the DDC schedule—370-Education, 780-Music, and 004-006-Data Processing. Comments and suggestions on the revision are being forwarded to the Decimal Classification Editorial Policy Committee and Forest Press. The Data Processing Review Committee, chaired by Joan Mitchell, completed its work at the 1984 Annual Conference, while the review of the education and music schedules is due following the 1985 Midwinter Meeting. Comments on the proposed 780 Music Schedule should be forwarded to Fran Hinton, Free Library of Philadelphia, chair of the 780 task force, and comments on the 370 Education Schedule should be sent to Janie Morris, Duke University. This organized review of proposed DDC changes by the Subject Analysis Committee is the first of its kind and has been warmly received by the DDC editor and the publisher, Forest Press.

In the area of the Library of Congress subject headings, Linda Bills, Illinois Valley Library System, is chairing a subcommittee charged with surveying the library community for directions on the future format of the LCSH. It is anticipated that the results of this survey will be completed by the 1985 Midwinter Meeting.

The 1984 recipient of the Margaret Mann Citation was Dorothy Anderson, recently retired director of the Universal Bibliographic Control Office, London, England. Anderson made significant contributions in the area of international cooperation, development of the ISBDs, and furthering of the international exchange of bibliographic data. CCS was proud to award the 1984 citation to her.

The 1984 conference program sponsored by CCS dealt with subject access in the online catalog. Building on the 1982 program, which addressed the theoretical and philosophical considerations of subject access in an online environment,

the 1984 program took a look at current practice and future development. Lillian Kozuma, National Library of Medicine; Sandra Ready, Mankato State University; and Susan Logan, Ohio State University, presented case studies on subject retrieval in the online catalogs at their libraries. The case studies were followed by papers on augmenting the bibliographic record, the first presented by Carol Mandel, University of California—San Diego; the next on system features for subject access by Gary Lawrence, University of California; and the concluding presentation, by Karen Markey, OCLC, updating the audience on studies of user reactions to retrieval in the online environment. Additionally, Markey briefed the audience on the Council on Library Resources, Forest Press, and OCLC project on classification and its role in subject retrieval.

CCS has continued to be active in the international cataloging arena, supporting the participation of several American librarians in international activities. Robert Holley, University of Utah, is a member of the IFLA Committee on Cataloging—Subject Access. Holley reports to both the CCS Executive Committee and the Subject Analysis Committee. Helen Schmierer is the ALA representative to the Joint Steering Committee for the Revision of AACR, reporting to the Executive Committee and CC:DA. The various committees also hear reports from other participants in the international area, including Lenora Corale, who has worked with the ISBD review; Fran Hinton, past ALA representative to the JSC-AACR, and Lucia Rather, a member of the IFLA standing committee on cataloging.

Additionally, the section has worked on organizational matters. The Executive Committee reviewed the section manual, updating and clarifying many sections. The Policy and Research Committee, chaired by Doralyn Hickey, has drafted a proposal for monitoring the activities of the section's committees and discussion groups to assure the division that the section is meeting its charge.

I would like to take this opportunity to thank all those individuals who worked on the various committees and activities of the section. This year I have attempted to expand the participation of the committees to include many different types of libraries as well as many areas of the country. The committee members have served many long hours, an effort which has resulted in quality programs and publications. I hope that the section members will continue to support the activities and further the goals of the library profession.

Preservation of Library Materials Section

Sally A. Buchanan, Chair

The 1983/84 year was one of planning for the Preservation Section. The chair set the Executive Committee the task of examining directions in which the section might wish to proceed in the next three to five years and of defining some broad goals based on the results of discussion in committees. In order to facilitate the planning, a one-day working session was held for the Executive Committee and guests at the Library of Congress before the 1984 Midwinter Meeting. The morning sessions covered a brief history of the section, its original intent and goals, and an evaluation of the past four years. In the afternoon session guests from the Association of Research Libraries, Research Libraries Group, Council on Library Resources, National Institute for Conservation, and the American Institute for Conservation reported on activities and planning for the future. The executive Committee spent the remainder of the day

discussing a variety of focuses PLMS might consider contributing both to ALA and to the national preservation scene. Committee chairs left with a charge to initiate discussion with committee and section members, results of those inquiries to be channeled through the PLMS Policy and Research Committee. The time frame requires that they present a document to guide Preservation Section activities and programs for section approval at the 1985 Midwinter Meeting. Consequently, committees continued ongoing work and, at the same time, undertook discussion and debate about future directions.

Liaison with other ALA sections and committees was continued and expanded, with representatives coming to PLMS Executive Committee meetings from RLMS, CCSD, ULS, JAMT, the Art Section of ACAL, Resources Section, PLA, and the Preservation Microfilming Committee.

The second of three national ALA/LC preservation conferences was held in St. Louis in April. Geared to middle managers mandated with the responsibility for preservation, the conference emphasized the variety of approaches and challenges preservation programs could address. It presented practical examples and ideas for planning and innovation in local libraries. Topics such as surveys, fiscal management, care and handling, education, binding, disaster planning, repairs, supplies, A/V collections, and photographs were covered. Speakers were asked to address remarks to collections in various kinds and sizes of libraries. The keynote speech by Pamela Darling set the tone, while the wrap-up speech by Gay Walker encouraged all librarians to become involved in preservation. Because of interest, the conference will be repeated on the East Coast in spring 1985. PLMS also sponsored a program with RLMS and the RTSD Audiovisual Committee at the 1984 Annual Conference in Dallas. In response to suggestions from other divisions, the topic "Preservation of AV and Microform Materials in Working Collections" was chosen. One hundred fifty people heard three speakers address the practical aspects of care, handling, and preservation of these materials. PLMS also cosponsored a program on the preservation of maps with MAGEAT.

The Education Committee, chaired by John DePew, housed the planning committee for the national conferences, worked on guidelines for yearly updating of the preservation bibliography, and assigned a task force to package a commercial library binding preconference program that another PLMS task force had organized. The program is intended for regional or state meetings in response to a need defined by the RTSD questionnaire. The committee is also looking into the possibility of publishing a set of preservation posters.

Chaired by John Dean, Library/Binders Relations Committee assigned a task force to package the highly successful preconference on library binding held by PLMS in 1983. The committee also developed a final draft of guidelines for commercial binding to assist librarians who may be assigned this preservation duty for the first time. The guidelines will be available through ALA. The library binding community has continued to give valuable advice and assistance to this committee as it works on programs and information for the library community.

Chaired by David Farrell, the Physical Quality of Library Materials Committee worked on two big projects: guidelines for the physical quality of theses and dissertations; and a list of conservation supplies and suppliers. The supply list should be available through the RTSD office in the fall of 1984. The final draft of the dissertation guidelines will be presented at Midwinter 1985.

Carolyn Morrow and the Policy and Research Committee wrestled with the assignment of pulling together all the feedback for the PLMS future planning document. They also made available a time study of various preservation procedures that can be obtained through RTSD. Finally, they recommended a pres-

ervation column for the expanded *RTSD Newsletter*. It is being written by Ann Swartzell.

Ann Swartzell made certain that all new and exciting news in library preservation was channeled through and presented at the Discussion Group. Since the group is well-attended by many people who cannot go to other PLMS meetings, it has been important to present state-of-the-art news, reports on experimentation and projects, new ideas, grant funding, and occasionally debate. Among other things, the 1984 group saw a panel present four different approaches and processes for mass deacidification, an important concept for mass treatment of books printed on acidic paper.

The Preservation of Library Materials Section continues to mature as the new field itself grows. Committees are active in a variety of tasks which themselves are a response to needs and requests made by those working in library preservation/conservation. New participants are actively sought for committees, and interns are assigned to work with members. As new formats become an increasing part of library collections, preservation will require experts in a number of areas not yet addressed. Carolyn Harris, the 1984/85 chair, welcomes any inquiries about participation and committee assignment as PLMS concentrates its efforts on an expanded focus defined by members themselves.

Reproduction of Library Materials Section

Margaret M. Byrnes, Chair

The interests of the Reproduction of Library Materials Section extend well beyond library microfilming to include issues of bibliographic control, photocopying, preservation, copyright, and new technologies for image reproduction. Activities in 1983/84 were characterized by an effort to provide more formal recognition of the section's broad scope by establishing several new committees, renewing liaison with other sections and divisions, and identifying the need to revise and expand section function statements.

At the Executive Committee level, accomplishments included appointments to the new Bibliographic Control of Microforms and Copying committees, revitalization of the ad hoc Committee on Regional programs, cosponsorship of the RTSD Preservation Microfilming Committee's Dallas program, participation in the PLMS program on preservation of audiovisual materials and microforms, and assistance with the design of the ARL Microform Project's preservation questionnaire. Liaisons for the section were reactivated with CC:DA (Colleen Bednar) and the RASD Interlibrary Loan Committee (Kate Mawdsley), and a new copyright representative (Lawrence Robinson) was appointed. With *Library Technology Reports*, the section organized the RTSD booth at the Dallas conference. It featured new RLMS buttons and bookmarks and the LTR-sponsored prototype of a face-up copier. The copier, long needed for fragile and valuable materials, generated considerable excitement among exhibit-goers. Thanks are due to Howard White, John Webb, Francis Spreitzer, and Helga Borck for the success of the booth. Planning by Suzanne Dodson (vice-chair) is well under way for a program at the 1985 conference on the longevity of silver and nonsilver microfilms under conditions of use.

After only two meetings, the energetic new Bibliographic Control of Microforms Committee (Martin Joachim, chair) has approved a proposed plan of

action and reviewed the ARL Microform Project survey to identify uncataloged microform sets that should be given priority in planning for future cooperative cataloging projects. Representatives of libraries interested in such projects have been invited to attend the committee's meetings. In an effort to promote better communication with the commercial sector, the committee scheduled a special Dallas meeting with micropublishers to discuss libraries' bibliographic control needs; a micropublisher will soon be appointed as committee consultant. The committee has also moved quickly to identify important microform cataloging concerns and has passed three resolutions, approved by the RTSD Board of Directors, concerning the desirability of continuing the ARL Microform Project Clearinghouse and the need for profile-matching and access to Library of Congress minimal level microform records through all major bibliographic utilities.

The new Copying Committee (Francis Spreitzer, chair) provides a forum for discussion of new developments in photocopiers and issues related to administering library copying services. Committee members are working on guidelines for packaging microforms sent on interlibrary loan and an article on how to calculate a library's true photocopying costs.

The revived ad hoc Committee on Regional Programs (Jeffrey Heyen, chair) reviewed a preliminary discussion paper at its Dallas meeting and assigned members to draft proposed objectives, target audience, structure, budget, and content for a series of workshops on preservation microfilming. If the committee decides that the workshops are feasible, a request for support to conduct three pilot sessions will be submitted to a funding agency. The committee plans to make use of the ARL-sponsored preservation microfilming manual which is being written by Andrew Raymond of the Northeast Document Conservation Center and to work closely with other organizations to avoid duplicated effort.

The Publication Committee (John Webb, chair) is working to produce a new brochure for the section and a revision of the annotated bibliography "First Sources." The latter will be expanded to include photocopying and new technologies for image reproduction. Through its new section liaison, the committee is seeking input from the RASD Interlibrary Loan Committee on desired additions or changes for the next edition of the *Directory of Library Reprographic Services*, which will be compiled by Publication Committee consultant, Joseph Nitecki.

The Technology Committee (R. Max Willocks, chair) sponsored a well-attended program at the Dallas conference that featured presentations on public access microcomputers in libraries and the Library of Congress optical disk project. The number of questions following each presentation indicated that the topics were of high interest and the program well received.

The Standards Committee (Imre Jármy, chair) provided input to Subcommittee C10 of the Association for Information and Image Management, which is developing a questionnaire on performance characteristics of silver and non-silver films under conditions of use. An annotated list of micrographics standards of interest to librarians is being compiled and will be reviewed by the committee at the Midwinter Meeting. The committee's semiannual report on recent developments in micrographics standards work within the International Standards Organization and the Association for Information and Image Management will now be shared with interested PLMS committees.

The Policy and Research Committee (Lawrence Robinson, chair) began its long-range planning effort in Dallas by identifying the need to revise and expand the section's function statement, clarify with the Policy and Research Committee of the Preservation of Library Materials Section the respective role of each section in areas of overlapping interest, and work more closely with PLMS to include preservation microfilming and photocopying in conference programs and other educational activities.

The ad hoc Committee on Guidelines for Operating a Library Microforms Facility (Margaret Byrnes, chair) has completed its work and was disbanded at the Midwinter Meeting. It is hoped that the guidelines will be published by the end of 1984.

The RLMS Discussion Group (Helga Borck, chair) continued to provide a forum for informal discussion of issues related to microform production and public service. Presentations included descriptions of preservation microfilming at the New York Public Library and the Library of Congress, the Research Libraries Group Cooperative Preservation Microfilming Project, the ARL Microform Project, and activities of LC's Microform Reading Room and Photoduplication Services. Among the issues discussed were pressures to balance local preservation microfilming demands against commitments to cooperative programs, the need for further testing of nonsilver films and access to LC minimal level records for microforms, and problems of administering high demand microform reading facilities.

I would like to thank the chairs and members of all RLMS committees for helping to make 1983/84 such a productive year for the section. I am confident that the present momentum will continue and new initiatives will flourish under the able leadership of Suzanne Dodson (incoming chair) and Imre Jármy (vice-chair/chair-elect).

Resources Section

Noreen S. Alldredge, Chair

The committees and discussion groups of the Resources Section have served the membership by working in all areas related to collection development and management, including the selection, acquisition and evaluation of library materials in all types of institutions during 1983/84.

The newest committee, Canadian Resources Study Committee (Nancy B. Crane, chair) held its first meeting and began to provide a forum for discussion and information among those librarians engaged in the development of Canadian resources. The newest discussion group, Collection Management/Selection for Public Libraries (Judith Fouts, chair) held meetings to provide a discussion forum for librarians whose interests include selection and collection development and management in public libraries of all sizes.

The Acquisitions Committee (Gail Kennedy, chair) compiled a list of programs of interest to acquisitions librarians and circulated it before the conference. It is also planning a program for the 1985 Annual Conference entitled "Acquisitions—What it is, How it Works."

The Bookdealer-Library Relations Committee (William Schenck, chair) pursued consumer advocacy issues on serial publications of the American Psychological Association and the price differentials of some British serials in the U.S. market.

The Blackwell/North America Scholarship Award Jury (Mona East, chair) reviewed the 1983 library literature and selected the publication which was considered best in the area of resources. The award went to Nancy E. Gwinn and Paul H. Mosher for their article, "Coordinating Collection Development: The RLG Conspectus," which appeared in *College & Research Libraries* (44:128-40, March 1983).

The Collection Management and Development Committee (Connie Kearns

McCarthy, chair) continued work on *Guidelines for the Evaluation of Vendor Performance* (publication expected in 1985) and on volume one of *Selection of Library Materials: Resources and Strategies* (publication expected in 1985). Another subcommittee began work on revision of the *Guidelines for Collection Development*. Regional institutes on collection management and development were held in Cincinnati, November 6-9, 1983, and Irvine, September 4-7, 1984. Future institutes are anticipated in San Antonio (spring 1985) and Seattle (fall 1985).

The Conference Program Committee (Carolyn Fields, chair) presented a program entitled "Educating Rita, part II: Training for Collection Development." Noreen Alldredge discussed what directors look for in staff for collection development. John Kaiser reviewed how to begin a selection-liaison librarian project. A learner's perspective on a bibliographer training program was given by Tara Fulton. Public library training for collection development staff was presented by Lois Huish.

Other Resources Section discussion groups and their chairs were: Acquisition of Library Materials (Helen Reed); Booksellers (Jay Askuvich); Chief Collection Development Officers of Large Research Libraries (John Kaiser); Chief Collection Development Officers of Medium-Sized Research Libraries (Bonita Bryant); and Gifts and Exchange (Priscilla Yu).

The Library Materials Price Index Committee (Dennis E. Smith, chair) worked on converting some of its indexes to machine-readable form. A college book price index was prepared.

The Policy and Research Committee (Beth Shapiro, chair) began a review of RS committees and discussion groups to be accomplished over a three-year period. Committees reviewed this year were the BNA Scholarship Award Jury, Library Materials Price Index, and Micropublishing. Some revisions in functions were made.

Martin Faigel was selected as the LRTS assistant editor, representing the Resources Section. The Executive Committee members were dedicated, interested, and lively in directing the section. The officers were: Sally F. Williams, vice-chair and chair-elect; Jay Whaley, secretary; Marion T. Reid, past-chair; and Wanda V. Dole, Tom Leonhardt, Gail M. Nichols, Anna Perrault, and Charles Willett, members-at-large. The RTSD staff provided the highest level of support and encouragement. All of these people are directly responsible for the success of Resources Section activities.

Serials Section

Rex Cross, Chair

The Serials Section serves its membership and librarianship in general by providing a forum for the exchange of ideas on serials management, by gathering and publishing information about serials and serials matters, and through conference programs on serials topics. The committees and discussion group of the section are often concerned with such diverse topics as collection management, bibliographic and item control, acquisitions, automation, and education—all as they relate, or can be related to serials.

In 1983/84, the section's Committee on Union Lists of Serials continued work on updating and enlarging its *Directory of Union Lists of Serials*. The committee, with Kathleen Schweitzberger as chair, also devoted meeting time to a discussion of minimal union list records information.

The ad hoc Committee to Study the Feasibility of Creating Dynamic Lists of Core Serials continued further refinement of its methodology. The committee, chaired by Suzanne Striedieck, had its charge extended through the 1985 Annual Conference. A result of the committee's work is some testing of possible predictors of the use of a journal.

The Policy and Research Committee, with Elizabeth Hofsas as chair, made several recommendations to the Executive Committee regarding changes in status or function for specific SS committees. A further aspect of last year's dual pricing question was discussed after a complaint concerning the different subscription price charged in the U.S. and Canada for some English periodicals as opposed to the subscription price in other countries.

Under chair Sandra Card, the Committee to Study Serial Records continued to work on its checklist for automating serials processing functions. Its next project is to design a methodology for cost studies of periodicals check-in.

The Committee to Study Serials Cataloging, with Alex Bloss as chair, continued to discuss questions submitted concerning serials cataloging. In addition, the selection of the SS Liaison to the Committee on Cataloging: Description and Access was discussed but not changed, and a new charge for the committee was worked out. The draft of the second edition of ISBD(S) elicited spirited discussion, particularly in the area of cataloging of microforms and other surrogates of an original publication.

The Regional Serials Workshops Committee, chaired by Linda Bills, continued work on new editions of the *Directory of Speakers for Serials Workshops* and *A Manual for Serials Workshops*.

The Serials Section Education Committee, chaired by Marilyn Norstedt, continued with its project to prepare and publish (in *Serials Review*) an annual bibliography of materials relating to serials work.

The Serials Section Research Libraries Discussion Group, cochaired by Frank Orser and Ludmilla Sak, had meetings which were well attended and received at both conferences. Among the topics discussed were CONSER, successive versus latest-entry serials cataloging, Serials Industry Systems Advisory Committee, and managing serials budgets.

The SS program at the Annual Conference was "Serials Holdings; Their Use and Abuse." Sue Matson, Sandra Card, John James, and Virginia Boucher covered different aspects of serials holdings and their use before an enthusiastic audience.

Also at the Annual Conference, in spite of the lack of a working microphone, Miriam Palm presented the Worst Serial Title Change of the Year Awards. The awards, from the committee which she chaired, point up the serials librarian's frustrations with title changes in a humorous way and have become a welcome part of the RTSD membership meeting. At the same meeting, the first public announcement was made of a new award. The Serials Section Bowker/Ulrich's Serials Librarianship Award recognizes individuals making outstanding contributions to serials librarianship. The ad hoc Committee to Establish a Serials Section Award, chaired by Jean Wright, worked extremely fast to develop acceptable criteria for the award and a charge for the award committee. The Serials Section gratefully accepted the donation of funding for the award from the R.R. Bowker Co. at the 1984 Midwinter Meeting.

The 1983/84 year was a busy one for the Serials Section with some finished activities, progress in several projects, and preparation for many new challenges. Jean Cook and Ruth Carter, in the offices of chair and vice-chair, will carry the section through the next year with enthusiastic and capable leadership.

Letters to the Editor



From: *James D. Anderson, Professor and Associate Dean, School of Communication, Information and Library Studies, Rutgers.*—I was pleased to see Robert D. Rodríguez' article on "Kaiser's Systematic Indexing" in the April/June 1984 issue of *LRTS*. It was a useful reminder of some valuable advice, largely ignored, which we may want to consider more carefully as we rethink the structure of Library of Congress Subject Headings and other indexing systems.

I am concerned, however, that Mr. Rodríguez repeats and emphasizes some faulty reasoning by Mr. Kaiser regarding the differences and relative advantages of classified versus alphabetical indexes. Rodríguez claims that "Kaiser was clearly determined to disengage subject indication from classification, so inextricably linked by, for example, Melvil Dewey's Decimal Classification, where subject access provided by the relative index scattered headings through as many as twenty or thirty different places in the table, an inevitable result, according to Kaiser, because a subject can be considered under many different aspects, whereas a book could only be classed in one location in a scheme or on a shelf." This is not correct.

First of all, there is nothing, except convention, to prevent as many classified headings or classes being assigned to a document as alphabetical subject headings. In classified catalogs, multiple headings were frequently assigned. The scattering of "headings" or subjects is characteristic of all precoordinated indexing systems, whether classified or alphabetical, and Kaiser's own scheme is a prime example. As clearly shown by Rodríguez, Kaiser's "citation order" of facets scatters headings for particular processes under the "concretes" or objects of those processes. Rodríguez cites the example of "combustion" which would be scattered under all kinds of materials subject to combustion.

Classified indexes are subject to the same kind of scattering. Most library classification schemes choose a citation order of facets beginning with discipline, so that all other subject classes are scattered under the disciplines by which they are studied. In principle, this is no different than the scattering in Kaiser's scheme. In both instances, subjects are gathered under the primary facet and scattered under secondary facets.

Editor's note: Letters sent to the editor for publication in this column cannot be acknowledged, answered individually, or returned to the authors. Whenever space is available in an issue, selected letters will be published, with little or no editing, though abridgment may be required. Letters intended for publication should be typed double-spaced.

The point is that scattering is not caused by the arrangement of index files, e.g., in classified order or alphabetical order. Rather, it is caused by the pre-coordination of headings. All secondary facets, such as processes and places in Kaiser's scheme, are scattered, just as similar facets are scattered in the Dewey Decimal Classification. In each case, subjects within the primary facet are gathered together.

The only index system which eliminates this kind of scatter is one which consists of completely un-precoordinated "uniterms" or elemental descriptors representing single concepts. These types of systems have proven themselves useful in online electronic indexes but are quite impractical in printed indexes because of the difficulty of post-coordination in manual searches in printed media.

In short, the only inherent difference between a catalog or index arranged according to a classification scheme versus an index arranged alphabetically is the display of the resulting file. In a classified file, headings are arranged in accordance with relationships among categories or classes as specified by the classification—such relationships as those between disciplines and objects of study, disciplines and methods, genera and species, wholes and parts, objects and processes and agents. In an alphabetical file, headings are, obviously, filed alphabetically according to the spelling of the headings. The number of headings assigned per document is not inherent in either type of system. To the extent that either type of system consists of pre-coordinated headings of more than one facet, the scattering of subjects in secondary facets is inevitable. It is true that classification is almost always pre-coordinated, but so are most alphabetical indexing systems, Kaiser's being an especially clear example of such pre-coordination.

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The following types of entries are included:

- a. authors—of articles and letters
- b. titles—of articles and of articles about which letters were published
- c. subjects of articles

Subject entries for individuals are identified by “(about)”; letters are identified by “(c)”.

Entries are arranged word by word following the “file-as-spelled” principle. Numbers are arranged before alphabetical characters; acronyms without internal punctuation are arranged as words.

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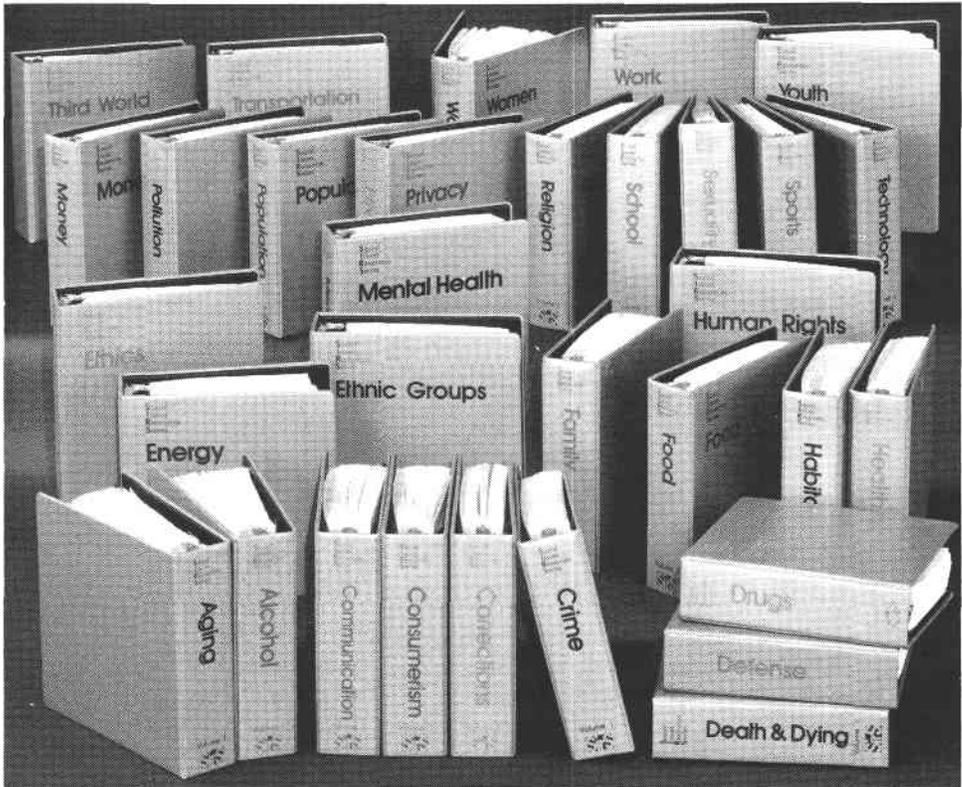
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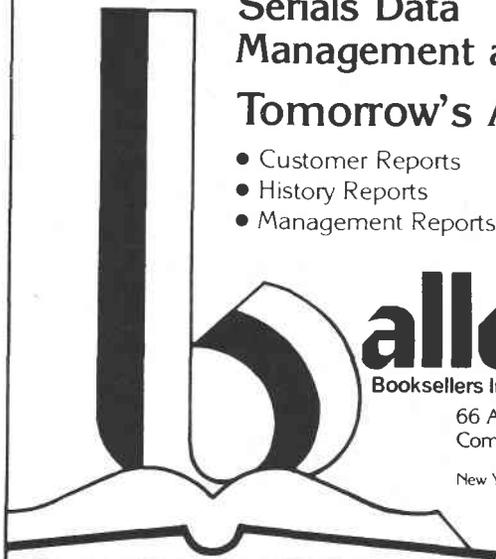
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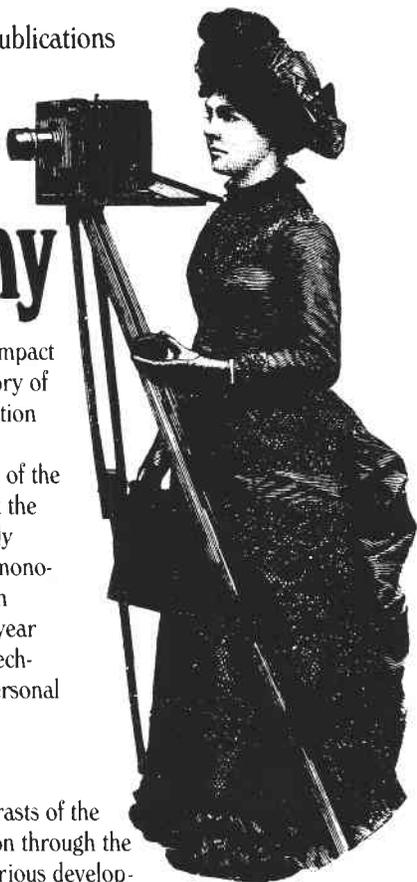
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