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Preservation of Library Materials: 1981

Margaret M. Byrnes

IN HER ADDRESS at the Resources and Technical Services Division's Silver Anniversary program in San Francisco last June, Pamela Darling depicted two possibilities for the future of library collections. In the first scenario, all books of lasting value are published on permanent durable paper, training opportunities and the supply of preservation and conservation specialists are sufficient to meet the need, binders and manufacturers are responsive to a growing market for products that extend the life of library materials, research and conservation facilities in major libraries and regional centers are up and operating, and technology is sufficiently advanced that the information contained in hundreds of thousands of deteriorated books can be economically duplicated and efficiently retrieved. The alternative world, thought likely to exist if preservation fails to become a national priority in the 1980s, is one much diminished by the loss of most of the publications of the past one hundred years.[1]

The preservation literature of 1981 is impressive in its quantity, variety, and quality. It reflects the groundswell effect of years of effort by a small group of dedicated souls. More importantly, it attests to substantial recent accomplishments on a number of fronts. If the rate of progress evident in 1981 is sustained for the rest of the decade, it seems quite likely that Darling's first scenario will become reality for libraries of the twenty-first century.

General Articles and Literature Guides

A major contribution to increased awareness of preservation problems and developments is made by Darling and Ogden in their historical overview of the subject. Organizational and research efforts and the ac-

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Editor's note: In this year's annual reviews, different methods of organizing and documenting the content have been tried experimentally. In the paper by Byrnes the content is presented in an alphabetical arrangement by topic rather than in the customary pattern of sections and subsections. The citation practice adopted for the next four reviews is a modified version of that used in many scientific and technical journals. Reader reaction to these variations is welcomed.

tivities of individual libraries are surveyed for the period, 1956–80.[2] Gwinn augments their effort with a detailed description of the crucial role played in conservation research by the Council on Library Resources over the years.[3] Priorities in library conservation as expressed at the May 1980 colloquium on the subject at the University of Maryland and on earlier occasions are summarized by McCrady.[4] Darling touches upon the problem of devising workable "strategies of scale" and points out several roadblocks to progress in her incisive article in *Library Trends*.[5] Dean places the lack of attention paid to binding and conservation in American libraries in historical context; he argues that the role of preservation as an essential library service and integral part of collection development must be recognized and that substantial progress in the battle against book deterioration will be made only through a combination of local programs and cooperative efforts.[6]

A useful general guide to the literature was produced by the Society of American Archivists as part of its Basic Archival Conservation Program.[7] King's annotated bibliography covers both general and technical works, disaster planning, and relevant bibliographic databases.[8] Among the topics covered by Banks in his extensive bibliography are conservation facilities, library/binder relations, restoration of rare bindings, care of books and manuscripts, and treatment of water-damaged materials.[9]

Efforts to arouse the general public to the critical need for preservation activities are reflected by articles in publications as diverse as *Historic Preservation*,[10] *Science 81*,[11] *Chemtech*,[12] and the *New York Times*.[13]

ASSOCIATION ACTIVITIES

The Association of Research Libraries/Office of Management Studies preservation project, an effort funded by the National Endowment for the Humanities and directed by Darling, reached the end of its third phase by late 1981. A self-study procedural manual and resource packets of literature on such topics as environmental control, shelving and handling practices, commercial binding, repair and replacement procedures, and disaster preparedness were compiled. Pilot tests at the libraries of Dartmouth College, the University of Virginia, and the University of Washington were completed.[14] Their reports on the project describe local conditions, identify major needs, outline comprehensive local preservation programs, and present recommendations for phased implementation of the plans described.[15-17] After undergoing revision as a result of experience gained during the pilot phase, the preservation planning program is now available as an assisted self-study package.

Among the projects under discussion by the Research Libraries Group Preservation Committee are conversion to RLIN (Research Libraries Information Network) records of existing bibliographic data for members' master negative microfilms and a cooperative filming project for deteriorated U.S. imprints from the period 1876–1900.

The Preservation of Library Materials Section of ALA's Resources and Technical Services Division celebrated its second full year of existence with energy and purposefulness. Its committees are studying the

treatment of water-damaged coated papers, designs for nondestructive photocopy machines, the permanence of photocopied images, and use of acrylics as a substitute for pyroxylin coatings on cloth bindings. Publication plans include a series of pamphlets on the technical aspects of library binding, a glossary of binding and conservation terminology, a list of published standards for conservation materials, and a directory of resource people in the preservation field. At the 1981 meeting in San Francisco, the section cosponsored a program entitled "Toward a North American Program of Preservation Microfilming."[18-19]

Collection Surveys

Reports from the University of California, Stanford, and Yale document the serious condition of major library collections. A test of book paper strength in two thousand monographs from the University of California libraries showed 28 percent to be weak or unusable.[20] Stanford's study corroborates these findings; 26 percent of its titles in the humanities and social sciences were found to be embrittled.[21] Preliminary results from Yale's survey of more than eighteen thousand volumes in the Sterling Library reveal that over 86 percent of the book paper had pH values lower than 5.4 and 45 percent was so brittle that it broke off at the corners after two double folds.[22]

As part of its effort to identify the needs of libraries, archives, and historic buildings, the National Conservation Advisory Council began to collect information on past surveys and collection condition reports.[23] As part of the Colorado Conservation Study, the Northeast Document Conservation Center was commissioned to conduct surveys of fifteen libraries and archives in that state and Lowell developed a self-study guide to assessing conservation needs.[24]

Commercial Binding

If library binding as a preservation measure continues to receive little attention in many institutions, it is not for lack of recent literature on the subject. Rebsamen presents a concise review of historical and modern binding methods and clear explanations of each type of commercial binding used for library materials.[25] Factors to consider when selecting binding methods are outlined by Ames.[26] Roberts discusses changing techniques and average costs.[27] Binders boards, adhesives, and cover materials are reviewed by Rebsamen,[28] Leitner,[29] and Slepski.[30] Techniques for evaluating library bindings are offered by Rebsamen[31] and Vargas.[32] Peacock[33] reviews criteria for selecting periodicals for binding while Mevorach[34] discusses special instructions and provides a list of questions to consider when deciding whether a book should be rebound. Praise for a system of temporary binding for little-used journals is heard from Gore[35] and criticism of publishers library bindings from Hippenhammer.[36]

After many draft revisions, the fourth edition of the *Library Binding Institute Standard for Library Binding* appeared in late 1981. Oversewing and side-sewing are the only methods specified in the standard; sewing through the fold and double fan adhesive binding, methods that pre-

serve inner margins and allow books to be opened flat for photocopying, are described in the appendix.[37]

CONFERENCES AND WORKSHOPS

Results of a recent survey of workshop preferences indicated high interest in the following topics: establishing preservation programs, recent advances in conservation techniques, preservation materials and methods, disaster prevention and recovery, in-house mending, preventive measures, and conservation of rare books and photographs.[38] During the year a number of meetings addressed these needs.

At the First Annual Preservation of Library Materials Conference, sponsored by Microform Review, Inc., speakers discussed preservation program goals, binding of semi-rare older materials, photograph collection storage and care, preservation-minded construction and renovation of library buildings, video and optical disc technology, and regional conservation programs.[39] At the annual meeting of the American Institute for Conservation of Historic and Artistic Works in Philadelphia, May 27–31, 1981, several papers were given on research in paper deacidification, dry cleaning, washing and bleaching. The special problems frequently presented by nitrate negatives, scrapbooks, architectural drawings, wall maps, and globes were also addressed.[40] The twenty-seventh annual Allerton Park Institute of the University of Illinois featured a number of excellent presentations on cooperative preservation efforts, research in the paper industry, decision making in the conservation laboratory and local library, commercial services, and the library's responsibility to preserve its collections.[41] Disaster preparedness was the topic of the Albany Phoenix conference sponsored by the New York State Library. At Harvard's International Preservation Microfilming Conference, "yellow snow" was the vogue term used to describe the deteriorated state of many library collections. The lack of clear program priorities, interinstitutional cooperation, and strong financial commitment on the local level were pinpointed as major roadblocks to progress in dealing with preservation problems.[42] As part of its Basic Archival Conservation Program, the Society of American Archivists continued its series of regional workshops. Two-day sessions consisting of lectures, demonstrations, and hands-on experience with basic techniques were held in Columbia, South Carolina, Pittsburgh, Berkeley, St. Louis, and Washington, D.C. Other local and continuing education programs are too numerous to mention, heartening evidence of intensified interest in preservation problems and techniques and valiant efforts on the part of many to meet that need.

CONSERVATION TECHNIQUES

Despite a great need among conservators to pool their hard-earned expertise, many descriptions of specialized techniques or new procedures have existed only in locally produced unpublished manuals. A review of the literature of 1981, however, indicates a substantial improvement in the situation. Sample policy statements and procedural guidelines for preservation decision making and shelving, handling, treating,

and reproducing library materials have been assembled from a number of institutions in the Association of Research Libraries SPEC Kit no.70.[43] Greenfield added to the Yale University Library Preservation Series pamphlets on paper treatment, pamphlet binding, and establishing a small bindery.[44] Waters discusses pros and cons of a number of techniques.[45] Years of experience in fine hand-binding are distilled in Young's new manual.[46] Kohler contributed articles on the preparation of wheat and rice starch paste.[47] Tips on conservation record keeping appeared in *History News,*[48] and a new publication on matting and hinging works of art on paper was issued by the Library of Congress.[49] On the international level, McLeary describes the work of the National Center for the Restoration of Books and Documents in Madrid.[50]

Conservation research was represented in the literature by McCrady's summary of work on leather preservation,[51] Sclawy's instructions for preparing slurry for leather-acidity tests,[52] and a report by Tang and Troyer on the use of flameless atomic absorption spectroscopy for analyzing the metal content of leather and paper.[53]

Lest anyone think that conservation specialists write only for each other, Baynes-Cope addresses himself to owners of small private collections in his book on caring for books and documents.[54] Ashman's manual on bookbinding is directed to beginners.[55] Carey's description of the conservation of court records from the Massachusetts Bay Colony would interest even the most uninitiated reader.[56] Lastly, a report by the National Conservation Advisory Council on treatment facilities in the United States was published "for those individuals who are unfamiliar with the conservation field and who may have trouble identifying the kinds of services that are available."[57]

DEACIDIFICATION

Research on methods for mass deacidification of library materials has produced promising results of late. The Library of Congress resolved safety problems associated with the transport of diethyl zinc and is planning a test run of five thousand volumes at the Goddard Space Flight Center in April 1982. Larger tests are scheduled for 1983–84. A thorough technical and safety analysis of the process is in preparation. The library hopes to make diethyl zinc deacidification a routine step in the processing of new acquisitions beginning in 1985.[58]

At the Public Archives in Ottawa, the Wei T'o deacidification system designed by Richard Smith is now in operation. One hundred fifty books per day are being treated.[59] According to Jan Pidek, chief of records conservation at the Public Archives, the pilot project has been a success. Plans are under way to increase capacity by acquiring a larger dryer and funds are being sought to develop compatible processes that will strengthen weak paper, reduce the rate of oxidation, and provide protection from insect attack.

The use of cyclohexylamine carbonate in vapor phase deacidification (VPD), a third process, is defended by Kavin. Despite several disadvantages, Kavin considers VPD a practical alternative for some materials.[60] Tests using magnesium bicarbonate and diethyl zinc are reported by

Wilson et al.[61] and Kelly and Williams.[62] Tang discusses the effects of adding alkaline earth compounds to distilled or de-ionized water and the use of a chemical feeder to wash and deacidify documents in one operation.[63]

DISASTERS

Although disasters continued to beset libraries in 1981 (among those affected were Berkeley, Stanford, New York University, and Michigan), progress continued in the effort to avoid or minimize damage through preventive planning and training in recovery techniques. The Bibliographic Center for Research in Denver received funding from the National Endowment for the Humanities to conduct workshops and coordinate recovery efforts in its member states. Museum, archive, and library associations in Utah cooperated in sponsoring a disaster program. Continued efforts by the Society of American Archivists and the Northeast Document Conservation Center, among others, also helped increase institutional awareness of the need to be prepared.

Sample disaster plans and policy statements from a number of libraries are included in the Association of Research Libraries SPEC Kit no.69, *Preparing for Emergencies and Disasters.*[64] Several other local planning documents have been completed in recent months as a result of widespread recognition of the need to be ready to respond quickly and in an organized manner when disaster strikes. Statewide planning is also becoming more evident: the Michigan Archival Association issued its *Program for Disaster Response in Michigan*[65] and Wyoming's disaster recovery plan appeared in the June 1981 *Colorado Libraries,* a special issue devoted to disaster preparedness.[66]

The proceedings of Stanford's 1980 conference, "Disasters: Prevention and Coping," contain advice by the experts on prevention, planning, and recovery. Included are several detailed reports on Stanford's experience with vacuum drying on a mass scale.[67] Sally Buchanan, Stanford's conservation officer, uses that experience and that of a number of other disaster-stricken institutions as a basis for the sound advice on disaster preparedness and salvage techniques offered in her article in the Fall 1981 *Library Trends.*[68] Fortson-Jones presents the advantages and disadvantages for libraries of various fire-extinguishing systems,[69] and Harp recommends use of intumescent paint on interior walls as a means of impeding the spread of flames and reducing damage to library and museum holdings.[70]

A grant from the Andrew Mellon Foundation has enabled Richard Smith to study the effectiveness of using a modified commercial freezer for insect extermination and drying of water-damaged books at the Newberry Library. Smith's report on the project is expected soon.[71]

EDUCATION

Formal training for library conservators and preservation specialists has long been recognized as a critical need. A major event of the year, therefore, was the announcement that beginning September 1981 degree programs for conservators and preservation administrators would

be offered by Columbia University's School of Library Service. Paul Banks, director of the programs and a tireless proponent of education in library preservation, provides background on the development of the Columbia program in the Fall 1981 issue of *Library Trends*.[72]

Elsewhere, other efforts to augment the small army of preservation/conservation specialists continued. The Library of Congress, Johns Hopkins, Yale, and the Humanities Research Center at the University of Texas were among the institutions willing to share their expertise by means of internships and trainee programs.

The American Library Association's Preservation of Library Materials Section issued an expanded version of its *Preservation Education Directory*. Courses in library schools and other institutions, workshops, conservation training programs, and opportunities for education abroad are now included.[73] Practical courses in hand bookbinding are listed in a revised pamphlet by the Guild of Book Workers.[74] Miller reports on results of a survey of training programs offered by craft binders in the United States, Canada, and Europe.[75] McCrady summarizes conclusions reached at the January 1981 Pilot Apprenticeship Workshop in New Haven.[76] Views of the experts on prospects for conservation training in library schools in the years 1981–2001 are analyzed in a thesis by McKeon,[77] and conservation courses at the University of Maryland and the University of Western Ontario are described by McCrank[78] and Prodrick.[79] In a second article, McCrank elaborates upon the course offerings at the University of Maryland and calls for library school programs that provide conservators with an understanding of the integral relationship of their work to collection development issues and priorities at the institutional level.[80]

Environment

The destructive effects of air pollution, light, and high levels of temperature and humidity on library collections have been extensively discussed in the literature. King cites standards for each and compares the estimated cost of environmental control with the cost of replacement or restoration of deteriorated volumes. His figures present a striking argument for the long-term savings to be gained from maintenance of proper storage conditions.[81]

Advice on reducing light hazards and a handy list of sources for materials to filter, reduce, and measure illumination levels are offered in the February 1981 issue of *History News*,[82] while exemplary existing storage facilities for motion-picture film, microforms, color slides, and photographic prints are described in the Spring 1981 issue of *Technology & Conservation*.[83]

Pest control is the subject of an excellent status report by the Association of Systematics Collections. Included are descriptions of various pesticides, federal regulations governing pesticide use, recommended policies, procedures, and equipment, an illustrated guide to common insect pests, and an annotated bibliography.[84] Yale's successful experiments with freezing infested materials and simple methods for eliminating cockroaches, silverfish, and book lice are described by Walker.[85]

Publication by the Canadian Conservation Institute of requirements for temperature, humidity, air cleaning, lighting, and recording of conditions is welcome evidence of recognition in that country of the importance of environmental control.[86] The situation in tropical areas, however, is not as fortunate. Measures designed to cope with the special problems of temperature, humidity, and insects in the tropics are successful only to a limited degree because of the substantial costs of air conditioning and restoration programs. Some hope for international cooperation in research and funding to improve environmental conditions in tropical libraries is seen by Bansa in the recent formation of the International Federation of Library Associations' Conservation Section.[87]

Two other positive developments deserve brief mention: the appointment of American National Standards Institute Z39 Subcommittee R, Environmental Conditions for Storage of Paper Based Library Holdings, chaired by Banks, and the announcement by the New York Public Library that city funding had been provided to install an air-conditioning and humidity-control system in its main building.

EXHIBITS

Good practices for exhibiting library and museum materials have received emphasis during the past year. Baker's leaflet discusses planning, design, installation, and maintenance.[88] Witteborg includes lighting and security precautions as well as guidelines for handling exhibit objects.[89] Advice on display techniques and environmental hazards and a list of useful references are provided by DeCandido.[90]

Two major exhibits on the preservation of library materials were mounted during 1981. At the Widener Library, displays informed scores of visitors about library binding and microfilming, the enemies of books, repair, restoration, and protective measures, and the functions of Harvard's Preservation Department.[91] Yale's exhibit at the Sterling Library illustrated the causes of book deterioration, environmental monitoring instruments, binding materials and equipment, paper treatment, and rare-book restoration.[92] Intense interest in the displays at both libraries demonstrated the effectiveness of exhibits as a preservation education technique.

GRANTS

Despite rumors of cutbacks on almost every front, several substantial grants in support of preservation efforts were awarded during 1981. With funding from the National Endowment for the Humanities, the Cincinnati Historical Society was able to complete a number of projects and equip a conservation facility, the New York Botanical Garden conducted regional hands-on workshops, the Northeast Document Conservation Center began offering photographic conservation services and an internship in paper conservation, the Denver Public Library worked on preservation of the Fisher collection of architectural drawings, the Society of American Archivists began offering conservation consultation services, and the University of Cincinnati equipped and staffed its new conservation laboratory, held a number of local workshops and exhibits, and initiated a trainee program.

The Andrew Mellon Foundation enabled the Eisenhower Library at Johns Hopkins University to hire a paper conservator and offer conservation internships, workshops, and consultancies. Matching grants to the Newberry and Pierpont Morgan libraries will help endow conservation departments. The New York Public Library's large collection of microform master negatives will be examined and placed under bibliographic control as a result of another major Mellon Foundation award.

Southern Illinois University received Library Services and Construction Act funds to develop the Illinois Cooperative Conservation Program. Reference services, publications, workshops, training materials, fumigation facilities, and assistance with disaster planning will be provided through existing networks to more than twelve hundred libraries in Illinois. A Title II-C grant to the University of Wisconsin helped improve microfilming facilities and staff a conservation workshop. Projects made possible with Title II-C funding at the Columbia University Libraries are described in an attractive pamphlet, *The Libraries: Research Materials Preservation and Access.*[93]

NATIONAL, REGIONAL, AND LOCAL PROGRAMS

Hopes for the national preservation program brightened in 1981 when Peter Sparks, chief of the Preservation Office at the Library of Congress, donned the additional title of National Preservation Program officer. Planning is under way for a broad program that will include renewed publication and education efforts among its activities. The long-awaited publication of the proceedings of the 1976 National Preservation Program Planning Conference was a second major event for the year.[94] At that meeting participants identified the critical need for continued research, increased training opportunities, bibliographic control of microforms, and broad consensus concerning program objectives and methodology. A summary of the priorities discussed at the conference is provided by McCrady.[95] Shaffer outlines the developments leading up to the planning conference and the ongoing activities of the Library of Congress Preservation Office.[96]

On another front, the National Conservation Advisory Council approved in draft a proposal for the establishment of a national institute for the conservation of cultural property in the United States. The final version of the proposal is expected to appear in the spring of 1982.

The Western Materials Conservation Project, now concluded, served as a catalyst for substantial conservation planning activity on the state level.[97] Since its inception at the Snowbird, Utah, meeting in June 1980, the Western Conservation Congress has moved forward with a number of projects. A draft catalog of preservation-related publications held by several major western libraries was completed. Plans are being made to expand the catalog and offer interlibrary loan services for the items cited in it. Work is under way toward establishing a conservation supplies service and a resource directory of conservation training programs, aids, and services.[98]

A preliminary survey of conservation activities in six states was completed as part of the Midwest Regional Study for Materials Conserva-

tion. Three colloquia on program needs of institutions in the area are planned for 1982.[99]

Services of the Northeast Document Conservation Center have expanded steadily since it was founded in 1973.[100] Its progress and that of the newly funded Illinois Cooperative Conservation Program are worthy of study as planning begins for other much needed regional facilities.

On the local level, the Library of Congress Preservation Office has undergone reorganization. Expansion of microfilming and binding programs, establishment of mobile binding and repair units, a new phase conservation section, and planning for pilot tests involving diethyl zinc deacidification and optical disc technology highlighted the year's activities.[101] Among the other library programs described in the literature of 1981 are those at the New York Public Library, Harvard, Stanford, Columbia, the Newberry Library, Southern Illinois University, the Humanities Research Center at the University of Texas, and Thomas Jefferson University.[102-10]

Preservation activities in foreign countries were the subject of three articles in the September issue of *Libri:* Kartashov describes research and practice in the USSR,[111] Sylvestre sketches a national program for Canada,[112] and Barker outlines immediate, medium-, and long-range measures at the British Library.[113]

NONBOOK MATERIALS

Lack of bibliographic control over individual titles in large microform sets has plagued library staff and users for decades. After years of discussion, hopeful signs that the problem could be resolved began to surface during 1981. The Association of Research Libraries Microform Project was awarded two new grants by the Andrew Mellon Foundation and the Council of Library Resources. Under the direction of Jeffrey Heynen, project coordinator, substantial progress has been made toward cooperative cataloging of retrospective collections, agreement by micropublishers to make cataloging data for currently produced microforms available to the major bibliographic utilities, and the development of a database of ongoing and completed microform cataloging projects.[114] As current levels of preservation microfilming activity begin to increase, the information produced by this project will be of great value in preventing duplicated effort.

As a result of concern expressed by the National Archives and Records Service (NARS) over the cost and permanence of microfilm as a medium for preserving documents of lasting value, several studies have been initiated: a periodic sampling of NARS microfilm holdings, an evaluation of their filming policies and procedures, an examination of the durability of polyester as a microfilm base, a study of transparent electrophotography as an archival storage technique, and an investigation of alternative forms of copying. As part of the project, the National Bureau of Standards is studying the deterioration of magnetic tape and microfilm and developing test methods for estimating their useful life spans and evaluating optimum storage conditions. The bureau is also designing a statistical survey procedure for the evaluation of paper documents held by the National Archives.[115] Papers outlining microfilm in-

spection procedures and a sampling plan were completed in late 1981.[116-17]

Periodic inspection is one of the recommendations given by Ellison et al. in their discussion of microform conservation. Also mentioned are monitoring of environmental conditions and techniques for storage and handling.[118]

Interest in the preservation of other photographic materials also produced a number of articles. Orth and Sippel[119] and Robert Deane[120] prepared useful bibliographies on the subject. Copying and storage of negatives are discussed by Collings,[121] Porter,[122] and Conrad.[123] Included in Conrad's paper are techniques for duplicating negatives that were originally produced on nitrate film. McCrady reports on a crash program to convert these volatile materials at the National Archives.[124] In Hayne's article for the 1981 conference of the American Institute for Conservation of Historic and Artistic Works[125] and in the January issue of *History News,*[126] storage methods for nitrate films are described.

Swan covers conservation of photographic print collections and daguerrotypes;[127] Gerber et al. discuss storage and care of working map collections;[128] Asher recounts efforts to preserve the Howard Yards and Dock Company's collection of architectural drawings.[129]

Paper

Another event of note in 1981 was completion of the "Interim Report on Book Paper" by the Council on Library Resources Committee on Production Guidelines for Book Longevity. In their report, committee members urge greater awareness by publishers and librarians of the need for permanent paper in publications likely to be of lasting value. Use of a statement or symbol printed below the copyright line in all books published on acid-free paper is suggested. Appended to the report are guidelines for paper to be used in books of permanent interest.[130]

The work of the CLR committee and problems associated with the cost and supply of alkaline papers are discussed in Cole's report on the February 1981 paper conference held at the Library of Congress.[131] Noting that a number of European papermakers have already shifted to alkaline production and that the supply in the United States is gradually increasing, the Library of Congress, in a joint statement with the Book Longevity Committee, urged publishers to "save American libraries and hence taxpayers millions of dollars by the year 2000 at negligible or no long-range cost to themselves" by changing to acid-free papers.[132]

Despite reports of potential savings, a survey conducted by *Publishers Weekly* suggests that broad commitment to the use of alkaline paper by book publishers does not yet exist.[133] Rebsamen explains why and suggests separate reprintings of important titles on acid-free paper as a possible solution to the dilemma.[134] The fact that several American manufacturers have begun to shift to alkaline paper production and the recent appointment of American National Standards Institute Z39 Subcommittee S, Permanent Paper for Printed Library Materials, are hopeful signs that in time the publication of works of permanent value on self-destructing paper will become a practice of the past.[135]

CONCLUSION

In 1976, participants at the National Preservation Program Planning Conference identified research, educational, and cooperative efforts as critical needs if the problem of deterioriation of library materials is to be resolved. Just five years later, a concentrated effort to address those needs is beginning to bear fruit. The progress made during 1981 toward developing opportunities for formal training, planning cooperative programs for conservation activities and the production and bibliographic control of microforms, increasing general awareness of the need for alkaline book paper, and sharing expertise in such areas as conservation techniques, disaster preparedness, and preservation program development augurs well for the 1980s as the decade in which an enormous problem was brought to heel.

REFERENCES

1. Pamela W. Darling, "Will Anything Be Left? New Responses to the Preservation Challenge," *Wilson Library Bulletin* 56:177-81 (Nov. 1981).
2. Pamela W. Darling and Sherelyn Ogden, "From Problems Perceived to Programs in Practice: The Preservation of Library Resources in the U.S.A., 1956-1980," *Library Resources & Technical Services* 25:9-29 (Jan./March 1981).
3. Nancy E. Gwinn, "CLR and Preservation," *College & Research Libraries* 42:104-26 (March 1981).
4. Ellen McCrady, "Priorities in Library and Archival Conservation," *Abbey Newsletter* 5:17-19 (April 1981).
5. Pamela W. Darling, "Creativity v. Despair: The Challenge of Preservation Administration," *Library Trends* 30:179-88 (Fall 1981).
6. John Dean, "The Role of the Bookbinder in Preservation," *Wilson Library Bulletin* 56:182-86 (Nov. 1981).
7. *A Basic Bibliography for Conservation Administration* (Chicago: Society of American Archivists, Basic Conservation Education Program, 1981).
8. Richard G. King, Jr., *Guide to the Literature on Deterioration, Conservation, and Preservation of Library Material* (Berkeley: University of California Systemwide Administration, 1980) ED 200 223.
9. Paul N. Banks, *A Selective Bibliography on the Conservation of Library Materials* (Chicago: Newberry Library, 1981).
10. Arthur Magida, "Our Printed Legacy Is Turning to Dust," *Historic Preservation* 33:50-55 (July/Aug. 1981).
11. Mary Ann Parmley, "The Quiet Death of the Book," *Science 81* 2:78-80 (April 1981).
12. Richard D. Smith, "Preserving Our Books: A Chemical Problem, " *Chemtech* 11:414-17 (July 1981).
13. "As Acid Devours Many Old Books, Chemists Race to Stop Decay," *New York Times* (Dec. 1, 1981), p.C1, C4.
14. Pamela W. Darling, "Finally, a Preservation Project Par Excellence," *Library Scene* 10:6 (March 1981).
15. *Preservation at the Dartmouth College Library: A Report Prepared for the Librarian of the College* (Washington, D.C.: Office of Management Studies, Association of Research Libraries, 1981).
16. *Preservation Planning Project Report—The University of Virginia Library* (Washington, D.C.: Office of Management Studies, Association of Research Libraries, 1981).
17. *Preservation in the University of Washington Libraries* (Washington, D.C.: Office of Management Studies, Association of Research Libraries, 1981).
18. "PLMS Meeting News," *Conservation Administration News,* no.7:10 (June 1981).
19. "ALA San Francisco—The PLMS Report," *Conservation Administration News,* no.8:1,4,7 (Oct. 1981).
20. Richard G. King, Jr., *Deterioration of Book Paper: Results of Physical and Chemical Test-*

ing of the Paper in 2280 Monographs from the Collections of the University of California Libraries (Berkeley: Library Studies and Research Division, University of California Systemwide Administration, 1981).
21. "Division Committee and Discussion Group Reports," *RTSD Newsletter* 6:49 (Sept./Oct. 1981).
22. Gay Walker, "Sterling Survey of Book Condition," *Yale University Library Staff Newsletter* 13:1-2 (Oct. 1981).
23. "Preservation News," *Conservation Administration News,* no.7:16 (June 1981).
24. "News Notes," *American Archivist* 44:177-78 (Spring 1981).
25. Werner Rebsamen, "Binding," *Library Trends* 30:225-39 (Fall 1981).
26. Victoria Ames, "The Insights of Binding Investments," *Library Scene* 10:8-9 (June 1981).
27. Stephen H. Roberts, "Changing World of Library Binding," *Library Scene* 10:4-5 (June 1981).
28. Werner Rebsamen, "Binders Board—The Only Coverboard Used in Library Binding," *Library Scene* 10:14-17 (June 1981); and his "Binding Books in Cloth," *Library Scene* 10:8-12 (Dec. 1981).
29. Nathan B. Leitner, "Adhesives for Library Binding," *Library Scene* 10:34-35 (Sept. 1981).
30. Edward M. Slepski, "An Alternative Approach to Cover Materials for Class 'A' Library Binding," *Library Scene* 10:32-33 (March 1981).
31. Werner Rebsamen, "Evaluation of Library Bindings," *Serials Review* 7:89-94 (Apr./June 1981).
32. Gwen Vargas, "A Binding Audit from the Librarian's Point of View," *Library Scene* 10:8-10 (March 1981).
33. P. G. Peacock, "The Selection of Periodicals for Binding," *Aslib Proceedings* 33:257-59 (June 1981).
34. Benjamin L. Mevorach, "A Bind-Aid for Hurt Books is Invaluable," *Library Scene* 10:16-17 (Sept. 1981).
35. Daniel Gore, "The Temporary Journal Binding That Is Permanent," *Technicalities* 1:11-12,14 (Jan. 1981).
36. Craighton T. Hippenhammer, "The Overrated PLB—A Fiasco to Fix," *Library Scene* 10:34-35 (June 1981).
37. Library Binding Institute, *Library Binding Institute Standard for Library Binding,* 4th ed. (Boston: Library Binding Institute, 1981).
38. Mary Genett, Beverly Ann Adamonis, and Robert DeCandido, "The Results Are In—Preservation Workshops Are Wanted," *Library Scene* 10:28-29 (June 1981).
39. Susan Swartzburg, "Preservation Conference in Philadelphia," *Abbey Newsletter* 5:14 (Aug. 1981).
40. "A.I.C. 1981 Convention Report," *Conservation Administration News,* no.8:3,5 (Oct. 1981).
41. "Programs & Events," *Conservation Administration News,* no.8:14 (Oct. 1981).
42. "Yellow Snow at Harvard," *LJ/SLJ Hotline* 10:1-3 (Oct. 26, 1981).
43. *Basic Preservation Procedures,* SPEC Kit 70 (Washington, D.C.: Office of Management Studies, Association of Research Libraries, 1981). Issued by Systems and Procedures Exchange Center.
44. Jane Greenfield, *Paper Treatment* Preservation Pamphlet no.3, *Pamphlet Binding* Preservation Pamphlet no. 4, and *The Small Bindery* Preservation Pamphlet no. 5 (New Haven: Yale University Library, 1981).
45. Peter Waters, "Archival Methods of Treatment for Library Documents," in John C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
46. Laura S. Young, *Bookbinding & Conservation by Hand: A Working Guide* (New York: Bowker, 1981).
47. Stuart A. Kohler, "How to Make and Use Wheat Starch Paste," *History News* 36:38-39 (July 1981); and his "Preparation of Rice Starch Paste," *Abbey Newsletter* 5:41 (Aug. 1981).
48. "Conserva-tips: Conservation Records," *History News* 36:48 (Feb. 1981).
49. Merrily A. Smith, *Matting and Hinging of Works of Art on Paper* (Washington, D.C.:

Library of Congress Preservation Office, 1981).
50. J. P. McCleary, "Paper Conservation in Spain," in John C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
51. Ellen McCrady, "Research on the Dressing and Preservation of Leather," *Abbey Newsletter* 5:23–25 (April 1981).
52. Adrian Conrad Sclawy, "Method for Preparing Leather for Slurrying," *Abbey Newsletter* 5:21–22 (April 1981).
53. Lucia C. Tang and Margaret A. Troyer, "Flameless Atomic Absorption Spectroscopy: A Useful Tool for Direct Determination of Elements in Library/Archival Materials," *Technology & Conservation* 6:40–45 (Summer 1981).
54. A. D. Baynes-Cope, *Caring for Books and Documents* (London: British Museum Publications, 1981).
55. John Ashman, *Bookbinding, a Manual for Beginners* (London: Adam and Charles Black, 1981).
56. Kathryn M. Carey, "Preservation of Colonial Court Records: Treating a Vast Collection of Historic Documents," *Technology & Conservation* 6:42–45 (Spring 1981).
57. National Conservation Advisory Council, *Conservation Treatment Facilities in the United States* (Washington, D.C.: National Conservation Advisory Council, 1980).
58. "Mass Deacidification Trials in LC Program," *Abbey Newsletter* 5:65 (Nov. 1981).
59. Werner Rebsamen, "A Genuine Breakthrough in Mass Deacidification," *LBI Laboratory Technology Newsletter* 1:1–2 (March 1981).
60. Mel Kavin, "The President Ponders: Deacidification Methods," *Library Scene* 10:20 (Sept. 1981).
61. William K. Wilson and others, "The Effect of Magnesium Bicarbonate Solutions on Various Papers," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
62. George B. Kelly, Jr., and John C. Williams, "Inhibition of Light Sensitivity of Papers Treated with Diethyl Zinc," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
63. Lucia C. Tang, "Washing and Deacidifying Paper in the Same Operation," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
64. *Preparing for Emergencies and Disasters,* SPEC Kit 69 (Washington, D.C.: Office of Management Studies, Association of Research Libraries, 1980). Issued by Systems and Procedures Exchange Center.
65. Richard H. Harms, Frederick L. Honhart, and David J. Olson, *A Program for Disaster Response in Michigan* (East Lansing, Mich.: Michigan Archival Association, 1981).
66. *Colorado Libraries,* V. 7, June 1981 (entire issue).
67. James N. Myers and Denise D. Bedford, eds., *Disasters: Prevention and Coping, Proceedings of the Conference, May 21–22, 1980* (Stanford, Calif.: Stanford University Libraries, 1981).
68. Sally Buchanan, "Disaster: Prevention, Preparedness and Action," *Library Trends* 30:241–52 (Fall 1981).
69. Judith Fortson-Jones, "Fire Protection for Libraries," *Catholic Library World* 53:211–13 (Dec. 1981).
70. Dale W. Harp, "Intumescent Paints: A Useful Component of Fire Protection Plans," *Technology & Conservation* 6:30–31 (Spring 1981).
71. Susan E. Schur, "Library/Conservation Profile: The Newberry Library," *Technology & Conservation* 6:22–31 (Summer 1981).
72. Paul N. Banks, "Education in Library Conservation," *Library Trends* 30:189–201 (Fall 1981).
73. Susan G. Swartzburg and Susan B. White, *Preservation Education Directory* (Chicago: American Library Assn., 1981).
74. Guild of Book Workers, *Opportunities for Study in Hand Bookbinding and Related Crafts*

(New York: Guild of Book Workers, 1981).
75. Julia V. Miller, "Hand Bookbinding Perspectives: A Survey," *Abbey Newsletter* 5:Supp. (Dec. 1981).
76. "From the Pilot Apprenticeship Workshop," *Abbey Newsletter* 5:33,36 (Aug. 1981), 62-63 (Nov. 1981), 74 (Dec. 1981).
77. Donald B. McKeon, "A Study of the Prognoses of Library Educators and Preservationists on Conservation Training in Library Schools" (Ph.D. dissertation, Florida State Univ., 1981).
78. Lawrence J. McCrank, "Stimulating Conservation Administration Studies," *Library Scene* 10:32-33 (Dec. 1981).
79. Gerald Prodrick, "The School of Library and Information Science at the University of Western Ontario," *Library Scene* 10:30-31 (Sept. 1981).
80. Lawrence J. McCrank, "Conservation and Collection Management: Educational Problems and Opportunities," *Journal of Education for Librarianship* 22:20-43 (Summer/Fall 1981).
81. Richard G. King, Jr., *Environmental Control for Regional Library Facilities* (Berkeley: University of California Systemwide Administration, 1980) ED 200 222.
82. "A Lesson on Lighting," *History News* 36:45-47 (Feb. 1981).
83. "Calm, Very Cool, and Collected . . . to Save Film Legacies," *Technology & Conservation* 6:5-8 (Spring 1981).
84. Stephen R. Edwards, Bruce M. Bell, and Mary Elizabeth King, *Pest Control in Museums: A Status Report (1980)* (Lawrence, Kan.: Association of Systematics Collections, 1981).
85. Gay Walker, "The Quiet Disaster II: Pests and People," in James N. Myers and Denise D. Bedford, eds., *Disasters: Prevention and Coping, Proceedings of the Conference, May 21-22, 1980* (Stanford, Calif.: Stanford University Libraries, 1981).
86. Raymond H. Lafontaine, "Environmental Norms for Canadian Museums, Art Galleries and Archives," Canadian Conservation Institute *Technical Bulletin,* no.5 (April 1981).
87. Helmut Bansa, "The Conservation of Library Collections in Tropical and Subtropical Conditions: The Problem of the Increased Dangers of Damage and Decay in Areas of High Temperature and Humidity," *IFLA Journal* 7:264-67 (Sept. 1981).
88. Charles L. Baker, *Planning Exhibits: From Concept to Opening,* Technical Leaflet 137 (Nashville: American Society for State and Local History, 1981). Issued in *History News* 36 (April 1981).
89. Lothar Witteborg, *Good Show! A Practical Guide for Temporary Exhibitions* (Washington, D.C.: Smithsonian Institution, 1981).
90. Robert DeCandido, "Dialogue: Between Librarians and a Binding Authority," *Library Scene* 10:20 (March 1981).
91. Samuel Ellenport, "People Stopped and Looked, Deriving Enjoyment and Knowledge," *Library Scene* 10:26-27 (Dec. 1981).
92. Jane Greenfield and Shirley M. Prown, "Through the Looking Glass," *Library Scene* 10:28-29 (Sept. 1981).
93. Columbia University Libraries, *The Libraries: Research Materials Preservation and Access* (New York: Columbia University Libraries, 1981).
94. Library of Congress Preservation Office, *A National Preservation Program: Proceedings of the Planning Conference* (Washington, D.C.: Library of Congress Preservation Office, 1980).
95. Ellen McCrady, "Priorities in Library and Archival Conservation II: National Preservation Program Conference," *Abbey Newsletter* 5:67-70 (Dec. 1981).
96. Norman J. Shaffer, "A National Preservation Effort: Hopes and Realities," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
97. "A Conservation Plan for the West," *Conservation Administration News,* no.6:1,6-8 (Feb. 1981).
98. "Western Conservation Congress Report," *Conservation Administration News,* no.8:5 (Oct. 1981).
99. "Six State Conservation Survey," *Abbey Newsletter* 6:4 (Feb. 1982).

100. Milo Nelson, "Evening the Odds: The Northeast Document Conservation Center," *Wilson Library Bulletin* 56:187–91 (Nov. 1981); Ann Russell, "Regional Conservation: A New England Example," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981).
101. "Semiannual Report on Developments at the Library of Congress," *Library of Congress Information Bulletin* 40:200 (June 5, 1981) and 41:28 (Jan. 8, 1982).
102. John P. Baker, "Preservation Programs at the New York Public Library, Part One: The Early Years," *Microform Review* 10:25–28 (Winter 1981).
103. Edwin E. Williams, "Preservation at Harvard," *Conservation Administration News,* no.6:3–5 (Feb. 1981).
104. Sally Buchanan, "The Conservation Program at Stanford University Library," *Conservation Administration News,* no.7:6–7,10 (June 1981).
105. Sherry Byrne, "Columbia University: Pioneer in Preservation," *Conservation Administration News,* no.7:1,4–5 (June 1981).
106. Michele Valerie Cloonan, "Developing a Brittle Book Program at the Newberry Library," *Library Scene* 10:22,24–25 (Dec. 1981).
107. Schur, "Library/Conservation Profile."
108. Carolyn Clark Morrow, "Grant Funds Provide Impetus for Comprehensive Conservation Program," *Library Scene* 10:20–21 (June 1981).
109. Don Etherington, "First Impressions of the Chief Conservation Officer: The Challenge is Immense," *Library Scene* 10:32–33 (Sept. 1981).
110. JoAnn J. King, "Comprehensive Document Is Impetus for Conservation Program," *Library Scene* 10:22–23 (March 1981).
111. N. S. Kartashov, "The State Policy in the Field of Preservation of Library Holdings," *Libri* 31:175–84 (Sept. 1981).
112. Guy Sylvestre, "A National Preservation Program for Library Materials in Canada, " *Libri* 31:185–92 (Sept. 1981).
113. Nicholas Barker, "Conservation and Preservation, a Problem of Library Management: A British Library View," *Libri* 31,193–97 (Sept. 1981).
114. "ARL Microform Project," *Association of Research Libraries Newsletter* 109:4 (Dec. 4, 1981).
115. "National Archives Reviewing Microfilming Program," *American Archivist* 44:258–59 (Summer 1981).
116. "Procedures for Inspection of Microfilm," prepared for General Services Administration, National Archives and Records Service, Contract no. NA81-15 (Falls Church, Va.: Micrographic Systems Technology Corp., 1981).
117. "Sampling Plan," prepared for General Services Administration, National Archives and Records Service, Contract no. NA81-15 (Falls Church, Va.: Micrographic Systems Technology Corp., 1981).
118. John W. Ellison and others, "Storage and Conservation of Microforms," *Microform Review* 10:90–93 (Spring 1981).
119. Thomas Orth and John Sippel, *A Selected Bibliography on Photographic Conservation January 1975–December 1980,* Bibliography no.B1119 (Rochester, N.Y.: Technical and Educational Center, Rochester Institute of Technology, 1981).
120. Robert Deane, *A Bibliography of Photographic Processes, Their Conservation and Storage,* no.1 (Canberra: Australian National Gallery, 1981).
121. T. J. Collings, "Storage of Glass Negatives," *Photographiconservation* 3:1,3 (March 1981).
122. Mary Kay Porter, "Filing Enclosures for Black and White Negatives," *Picturescope* 29:108 (Fall 1981).
123. James H. Conrad, *Copying Historical Photographs: Equipment and Methods,* Technical Leaflet 139 (Nashville: American Society for State and Local History, 1981). Issued in *History News* 36 (Aug. 1981).
124. "Crash Nitrate Film Conversion Completed," *Abbey Newsletter* 5:21 (April 1981).
125. Ric Haynes, "A Temporary Storage Method to Retard the Deterioration of Cellulose Nitrate Flat Film Negatives," in *Preprints of Papers Presented at the Ninth Annual Meeting Philadelphia, Pennsylvania, 27–31 May 1981* (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 1981).

126. "Conserva-tips: Emergency Storage of Nitrate Films," *History News* 36:38–41 (Jan. 1981).
127. Alice Swan, "Conservation of Photographic Print Collections," *Library Trends* 30:267–96 (Fall 1981); and her "The Preservation of Daguerrotypes," in *Preprints of Papers Presented at the Ninth Annual Meeting Philadelphia, Pennsylvania, 27–31 May 1981* (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 1981).
128. Gloria S. Gerber and others, "Map Storage and Care in Active Collections," Geography and Map Division, Special Libraries Association *Bulletin,* no.125:15–18 (Sept. 1981).
129. Catherine G. Asher, "Conservation of a Large Collection of Architectural Drawings: The Howard Ship Yards and Dock Company Mss," in *Preprints of Papers Presented at the Ninth Annual Meeting Philadelphia, Pennsylvania, 27–31 May 1981* (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 1981).
130. "Interim Report on Book Paper" (Washington, D.C.: Committee on Production Guidelines for Book Longevity, Council on Library Resources, 1981).
131. John Y. Cole, "Paper for Book Longevity: A Report on a Conference at the Library of Congress, February 26, 1981," *Library of Congress Information Bulletin* 40:101–4 (March 27, 1981).
132. "LC Urges Publishers to Use Acid-free Paper," *Library Journal* 106:1360,1362 (July 1981).
133. R. W. Hagemeyer, "The Impact of Increasing Paper Consumption and Resource Limitations on Alkaline Papermaking," in John. C. Williams, ed., *Preservation of Paper and Textiles of Historic and Artistic Value II,* Advances in Chemistry Series 193 (Washington, D.C.: American Chemical Society, 1981); "Making Books That Last," *Publishers Weekly* 219:19–22 (May 29, 1981).
134. Werner Rebsamen, "Must All Printed Library Material be Acid Free?" *Library Scene* 10:12–14 (March 1981).
135. Jerome P. Frank, "New Papers, Printing Technology and Binding Methods Offer Hope to Cost-Conscious Publishers," *Publishers Weekly* 220:18–24,28 (Dec. 4, 1981).

Collection Development in 1981

Rose Mary Magrill

COLLECTION DEVELOPMENT in 1981 departed in no radical way from the trends reported in 1980 (Magrill, p.244). The state of the economy in most areas encouraged careful and cautious planning—the rethinking of collection goals and the development of cost-effective procedures. Continuing education of collection development personnel—provided through conferences, workshops, institutes, and published materials—assumed even greater importance as a result of the continued trend toward long-range planning, policy formulation, and quantitative approaches to analysis and evaluation.

The review that follows will cover federal government activities, publishing, planning and budgeting, studying use and controlling growth, and acquisitions methods. Each topic will be discussed in terms of key issues, major events, and representative publications.

FEDERAL GOVERNMENT ACTIVITIES

Federal funding for library programs continued its downward trend. The true status of that funding remained uncertain during most of 1981. The only predictable factor in the situation was that education spending as a whole would probably be cut. Before its adjournment on December 16, Congress passed a temporary continuing resolution providing funding for most federal programs through March 31, 1982 (Continuing Resolution, p.1). Authorization for the various parts of the Higher Education Act (HEA) cut 4 percent from the level of fiscal year 1981 appropriations. HEA Title II-A (College Library Resources) was cut from just under $3 million to $1.9 million; Title II-B (Training and Demonstration) was decreased from $917,000 to $880,000; and Title II-C (Strengthening Research Library Resources) was $240,000 less than the FY 1981 appropriation of $6 million. Further cuts in authorizations for library programs are expected in the FY 1983 budget proposals, and predictions were made that "rescissions of FY 1982 funding will be requested at the same time" (Continuing Resolution, p.2).

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Editor's note: A section mark [§] identifies the surnames under which some of the sources are listed in the "References." Acronyms, surnames, or initial words of a title in parentheses throughout the text identify other sources and provide specific page references as required.

Grants made under the part of the Higher Education Act devoted to strengthening research library resources continued to be of importance to those institutions fortunate enough to receive such funds. Due in part to complaints in previous years about the small number of libraries receiving awards, the fourth round of grants under HEA Title II-C included more libraries than ever before (Henderson [a], p.328). Forty-one institutions in twenty-five states are involved in the thirty projects funded in 1981.

The Thor Power Tool ruling of the Internal Revenue Service—which stirred so much reaction from librarians in 1980 because of its possible detrimental effects on publishers' abilities to maintain backlists—was the subject of Senate subcommittee hearings during 1981. The Treasury Department opposed both versions of relief bills providing for some degree of write-down on long-term inventory, pointing out that "a number of publishing companies have been in compliance with the inventory methods upheld in *Thor* for years" (Fields, p.23). The IRS did offer some response to its opponents by amending the rules on inventory accounting to lessen the impact of inflation and offering to consider possible exemptions for hardship cases.

Prospects looked brighter in 1981 for another area of concern to librarians. Tax relief may be available again for artists, writers, and musicians who want to donate their own works to libraries. A bipartisan bill was introduced in the Senate to restore the full fair-market-value tax deduction for gifts of original works to charitable institutions by authors and artists (Henderson [b] p.405). Results of a survey conducted by Norman Tanis were offered as evidence that the loss of that tax deduction, which was removed by the 1969 Tax Reform Act, had acted to limit the access of researchers to manuscript collections.

Copyright developments in 1981 included the release of "Guidelines for Off-Air Recording of Broadcast Programming for Educational Purposes," prepared by representatives of twenty-five organizations concerned about off-air taping (including the American Library Association). These guidelines attempt to apply "the 'fair use' provision of the copyright law to the recording, retention, and use of television programs in classrooms" (Cooke, p.663). The Association of American Publishers also issued in 1981 a set of guidelines for interpreting the Copyright Act of 1976—a statement called "Draft College and University Policy Statement concerning Photocopying by Faculty and Staff" (Copyright Controversy, p.286). Members of the Association of College and Research Libraries (ACRL) took exception to that document, and the ACRL Board of Directors and the ALA Copyright Committee promised to provide a draft policy statement of their own on photocopying in early 1982 (Copyright Update, p.24).

PUBLISHING

The country's economic conditions provided no relief in 1981 for publishers, who continued to be hampered by high interest rates and inflation, as well as decreases in federal spending for education. A series of articles in *Publishers Weekly* explores the relationships between the

typical conglomerate's exclusively financial approach to publishing, the concentration of conglomerate-provided capital on books likely to sell widely in bookstore chains, and the types of new titles that fill publishers' lists (Fischel [a–c]). The prediction that "trade publishers will be showing booksellers a great deal more respect in the years ahead than they have felt necessary to show them in recent years" added to the uneasiness that some librarians already felt about publishing trends (Shatzkin, p.5). Another critic of the economic concentration in the book industry argues that "publishers are better off hungry" (Dolmatch [b], p.27). He further suggests that the book-buying public would be better served if conglomerates reduced the capital made available to their publishing companies, budgeted for break-even titles not best-sellers, cut the current list, honored the backlist, and required that books be properly edited (Dolmatch [a], p.32).

The economy was not the only aspect of our society putting pressure on publishers in 1981. The predominant mood in the country is becoming more conservative and this is reflected in strongly held views about the kinds of materials being published. Educational publishers, in particular, are feeling the pressure of organized protests against the contents of their books (Dahlin, p.28). A *Publishers Weekly* survey of booksellers and regional bookseller associations identified "the increasingly visible presence of the Moral Majority and similar conservative organizations" in communities nationwide (Dong, p.53). During 1981, several state legislatures discussed or enacted laws to restrict the access of minors to various types of materials. These actions reemphasized the importance of the findings of a national survey released in 1981 by the Association of American Publishers, the American Library Association, and the Association for Supervision and Curriculum Development (Mutter). Three-fourths of the approximately nineteen hundred respondents reporting any recent change in the rate of challenges to books or other instructional materials reported an increase in attempts to restrict access. Challenges on the state level were often well organized. School districts were advised to develop a written materials selection policy and clearly defined methods for handling complaints.

Predictions made in 1981 about the future directions of scholarly publishing emphasized the likelihood of shorter press runs and more reliance on electronic transmission of the text. "Short production runs are, in a sense, a return to basic bookmaking. Publishers are apparently comfortable with the concept that it is less expensive to accept additional setup charges than to tie up their money in a warehouse full of books that may or may not be selling" (Frank, J. P., p.22). More drastic predictions are that, within ten years, "hard copy research publishing will disappear and access to research reports will be through online technology to computer-stored materials" (Swift Change, p.2). In the publishing of reference works, the nature of publishing itself is likely to change as database publishing becomes more widespread (Getting into Database, p.45). Electronic distribution from the publisher's database may lead to more customization of the printed format or it may bypass that format altogether—particularly for information that is not read at great length

and needs to be updated frequently. "Novels and nonfiction demanding a beginning—middle—end mindset will probably not switch formats . . ." (Parkhurst, p.29-30).

The final 1980 statistics for American publishing appeared in September 1981 and indicated a decline of almost 6 percent in the number of titles published (Grannis [a], p.33). The only categories showing increases were general works (000-099); history (900-909; 930-999); medicine (610-619); and philosophy and psychology (100-199)—and the increases in the last three categories were slight. The average price per hardcover volume, eliminating those priced at $81 or more, was $22.48 in 1980, representing a one-year increase of about 14.5 percent. The 1981 preliminary statistics on American publishing output were not available at the time this article went to press, but the British had already reported a 1981 decrease in publications—10 percent for new books and 13 percent for new editions—over their 1980 publishing totals, which were the highest on record (Britain Records, p.16). Average prices for British books in the first eight months of 1981 were running 8 percent ahead of 1980 prices, although reference books were up by almost 30 percent and adult nonfiction was priced approximately 20 percent more per volume (Average, p.531). British price trends are particularly important to libraries in the United States, since the latest Unesco figures indicate the U.S. spends more than twice as much for imports from the United Kingdom as it does for materials from its second-ranking source, Canada (Grannis [b], p.123). In recognition of our need to follow British trends more carefully, the *RTSD Newsletter* has started a regular feature on "British Book Prices" (Leonhardt [b], p.40-41).

While rising book prices are a source of great concern to librarians, publishers indicate that there is little they can do about them. The general state of the economy and the potential market for various types of materials determine prices. Per-volume sales of specialized works appear to be declining. Curtis Benjamin, former president of McGraw-Hill, reports: "Although no historical records are available, spot checks indicate that book-life sales of advanced treatises and scholarly monographs decreased by at least 50 percent in the period 1947-1979, or from about 5,000 copies to no more than 2,500 copies of the average title published" (Benjamin, p.45). Benjamin goes on to argue that part of the reason for recent increases in book prices can be found in the unrealistically low book prices that prevailed in this country in the decade immediately after World War II. In his view, "it appears that realistic price increases in very recent years have, at last, made up for the unwise lapses in the postwar years" (Benjamin, p.41). From the librarian's view, Frank contrasts ten-year rises in the Consumer Price Index, book prices, periodical subscriptions, and serial services, and discusses implications of the differences (Frank, D.G.).

PLANNING AND BUDGETING

Collection development continues to focus on careful planning and realistic budgeting. Several analyses of procedures and policies used in building library collections appeared in the 1981 literature, along with

examples of specific policy statments. Libraries of all sizes and types were represented. School librarians have a new collection of policies and procedures statements available to them (Taylor), as well as a discussion of how a small school district formulated and adopted its policies concerning the media center (Adams). Smaller academic libraries were the focus of a publication on collection development policies issued by the College Libraries Section of ACRL (ACRL). In addition, papers from a 1980 conference held at Washington and Lee University were distributed in 1981 and provided liberal arts college librarians with thoughtful discussion of their collection development challenges—specifically, "financial stringency, variable enrollments, and inflation on the one hand *versus* professional research, more sophisticated research and teaching programs for undergraduates, and the tantalizing promises of commercial information services on the other . . ." (Danford, p.5.). Cline§ and Sinnott took a social scientist's view of what was happening at seven academic libraries—two colleges and five universities. They described and analyzed general policies, fund allocation, expenditures, and selection procedures for individual items.

University research librarians are still calling for a rethinking of "the basic assumptions about building research collections that we inherited from the library leaders of the late 19th and early 20th centuries" (DeGennaro, p.10). Stanford and Cornell universities have been studying their collection development activities for several years and both issued reports in 1981. The concluding report on the Cornell University Libraries' Project for Collection Development and Management appeared in early 1981 (Miller). Stanford University Libraries published an updated version of the collection development policy statement that proved so influential when it first appeared in 1970 (SUL). American librarians are not the only ones concerned with future development of academic library collections, as a summary report from the USSR Academy of Sciences indicates (Varfolomeeva).

Final responsibility for selection decisions is one aspect of academic library collection development that still holds wide interest. Dickinson's argument for giving faculty most of the responsibility for selection in an academic library generated predictable reactions from American librarians (Six Responses). Holbrook§ describes how subject specialists acting as academic unit librarians function in the collection development process at Bath University, while Osiobe§ analyzes faculty and librarian participation in the selection process at the University of Port Harcourt Library in Nigeria.

Public librarians are still debating the question of the extent to which the volume of demand for specific titles should influence collection development policy. In a description of how book selection works at Baltimore County Public Library, Rawlinson warns librarians not to underestimate the tastes of the reading public: "Being responsive to demand means providing the classics and perennial favorites as well as that which is currently popular" (Rawlinson, p.2188). Hermenze§ provides additional evidence that classics will circulate in public libraries when provided in attractive editions. The Tucson Public Library, in the

process of developing a new statement of collection development aims, appears to be following the approach used at Baltimore County Public Library—that of a "client-oriented system which anticipates client needs and responds to high demand requests" (Tucson Develops, p.3). Such a policy generally means buying more copies of fewer titles and, in some libraries, has led to maintaining the materials budget at a fairly high percentage of the total library budget—20 percent, for example, in Baltimore County (Rawlinson, p.2190).

Part of the problem that arises in planning and budgeting for collection development is due to increased public acceptance of a variety of formats for informational and recreational materials. Videotapes, for example, are now in more demand at public libraries as the number of home video recorders increases. "Public libraries, newly awakened to the need to respond to what their patrons actually want, are faced with demand for a huge and expensive new medium . . ." (Videotapes, p.1). Online databases present somewhat similar considerations for the academic librarian. Neely discusses "some of the major effects of online sources on the acquisition of reference materials, including cost-effects of substituting online equivalents for printed reference works" (Neely, p.45). Lancaster§ and Goldhor report on a survey of academic and special librarians, in which they detected significant levels of cancellation of subscriptions to printed abstracting and indexing services, but little direct relationship between those cancellation decisions and the availability of online services.

The planning of special collections in general and government document collections in particular received attention in 1981. In the introduction to a special issue of *Government Publications Review* on "Collection Development for Government Publications," Hernon and Purcell note that all parts of a library collection need careful planning, "but for none is there a greater need to consider collection development policies than for the public documents collection" (Collection Development, p.1). Access to local government documents was the subject of a British study by Kennington,§ published in October 1981. A coordinated approach to document collection is a concern in the Federal Republic of Germany, discussed by Landwehrmeyer.§ The pressures which lead to establishment of special collections and the need for planning and cooperation in collection development for special subjects are topics discussed by Volkersz§ and by Davis.§

Although budgeting is always a major concern in collection development, new publications on the subject were not as plentiful in 1981 as in previous years. Richard Abel, in an interview published in the newsletter *Technicalities,* advises libraries "to set themselves a distinct set of goals . . . enlist the unstinting support of the entire staff in the support of those goals and in developing the policies for the implementation of those goals . . ." (Conversation, p.13). He goes on to recommend that these be viewed as long-term goals and that the budget-making process be subordinated to these long-range plans. Werking§ and Getchell argue that book allocations for academic libraries should be strongly influenced by the number and average cost of new publications in each

discipline and suggest that *Choice* may be an appropriate base for determining relative sizes and amounts of the allocations. An approach to acquisitions budget control in another type of academic setting is provided by Ching-Tat,§ who focuses a discussion on colleges of advanced education in Australia.

Studying Use and Controlling Growth

The value of use studies as a planning tool continues to be debated, although the distribution of a "second revised working draft" of "Guidelines for Use and User Studies" by the Collection Management and Development Committee of ALA's Resources and Technical Services Division (ALA) and the publication of a SPEC kit on "User Surveys and Evaluation of Library Services" by the Association of Research Libraries (User Surveys) indicate the wide degree of acceptance such studies have now achieved. The Pittsburgh Study is still being discussed (Borkowski; Peat); analyzed (Hayes); and replicated (Hardesty).

Controlling the size of library collections—or developing the "steady-state" library—has been a topic of much discussion in Britain for several years and is now beginning to receive more attention in this country. Keyes Metcalf, in reviewing changes in American librarianship during his lifetime, predicts "an end to the pace of growth which has dramatically altered the scope of academic library collections" (Special Report, p.1162). Gore, for some time a vocal advocate of no-growth libraries, continued his contributions to the discussion in 1981 by explaining how to tell "when the size of an academic library is jest right. It is jest right when, if it were any bigger you would only increase the quantity of unused books in it, and if it were any smaller you couldn't stand all the frustrations it caused" (Gore, p.2187).

Maintaining an upper limit on the size of a library collection requires an active program of evaluation and weeding. Although there seems to be little original thinking on the subject, discussions of collection evaluation techniques continued to appear in 1981 (Comer, Gallagher, Goldhor, Thomason, Voos, Whaley). Weeding projects, policies, and models were provided by Goldstein§ (medical library weeding policies); Lawrence§ (university library cost model for weeding and storage); and McKee§ (public library branch weeding project). Cargill§ describes what can happen after the weeding review has been completed by detailing how one library got rid of the discards. Glider's§ report provides a critical, international review of the last decade's literature on weeding and storage.

Acquisitions Methods and Procedures

A topic of perennial concern to acquisitions librarians is library-book dealer relations. In most cases, communication is the primary problem, and in 1981 helpful hints for improving communication came from both dealers and librarians (Alessi; Mellin; Schenck [b]). Concentrating on one essential part of the library-book dealer relationship, the Book Industry Systems Advisory Committee continues to work toward a

standard format for efficient communication of order information (Paul).

The mechanics of acquisitions also received their share of attention in 1981. Speller§ defines terms related to bids and contracts and offers guidelines for handling competitive bids. The effects of OCLC's online service on preorder searching are discussed by Groot§ and by Neikirk.§ Maffeo§ reports results of a time study on invoice payments in one library, and Schenck gives practical suggestions on claiming outstanding orders (Schenk [a]). The report on an evaluation of one school district's centralized ordering and processing center illustrates some of the problems that can occur in attempts to analyze and evaluate acquisition systems (Hendrickson).

Automated acquisitions systems continue to maintain a large share of the library public's attention. The March/April 1981 issue of *Library Technology Reports* was devoted to a comparison of acquisitions systems, beginning with discussion of basic options (in-house development, transferred software, turnkey system, bibliographic utility, etc.) and including comments on individual systems (Boss). Leonhardt briefly describes a locally developed automated acquisitions system at Duke University (Leonhardt [a]), and Pemberton§ and Clifton describe one operating at the University College at Buckingham. Most of the news notes and case studies reported in the literature focus either on turnkey or bibliographic utility systems. Hogan explains how Wayne State University chose its acquisition system (Hogan [a and b]), and Bullard discusses how the University of Louisville switched systems (Bullard [c]). During 1981, twenty libraries participated in a test of the OCLC Acquisitions Subsystem (OCLC Acquisitions, p.3–4). The Research Libraries Group (RLG) reported the installation of the RLIN II acquisition system (RLG Adds). Ringgold Management Systems placed the first installation of its turnkey automated acquisitions system at Wayne State University (Technical Services Newsletter Interviews John Knapp). DataPhase Systems, Inc., continued testing an acquisitions system to complement their existing automated circulation system (Technical Services Newsletter Interviews Kim Schmidt). Early in 1982, Innovative Interfaces introduced a new automated acquisitions system called INNOVACQ System 100, for which orders were already being written (New Automated, p.5).

Recent developments in publishing brought about by the sluggish economy and the Thor Power Tool decision—smaller press runs, rising prices, shorter in-print times, etc.—appear to be stimulating the use of approval plans (Approval Plans, p.1). "In an inflationary business environment, the benefits of approval plans in helping libraries get books are already clear: a library receiving new books on the approval plan has an edge over other institutions which may have waited 2 or 3 years to make the decision to purchase particular titles" (Spyers-Duran, p.12). The recent approval plan experiences of the University of Cincinnati and the University of Windsor were reported in 1981 (Gregor; Frommeyer [a and b]). Experiences of several other academic libraries, as well as review articles on other aspects of approval plans,

may be found in the published collection of papers from the Fourth International Conference on Approval Plans and Collection Development (Spyers-Duran [b]).

The Universal Serials and Book Exchange (USBE) appeared in the news regularly in 1981. USBE delivered its fourteen-millionth publication early in the year (USBE Clocks, p.2). By the summer it had announced production of a microfiche list of the 10,000 periodical titles in greatest supply in its warehouses (USBE Produces, p.5). Starting August 1, libraries were offered access to USBE files through Bibliographic Retrieval Services; and member libraries had the option of online ordering through the services' message-switching system (New Online, p.2). During September, USBE acquired twenty-one new members and reported a total membership of 1,640 libraries in fifty-nine countries (Online Service, p.1). Nelson§ describes USBE's current operations and future plans.

The acquisition of foreign materials received less attention in 1981 in many libraries because of the continuing budget squeeze. Welsch looks at that problem from the point of view of European materials, which have been particularly affected by inflation, and suggests "1) more information sharing about such topics as prices and sources; 2) better control of the acquisitions process; 3) continued efforts to evaluate local collections and national holdings; and, 4) coordination and cooperation by those institutions and librarians collecting European materials" (Welsch, p.7). Early in 1981, the Association of Research Libraries asked its Task Force on Collection Development to "review the current commitment of ARL as an association to problems in foreign acquisitions, including the role of the foreign acquisitions committee" (Recent Committee, p.11). A hint about the ARL's commitment to foreign acquisitions was provided later in 1981 when the Board of Directors voted to cease publication of the *Foreign Acquisition Newsletter* (FAN), which had been suspended in 1980. The Board "acknowledged the role FAN had played, but determined that, given the current economic climate, the Association could no longer afford to subsidize the newsletter, and FAN's potential readership was too small to support the publication" (ARL Discontinues, p.3).

CONTINUING EDUCATION

Continuing education opportunities for librarians interested in the development and management of collections were plentiful in 1981. The first of a projected series of Collection Management and Development Institutes, sponsored by ALA's Resources and Technical Services Division, was held at Stanford, July 6–10. (For reports on the proceedings, see Bullard [b]; Willett.) The planning committee for the institutes has announced that it will continue the series with regional programs in Washington, D.C., in July 1982; in Boston, Massachusetts, mid-October 1982; and in Omaha, Nebraska, in October 1983 (Regional Collection, p.8). Other regional institutes may be held in the Southwest, Southeast, and Pacific Northwest. The

Association of College and Research Libraries Conference in Minneapolis in October also included a number of contributed papers on collection development topics.

Typical of the topics chosen for locally or regionally planned meetings on collection development were these: "Collection Development in a Tight Budget Era: The Process from Planning through Evaluation," Lansing, Michigan, April 24 (report by Poulos); "Automated Acquisitions Systems: The Options," Arlington Park, Illinois, May 4–5 (report by Bullard [a]); "The Impact of Serials on Collection Development," Oklahoma City, May 21–22 (report by Harmon); and "Protection, Preservation and Collection Development," Albany, New York, October 22–24.

CONCLUSION

"Austerity"—cold and unfriendly in sound—may be the word that best characterizes the collection development environment of 1981. To some this is a depressing condition in which to work, but to others it offers a challenge and possibility for change. DeGennaro sums up the optimist's view of austerity: "It is a commonplace that a little austerity after a long period of affluence can be good for an organization. It creates a climate where minor cost cutting of frills and nonessentials can be carried out. . . . It is equally true, but less generally recognized, that a more severe retrenchment may also, on occasion, be beneficial for an organization. It frequently happens during these times of extreme financial crisis that leaders are enabled, or even forced, to be courageous and strong enough to propose and implement the bold changes or programs that really make a difference in the long run" (DeGennaro, p.13). Most of those who manage library collections today find themselves confronted with the challenging conditions provided by austerity and retrenchment. Indications are that some of these librarians are moving toward DeGennaro's "bold changes or programs that really make a difference in the long run."

REFERENCES

ACRL, Association of College and Research Libraries. *Collection Development Policies.* CLIP Notes, 2–81. Chicago: American Library Assn., 1981.

Adams, Helen R. "Media Policy Formulation and Adoption in a Small School District," *Wisconsin Library Bulletin* 77:11–13 (Spring 1981).

ALA, American Library Association, Resources and Technical Services Division. *Guidelines for Use and User Studies.* 2d rev. working draft. Chicago: Resources and Technical Services Division, 1981.

Alessi, Dana L. "Book Jobbers—There Yesterday, Here Today, Gone Tomorrow?" *Library Acquisitions: Practice and Theory* 5:21–25 (1981).

"Approval Plans/Thor Power Tool Decision/Acquisitions Alternative," *Acquisitive Librarian* 3:1 (Oct. 1, 1981).

"ARL Discontinues FAN," *Acquisitive Librarian* 3:3 (Dec. 1, 1981).

"Average Book Prices," *Library Association Record* 83:531 (Nov. 1981).

Benjamin, Curtis G. "The Weaving of a Tangled Economic Web," *Publishers Weekly* 219:41–45 (April 24, 1981).

Borkowski, Casimir; Brumble, H. David, III; and Macleod, Murdo J. "A Reply to the Kent Study," *Library Journal* 106: 710–13 (April 1, 1981).

Boss, Richard W., and Marcum, Deanna B. "On-Line Acquisitions Systems for Libraries," *Library Technology Reports* 17:115–202 (March/April 1981).
"Britain Records Decrease in 1981 Title Output," *Publishers Weekly* 221:16 (Jan. 22, 1982).
Bullard, Scott R. [a] "Automated Acquisitions Systems/The Options: The *LAPT* Report," *Library Acquisitions: Practice and Theory* 5:101–14 (1981).
_____. [b] "Collection Management and Development Institute, Stanford University, July 6–10, 1981: The *LAPT* Report," *Library Acquisitions: Practice and Theory* 5:171–83 (1981).
_____. [c] ØLAS: One Library's Experience," *Library Acquisitions: Practice and Theory* 5:73–80 (1981).
Cargill, Jennifer. "Yesterday's Bargain—Today's Dilemma," *Technicalities* 1:1, 13–14 (May 1981).
Ching-Tat, Lee. "Acquisitions Budget Control in a CAE Library," *Australian Academic and Research Libraries* 12:174–84 (Sept. 1981).
Cline, Hugh F., and Sinnott, Loraine T. *Building Library Collections: Policies and Practices in Academic Libraries.* Lexington, Mass.: Lexington Books, 1981.
"Collection Development for Government Publications," *Government Publications Review* 8A:1–125 (1981).
Comer, Cynthia. "List-Checking as a Method for Evaluating Library Collections, *Collection Building* 3:26–34 (1981).
"Continuing Resolution, FY 1982," *ALA Washington Newsletter* 33:1–2 (Dec. 21, 1981).
"Conversation with Richard Abel," *Technicalities* 1:1,3–5,13–14 (Feb. 1981).
Cooke, Eileen. "Off-Air Copying Update: Guidelines, Advice to Educators," *American Libraries* 12:663–64 (Dec. 1981).
"Copyright Controversy," *College & Research Libraries News* 42:286–88 (Sept. 1981).
"Copyright Update," *College & Research Libraries News* 43:24 (Jan. 1982).
Dahlin, Robert. "A Tough Time for Textbooks," *Publishers Weekly* 220:28–32 (Aug. 7, 1981).
Danford, Robert F., ed. *Library Resources for College Scholars.* University Library Publications, 8. Lexington, Va.: Washington and Lee University, n.d.
Davis, Susan E. "Collection Development and the Special Subject Depository," *Bookmark* 39:100–104 (Winter 1981).
DeGennaro, Richard. "Matching Commitments to Needs and Resources," *Journal of Academic Librarianship* 7:9–13 (March 1981).
Dickinson, Dennis W. "A Rationalist's Critique of Book Selection for Academic Libraries," *Journal of Academic Librarianship* 7:138–43 (July 1981).
Dolmatch, Theodore. [a] "Books and the Big Money: A Modest Proposal," *Publishers Weekly* 220:31–32 (Dec. 4, 1981).
_____. [b] "Publishers Are Better Off Hungry," *Publishers Weekly* 220:27 (Aug. 7, 1981).
Dong, Stella, and Goldstein, William. "Booksellers Speak Out on Recent Censorship Bills, the Moral Majority and Shifting Community Standards," *Publishers Weekly* 220:53–58 (Sept. 11, 1981).
Fields, Howard. "Treasury Department Opposes *Thor* Backlist Relief Bills," *Publishers Weekly* 220:12,23 (Oct. 16, 1981).
Fischel, Daniel N. [a] "Dangers of the 'Portfolio' Approach to Management," *Publishers Weekly* 220:22–24 (Sept. 4, 1981).
_____. [b] "Dollars . . . or Sense?" *Publishers Weekly* 219:38–40 (May 22, 1981).
_____. [c] "Publishing Risks—And How to Take Them," *Publishers Weekly* 220:34–36 (July 10, 1981).
Frank, Donald G. "The Library Budgeting Process and Inflationary Pressures: A Perspective," *Texas Library Journal* 57:42–44 (Summer 1981).
Frank, Jerome P. "New Papers, Printing Technology and Binding Methods Offer Hope to Cost-Conscious Publishers," *Publishers Weekly* 220:18–28 (Dec. 4, 1981).
Frommeyer, L. Ronald. [a] "Approval Plans—Our Continuing Saga," *Technical Services Newsletter* 8:7–8 (Sept. 16, 1981).
_____. [b] "Bidding an Approval Plan—One Year Later," *Technical Services Newsletter* 8:8–10 (March 27, 1981).
Gallagher, Kathy E. "The Application of Selected Evaluative Measures to the Library's

Monographic Ophthalmology Collection," *Bulletin of the Medical Library Association* 69:36-39 (Jan. 1981).
"Getting into Database Publishing: Some Possibilities and Pitfalls," *Publishers Weekly* 220:45-46 (Sept. 11, 1981).
Glider, L., and others. *The Relegation and Storage of Material in Academic Libraries: A Literature Review.* CLAIM Report, 3. Loughborough, Eng.: Department of Library and Information Studies, Loughborough University, 1980.
Goldhor, Herbert. "A Report on an Application of the Inductive Method of Evaluation of Public Library Books," *Libri* 31:121-29 (Aug. 1981).
Goldstein, Cynthia H. "A Study of Weeding Policies in Eleven TALON Resource Libraries," *Bulletin of the Medical Library Association* 69:311-16 (July 1981).
Gore, Daniel. "Curbing the Growth of Academic Libraries," *Library Journal* 106:2183-87 (Nov. 15, 1981).
Grannis, Chandler B. [a] "Domestic Statistical Update; Final 1980 Figures: Title Output and Price Averages," *Publishers Weekly* 220:32-35 (Sept. 25, 1981).
_____. [b] "U.S. Export-Import Figures and International Title Output," *Publishers Weekly* 220:122-23 (Sept. 18, 1981).
Gregor, Jan, and Fraser, Wendy Carol. "A University of Windsor Experience with an Approval Plan in Three Subjects and Three Vendors," *Canadian Library Journal* 38:227-31 (Aug. 1981).
Groot, Elizabeth H. "A Comparison of Library Tools for Monograph Verification," *Library Resources & Technical Services* 25:149-61 (April/June 1981).
Hardesty, Larry. "Use of Library Materials at a Small Liberal Arts College," *Library Research* 3:261-82 (Fall 1981).
Harmon, Coy L. "The Impact of Serials on Collection Development: A Report on the Conference Proceedings," *Library Acquisitions: Practice and Theory* 5:95-99 (1981).
Hayes, Robert M. "The Distribution of Use of Library Materials: Analysis of Data from the University of Pittsburgh," *Library Research* 3:215-60 (Fall 1981).
Henderson, Carol. [a] "Washington Hotline," *College & Research Libraries News* 42:328 (Oct. 1981).
_____. [b] "Washington Hotline," *College & Research Libraries News* 42:405 (Dec. 1981).
Hendrickson, Leslie, and Celestre, Marie. "An Evaluation of an Oregon School District's Centralized Ordering and Processing System," *Library Resources & Technical Services* 25:162-76 (April/June 1981).
Hermenze, Jennie. "The 'Classics' Will Circulate!" *Library Journal* 106:2191-95 (Nov. 15, 1981).
Hogan, Walter P. [a] "Choosing an Acquisitions System: Wayne State University—A Case Study," *Technical Services Newsletter* 8:4-7 (June 12, 1981).
_____, [b] and Kunnath, Robert. "Automated Acquisitions: The Acid Test," *Technicalities* 1:6-7 (Nov. 1981).
Holbrook, Anthony. "School Librarians at Bath University Library: A Social Science Case Study," *Aslib Proceedings* 33:23-31 (Jan. 1981).
Kennington, Don. "Access to Local Government Documentation," *Interlending Review* 9:118-21 (Oct. 1981).
Lancaster, F. W., and Goldhor, Herbert. "The Impact of Online Services on Subscriptions to Printed Publications," *Online Review* 5:301-11 (Aug. 1981).
Landwehrmeyer, R. "A Planned Decentralized Solution for National Document Supply: The Federal Republic of Germany," *Interlending Review* 9:122-27 (Oct. 1981).
Lawrence, Gary S. "A Cost Model for Storage and Weeding Programs," *College & Research Libraries* 42:139-47 (March 1981).
Leonhardt, Thomas W. [a] "The Duke University Library Automated Acquisitions System," *Library Acquisitions: Practice and Theory* 5:185-91 (1981).
_____. [b] "Library Materials Price Index: British Book Prices," *RTSD Newsletter* 6:40-41 (July/Aug. 1981).
McKee, Penelope. "Weeding the Forest Hill Branch of Toronto Public Library by the Slote Method: A Test Case," *Library Research* 3:283-302 (Fall 1981).
Maffeo, Steven E. "Invoice Payment by Library Acquisitions: A Controlled Time Study," *Library Acquisitions: Practice and Theory* 5:67-71 (1981).
Magrill, Rose Mary. "Collection Development and Preservation in 1980," *Library*

Resources & Technical Services 25:244–66 (July/Sept. 1981).
Mellin, Stefan, and Ashley, Elizabeth. "Dealer Dilemmas," *Technicalities* 1:3,6 (Oct. 1981).
Miller, J. Gormley. *Collection Development and Management at Cornell.* Ithaca, N.Y.: Cornell University Libraries, 1981.
Mutter, John. "Study on School Censorship Finds Cases on Rise," *Publishers Weekly* 220:12 (Aug. 7, 1981).
Neely, Glenda S. "Online Databases: Effects on Reference Acquisitions," *Library Acquisitions: Practice and Theory* 5:45–49 (1981).
Neikirk, Harold D. "Less Does More: Adapting Pre-Order Searching to On-Line Cataloging," *Library Acquisitions: Practice and Theory* 5:89–94 (1981).
Nelson, Milo. "Washington Transfer: The Precarious but Enduring Services of the USBE," *Wilson Library Bulletin* 55:672–75 (May 1981).
"New Online Access to USBE," *Acquisitive Librarian* 3:2 (Sept. 1, 1981).
"OCLC Acquisitions Subsystem Testing in Full Swing," *Acquisitive Librarian* 3:3–4 (June 15, 1981).
"Online Service Attracts New Members to USBE," *Acquisitive Librarian* 3:1 (Nov. 1, 1981).
Osiobe, S. A. "The Faculty versus Librarians in the Acquisitions Process: A Comparative Analysis," *Library Acquisitions: Practice and Theory* 5:9–13 (1981).
Parkhurst, Bill. "Books and Cable Television—An Advancing Alliance," *Publishers Weekly* 220:29–32 (Nov. 6, 1981).
Paul, Sandra K. "Emerging Standards for Book Acquisition," *Technicalities* 1:8–9 (March 1981).
Peat, W. Leslie. "The Use of Research Libraries: A Comment about the Pittsburgh Study and Its Critics . . . ," *Journal of Academic Librarianship* 7:229–31 (Sept. 1981).
Pemberton, John E., and Clifton, B. J. "On-Line Book Ordering in the College Library," *Library Association Record* 83:15 (Jan. 1981).
Poulos, Angela. "Collection Development in a Tight Budget Era," *Technical Services Newsletter* 8:4–5 (Sept. 16, 1981).
Rawlinson, Nora. "Give 'em What They Want," *Library Journal* 106:2188–90 (Nov. 15, 1981).
"Recent Committee Appointments and Charges," *ARL Newsletter* 105:9–12 (March 3, 1981).
"Regional Collection Management and Development Institutes Planned," *RTSD Newsletter* 7:8 (Jan./Feb. 1982).
"RLG Adds Online Acquisitions; Reorganizes RLIN Database," *American Libraries* 12:698 (Dec. 1981).
Schenck, William Z. [a] "Claiming: Luxury or Necessity?" *Library Acquisitions: Practice and Theory* 5:3–7 (1981).
_____. [b] "Let the Seller Beware," *Technicalities* 1:9 (Aug. 1981).
Shatzkin, Leonard. "The Developing Crisis in Trade Books," *Publishers Weekly* 221:24–25 (Jan. 22, 1982).
"Six Responses to 'A Rationalist's Critique . . . ,' " *Journal of Academic Librarianship* 7:144–51 (July 1981).
"Special Report: Downs, Kaser, Metcalf and Shera Take Podium at East Illinois," *Library Journal* 106:1160–64 (June 1, 1981).
Speller, Benjamin F., Jr. "Purchasing for Libraries and Information Centers," *Library Acquisitions: Practice and Theory* 5:31–37 (1981).
Spyers-Duran, Peter. [a] "Approval Plans, Publishers, and the Supreme Court," *Technicalities* 1:12 (March 1981).
_____, [b] and Mann, Thomas, Jr., eds. *Shaping Library Collections for the 1980's.* Phoenix, Ariz.: Oryx Pr., 1980.
SUL, Stanford University Libraries. *Collection Development Policy Statement.* Stanford, Calif.: Stanford University Libraries, 1981.
"Swift Change Predicted for Publishing," *Acquisitive Librarian* 3:2–3 (June 15, 1981).
Taylor, Mary M., ed. *School Library and Media Center Acquisitions Policies and Procedures.* Phoenix, Ariz.: Oryx Pr., 1981.
"Technical Services Newsletter Interviews John Knapp," *Technical Services Newsletter* 8:1–4 (June 12, 1981).

"Technical Services Newsletter Interviews Kim Schmidt," *Technical Services Newsletter* 8:2–7 (March 27, 1981).
Thomason, Nevada. "Evaluating a School Media Center Book Collection," *Catholic Library World* 53:87–88 (Sept. 1981).
"Tucson Develops Collection Development Philosophy, Reports Whopping Circulation Figures for Paperbacks," *Acquisitive Librarian* 4:3 (Jan. 1, 1982).
"USBE Clocks Publication No. 14 Million Delivered to U Tenn Library," *Acquisitive Librarian* 3:2 (April 1, 1981).
"USBE Produces Microfiche List of Periodical Titles," *Acquisitive Librarian* 3:5 (June 15, 1981).
User Surveys and Evaluation of Library Services. SPEC Kit 71. Washington, D.C.: Association of Research Libraries, Office of Management Studies, Systems and Procedures Exchange Center, 1981.
Varfolomeeva, M. V. "Principles for the Constitution of Stock in Research Libraries," *Unesco Journal of Information Science, Librarianship and Archives Administration* 3:2–6 (Jan.–March 1981).
"Videotapes: Major New Acquisitions Area for Decisions," *Acquisitive Librarian* 3:1 (Jan. 15, 1981).
Volkersz, Evert. "The Special Collections Concept," *Bookmark* 39:110–15 (Winter 1981).
Voos, Henry. "Collection Evaluation," *Collection Building* 3:6–11 (1981).
Welsch, Erwin K. "Will American Libraries Continue to Have European Books?" *European Studies Newsletter* 10:1–8 (March 1981).
Werking, Richard H., and Getchell, Charles M., Jr. "Using *Choice* as a Mechanism for Allocating Book Funds in an Academic Library," *College & Research Libraries* 42:134–38 (March 1981).
Whaley, John H., Jr. "An Approach to Collection Analysis," *Library Resources & Technical Services* 25:330–38 (July/Sept. 1981).
Willett, Charles. "Pilot Regional Collection Management and Development Institute," *RTSD Newsletter* 6:61–65 (Nov./Dec. 1981).

Descriptive Cataloging in 1981

Constance Rinehart

LAST YEAR'S PREOCCUPATION with training programs and tools for use with a new catalog code has enabled countless institutions to proceed in 1981 with the implementation of the new rules. While libraries have shown continued enthusiasm for computer support of technical services procedures, some nagging and difficult questions remain.

AACR2, Continued

Perhaps because it was the year in which the Library of Congress and many other institutions took their quantum leap into the new catalog code, staff interest in the problems of cataloging has been limited chiefly to local concerns. Although determined pockets of resistance to AACR2 remained, exemplified by Martell§ and Ayres§, continued progress in adoption of the new code was the theme of news notes in the library press.

As had long been promised, Gorman completed and published *The Concise AACR2* (Gorman [a]), which had been introduced and summarized on the national and international levels by Hinton.§ *The Concise AACR2* is intended to enable students of cataloging to grasp the essence and basic principles of the full edition through a simplified version, and to help catalogers in small libraries produce standard bibliographic records without learning the full text. While these are laudable aims, few things could be more discouraging to the beginning cataloging student than discovering that this book contains CIP data from both the British Library and the Library of Congress—the first entered under title, the second under author. Later in the year, carried away by the impetus of his efforts toward simplification, Gorman produced "The Most Concise AACR2," a bookmark-size condensation of the code into two rules: "Describe the item you have in hand [according to the pattern given]" and "Make . . . copies of the description . . . and add to each the name of the author and of other persons or bodies associated with the work. Give [these] names . . . in their best known form" (Gorman [b], p.499).

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Editor's note: A section mark [§] identifies the surnames under which some of the sources are listed in the "References." Acronyms, surnames, or initial words of a title in parentheses throughout the text identify other sources and provide specific page references as required.

For those engaged in the relatively inglorious activities related to the adoption of the new code in any given location, assistance was available at various levels. Simonton§ and McClaskey's *AACR2 and the Catalog* gives a historical and theoretical framework, identifying the principal problems that arise in the preparation of a catalog record and offering possible solutions; Cook's *AACR2 Decisions and Rule Interpretations* (AACR2 Decisions) pulls together in one publication the numerous decisions and interpretations of the national library agencies; and Daly's *After Day One,* written for those libraries wanting information specifically about the Library of Congress' plans and proposed changes, points out that although AACR2 is generally blamed for the changes that will occur in entry forms, LC's policy of desuperimposition "is by far the more significant cause" (Daly, p.4).

While most of the news that appeared in library periodicals about the adoption of the code was devoted to Guinness-type tales of how-we-did-it-fastest, two more ambitious descriptions have appeared. Brindley's§ relation of the British Library's activities emphasizes the decisions and problems related to machine conversion of bibliographic records. Closer to home, a complete issue of *Bookmark* is given over to the interaction of "AACR2 and New York Libraries," with eleven contributors considering the impact of the new code on libraries of all types and sizes (AACR2 and New York).

One of the most publicized and complex of the AACR2 implementation projects was that faced by the bibliographic utilities. Brown§ reported that in its conversion of the database, OCLC found that 39 percent of the records in the online catalog had to be changed—a much higher total than had been expected. A report from the University of Illinois indicated that while there were problems appearing in the use of OCLC's converted database, the usefulness of the new headings "far outweighed" the difficulties encountered (Wajenberg, p.184).

Tools of the Trade

The most general in scope of several notable new cataloging tools which appeared during 1981 is Chan's *Cataloging and Classification,* offered as a textbook for library school classes and including lists of basic tools, background readings, and exercises. Bibliographic control is given a surprisingly limited definition in this new text as "the operation by which recorded information is organized or arranged" (Chan, p.3).

In *Corporate Authorship: Its Role in Library Cataloging,* Michael Carpenter attempts "to provide a rationale for treating corporate bodies as authors in the context of an alphabetical library catalog organized around the concept of authorship" (Carpenter, p.6). Carpenter's work, based on his doctoral thesis at the University of California, Berkeley, first discusses views of corporate authorship from Panizzi to "AACR2 and the Decline of Corporate Main Entry," then tests several possible theories of corporate authorship. The "revised corporate utterance theory," which calls for the treatment of a corporate body as author only when the work in question is represented as a corporate utterance of that body, is offered as justification for the use of corporate bodies as authors.

Monograph Cataloging Notes, by Salinger§ and Zagon, is intended to save time for cataloging personnel by suggesting the phrasing and punctuation of notes to be used in catalog records and by indicating whether a particular note is appropriate. The work is arranged according to the order of rules in the note area of AACR2, chapter 2, and the compilers have included both a subject index and an index collating examples with main entries, NUC volume number, and LC card number. Further emendation of AACR2 comes from Wellisch,§ whose *Key to Abbreviations* is intended to correct what the author feels are spelling errors and incorrect arrangement in appendix B of the code.

Many of the articles which have been mentioned in these reviews over the past five years are among those made available by Ryans in *The Card Catalog: Current Issues,* which provides "an over-all view of the steps necessary in determining the future of the card catalog" (The Card, p.x). Readings and bibliographies cover the future of the catalog, alternatives to the catalog, preparing for an alternate form of bibliographic access, and case studies.

The first issue of the long-awaited new journal *Cataloging & Classification Quarterly* also appeared during 1981, with a number of cataloging articles still of interest despite the year's delay in publication.

THE VIDEO DISPLAY MARCH

Even as the Library of Congress began celebrations to honor the completion of a major cataloging tool, its monumental 755-volume *National Union Catalog: Pre-1956,* the event was treated almost as a memorial to an anachronism (Welsh). Libraries of all sizes, already familiar with the possibilities of the machine for bibliographic control, were turning to automation for budgetary reasons as well as for efficiency in catalog maintenance (N.Y. Library). Sixty-two libraries in Illinois proposed to study the cost-effectiveness of sharing terminals (IVLS Checks), and Druschel§ found that the automated system in use at Washington State University Libraries was less expensive as well as more accurate and more flexible than the manual system used for cataloging and book processing. Baldwin,§ commenting on the use of the British Library's BLAISE for online cataloging, offers suggestions for the effective use of an automated support system.

As usual, there was little or no agreement as to which automated system had the most to offer. Western Massachusetts libraries joined OCLC in the hope of saving personnel funds (Western Mass.), but some Research Libraries Group members turned to UTLAS because of its better prices (UTLAS). Other libraries turned to circulation systems to provide their public records (Five), and system specifications for such a catalog were produced by the California State University and Colleges system (CSUC). University Microfilms explained why it chose OCLC as its cataloging distributor (Hamilton), and a concise comparison of the three major U.S. utilities, with data current for December 1980, was prepared by the staff of the University of Oregon Library (A Comparison).

One of the online support systems, OCLC (which became initials in

1977 and has now adopted the name Online Computer Library Center), has come sufficiently of age to encourage biographers. Branscomb§ and Rogers offer an account of the period from 1951, when a group of Ohio academic library directors began to study possibilities for cooperation, to 1967, when the Ohio College Library Center was formed.

The OCLC system is also old enough and large enough to offer usable research data for a number of investigators. Hickey,§ using a systematic sample of 1 percent of OCLC records, offers statistics on the use of field, subfield, and indicator codes within the records, as well as on the co-occurrence of fields. His data should be of help in estimating file growth, selecting subsets of records for local catalogs, and designing bibliographic databases. Rastogi§ and Morita, studying search-key usage patterns at the Ohio State University Library, found the name-title search used most frequently for monograph cataloging, the title key for serials cataloging, and the LC card number key for acquisitions searches, even at times when some other search key would have been more successful.

Crowe§ investigated the cataloging copy contributed to the OCLC database by Indiana University in an attempt to determine whether the choice of items for original cataloging had been valid. His results indicated that fewer than 20 percent of the records input by Indiana had been superseded by LC cataloging one year later, suggesting that the contributing library's priorities were set carefully.

One trend suggested in the year's publication is a growing acceptance of the variations in library catalog records, along with—perhaps—a recognition of the need to provide for such variations in any type of cooperative endeavor; Lovecy§ offers a simple presentation of the problems such group efforts face in creating central or shared cataloging, union catalogs, etc. In an attempt to find some common ground that might avoid some of the variances, Crismond§ reports on the suggestion of the Internetwork Quality Control Council, an OCLC advisory group, that a lower-level record be used for conversion of retrospective records to machine-readable form. Libraries responding, however, objected strongly to the proposal, preferring a higher-quality record for such projects in spite of the possible problems. Johnson§ and Josel, studying error reports generated at Memphis State University Library, indicate that one of those problems is the amount of error in contributed records; they indicate that 13.7 percent of the member library records used during the period studied contained errors, but only 1.6 percent of the MARC records used. These results are supported by Moore's survey of 166 OCLC member libraries, which confirms that "libraries are not accepting the concept of shared cataloging in the sense of using records as they appear in the data base" (Moore, B., p.39), but the reasons for the checking and changing of records in which catalog departments indulge were not reported.

THE CATALOG AND THE USER

Following a year in which the report appeared of a major research project on the design of alternative catalogs for libraries, the Council on Library Resources announced grants amounting to approximately

$300,000 to several projects aimed at providing comparative data on existing online public access catalogs concerning user requirements and catalog performance (Mullikin). The information gathered is expected to be of use in the development of future online catalogs (Online).

Smaller but similar reports are already appearing in the literature. Moore studies user reactions to the online catalogs at the Ohio State University, University of Toronto, Guelph University, and Ryerson Polytechnical Institute. Although none of the catalogs studied was offered as a substitute for the manual catalog, all of them having been designed for circulation and other purposes, "a large majority of users found the online catalogs, even in their present, rather crude forms, more convenient than the complete manual catalog" (Moore, C., p.296). Moore proposes as questions for further study the requirements for good subject access, the amount of information to be displayed in the visual record, the terminal keyboard, and problems of filing the online catalog. Norden§ and Lawrence studied two and one-half years of the use of public access terminals at the Ohio State University with the intention of discovering use patterns and whether they differed from patterns of use of the card catalog. Results confirmed the results of other studies which indicate that users will accept the online catalog as an alternative, but the authors report a much higher proportion of title searches than is common for a manual catalog.

A staff committee examining public catalog use at Iowa State University Library as part of a study of alternatives to the manual catalog offers its statistics primarily to indicate that such routinely gathered data can be helpful in predicting catalog use (Sage). The report of a 1979 questionnaire survey of users of LC's online system, SCORPIO, indicates that online or computer-assisted instruction in the use of such systems is preferred by users to audiovisual or group instruction. A large majority (75 percent) of the users of SCORPIO were found to be making subject searches (Pritchard). Evanston Public Library made news with its touch-sensitive public access terminals (Cherry), and Seattle Public Library introduced its microfilm catalog on prime-time television news programs (Seattle's).

Two themes are still heard as continuing obbligatos to the chorus of terminal users: the problems of nonroman characters in computerized records and the need for authority files. Takahashi§ has proposed the use of a common set of Chinese characters to permit the sharing of MARC tapes among East Asian countries, and the People's Republic of China has adopted a national standard for a primary set of 6,763 Chinese characters to be used for information interchange (People's). The achievements and goals of the Chinese MARC Working Group are the subject of a paper by Lee§ and others, first presented at the International Workshop on Chinese Library Automation held in Taipei, February 14–19, 1981; and a review of methods used in Japan for computer input of information is presented by Morita,§ who also considers the applicability of these methods to the problems faced by research libraries in processing East Asian materials. The Research Libraries Group has contracted with a private firm for a terminal to create catalog records in

Chinese, Japanese, and Korean characters; it is hoped that full catalog support will be available by mid-1983 (RLG Signs). Staff at LC prepared a working paper proposing that a technique known as escape sequence be incorporated into the MARC format so that it could include nonroman character sets (Inclusion).

With relation to the authority file problem at the national level, the Task Force on a Name Authority File Service of CLR's Bibliographic Service Development Program has distributed for comment *A Requirements Statement for the Name Authority File Service,* describing the background, rationale, and progress made in the development of such a service for U.S. libraries (A Requirements). The University of Texas at Austin offers a comprehensive manual providing the information necessary for maintaining authority control in a library with multiple catalogs (Miller), and R. R. Bowker Company has produced an authoritative listing of *Authors' Names* from its *Books in Print,* including all forms of both personal and corporate names (Authors).

In a project that proved to have considerable relevance to the question of authority control, Northwestern University Library undertook to create and maintain a database with cataloging and location information for African materials. The purpose of the project, which was supported by the National Endowment for the Humanities and the Carnegie Corporation, was "to test the feasibility of producing a high-quality bibliographic database whose records would be consistent with LC practice, which could be submitted to a central agency to form one component of the national data file" (Hill, p.326). Experimentation in the effective sharing of authority data proved to be a major factor in the undertaking.

ANNIVERSARIES

Not to be overlooked in this review is the fact that the International Conference on Cataloging Principles, an event of the greatest importance to contemporary cataloging, was held in Paris twenty years ago; the anniversary has been marked by a reissue of the conference *Report* with a new introduction outlining the activities of the last two decades (Publications).

LC's Cataloging in Publication program celebrated its tenth birthday during 1981, marking the occasion with a survey of approximately twenty-four hundred U.S. libraries concerning the use of CIP data. Of the libraries responding, approximately 80 percent reported some use of the information in cataloging, acquisitions, or public service, and generally expressed hope for the expansion of the program (CIP Program).

Also observing a tenth anniversary was the first professional unit of the International Federation of Library Associations and Institutions (IFLA), the International Office for UBC, which has received major support during the entire period from the Council on Library Resources (Ten). The Office, which ten years ago published the ISBD(M), reports that there are now seven ISBDs, incorporated into ten national or multinational codes (The Role). Currently under way is the five-year review of the ISBDs for monographs, serials, nonbook and cartographic materials, as well as ISBD(G) (ISBD Five). Several other tools are in

process of development: the ISBD(CP) (Component Parts), a survey of the application of the ISBDs to nonroman scripts, and a manual of annotated ISBD examples (The ISBD Five).

But How Much Do We Know?

Those local or regional activities in which libraries have been engaged may need a closer look. Svenonius,§ in proposing a number of cataloging questions for investigation by researchers, suggests that the answers would help in the creation of better catalog codes in the future; and White§ argues for surveys of the true needs of catalog users, for analytical studies of cataloging practices, and for a research study of the value of cataloging decisions. There are indications that the past year's concern with local implementation of AACR2, regional automation projects, and hometown users of the library catalog will not be allowed to continue in any case. Samuelson, in arguing for a critical examination of technical services operations from the angle of cost reduction and increased productivity, points out that "the cataloging process is one of the most costly of activities in a public library" (Samuelson, p.310). While this is not a new complaint, it comes at a time of financial pressure for many libraries and may well have a new appeal.

We now have behind us the theoretical background of the ICCP and its subsequent papers and investigations, as well as the steps toward standardization and international interchange provided by ten years' use of ISBD. It is to be hoped that the coming year will see serious studies of cataloging procedures and user needs in individual libraries and in library schools and—even more to the point—the production of reports or descriptions which will be of guidance to institutions facing changing requirements and declining financial support. If the technical services shrink from self-examination, or if we fail to offer thoughtful and timely responses to these critical questions, decisions on such continually vexing problems as cost and productivity will assuredly be made without us.

References

"AACR2 and New York Libraries," *Bookmark* 39:205–52 (Summer 1981).

AACR2 Decisions and Rule Interpretations: A Consolidation of the Decisions and Rule Interpretations for the Anglo-American Cataloguing Rules, Second Edition, Made by the Library of Congress, the National Library of Canada, the British Library, and the National Library of Australia. C. Donald Cook, comp. Ottawa: Canadian Library Assn., 1981.

Authors' Names: An Authoritative Listing of Personal and Corporate Names. New York: Bowker, 1981.

Ayres, F. H. "In Place of AACR2," *Technicalities* 1, no.9:3–4 (Aug. 1981).

Baldwin, Richard. "The Use of the BLAISE EDITOR at Garnett College Library," *Catalogue & Index,* no.60:2–4 (Spring 1981).

Branscomb, Lewis C., and Rogers, A. Robert. "The Conception and Birth Pangs of OCLC—An Account of the Struggles of the Formative Years," *College & Research Libraries* 42:303–7 (July 1981).

Brindley, Lynne. "The British Library's Approach to AACR2," *Journal of Library Automation* 14:150–60 (Sept. 1981).

Brown, Georgia L. "AACR2: OCLC's Implementation and Database Conversion," *Journal of Library Automation* 14:161–73 (Sept. 1981).

The Card Catalog: Current Issues; Readings and Selected Bibliography. Cynthia C. Ryans, ed. Metuchen, N.J.: Scarecrow Pr., 1981.
Carpenter, Michael. *Corporate Authorship: Its Role in Library Cataloging.* Westport, Conn.: Greenwood Pr., 1981.
Chan, Lois Mai. *Cataloging and Classification: An Introduction.* New York: McGraw-Hill, 1981.
Cherry, Susan Spaeth. "The Moving Finger 'Accesses,' " *American Libraries* 12:14–16 (Jan. 1981).
"CIP Program Completes First Decade," *Library of Congress Information Bulletin* 40:265–66 (Aug. 14, 1981).
"A Comparison of OCLC, RLG/RLIN, and WLN," *Journal of Library Automation* 14:215–30 (Sept. 1981).
Crismond, Linda F. "Quality Issues in Retrospective Conversion Projects," *Library Resources & Technical Services* 25:48–55 (Jan./March 1981).
Crowe, William J. "Cataloging Contributed to OCLC: A Look One Year Later," *Library Resources & Technical Services* 25:56–62 (Jan./March 1981).
CSUC Standard for the CLSI Expanded Title Record. Los Angeles: California State University and Colleges, 1981. ED 200 248.
Daly, Richard R. *After Day One: Implementing the Changes in Library of Congress Cataloging.* Chicago: American Library Assn., 1981.
Druschel, Joselyn. "Cost Analysis of an Automated and Manual Cataloging and Book Processing System," *Journal of Library Automation* 14:24–49 (March 1981).
"Five Academic Libraries Pick DataPhase System," *Library Journal* 106:16 (Jan. 1, 1981).
Gorman, Michael. [a] *The Concise AACR2, Being a Rewritten and Simplified Version of Anglo-American Cataloguing Rules, Second Edition.* Chicago: American Library Assn., 1981.
_____. [b] "The Most Concise AACR2," *American Libraries* 12:499 (Sept. 1981).
Hamilton, Linda K. "UMI and the OCLC Option," *Microform Review* 10:79–83 (Spring 1981).
Hickey, Thomas B. *Research Report on Field, Subfield, and Indicator Statistics in OCLC Bibliographic Records.* Dublin, Ohio: OCLC, 1981. ED 202 484.
Hill, Janet Swan. "The Northwestern Africana Project: An Experiment in Decentralized Bibliographic and Authority Control," *College & Research Libraries* 42:326–32 (July 1981).
Hinton, Frances. "The Concise AACR2," *Library Resources & Technical Services* 25:204–6 (April/June 1981); also in *Catalogue & Index,* no.60:6–7 (Spring 1981).
"Inclusion of Nonroman Character Sets," *Journal of Library Automation* 14:210–15 (Sept. 1981).
"The ISBD Five-Year Review," *IFLA Journal* 7:200–202 (1981).
"ISBD Five-Year Review," *International Cataloguing* 10:40–41 (Oct./Dec. 1981).
"IVLS Checks Benefits of OCLC 'Clusters,' " *Library Journal* 106:412 (Feb. 15, 1981).
Johnson, Judith J., and Josel, Clair S. "Quality Control and the OCLC Data Base: A Report on Error Reporting," *Library Resources & Technical Services* 25:40–47 (Jan./March 1981).
Lee, Lucy Te-Chu, and others. "Chinese MARC: Its Present Status and Future Development," *Journal of Library & Information Science* 7:1–18 (April 1981).
Lovecy, Tony. "What's in Cooperatives for Me?" *Catalogue & Index,* no.61:1–6 (Summer 1981).
Martell, Charles. "The War of AACR2: Victors or Victims?" *Journal of Academic Librarianship* 7:4–8 (March 1981).
Miller, R. Bruce. *Name Authority Control for Card Catalogs in the General Libraries.* Austin: University of Texas at Austin, General Libraries, 1981.
Moore, Barbara. "Patterns in the Use of OCLC by Academic Library Cataloging Departments," *Library Resources & Technical Services* 25:30–39 (Jan./Mar. 1981).
Moore, Carole Weiss. "User Reactions to Online Catalogs: An Exploratory Study," *College & Research Libraries* 42:295–302 (July 1981).
Morita, Ichiko. "Japanese Character Input: Its State and Problems," *Journal of Library Automation* 14:6–23 (March 1981).
Mullikin, Angela G. "The King Research Project: Design for a Library Catalog Cost Model," *Library Resources & Technical Services* 25:177–85 (April/June 1981).
Norden, David J., and Lawrence, Gail Herndon. "Public Terminal Use in an Online

Catalog: Some Preliminary Results," *College & Research Libraries* 42:308–16 (July 1981).
"N.Y. Library Systems Face Grim $$ Prospects," *Library Journal* 106:93–98 (Jan. 15, 1981).
"Online Catalogs Analyzed," *College & Research Libraries News* 12:254–55 (July/Aug. 1981).
"People's Republic of China: Publication of a Standard Character Set for Information Interchange," *International Cataloguing* 10:28–29 (July/Sept. 1981).
Pritchard, Sarah M. *SCORPIO: A Study of Public Users of the Library of Congress Information System.* Washington, D.C.: Library of Congress, 1981. ED 198 801.
"Publications of International Relevance," *IFLA Journal* 7:421 (1981).
Rastogi, Kunj B., and Morita, Ichiko T. "OCLC Search Key Usage Patterns in a Large Research Library," *Journal of Library Automation* 14:90–99 (June 1981).
A Requirements Statement for the Name Authority File Service. Washington, D.C.: Council on Library Resources, 1981.
"RLG Signs Transtech for Terminal to Handle Oriental Characters," *Library Journal* 106:1468 (Aug. 1981).
"The Role of IFLA in Maintaining the International Standard Bibliographic Descriptions," *IFLA Journal* 7:400–401 (1981).
Sage, Charles, and others. "A Queueing Study of Public Catalog Use," *College & Research Libraries* 42:317–25 (July 1981).
Salinger, Florence A., and Zagon, Eileen. *Monograph Cataloging Notes.* White Plains, N.Y.: Knowledge Industry Publications, 1981.
Samuelson, Howard. "Increasing Public Library Productivity," *Library Journal* 106:309–11 (Feb. 1, 1981).
"Seattle's 'Pushbutton Catalog' Nets Prime Time Press Coverage," *Library Journal* 106:1159–60 (June 1, 1981).
Simonton, Wesley, and McClaskey, Marilyn Jones. *AACR2 and the Catalog: Theory, Structure, Changes.* Littleton, Colo.: Libraries Unlimited, 1981.
Svenonius, Elaine. "Directions for Research in Indexing, Classification, and Cataloging," *Library Resources & Technical Services* 25:88–103 (Jan./March 1981).
Takahashi, Tokutaro. "A Proposal for a Standard Common Core Character Set (CCCS)," *International Cataloguing* 10:7–8 (Jan./March 1981).
"Ten Years Anniversary," *International Cataloguing* 10:13–14 (April/June 1981).
"UTLAS to Produce Catalogs for RLG Members," *Library Journal* 106:16 (Jan. 1, 1981).
Wajenberg, Arnold, and Gorman, Michael. "OCLC's Database Conversion: A User's Perspective," *Journal of Library Automation* 14:174–89 (Sept. 1981).
Wellisch, Hans H. *A Key to Abbreviations of Bibliographic Terms in Foreign Languages Used in AACR2: Foreign Terms in Roman, Cyrillic, Greek, and Hebrew Script; Their Abbreviation, Language, and English Translation.* College Park, Md.: College of Library and Information Services, University of Maryland, 1981.
Welsh, William J. "Last of the Monumental Book Catalogs," *American Libraries* 12:464–68 (Sept. 1981).
"Western Mass. Regional Joins NELINET Co-Op," *Library Journal* 106:412 (Feb. 15, 1981).
White, Herbert S. "We Do, Do, Do, and Don't Know Why," *American Libraries* 12:317–18 (June 1981).

Year's Work in Subject Analysis: 1981

Jennifer A. Younger

IN THE TWENTIETH CENTURY, information is a valuable resource, and how it is made available is a topic of rapidly increasing significance. This review of that process is intended to be selective, not exhaustive, with attention given to the major trends in subject analysis.

GENERAL WORKS AND THEORY

Most of the general or theoretical works appearing in 1981 reviewed diverse traditions from a historical perspective. At the annual conference of the Gesellschaft für Klassifikation in Salzburg, Totok§ related the concept of knowledge and the knowledge of order derived from the Aristotelian tradition to the different approaches of later philosophers, like Hobbes, Locke, and others of the early modern era, on the forms and ordering of knowledge. Also using ideas from Locke, Buchanan recently claimed that members of a class must share at least one characteristic unique to that class, a claim refuted by McLachlan§ in his article, "Buchanan, Locke and Wittgenstein on Classification." Šreider§ contrasted two aspects of the classification procedure: taxonomy and meronomy. In India the thirty-nine canons of the preeminent theoretician, Ranganathan, were studied once again, with brief notes on the performance of various universal classification schemes (Kaula [a]). A report on other current classification research in India discussed the general theory of subject indexing language, the language of the Postulate-Based Permuted Subject Indexing (POPSI), and the Classaurus, a faceted systematic scheme of hierarchical classification (Bhattacharyya). From their analysis of classification research done in India, Kaula and Prasad concluded that most of it is based on the work of the extraordinarily prolific Ranganathan (Kaula [b]). Surveying the scene in Germany, Gödert§ recounted the historical decline of the subject catalog as

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a prelude to enumerating possibilities for subject access with new technology.

The organization of knowledge and how access to it is structured is a principal concern in other theoretical papers. According to Batty, facet analysis as a basis for indexing language construction is receiving attention because knowledge is growing increasingly complex (Batty, David). Each classification and indexing scheme represents a system of concepts, i.e., a particular approach to organizing and recording knowledge. For a user to be able to access the system, there must be a correspondence between that scheme and the user's system of concepts. The fundamental factor is knowledge. From the results of their study, Noreault and Dovidio concluded that "a theoretical explanation of the mechanisms that influence the performance of classification schemes offers guidance in the development and refinement of existing schemes" (Noreault, p.338). Najarian§ examined psychological studies on memory and learning to discover what can be learned about human categorizing principles; she suggested these principles be considered in the design of information retrieval systems.

Vocabulary Management

The international exchange of information is inhibited when concepts are represented in differing terminology. The project INTERCONCEPT, sponsored by Unesco, intends to collect, identify, and define data on concepts in the social sciences for the purpose of creating an international glossary of terms for that subject. Selection and defining of terms for a glossary is a specialized art (Dahlberg [b]); the glossary itself has a unique role (Riggs). Earlier efforts to control terminology were often those of individual business firms, needing access to the information to compete in the international business world (Brinkmann). A study of the feasibility of a British linguistic data bank mentioned a lack of one single authoritative organization in the U.K. able to provide guidance on English usage of specialized terminology (McNaught). Natanson§ dealt with an actual problem of terminology—"synonymy."

Even within a specific discipline, the use of words to represent a particular concept may vary considerably. The Modern Language Association of America is now compiling a classified thesaurus, organized by facets, to control vocabulary used in the *MLA International Bibliography* (Mackesy). A study on the state of indexing in art and architecture concluded that a comprehensive art and architecture thesaurus is needed (Crouch) and the same group, funded by a grant, began work (Molholt, Petersen, T.). Since 1970, a philosophical classification of music scores has been in progress with part of that project being a thesaurus of musical forms and genres (Dorfmüller). Proving again that disciplines, by virtue of handling different sorts of information, have unique requirements, Silk§ argued for realistic, not fully systematic nomenclature in chemistry. In medicine, a microthesaurus, the Cancer Information Thesaurus (CIT), was derived from a thesaurus regarded as the source, or macrothesaurus, MeSH (Kirtland). The problems presented in searching CIT indicate that a macrothesaurus must be structured for

that role if the derived thesauri are to function properly. One new tool, *BSI ROOT Thesaurus,* was designed to accommodate the generation of specialized thesauri from it (Dextre). Two reviews spoke in glowing terms of the *BSI ROOT Thesaurus,* compiled to control vocabulary for the indexing of standards and regulations for business enterprises (Dahlberg [a], Piggott). In their opinion, this thesaurus, having been extremely well constructed, could also be used as a model of its kind.

International Classification called attention to a bibliography of forty-one guidelines for terminology, thesaurus construction, and indexing that is now available (Infoterm). As one aspect of a larger study on thesauri, four guidelines for thesaurus construction were carefully compared (Somers). Jones§ offered specific criteria for handling compound words in thesauri and assessed the suggestions in BS 5723, *Guidelines for the Establishment and Development of Monolingual Thesauri.*

The construction of a thesaurus is a labor-intensive operation. To eliminate some clerical labor, Devadason§ and Balasubramanian coded the subject proposition at the time it was assigned to a document for subsequent generation of the thesaurus. Although no conclusions were drawn as to the amount of time saved, the system is of interest.

Concern for compatibility among indexing languages is partly due to the prolific development of formal languages used for indexing journal literature. Under the leadership of the Working Group on Documentary Languages REUNIBER '78, an inventory of 129 Spanish and Portuguese documentary languages and thesauri was completed. Proposed activities include the elaboration of "common languages for information indexing and retrieval" (Gallo, p.29). Preliminary investigations and inquiry into possible methods for establishing a "black box," a switching mechanism to be used as a translator between information systems, are now in progress (ECCSID, Dahlberg [c]). In the U.S., a prototype switching language has been designed (Husain). The switching function may also be performed by a pan-disciplinary thesaurus, as is proposed for the social sciences (Aitchison, Sager, J.C.). Coates§ recommended that a performance test be formulated to test the referral capabilities of the Broad System of Ordering.

CLASSIFICATION SCHEMES

In the near future, the importance of classification schemes is not likely to diminish. Universal schemes are needed, particularly for the "rational organization, coordination and control of systems of specialized indexing languages" (Scibor, p.22). But due to the dual requirements of specificity of subject and suitability for use in computerized information systems, only the Universal Decimal Classification (UDC) can meet these goals in Scibor's opinion—a conclusion that may be premature since it is not certain what computerized systems will require. Hyman§ assessed the future of shelf classification, namely Library of Congress (LC) classification and Dewey decimal classification (DDC) and concluded that some form of shelf classification will continue. Library users still want to find items arranged in subject order on the shelves, thus assuring a future for general classification schemes (Mc-

Kinlay). He also reported that in Australia the future of DDC as the principal classification scheme is secure. Gorman§ speculated that two levels of Dewey classification numbers are needed to provide both a number of reasonable length for shelf order and a specific number, longer if necessary, for content identification in an online system. Rigby reported on experimental and operational programs using UDC in that mode for online subject retrieval. There are some obstacles, including the "inflexibility of the software in multi-data-base networks" (Rigby, p.iii). The program used for natural language subject retrieval does not consider marks of punctuation as being significant, but unless it regards colons and parentheses in compound UDC chains, the results will be ambiguous. Another set of experiments examined the Colon classification (CC) as "a suitable foundation for the automated analysis, representation and retrieval of primary information from the full text of documents" (Shepherd, p.25). The results showed that there was no significant difference between the retrieval performance of CC and that of a simple keyword system. Two significant drawbacks to the use of Colon are mentioned: longer computer retrieval time and the need for highly trained personnel to construct the classification index.

Since both LC and DDC are widely used, a number of articles appeared, each discussing a specific aspect or problem. Comaromi§ has done for shelflisting practices what Chan did for subject heading practices—written the historical development, organized the instructions into readable chapters, and explained why, in the context of a large catalog, current shelflisting sometimes varies from the rules. Goldberg's§ detailed description of the classification of German law at LC is of special interest because the KK schedules are not yet published. Greenberg's§ index of authors in LC subclasses PN, PR, PS, and PZ will probably be useful to catalogers, but unfortunately, the dates of the last schedules indexed are not given. Beginning and occasional music catalogers would do well to consult the flowcharts for constructing shelflist numbers for LC class M (Smiraglia). Bibliographies classed alphabetically by subject in Z are often hidden to users, spurring development of a key "showing the LC classes with their corresponding Z numbers" (Olsrud, p.72). It might be more useful, however, to classify bibliographies by subject. LC§ itself has issued the fourth edition of H–HJ, which includes revisions of geographic listings.

Moss bemoans the omission of Dewey's original introduction from DDC 19, pointing out that Dewey anticipated many later developments, for example, "the theme of catering for points of view" (Moss, p.140). Batty has written another easy-to-follow programmed text updated to DDC 19 (Batty, C. D.). The Decimal Classification Editorial Policy Committee has already begun to discuss the subject areas that might be ready for phoenix development in the next edition (DCEPC).

A survey of one hundred U.S. community college libraries found a diversity of classification practices (Dale). This diversity illustrates a problem in the use of universal classification schemes. Since the schemes are designed to fit the needs of many, compromises must be made and, therefore, the specific requirements of a library may not be met. Neither

DDC nor LC meets the needs of a theater collection (Nemchek) or a native people's collection (Peterson, L.). Proper classification of slides requires the use of specific numbers more specific than either LC or DDC can consistently provide (Cilliers, Clawson).

In the United Kingdom, a recent survey discovered that out of 2,895 libraries, only 640 employ UDC (Hindson). The adoption of UDC is occasionally selective, as evidenced by the Botanical Library, British Museum (Natural History), which substituted its own classification system for its flowering plant herbarium for the corresponding section of UDC (Edwards).

Two new classifications were reported. The principles of faceted classification were used in developing a classification for biological literature (Mills). The Computing Reviews Category Revision Committee based its new system on the theory that "the heart of the new classification system, like the old, should be a tree since this is clearly the preferred format for any hierarchical structure which must be linearized for publication purposes" (CRCRC, p.420).

SUBJECT HEADINGS

Several articles not only discuss the limitations and shortcomings of *Library of Congress Subject Headings (LCSH),* but also suggest needed improvements. Since the early seventies, Berman,§ the 1981 recipient of the Margaret Mann Citation for Cataloging and Classification, has consistently pointed out the terminological inadequacies and inequalities of access found in *LCSH.* Other authors recommended changes in the headings for such specific subjects as society, maps, and works of art. Syntactic inconsistencies in subject headings pertaining to society; e.g., "Industrial sociology" but "Sociology, Rural," were examined, leading to the conclusion that the number of forms could be reduced from twenty-two to fifteen without losing specificity (Wepsiec). An ALA Cataloging and Classification Section subcommittee recommended that instead of "subject-to-name" references, additional subject headings for the location of or subject of individual works of art and architecture be assigned (ALA). Schroeder§ stated that for maps direct access is needed under base area, specific area, and subject, as access under only one is not sufficient. Prints and photographs now have a list of subject headings designed expressly to consider their multifaceted nature, to provide access to the image itself, its origin and context (Betz). These recent articles are only the tip of the iceberg. Since World War II, one hundred and thirty-one works have critically reviewed *LCSH* (Cochrane [a]). In her analysis of vocabulary control from edition to edition of *LCSH,* Cochrane§ pointed out that old subject headings disappear from *LCSH* without a trace, so that libraries that do not immediately revise those headings or link them to new headings will be left with undocumented subjects in their catalogs.

While studying the feasibility of providing subject access to the OCLC database, O'Neill and Aluri examined patterns of current subject heading assignment and discovered that each record had an average of only 1.41 subject headings (O'Neill [b], p.66). To provide additional ac-

cess points in a system without a Boolean approach to subject retrieval, Mischo§ developed rotation algorithms to rotate subject headings. Each significant word or phrase would in turn become the entry word with the remainder of the heading following in appropriate order. Nevertheless, the bibliographic record is still a lean one in terms of content words to be searched. A report, sponsored by the Council on Library Resources, submitted to the Bibliographic Service Development Program, proposed that subject entry vocabulary be enriched by adding more search terms to each bibliographic record and more cross-references based on the actual language used in requests for information (Mandel). These additions might well be worthwhile. The retrieval performance of LC subject headings is also partially dependent on the size of the database. When searching a database such as OCLC, with more than eight million records, users will have to identify the complete subject headings that satisfy their information needs before bibliographic records can be retrieved (Aluri, O'Neill [a]).

Medical Subject Headings (*MeSH*) received much less attention than *LCSH* in 1981. The one article that came to light favorably reviewed its treatment of the taxonomy of bacteria, viruses, animals, and plants (Norris).

Since its introduction to North America several years ago, PRECIS has been taught and practiced with only the British manuals for guidance. As an indication that there is still a demand for knowledge of PRECIS, two manuals were published in 1981: a thorough text on the logic of the system with instructions for the construction of PRECIS strings, using examples relevant to North American libraries (Richmond) and a workbook for use in teaching students in library schools (Ramsden). Libraries like the Preston Polytechnic Library have been able to adapt PRECIS to their purposes (Hendrix).

Very few subject heading systems are designed to be multilingual, and as a result subject access for linguistic minorities has been lacking. The California Spanish Language Data Base, a project to develop bilingual subject access, is well under way (Cabello-Argandona). Spanish subject headings are assigned for use by the Spanish speaker while English subject headings are assigned for English speakers.

In the past, subject heading revision has required the services of catalogers, but recently an automatic technique for synthesizing LC subject headings from descriptors with the use of a machine-readable authority file was developed by the Utah International Library. The method provided most of the old records that had subject descriptors derived from Cataloging in Publication data, with current subject headings (McWilliams).

INDEXING

Conrad Gessner, justly famous for *Bibliotheca universalis* (1545–49), the first printed bibliography to follow systematic principles of description and classification, also slipped into that great work a list of detailed instructions on how to compile indexes and catalogs. His instructions deal with practical concerns, while the indexes he himself compiled demon-

strate the art of indexing (Wellisch). The subject matter may vary, but the importance of good indexes cannot be overestimated. According to Bakewell,§ a poorly prepared index is a barrier to information as surely as a good index offers access to it. It is particularly appalling to him that books in librarianship and information science often fail to have good indexes. Writing on archaeological indexing, Lavell pointed out the complexities of analyzing archaeological material and suggested "it is more realistic to turn archaeologists into good indexers than to expect indexers to acquire such omniscience" (Lavell, p.180). Meltzer,§ preferring to index Lydia Child's correspondence himself rather than hire a professional indexer, concurred on the importance of subject knowledge in preparing an index. It is logical, therefore, to ask authors to provide indexing terms. For several years, the American Mathematical Society has sponsored an author indexing program. Under given experimental conditions, the retrieval performance of indexing by authors and that done by *Mathematical Reviews* was comparable, seemingly confirming the role of author indexing (Diodato).

One objective of a study conducted at the University of Western Ontario tested "the feasibility of allowing users to add keywords to the indexing of an online retrieval system based on their use of the documents in the system" (Tague, p.153). Theoretically, it is a sound idea to create a dynamic indexing system capable of adapting to users' needs, but, to no one's surprise, significant logistical problems arose that would mitigate against implementing it.

Marshaling forces to refute three criticisms of keyword indexing, Olsgaard and Evans stated that from the perspective of subject specificity and not that of comprehensive subject bibliography, keyword access is a useful approach to a particular topic (Olsgaard, John). However, they agreed that keyword access could be improved by adding a list of suitable general headings to the index! For special projects, when complete cataloging cannot be justified, a keyword index can be the answer (Olsgaard, Jane). Willard§ proposed that retrospective indexing be done for older serial literature and described a computer-assisted method based on the keyword approach. News of the Subject Access Project (SAP), which outlines procedures for the selection of terms directly from the contents pages and indexes of the books being cataloged for use as descriptors, has spread. At the Lund University Library, the advent of an online catalog prompted librarians to find a means of providing for subject searches (existing online catalogs in Sweden allow bibliographic searches only). SAP was selected as the indexing method. There are problems in the design of SAP, but Wormell§ gives equal time to discussing the drawbacks of book indexes, notably the lack of content-bearing words.

Indexers may differ appreciably in their assignment of terms. Rolling§ outlined a method for measuring inter-indexing consistency, but he concluded that these measurements can be used only to determine trends in indexing consistency. Fuzzy retrieval systems were evaluated for level of recall and precision (Buell [a]). At Syracuse University School of Information Studies, Frakes and others are developing

"stepwise models to identify which sequences of representations most efficiently retrieve relevant documents" (Frakes, p.301). Bookstein§ considers the inability of traditional Boolean systems to indicate the varying degrees to which a document may be written on a subject a serious lack. To resolve this problem, he analyzed two weighted Boolean retrieval systems to find a weighting scheme compatible with Boolean retrieval. Buell and Kraft reviewed weights using an approach involving thresholds (Buell [b]). In evaluating the effectiveness of information retrieval systems, Beale§ emphasized that not only output, i.e., documents received, should be studied, but also the process of searching and user characteristics. Because they are problem solvers who prefer to search by function rather that subject, engineers don't use databases (Breton). Wheatley§ tells us that human indexing fixes a particular view in time on a document's contents. In contrast, online searching is a dynamic tool. Therefore he proposes that we depend on machine-produced term indexes and use people to do the online searching, a proposal guaranteed to be warmly debated.

The physical property of the index introduces restraints. The difficulties of constructing an index to 170,000 pages of information that some three hundred fifty companies provided to Prestel, when only one page of the index is on the screen at any time, mandated very clear routes for the user to follow (Bush). Hartley§ and his colleagues designed three fictitious indexes with different alphabetical and conceptual item sequencing, in order to compare the ease of item retrieval. The children participating in the experiment were able to use them equally well.

AUTOMATIC CLASSIFICATION AND INDEXING

Computers are becoming increasingly powerful and the literature suggests that a great deal of effort is being spent to use them in creating rapid and intelligent information retrieval systems. After information is input, the files held in a database are organized by one of several automatic classification methods. One method identifies clusters of similar documents that may be regarded as a single unit for retrieval purposes; to speed up the retrieval process, "a fast algorithm for the calculation of inter-document (dis)similarity coefficients . . ." was proposed (Willett, p.59). Goffman's "indirect method," one of document clustering as opposed to term clustering, was studied to learn what subject characteristics are shown by the retrieved document classes (Williamson).

Index terms stored in most operational systems are in a binary mode and either match or don't match an incoming search query. Assigning "weights" to terms could allow different degrees of relevance to be displayed to the user, ranking the documents and thus achieving a more effective retrieval system. Recently automatic indexing theories have been devised to use the relevance properties of terms in addition to frequency characteristics to increase searching efficiency (Salton). "Probabilistic retrieval models were extended to include document representatives containing term significance weights" (Croft, p.457). Van Rijsbergen§ lucidly explains in a new chapter in *Information Retrieval* exactly what probabilistic retrieval is.

When the full text is used for indexing and retrieval, one problem in retrieval is the variation in word forms used in the text. To alleviate this problem, a conflation algorithm, a computational procedure to identify word variants and reduce them to a single form, is applied. After evaluating several types, including the common stemming algorithm, the conclusion was reached that all of them perform at approximately the same level of effectiveness (Lennon). Carroll§ uses a stemming algorithm to select the most significant sentence from a designated block of text.

Natural language processing is being studied extensively by researchers in linguistics and computer science. Sager explains the reasons this is so. "Natural language is composed of linearly arranged discrete entities that, like the symbols of mathematics and various codes, occur only in particular combinations. For this reason a grammar . . . can in principle be used in a procedure to recognize the syntactic structure of sentences" (Sager [b], p.4). There is a relation between grammar and information (Sager [a]). Briner§ described a linguistic theory of communications already used in computer processing of compositions. Four natural language processing systems were evaluated (Petrick). A lengthy review chapter also highlighted major research now in process (Becker). What exactly will result from natural language processing research is unknown. In his reviews, Petrick informs the reader that despite appearances to the contrary, the problem of communicating with computers in ordinary English has not been solved.

"Where Do We Go from Here?"

Cochrane predicts that by 1985 many people will be serious users of several online systems and multiple databases, including some that merge in-library and remote online searching (Cochrane [b]). It will not be acceptable to turn card catalogs and printed indexes into online services without redesigning the cataloging and indexing procedures. Understanding information-seeking behavior is critical because designing a more effective search strategy may be the real key to improving the quality of information retrieval. Svenonius§ draws an equally compelling picture of the need for developmental and evaluative research. Concrete questions that could lead to productive research are identified as are some past research projects.

Summary

Studies in subject analysis are proceeding simultaneously in several directions. There continues to be a concern for such traditional issues as vocabulary control, thesauri building, and the physical organization of material. But, recently, the powerful capabilities of computers and, more importantly, their use in information storage and retrieval systems have opened opportunities for research in new areas. Long-standing premises need reexamination in the light of new technology. Subject terms, abstracts, and even the full text can be stored online; subsequently, new methods of access are being developed. The role of numerical classification in online retrieval is being analyzed. The scope of proj-

ects also varies. Some regard only the problems of specific collections used by a homogeneous clientele, while others are interdisciplinary or international in nature. Although most of the works represented in this bibliography were done by librarians, a noticeable number of non-librarians are taking an active interest in this topic.

There is, however, still work to be done. If the words of Cochrane and Svenonius are heeded (as they should be), then perhaps in the coming years this article will require more space to report on a year's work in subject analysis.

References

Aitchison, Jean. "Integration of Theasuri in the Social Sciences," *International Classification* 8, no.2: 75–85 (1981).

ALA, American Library Association. Cataloging and Classification Section. Subject Analysis Committee. Subcommittee on Subject Headings for Individual Works of Art, Architecture and Analogous Artifacts and Structures. "Subject Headings for Individual Works of Art, Architecture and Analogous Artifacts and Structures: A Final Report" (Photocopied). Madison, Wis.: University of Wisconsin, 1980. 19p.

Aluri, Rao. "Subject Access to Catalog Records in Large Bibliographic Data Bases." Ph.D. dissertation, State Univ. of New York at Buffalo, 1981. 116p.

Bakewell, K. G. B. "The Index: Access or Barrier to Information," in *The Nationwide Provision and Use of Information: Aslib/IIS/LA Joint Conference, 1980. Proceedings,* p.300–306. London: Library Assn., 1981.

Batty, C. D. *An Introduction to the Nineteenth Edition of the Dewey Decimal Classification.* London: Bingley, 1981. 168p.

Batty, David. "Life Begins at Forty: The Resurgence of Facet Analysis," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981.* V.18, p.340–42. White Plains, N.Y.: Knowledge Industry Publications, 1981.

Beale, Christina. "The Users of Indexes, " in *The Nationwide Provision and Use of Information: Aslib/IIS/LA Joint Conference, 1980 Proceedings,* p.317–31. London: Library Assn., 1981.

Becker, David. "Automated Language Processing," in Martha E. Williams, ed., *Annual Review of Information Science and Technology, 1981,* V.16, p.113–38. White Plains, N.Y.: Knowledge Industry Publications, 1981.

Berman, Sanford. *The Joy of Cataloging: Essays, Letters, Reviews and Other Explosions.* Phoenix: Oryx Pr., 1981. 249p.

Betz, Elisabeth. *Subject Headings Used in the Library of Congress Prints and Photographs Division.* Washington, D.C.: Distributed by Cataloging Distribution Services, Library of Congress, 1980. 480p.

Bhattacharyya, G. "Some Significant Results of Current Classification Research in India," *International Forum on Information and Documentation* 6, no.1: 11–18 (1981).

Bookstein, A. "A Comparison of Two Systems of Weighted Boolean Retrieval," *Journal of the American Society for Information Science* 32:275–79 (July 1981).

Breton, Ernest J. "Why Engineers Don't Use Databases," *Bulletin of the American Society for Information Science* 7:20–23 (Aug. 1981).

Briner, Lamar L. "A Linguistic Theory of Communications," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.205–7. White Plains, N.Y.: Knowledge Industry Publications, 1981.

Brinkmann, Karl-Heinz. "Use of the TEAM Terminology Data Bank for the Terminology Work of the DIN," *International Forum on Information and Documentation* 6, no.2: 28–29 (1981).

Buell, Duncan A. [a] and Kraft, Donald H. "Evaluation of Fuzzy Retrieval Systems," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.298–300. White Plains, N.Y.: Knowledge Industry Publications, 1981.

_____, [b] and Kraft, Donald H. "A Model for a Weighted Retrieval System," *Jour-*

nal of the American Society for Information Science 32:211–16 (May 1981).
Bush, Geoff. "On-screen Index," *Indexer* 12:142–43 (April 1981).
Cabello-Argandona, Roberto, and Crary, Eleanor Ross. "The California Spanish Language Data Base: Development of Bilingual Access to Collections," *Catholic Library World* 52:372–75 (April 1981).
Carroll, John M. "Towards a Marriage of Word-Processing and Document Content Analysis," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.136–38. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Cilliers, Jeanne M. "The Organization of a Slide Collection in a Medical Library," *Bulletin of the Medical Library Association* 69:330–33 (July 1981).
Clawson, Catherine R., and Rankowski, Charles A. "Slide Classification and Cataloging: Further Considerations," *Special Libraries* 72:39–43 (Jan. 1981).
Coates, Eric J. "The Broad System of Ordering: The Compilers Reply to Their Critics," *International Forum on Information and Documentation* 6, no.1:24–30 (1981).
Cochrane, Pauline A., [a] and Kirtland, Monika. I. *Critical Views of LCSH . . .* II. *An Analysis of Vocabulary Control in the Library of Congress List of Subject Headings.* Syracuse, N.Y.: ERIC Clearinghouse on Information Resources, 1981. 107p.
_____. [b] "Improving the Quality of Information Retrieval Online to a Library Catalog or Other Access Service; or, Where Do We Go from Here?" *Online* 5:30–42 (July 1981).
Comaromi, John P. *Book Numbers: A Historical Study and Practical Guide to Their Use.* Littleton, Colo.: Libraries Unlimited, 1981. 145p.
CRCRC, Computing Reviews Category Revision Committee. "The Proposed New 'Computing Reviews' Classification Scheme," *Communications of the Association for Computing Machinery* 24:419–33 (July 1981).
Croft, W. Bruce. "Document Representation in Probabilistic Models of Information Retrieval," *Journal of the American Society for Information Science* 32:451–57 (Nov. 1981).
Crouch, Dora; Molholt, Pat; and Petersen, Toni. *Indexing in Art and Architecture: An Investigation and Analysis: Report to the Council on Library Resources.* Troy, N.Y.: Rensselaer Polytechnic Institute, 1981. 44 leaves. Available from Pat Molholt, associate director of libraries.
Dahlberg, Ingetraut. [a] "British Standards Institution: BSI ROOT Thesaurus," *International Classification* 8, no.3:172 (1981).
_____. [b] "Conceptual Definitions for INTERCONCEPT," *International Classification* 8, no.1:16–22 (1981).
_____. [c] "Towards Establishment of Compatibility between Indexing Languages," *International Classification* 8, no.1:86–91 (1981).
Dale, Doris Cruger. "Cataloging and Classification Practices in Community College Libraries," *College & Research Libraries* 42:333–40 (July 1981).
DCEPC, Decimal Classification Editorial Policy Committee. "Annual Report of the Decimal Classification Editorial Policy Committee, July 1, 1979–June 30, 1980," *Library Resources & Technical Services* 25:123–24 (Jan./Mar. 1981).
Devadason, F. J., and Balasubramanian, V. "Computer Generation of Thesaurus from Structured Subject-Propositions," *Information Processing & Management* 17, no.1:1–11 (1981).
Dextre, S. G., and Clarke, T. M. "A System for Machine-Aided Thesaurus Construction," *Aslib Proceedings* 33:102–12 (March 1981).
Diodato, Virgil P. "Author Indexing," *Special Libraries* 72:361–69 (Oct. 1981).
Dorfmüller, Kurt. "Form- und Gattungsnamen im Sachkatalog der Musica Practica Zum Entwurf eines Thesaurus," *Fontes Artis Musicae* 28:115–29 (Jan./June 1981).
"ECCSID WG3 Group in Prague," *International Classification* 8, no.1:32 (1981).
Edwards, P. I. "The UDC and a Botanical Collection with Special Reference to the Botanical Library, British Museum (Natural History)," *Aslib Proceedings* 33:172–76 (April 1981).
Frakes, William B., and others. "A Study of the Impact of Representations in Information Retrieval Systems," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.301–3. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Gallo, Monica A. de. "Inventory of Spanish and/or Portuguese Documentary Lan-

guages," *International Classification* 8, no.1:28-29 (1981).
Gödert, Winfried. "Gegenwart und Zukunft der Bibliothekarischen Sacherschliessung," *Libri* 31:30-56 (1981).
Goldberg, Jolande E. "Classification of German Law at the Library of Congress: A Study in Comparative Law," *International Journal of Law Libraries* 9:145-61 (Aug. 1981).
Gorman, Michael. "The Longer the Number, the Smaller the Spine," *American Libraries* 12:498-99 (Sept. 1981).
Greenberg, Alan M. *An Author Index to Library of Congress Classification: Class P, Subclasses PN, PR, PZ—General Literature, Fiction in English, and Juvenile Belles Lettres.* New York: Marcel Dekker, 1981. 80p.
Hartley, James; Davies, Lindsey; and Burnhill, Peter. "Alphabetization in Indexes: Experimental Studies," *Indexer* 12:149-53 (April 1981).
Hendrix, Frances. "The Provisions of a Subject Index at Preston Polytechnic Library and Learning Resources Service: Use of an Adaptation of PRECIS at Preston Polytechnic," *Program* 15:73-90 (April 1981).
Hindson, Richard. "UDC in the UK: A Report on the 1979/1980 Survey," *Aslib Proceedings* 33:93-101 (March 1981).
Husain, Syed Sirajul. "An Indexing System: Switching Language for Integrating Automated Information Networks." Ph.D. dissertation, Case Western Reserve Univ., 1981. 221 leaves.
Hyman, Richard J. *Shelf Classification Research: Past, Present—Future?* University of Illinois Graduate School of Library Science Occasional Papers, no.146. Champaign, Ill.: Univ. of Illinois, 1980. 60p.
Infoterm, International Information Centre for Terminology. "International Bibliography of Standardized and Non-Standardized Guidelines for Terminology," *International Classification* 8, no.2:98-100 (1981).
Jones, Kevin P. "Problems Associated with the Use of Compound Words in Thesauri with Special Reference to BS 5723:1979," *Journal of Documentation* 37:53-68 (June 1981).
Kaula, Prithvi N. [a] "Canons in Analytico-Synthetic Classification," *International Classification* 7:118-25 (Nov. 1980).
_____, [b] and Prasad, H. N. "Classification Literature in India: Analysis and Trend," *International Classification* 8, no.3:145-49 (1981).
Kirtland, Monika. "Macro- and Microthesauri: Changes Occurring in MeSH-Derived Thesauri and a Solution to Some Related Search Handicaps," *Journal of the American Society for Information Science* 32:249-52 (July 1981).
Lavell, Cherry. "Problems of Archaeological Indexing," *Indexer* 12:175-84 (Oct. 1981).
LC, Library of Congress. Subject Cataloging Division. *Classification, Class H, Subclasses H-HJ, Social Sciences, Economics.* 4th ed. Washington, D.C.: Library of Congress, 1981. 400p.
Lennon, Martin, and others. "An Evaluation of Some Conflation Algorithms for Information Retrieval," *Journal of Information Science* 3:177-83 (Sept. 1981).
Mackesy, Eileen M. "The MLA Thesaurus of Linguistic, Literacy, and Folkloric Terms: A Work in Progress," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.324-27. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Mandel, Carol A., and Herschman, Judith. *Subject Access in the Online Catalog: A Report Prepared for the Council on Library Resources.* Washington, D.C.: Council on Library Resources, 1981. 30p.
McKinlay, John. "Classification in Australian Libraries," *International Classification* 7:131-34 (Nov. 1980).
McLachlan, Hugh V. "Buchanan, Locke and Wittgenstein on Classification," *Journal of Information Science* 3:191-95 (1981).
McNaught, John. "Terminological Data Banks: A Model for a British Linguistic Data Bank (LDB)," *Aslib Proceedings* 33:297-308 (July/Aug. 1981).
McWilliams, Jerry. "Automatic Assignment of Pre-Coordinate Subject Headings from Free-Floating Descriptors," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.240-42. White Plains, N.Y.: Knowledge Industry Publications, 1981.

Meltzer, Milton. "Indexing the Correspondence of Lydia Maria Child," *Microform Review* 10:16–17 (April 1981).
Mills, J. "The Classification of Biological Literature," *Aslib Proceedings* 33:165–71 (1981).
Mischo, William H. *A Subject Retrieval Function for the Online Union Catalog.* Dublin, Ohio: OCLC, Development Division, Library Systems Analysis and Design Department, 1981. 26p.
Molholt, Pat. "Art and Architecture Thesaurus," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.320–23. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Moss, Raymond. "Dewey: The Neglected Introduction," *International Classification* 8, no.3:139–44 (1981).
Najarian, Suzanne E. "Organizational Factors in Human Memory: Implications for Library Organizations and Access Systems," *Library Quarterly* 51:269–91 (July 1981).
Natanson, Edouard. "Synonymie des termes," *Fachsprache* 3:50–61 (1981).
Nemchek, Lee R. "Problems of Cataloging and Classification in Theater Librarianship," *Library Resources & Technical Services* 25:374–85 (Oct./Dec. 1981).
Noreault, Terry, and Dovidio, John F. "Knowledge as an Explanation for Classification Effectiveness," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.337–39. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Norris, C. "MeSH—the Subject Heading Approach," *Aslib Proceedings* 33:153–59 (April 1981).
Olsgaard, Jane K. "Keyword Indexing of a Faculty Reprint Collection," *Bulletin of the Medical Library Association* 69:397–99 (Oct. 1981).
Olsgaard, John N., and Evans, John Edward. "Improving Keyword Indexing," *Journal of the American Society for Information Science* 32:71–72 (Jan. 1981).
Olsrud, Lois. "LC Classification Key: A Comparison of Classes A–P with Their Z Counterparts," *RQ* 21:72–80 (Fall 1981).
O'Neill, Edward T., [a] and Aluri, Rao. "Evaluation of Indexing for Large Online Information Systems," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.104–6. White Plains, N.Y.: Knowledge Industry Publications, 1981.
_____, [b] and Aluri, Rao. "Library of Congress Subject Heading Patterns in OCLC Monographic Records," *Library Resources & Technical Services* 25:63–80 (Jan./Mar. 1981).
Petersen, Toni. "Computer-Aided Indexing in the Arts: The Case for a Thesaurus of Art Terms," *Art Libraries Journal* 6:6–11 (Autumn 1981).
Peterson, Leith. "Ojibway-Cree Resource Center Classification Conversion Program," *Ontario Library Review* 65:47–49 (March 1981).
Petrick, S. R. "Evaluation of Natural Language Processing Systems," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.202–4. White Plains, N.Y.: Knowledge Industry Publications, 1981.
Piggott, Mary. "Root Thesaurus," *Indexer* 12:223–24 (Oct. 1981).
Ramsden, Michael J. *PRECIS: A Workbook for Students of Librarianship.* London: Bingley, 1981. 152p.
Richmond, Phyllis A. *Introduction to PRECIS for North American Usage.* Littleton, Colo.: Libraries Unlimited, 1981. 321p.
Rigby, Malcolm. *Automation and the UDC.* The Hague, Netherlands: International Federation for Documentation, 1981. 160p.
Riggs, Fred W. *INTERCONCEPT Report: A New Paradigm for Solving the Terminology Problems of the Social Sciences.* Paris, UNESCO, 1981. 49p.
Rolling, L. "Indexing Consistency, Quality and Efficiency," *Information Processing & Management* 17:69–76 (1981).
Sager, J. C.; Somers, H. L.; and McNaught, J. "Thesaurus Integration in the Social Sciences. Pt.I: Comparison of Thesauri," *International Classification* 8, no.3:133–38 (1981).
Sager, Naomi. [a] "Information Structures in Texts of a Sublanguage," in *The Information Community: An Alliance for Progress: Proceedings of the 44th ASIS Annual Meeting, 1981,* V.18, p.199–201. White Plains, N.Y.: Knowledge Industry Publications, 1981.
_____. [b] *Natural Language Information Processing: A Computer Grammar of English and Its*

Applications. Reading, Mass.: Addison-Wesley, 1981. 399p.
Salton, G.; Wu, H.; and Yu, C. T. "The Measurement of Term Importance in Automatic Indexing," *Journal of the American Society for Information Science* 32:175–86 (May 1981).
Schroeder, John R. "Perspectives on Map Cataloging and Classification," *Library Trends* 29:419–37 (Winter 1981).
Scibor, E. "Universal Classification Systems at the Start of the Eighties," *International Forum on Information and Documentation* 6, no.1:22–23 (1981).
Shepherd, Michael A. "Text Passage Retrieval Based on Colon Classification: Retrieval Performance," *Journal of Documentation* 37:25–35 (March 1981).
Silk, John A. "Realistic vs. Systematic Nomenclature," *Journal of Chemical Information and Computer Sciences* 21:146–48 (Aug. 1981).
Smiraglia, Richard P. *Shelflisting Music: Guidelines for Use with the Library of Congress Classification: M.* Philadelphia: Music Library Assn., 1981. 21p.
Somers, H.L. "Observations on Standards and Guidelines concerning Thesaurus Construction," *International Classification* 8, no.2:69–74 (1981).
Sreider, Yu A. "The Duality of Classification: Taxonomy and Meronomy," *International Forum on Information and Documentation* 6, no.1:3–10 (1981).
Svenonius, Elaine. "Directions for Research in Indexing, Classification, and Cataloging," *Library Resources & Technical Services* 25:88–103 (Jan./Mar. 1981).
Tague, Jean M. "User-Responsive Subject Control in Bibliographic Retrieval Systems," *Information Processing & Management* 17, no.3:149–59 (1981).
Totok, Wilhelm. "The Ordering of Knowledge and the Knowledge of Ordering between Renaissance and Enlightenment," *International Classification* 8, no.1:2–9 (1981).
Van Rijsbergen, C. J. *Information Retrieval.* 2d ed. London: Butterworth, 1979. Paperback reprint, 1981. 208p.
Wellisch, Hans H. "How to Make an Index—16th Century Style: Conrad Gessner on Indexes and Catalogs," *International Classification* 8, no.1:10–15 (1981).
Wepsiec, Jan. "Language of the Library of Congress Subject Headings Pertaining to Society," *Library Resources & Technical Services* 25:196–203 (Apr./June 1981).
Wheatley, Alan. "Future Developments in Indexing and Indexes," in *The Nationwide Provision and Use of Information: Aslib/IIS/LA Joint Conference, 1980,* p.307–16. London: Library Assn., 1981.
Willard, Louis C. "Retrospective Indexing: Tombstone or Touchstone—Toward Computer-Assisted Bibliographic Control of the Past." Paper read at "Options for the 80s": Association of College and Research Libraries, Second National Conference, Oct. 1–4, 1981.
Willett, Peter. "A Fast Procedure for the Calculation of Similarity Coefficients in Automatic Classification," *Information Processing & Management* 17, no.2:53–60 (1981).
Williamson, Nancy J. "An Experiment in Classification: Based on William Goffman's 'Indirect Method' of Information Retrieval," *Cataloging & Classification Quarterly* 1:3–21 (Fall 1980).
Wormell, Irene. "SAP—A New Way to Produce Subject Descriptions of Books," *Journal of Information Science* 3:39–43 (Feb. 1981).

The Year's Work in Serials: 1981

Benita M. Weber

A REVIEW OF THE ACTIVITIES relating to serials or serials librarianship in 1981 underscores the fact that just as in many other spheres of contemporary life, the world is evolving in a way that gives rise to innovative explorations, fresh approaches to old problems, and the realization that only cooperative ventures will move our professional specialization forward. Events in remote places, or events that appear to be unrelated to our specific concerns, eventually seem to exert an influence on our daily working lives. The joint messages of connection and cooperation were predominant during the past year in nearly all aspects of serials work, from continuing efforts at improved bibliographic control to the investigation and implementation of advanced technologies for provision of documents and services. In spite of gloomy predictions and complaints related to escalating serial prices, to problems with AACR2 for serials, or to the demise of traditionally organized serials departments, there was a general feeling of optimism and renewed energy for the ever-changing world of serials. The facets of that ever-changing world covered by this review relate to serials cataloging; standardization and automation developments; union listing projects; economics, resources, and document delivery systems; and organization of serials departments.

CATALOGING AND BIBLIOGRAPHIC CONTROL OF SERIALS

Nineteen eighty-one will be remembered with mixed emotions from the standpoint of serials catalogers: it was the year of "Day One," requiring the long-awaited implementation of the second edition of the *Anglo-American Cataloguing Rules;* but it was also the first step on the road toward AACR2½ or AACR3. Those who take comfort in the security blanket of black-and-white rules with little or no room for gray areas most likely did not cheer the events of the past year. This cataloging code will surely

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Editor's note: A section mark [§] identifies the surnames under which some of the sources are listed in the "References." Acronyms, surnames, or initial words of a title in parentheses throughout the text identify other sources and provide specific page references as required.

be dubbed the fluid, evolving code. The interpretations and explanations of Library of Congress practices with regard to specific rules, as published in *Cataloging Service Bulletin* during the year, can be viewed as a mandatory supplement to the rules themselves. These interpretations, along with restrictions imposed by participation in national online cataloging databases, have made it a challenging year for serials catalogers.

Two important issues that have influenced the cataloging of serials under AACR2 are the use of uniform title for serials and the new rules regarding cataloging of microforms. The Library of Congress has expanded upon the rules for uniform titles by allowing their use to differentiate between two or more serials published under identical title proper. A qualifying term is constructed to follow the uniform title based on specific criteria; these qualifiers can take the form of corporate body alone, place, date, place and date or corporate body and date, and edition statement (Descriptive Cataloging [a], p.46ff.).

A fuller elaboration of LC's application of these guidelines was offered at the January 1981 meeting of the Serials Section Committee to Study Serials Cataloging (Kovacic, p.33). To further confound this issue, LC again revised its own interpretation by issuing another statement on the same matter (Descriptive Cataloging [b], p.25ff.), in which we are advised to disregard variant titles traced as cross-references or as added entries in construction of uniform titles. At least one serials cataloger finds a problem with this application of the guidelines, and he suggests as a solution adoption of the concept of "unique titles for serials" as proposed by the British Library (Cole, p.76), which, if adopted, could result in the revision of AACR2. Is AACR2½ just around the corner?

A second tenet of AACR2 that generated considerable concern was the concept, presented in chapter 11, that in cataloging microforms, the bibliographic information concerning the format should be emphasized over the information concerning the original publication. No sooner had "Day One" come and gone than it was announced that LC, the National Agricultural Library, and the National Library of Medicine, at the request of the Association for Research Libraries and other constituents, would continue to follow the AACR1 principle when cataloging microforms that reproduce previously published books and serials (Descriptive Cataloging [a], p.15–16). However, AACR2 will be applied for choice and form of access points. At year's end this debate had still not been resolved.

Two thoughtful articles addressing this microform controversy appeared in 1981. Louis Willard§ presents a thorough history and very critical analysis of the process used to determine AACR2 rules for cataloging microforms. He convincingly supports the Library of Congress view that only data from the original should be provided in the body of the record with the addition of the general material designation (GMD) as provided in AACR2. He strongly attacks the cardinal principle in chapter 11 of requiring a totally new record for each microform reproduction. He asserts that the most important thing about a microform is not that it is a microform, but that it is a *reproduction.*

In an article dealing specifically with cataloging serials in microform,

Stine also protests the AACR2 rules for cataloging microforms. As examples of problems resulting from implementation of the rules, she cites specific titles from the serials microform collections at the Center for Research Libraries (Stine [a]). In reviewing her examples, the reader is quick to agree that there are serious problems in using the title frame or eye-readable data as the chief source of cataloging information. Both Stine and Willard agree that application of the AACR2 rules for cataloging microforms results in a misleading disservice to the library patron.

The preceding discussion on implementation of AACR2 offers only a suggestion of the complexities and issues involved for serials cataloging. A thorough review of the 1981 issues of *Cataloging Service Bulletin* is necessary to familiarize oneself with the myriad interpretations of the rules as prescribed by the Library of Congress. Much-needed assistance in interpreting the interpretations was provided by the ALA RTSD Serials Section Committee to Study Serials Cataloging. At each of their meetings committee members came prepared to discuss cataloging for previously assigned titles using AACR2 rules. The usefulness of these discussions for those fortunate enough to be able to attend ALA Midwinter and Annual conferences was immeasurable. Still more valuable, in terms of spreading the gospel to a wider group of constituents, was the committee's purposeful efforts to publish the highlights and conclusions of their deliberations in sources such as *RTSD Newsletter* and *Serials Review*. The committee members are to be commended for providing a true service to their fellow serialists in the English-speaking world.

Several articles published in 1981 provided practical guidance on specific serials bibliographic control issues based on individual institutions' decisions and experiences. Although these articles do not constitute part of a scholarly body of literature, they do contribute to the growing trend to avoid reinventing the serials wheel at every turn. Cornell's Olin Research Library was one that decided to freeze its catalog at the end of 1980 and to open a supplemental catalog consisting only of AACR2 records. There is also a serials union catalog that was not frozen and which now contains AACR2 cataloging interfiled with pre-AACR2 titles. Hayes' straightforward presentation of the pros and cons of these decisions, along with the rationale that led to the final decisions, is very useful to other libraries faced with the same questions. The essential point which she raises is the difficulty in handling "latest entry" records with several title changes. Cornell has made the decision to recatalog the old and new titles using successive entry and pure AACR2 rules. Occasionally, however, a problem arises due to the AACR2 requirement to have an issue in hand; when no issue of a particular title variant is readily available, the frozen catalog record is corrected manually with a "continued by" note. She contends that the internal consistency of the supplemental catalog, as well as the logical basis of AACR2, justifies its existence. It is, after all, a reflection of the new approach to bibliographic description, both in card form and as a future online catalog (Hayes, p.85–86).

Another article touches on some of the same questions from the standpoint of online union list participants. Decisions made with regard to the

Pennsylvania Union List of Serials are discussed. Carter's statement that "the value judgment was made that it is probably more important to direct effort toward adding new items to the database than to recataloging items . . ." may be a point of debate for some serials catalogers, but here it is a question of union listing priorities holding sway over pure AACR2 adherence (Carter, p.77).

One of the best treatises this year on a general topic in the area of bibliographic control of serials is McKinley's on serials data conversion projects. Her experiences and recommendations are based on the UCLA Serials Data Conversion Project. The 1980s will be a decade of conversion projects for libraries for a variety of reasons: libraries will desire to convert manual records to machine-readable form to create online catalogs; they will attempt to convert to automated check-in operations; the installation of automated circulation systems requires machine-readable records; and budget retrenchment will mandate participation in union listing cooperatives, most of which will be available increasingly in an online mode. McKinley's article is a systematic but above all realistic approach to the monumental task of serials data conversion. One example of her realism is this statement: "Library management . . . may plan to create a machine-readable file containing all of a library's serials holdings. It may also intend to recatalog all substandard serials records before entering those records in the machine-readable data base. If, however, the cataloging staff expects it will require twenty man-years of professional time to accomplish this objective, then the objective should be modified, if not absolutely discarded" (McKinley [a], p.90). Her coverage of public services concerns, staffing needs, and selection of records is excellent; make this required reading before embarking on even small conversion projects.

CONSER PROJECT

The CONSER project, of course, continued to be a major factor in serials bibliographic control. CONSER participants and nonparticipants alike have come to view CONSER as a symbol of cooperation of the few to benefit the many, a noble concept not readily imitated in many other arenas. Non-CONSER participants' reliance on the authenticated records in the database is quite substantial, and so, an article delineating OCLC's administrative responsibilities for the project, as opposed to LC's or CONSER participants' involvement, is a welcome addition to the literature. Davis§ does a good job of clarifying OCLC's role in correcting errors, detecting duplicate records, serving as the mentor body to CONSER participants in explaining the guidelines for CONSER, collecting statistics, and holding meetings for various levels of the CONSER organization. Five issues of *CONSER* newsletter, published irregularly by OCLC until 1980, contained useful information on the CONSER participants and on local practices employed by participating institutions; unfortunately, no issues of *CONSER* were published in 1981, and they were missed in the serials world. The next issue is scheduled to appear early in 1982.

A long-awaited and welcome development was the announcement

that the Government Printing Office will become a CONSER participant in 1982 and will serve as an authentication center for all U.S. federal documents. GPO had already agreed to assume responsibility for assignment of ISSN/key titles to all federal document serials. An innovative and potentially quite useful development in the CONSER project is being planned by the Association of Research Libraries and the National Federation of Abstracting and Indexing Services in conjunction with LC and OCLC. Supported by a grant from the Council on Library Resources, the project is to include records for all serial titles currently abstracted or indexed by the major U.S. or Canadian A & I services in the CONSER database, including information on where these titles are indexed, and to develop a method for continual updating of A & I coverage in the CONSER database (CONSER, p.11). Finally, the CONSER database is becoming increasingly useful to a wider audience than just OCLC members. The second CONSER snapshot file, containing more than 339,000 authenticated and unauthenticated records, was made available by LC in machine-readable tape format to the library community at large in late 1981. Availability of this product supports the project administrators' intentions to make the database available to all non-OCLC members (who can afford the hefty price!). Also, the CONSER records are now being used to produce *New Serials Titles* via an automated publication system. It is anticipated that twenty to twenty-five thousand entries will be included annually, most of them with full bibliographic records.

From the vantage point of this reviewer, there are two issues relating to CONSER that will require resolution in the near future. One matter concerns those CONSER participants who have become members of the Research Libraries Group and who are no longer entering their serials records into the OCLC database. This issue, perhaps more than any other, underscores the need for continued efforts in the area of bibliographic utility and network linkage. Another area of concern is that the number of libraries accepted as CONSER participants is still quite small. The possibility of widening the membership to include libraries that have specialized collections but yet are outside the elite core needs to be explored. The benefits to be afforded the serials world would be great, and there are many who believe it can be done without jeopardizing the quality of the CONSER database.

STANDARDIZATION AND AUTOMATION DEVELOPMENTS IN BIBLIOGRAPHIC CONTROL OF SERIALS

In a time when cooperative efforts in bibliographic control of serials are being explored and pursued at the international level, it is somewhat ironic to recall that we have not always provided to the rest of the world a worthy role model for cooperation on a regional or national basis. An example of this type of dilemma (and a logically brilliant resolution to it) is described in an article by Linda Bartley,§ former head of the National Serials Data Program (NSDP). Development and use of the international standard serial number (ISSN) was intended to provide a simple but accurate unique identifier for each manifestation of a serial title. In-

dependent of, and probably oblivious to, this effort, the United States Postal Service (USPS) was developing and fostering the use of its own six-digit publication number system for all periodicals mailed at second-class or controlled-circulation rates. Bartley describes the implementation of the now functioning cooperative program between NSDP and the USPS to have the ISSN used as the official USPS identification number. Her article is interesting for the attention given to the sometimes unforeseen benefits that resulted from the program, such as increased publisher awareness of the ISSN, as well as improvement of the quality-control aspects of USPS records and the CONSER database.

The directors of the International Serials Data System (ISDS) centers held their seventh meeting in Paris in October 1981. Much to the disappointment of those closely involved with ISDS, as well as to the rest of the serials world, the perennially promised revised *Guidelines for ISDS* were not completed. In addition to publication of the revised guidelines, work on which has continued for four years, publication of a compendium of ISDS conventions and practices of interest to users of ISDS publications and services is also planned. At this meeting compatibility of ISDS and International Standard Bibliographic Description for Serials (ISBD(S)) manuals of standard practice was discussed. The directors adopted a resolution calling for synchronization of ISDS and ISBD(S) practices to the extent possible. Dorothy Anderson, director of the IFLA Office for Universal Bibliographic Control, agreed to draft a paper detailing areas requiring reconciliation (Seventh, p.7).

Another development related to ISBD centered on the International Standard Bibliographic Description for Component Parts (ISBD(CP)), a standard for component parts (formerly called "analytics"). This standard provides requirements for the description and identification of works contained in a serial or in a work for which another comprehensive bibliographic description has been made. A report on the draft version of ISBD(CP) was made at the annual IFLA conference in Leipzig, a good description of which has been made available (ISBD(CP), p.15).

Activities within the American National Standards Institute's (ANSI) Z39 subcommittees focused on several standards related to serials. The efforts of the few dedicated, unremunerated professionals who devote countless hours to the production of these standards have not been sufficiently appreciated in certain instances. Critics of ANSI standards generally harp on two issues: that the standards are voluntary and cannot be enforced, and that the non-U.S. library community especially has not embraced many of the ANSI standards. Both of these criticisms, though containing some elements of truth, are rapidly becoming moot points. Adoption of some standards, for example the one for serials holdings statements at the summary level, is required as part of participation in certain bibliographic utility union listing systems. Regarding non-U.S. adherence to ANSI standards, it is only a matter of time before the American standards will be used as a basis for creation of international standards by the International Organization for Standardization (ISO); movement in this direction is already apparent.

The standard for format and arrangement of periodicals, Z39.1-1977,

is currently undergoing another revision (Z39, p.211). This revision points up an important feature of all standards—that in order to be continually useful, standards must be dynamic and held up for scrutiny, rather than remaining as static documents. The ANSI standard for summary holdings statements (Z39.42-1980) has been used in the U.S. since 1979, actually prior to formal approval of the standard. ALA's RTSD Serials Section Committee to Study Serial Records discussed some problems concerning interpretation and implementation of the standard at one of its meetings in 1981. Particular concerns were raised with regard to microform holdings, "nongap breaks," and monographic series (Section, p.15). One article describes the approach of some of the institutions in the Research Libraries Information Network (RLIN), which is essentially to reject the standard. Of ninety institutions cataloging serials in the RLIN database, only one was entering holdings according to the ANSI-specified format. The author explains this by saying that "the conventions [in the ANSI standard] . . . are anything but easy to read and remember. It is evidently much easier for users to cope with a less restrictive method of expressing serials holdings" (Bales, p.73).

The Serials Section Policy and Research Committee meetings at San Francisco included reports on Z39 Subcommittee E (detailed holdings statements) and Subcommittee F (serial publication patterns). The detailed holdings statement draft was entering its third revision at the end of 1981, and Subcommittee F recommended that it be dissolved since any standard produced on publication patterns might be too complicated to use!

A program held in San Francisco, entitled "Technical Standards: The Good, the Bad and the Missing," offered many ideas pertinent to the development of standards for serials. One recommendation that emerged for development of a missing standard, a MARC communications format for serials holdings, had received considerable attention by the end of the year. First, Uluakar offered his thoughts on the need for speedy development of this standard. His reasons are based on this premise: "The urgency of the need for the standard is due to the rapid spread of computerized library systems. The users of these systems may invest a great amount of time and money to enter holdings data, which, in a few years, might be useless and unsalvageable" (Uluakar, p.35). Second, at year's end the Library of Congress and eight southeastern U.S. research libraries began work on development of a MARC format for exchange of holdings information in machine-readable form. According to Uluakar, this standard should have been developed before and not after the two ANSI standards relating to serials holdings; only time will tell if the "better late than never" adage will hold true in this instance.

Several automation developments related to serials activities deserve brief mention here. Universal Serials & Book Exchange (USBE) finally made a portion of its records of the vast warehouse of back-issue periodicals available online through Bibliographic Retrieval Services (BRS). Ten thousand of the most-in-demand titles can be searched and ordered online using a variety of retrieval access points and the message switching capability offered by BRS. Specific holdings, of course, are not listed

in the database due to the moment-by-moment fluidity of USBE's collection. A microfiche list of the 10,000 titles is also available for purchase by those libraries not linked to BRS' online services. The F. W. Faxon Company, one of the largest and most technically advanced subscription agencies in the world, began marketing its LINX system in 1981. The system offers online check-in capabilities plus access to other Faxon files of bibliographic records and financial and publisher information. Management reports for serials can be supplied in a variety of configurations. Probably the most attractive feature of this system is the automatic claiming function for missing issues of titles which the library orders through Faxon (LINXLetter, p.2). The California Library Authority for Systems and Services (CLASS) announced availability of Checkmate, its microcomputer-based serials control system designed for small- to medium-sized library collections. It includes check-in, claiming, routing, accounting, title and subject listing, and subscription expiration alerting functions (Online serials control, p.510).

Several issues need to be raised with regard to the selection of vendor-produced versus bibliographic network serials systems. The choice of a serials system, whether it be for acquisitions or inventory control, needs to be balanced against other activities, such as cataloging, monographic acquisitions, or circulation, that are automated or in the process of being automated. While some recently available serials systems appear to offer especially unique and attractive features not offered elsewhere, consideration must be given to the costs and efficiency of choosing independent, unlinked systems as well as to the question of patron access to and use of a variety of computerized systems. It is hoped that articles or meetings addressing these topics will be forthcoming.

The proceedings of two conferences held in 1980 on serials automation were published in 1981. The first conference, sponsored by the Library and Information Technology Association of ALA, was reported on by Glasby in the *LRTS* review of serials for 1980 (Glasby, p.314). These proceedings reproduce all of the presentations from that conference with the addition of an appendix describing nine vendor, university-produced, and network systems for serials control (Serials Automation). Four of the systems described are from the transcripts of the panel discussions at the conference, and five more have been added for these published proceedings. A very thorough annotated bibliography on items concerning the theme of the institute has also been included. The book is best used as a state-of-the-art review text for serials automation in the United States. Another conference on serials automation was held on the opposite side of the Atlantic, in Cardiff, Wales, by the UK Serials Group. This monograph provides information, not readily available elsewhere, on automation activities of the British Library Reference Division and Lending Division as well as BLAISE, an online system of the Bibliographic Services Division. Agreements reached with the Library of Congress concerning exchange of bibliographic information are also described. Union listing activities in Great Britain and local systems development round out the range of topics presented (Automation). These two monographs would be very useful as background or dis-

cussion texts in library school courses on serials or automation. Taken together they represent a useful, though necessarily limited in scope, overview of serials automation at the beginning of the 1980s. It's worth noting that it has been about ten years since the appearance of comparable publications: Verity's§ *Automated Serial Records* in 1969 and IBM's§ *Library Automation — Computerized Serials Control* in 1971.

UNION LISTING ACTIVITIES

Union listing activities to facilitate resource sharing, once thought to be the drudge work of serials, have blossomed and taken on a new personality in recent years. What accounts for this apparently sudden shift in attention and priorities? There are two reasons that may entirely explain this phenomenon: inflation and advanced computer technologies. The realities of steadily increasing serials costs, set against the backdrop of inflation-racked library materials budgets, have fostered the formation of union list groups; similarly, developments in online technology have facilitated the sharing of bibliographic and holdings information for serials, whether it be for the purpose of interlibrary loan or cooperative acquisitions programs. While there are many successful, ongoing union list projects nationwide, only recent developments in this area will be discussed here.

Toward the end of 1981 OCLC reported that there were more than five hundred libraries utilizing its union listing capability, a spin-off feature of the serials control subsystem used for check-in (Online Union Listing, p.3). Users add local data records for their holdings according to the ANSI standard for summary holdings statements. The subsystem now also permits public display of union listings to any library authorized on the serials control subsystem; previously, holdings were only accessible by the inputting library. Benefits of OCLC's online listing system include instant updating capability, extra usefulness for the interlibrary loan subsystem with holdings added to the record, and offline products from the system. F. W. Faxon also announced the availability of its data-processing facilities and databases to library groups interested in compilation of union lists (Faxon, p.82).

Two simultaneous projects are currently under way, one on a national level, the other international, which will certainly do as much to further the cause of union listing as the online capability to share bibliographic information has done. On the national level, a set of guidelines for compiling union lists of serials is being drafted by the ALA RTSD Serials Section Ad Hoc Committee on Union Lists of Serials; the first draft of this work was made available in January 1982 (Compiling). The committee was created in 1980 for the express purpose of soliciting and publishing (in ALA's *Guidelines* series) information on the creation, production, and maintenance of union lists of serials. The first draft is indeed a very workable document, covering all aspects of union listing activities, from duties involved in project administration to scope of coverage to bibliographic conventions. The draft as it now stands would serve as an immensely useful source of assistance to any group embarking on a union list project. However, serious revision of the document should be un-

dertaken to improve the organization and format of the information. In this reviewer's opinion, all of the necessary information has been included, but it is somewhat difficult to locate a specific item or topic. A detailed index should also be included.

The international effort is taking place under the auspices of IFLA and is being funded by UNESCO. Jean Whiffin,§ head of the Serials Division at the University of Victoria (British Columbia) Library and a member of the IFLA Standing Committee on Serial Publications, accepted the contract to do the research for and write the first draft of *Guidelines for Union Catalogues of Serials*. Her document, presented to IFLA's Section on Serial Publications in Leipzig in August 1981, is three times larger than the ALA work, and the nature of its presentation is markedly different. Although a comparison of the two tables of contents suggests coverage of many of the same areas, Whiffin's draft is vastly more detailed and replete with rationale and justifications for every recommendation. At the time the draft was submitted in Leipzig, Whiffin also proposed twenty recommendations relating to this project (Recommendations). Some of these recommendations include: urging the section to pursue creation of ISO standards for serials holdings statements at the summarized condensed level and for institutional identification codes; setting up a special study group to pursue improvements needed in multinational cataloging codes and in the *ISDS Guidelines* related to newspapers and micrographic or other reproductions of serials; and asking UNESCO to fund creation of a serials union catalog in a developing country for the purpose of testing the validity of the IFLA *Guidelines* for use in developing countries. With regard to standards for holdings statements, it is interesting to note that Whiffin neglects to mention even the existence of the 1980 ANSI standard (Whiffin, p.28), while ALA's document merely mentions it as an alternative, but offers other suggestions in format as well (Compiling, p.16).

In truth the ALA draft and Whiffin's opus cannot really be compared. The ALA draft supports its subtitle, *A Guideline,* by stating in the introduction: "It is not a standard on creating, producing, or maintaining union lists. The Committee . . . does not have the authority to set standards. The information in this document is descriptive rather than prescriptive" (Compiling, p.1). Therein lies the essential difference between the two documents. Whiffin and IFLA have attempted to promulgate the establishment of an international standard under the rubric of guidelines. It is an idealistic document covering all possible bases, and only time will tell if it is workable as well.

ECONOMICS, RESOURCES, AND DOCUMENT DELIVERY SYSTEMS

ECONOMICS

It will come as no surprise to anyone that in 1981 periodical prices for United States titles rose an average of 13.3 percent over the 1980 prices. The annual *Library Journal* survey, charting the average subscription price at $39.13, merely serves as documentable confirmation of an alarmingly apparent phenomenon in the acquisition of serials (Brown,

p.1387). Although physics and chemistry average prices retained their number one ranking for two years, with a high of $156.30 average price for 1981, it is sadly ironic to note that library science titles had the highest percentage of increase, 22.5, in 1981 (Brown, p.1388). Serial services, essentially abstracting and indexing titles, showed a 13.2 percent increase in 1981.

In order to put these annual surveys into a more meaningful perspective, a study was performed in which the price increases were compared to the inflation rate for a twelve-year period from 1967–1979 (Kronenfeld). The inflation rate was based on the Cumulative Price Index (CPI) developed by the Bureau of Labor Statistics. The study attempted to examine the premise that journal prices are rising at a faster rate than is justified by inflation or to which libraries can adjust. The conclusions of the study are quite startling, even to the by-now-jaded serialist: while the dollar in 1979 bought less than half of that possible in 1967, the inflationary impact on journal acquisition dollars was even worse. With the same acquisitions budget in 1979 as in 1967, a library was able to purchase only 29 percent of the periodicals it could have in 1967. Even with an acquisitions budget that increased at the same rate as inflation, a library's purchasing power severely declined. The bottom line shows that "a large academic library which subscribed to a broad range of journals and whose acquisitions budget has increased between 1967 and 1979 at the general rate of inflation, would be able to purchase only 62 percent of the journals it could have purchased 12 years earlier" (Kronenfeld, p.716). This study serves to fulfill one of the authors' objectives quite effectively, that of providing still another weapon in our arsenal of justifications for increasing acquisitions budgets.

Another aspect of journal pricing structures is highlighted in an editorial by the editor of *Science* (Abelson, p.393). He points out that prior to World War II, journals published by scientific societies in the U.S. received most of their financial support from members. Now the burden has shifted largely to libraries. Abelson acknowledges that libraries have found it necessary to cut services and monograph purchases to maintain serials collections, but that they are now canceling subscriptions. His concern centers on the fact that if libraries cannot be relied upon as the major support for scientific journals, the future of scholarly scientific publishing will be jeopardized. He suggests more and increased page charges to authors as a means of increasing revenues, federal support of scientific publishing, and increasing individual membership fees that include subscriptions. Activists in serials librarianship should encourage and pursue further remedies of this type from the publishing world; we cannot mount the battle to fight rising journal costs alone. United we stand . . . a chance.

To what extent has the availability of online databases affected the cancellation of subscriptions to the equivalent printed abstracting and indexing sources? A survey was conducted of 200 academic and special libraries to examine this question (Lancaster). Apparently, decisions to cancel subscriptions to printed A & I services were only partially or not at all influenced by online access. Rising costs of subscriptions seemed to

be more of a factor. The study pointed out that newly formed libraries tend to skip acquisition of printed tools and rely mainly on online access, while in academic libraries, the realization that online services need mediation appears to be a barrier to cancellation of printed tools.

RESOURCES

One author suggests that because academic libraries devote so much attention and the largest percentage of the serials budget to maintenance of a core collection, some types of publications may be neglected in the collection development process, notably "little magazines" (Budd). Their value, aside from publishing works of artistic merit, lies in providing primary source material for the creative writing field. Although the costs are generally low for this category of material, Budd suggests that a small portion of the budget should be set aside to acquire them, or that Friends groups be asked to contribute. He also provides a list of useful selection tools.

Increased interest in publications and resources of Third World or developing countries was evident in 1981. Reasons for this interest might be that developing nations are assuming a more significant role in world affairs and that most of these countries have shown a substantial increase in publishing over the past few years. Though interest in these materials is high, efforts to acquire them may not always prove successful. Descriptions of alternative methods of acquisitions and announcements of resources useful to collection development efforts for these materials are always welcome additions to the currently scant amount of information available. One such example is Yu's§ study of exchange activities between American academic and research libraries and libraries in Hong Kong and Taiwan. Through her survey she learned that exchange was often the only method of acquiring some types of material not otherwise for sale. Problems identified in exchange activities were political problems, mail delivery inconsistencies, short print runs that result in materials going out of print quickly, and lack of money for postage in the Asian libraries.

Directories of materials that are not easily identified prove essential for certain types of collections. The Library of Congress issued a guide to its Arab world newspaper collection listing 575 entries with holdings (Library). The guide includes newspapers published in Arab countries as well as those published outside the Arab world in Arabic scripts. At a time when all the world's attention is focused on this particular geographical area, resources such as this one are invaluable. Although Japan is not in the category of developing countries, announcement of a Japanese scientific periodicals directory should be of interest to anyone involved with scientific collections (Japan, p.42). Published by the National Diet Library, and containing almost nine thousand titles, the directory is a comprehensive work that can be used by those with no understanding of Japanese because translations in English have been provided.

Finally, publication of periodicals and newspapers in the People's Republic of China has increased dramatically in recent years (Increases,

p.62). Discrepancies are reported, however, in the total number being published and in the numbers available for domestic or international distribution.

ELECTRONIC DOCUMENT DELIVERY

The most exciting news related to serials, at least in this reviewer's judgment, is that many of the pie-in-the-sky projections regarding the electronic journal and systems of document delivery are beginning to enter into the developmental stages. Events in these areas have more potential for altering, and indeed radically changing, the nature of serials librarianship as we now know it than practically any others of which I am aware. These developments also are being closely watched by publishers, scholars, and other types of information packagers—all of whom will be increasingly affected by technological advancements in this area.

Americans need to remain aware of events in Europe to keep abreast of the latest activities in this field. The Commission of the European Communities has installed Euronet/DIANE (Direct Information Access Network for Europe), which provides online access to major bibliographic databases (Electronic Document Delivery). It is now studying the possibility of a complementary service, an automated document delivery system, ARTEMIS (Automatic Retrieval of Text from Europe's Multinational Information Service). The proceedings of a workshop held on this topic in Luxembourg in December 1980 were published in June 1981 by the Commission of the European Communities (Electronic Document Delivery II).

In Great Britain the British Library has given grants to Birmingham and Loughborough universities for a project to create an electronic journal. The main objective of the project will be to assess its cost, and its effectiveness and impact, especially from the user's viewpoint. Articles within this electronic journal will be refereed, edited, and used online (UK Tests). BLEND (Birmingham Loughborough Electronic Network Development) is discussed in more detail in an article that analyzes two phenomena: the electronic journal in a communication network, and the development of conventional journals using electronic means (Singleton). This scholarly treatise presents an excellent overview of the issues involved in electronic journals such as barriers to access to information by authors and by users. Singleton is clearly enthusiastic when he says, "The most important practical development in this field, however, is the proposal by three large European commercial publishers to provide a full-text store of journal articles on optical video disk. This store would then be at the disposal of the BLLD for retrieval of hard-copy versions of articles which could then, in the early stages at least, be transmitted to users by mail in the normal way" (Singleton, p.15).

The development to which he refers, a project called ADONIS, has been expanded to include initially six publishers, who together publish about fifteen hundred scientific, technical, and medical journals. In addition to the British Library Lending Division (BLLD), other possible document fulfillment centers are being explored in the U.S. and Japan. The participating publishers would be paid a usage fee each time one

of its articles is requested (ADONIS).

ADONIS, ARTEMIS, and DIANE represent a triad of projects, which, when grouped together as a movement, are fascinating thrusts into the future of scholarly dissemination of information.

ORGANIZATION OF SERIALS DEPARTMENTS

Serials librarians' continuing interest in the organizational structures of their departments and the tasks carried out therein is a symbol of the sometimes nebulous role that serials work plays in libraries. (Or is it the other way around?) Following up on Collver's 1980 article on the organization of serials departments in university libraries, Stine surveyed forty-seven ARL medium-sized research libraries to determine the extent of integration of serials-related activities within one department, the variety of tasks that are handled, and the number and level of personnel assigned these tasks. She concludes that most of the responding libraries did have their positions classified appropriately when the level of the positions was compared to the level of difficulty of the tasks assigned (Stine [b], p.86). Serials cataloging proved to be the area with the widest variation in level and number of positions, while receiving duties (check-in/claiming) revealed a discrepancy between difficulty of the tasks and classification level of the position.

Reference responsibilities for the serials collection often fall to the serials department, especially in academic libraries. Grochmal looks at the well-known complexities of serials reference work, but she highlights the fact that poor service often results from inadequately trained staff (usually students) who are working beyond their training or abilities. "Most important for the user is the person he or she encounters, if anyone, and many times the serials system is programmed for failure because of the choice of person who interacts with the user" (Grochmal, p.403). She recommends professional monitoring of serials reference services and suggests methods for training and evaluating student personnel.

McKinley continues the process of navel-contemplation which occupied many of the ALA's serials section meetings over the past two years. She presents the pros and cons of decentralizing or disbanding serials departments, predictably choosing form over function (McKinley [b]). She focuses a great deal of attention on communication systems and networks, especially the informal ones that arise from necessity when functions have been decentralized.

MISCELLANEA AND EPILOGUE

Reviews of Andrew Osborn's third edition of *Serials Publications* (Chicago, 1980) appeared in most of the usual reviewing sources in 1981. His work continues to be the standard text for gaining a total picture of serials librarianship problems. Though experienced serials librarians will find its usefulness limited, it can still be recommended, in conjunction with a broader body of literature, to beginners in the field and to library school students. An annual update to ALA's *First Annual Bibliography of Articles and Monographs on Serials* was published in *Serials Review*. Intended to become a regular feature, this update covers the period May 1980

through April 1981 and includes annotated citations which "best serve the needs of library school students doing research projects on topics related to serials" (Linkins, p.105). The annual bibliography will serve as a convenient tool to be consulted by serials librarians each year, also.

Melin's recapitulation of events that have led to the current state of the art in serials is an interesting piece written from the point of view of a very active serialist. While her comments are essentially addressed to subscription agents, many of her points present departures from the usual approach taken in overviews. For example, she implores subscription agencies "to be knowledgeable . . . to figure out a way to tell us what is happening . . . to bring us together" (Melin, p.82).

There is no doubt that developments in all areas related to serials librarianship over the next several years will broaden the scope of our specialization in ways just beginning to be identified and as yet not conceived. This era challenges us to explore barely charted roads and even to break new ground in pursuit of innovative solutions to our problems. It is reasonable, then, to look to an international library organization for some guidance in these matters. IFLA's *Draft Medium-Term Programme 1981–1985* for its Section on Serial Publications does not meet that need, however. In spite of the fact that the stated program is supposed to have "special relevance to the needs of developing countries," it is a limited and disappointing menu (IFLA, p.25–26). The vision and farsightedness we have been led to expect from IFLA is noticeably lacking in this document.

Finally, bouquets and brickbats must be thrown at two library science journals, which in reaching the decisions they did, serve to illustrate the oldest serials parable: plus ça change, plus c'est la même chose. The IFLA Office for UBC, publisher of the periodical *International Cataloguing,* stated that it was "aware that this title does not indicate adequately the scope of the journal, but as there is no guarantee that a change would improve the situation and, as no librarian can support an unforced change of serial title, it was agreed in Leipzig in 1981 (as it had been in 1974) that the title would remain unaltered" (The Title, p.37). *JOLA (Journal of Library Automation),* however, defiantly announced it would change its title to *Information Technology and Libraries* effective March 1982 (Editor's, p.149). Surely this title change is a prime candidate for the RTSD annual Snake-in-the-Grass title change award!

References

Abelson, Philip H. "Support of Scientific Journals," *Science* 214:393 (Oct. 23, 1981).

ADONIS, a Project for the Electronic Delivery of Documents. Amsterdam: Elsevier Science Publishers, 1981. (Brochure)

Automation and Serials. Serials Monograph, 3. Stratford-upon-Avon: UK Serials Group, 1981.

Bales, Kathleen. "The ANSI Standard for Summary Holdings Statements for Serials: The RLIN Implementation," *Serials Review* 6:71–73 (Oct./Dec. 1980).

Bartley, Linda. "The International Standard Serial Number (ISSN) and Its Use by the United States Postal Service," *UNESCO Journal of Information Science, Librarianship and Archives Administration* 2:245–51 (Oct.–Dec. 1980).

Brown, Norman B., and Phillips, Jane. "Price Indexes for 1981; U.S. Periodicals and

Serial Services," *Library Journal* 106:1387–93 (July 1981).
Budd, John. "Little Magazines—and Academic Libraries," *Journal of Academic Librarianship* 7:152–55 (July 1981).
Carter, Ruth C. "Cataloging Decisions on Pre-AACR2 Serial Records from a Union List Viewpoint," *Serials Review* 7:77–78 (April/June 1981).
Cole, Jim E. "Unique Serial Title Entries," *Serials Review* 7:75–77 (Oct./Dec. 1981).
Compiling a Union List of Serials: A Guideline. Photocopied. Ad Hoc Committee on Union Lists of Serials, RTSD, American Library Association, 1982.
"CONSER A & I Coverage Project," *ARL Newsletter,* no.108:11 (Sept. 1981).
Davis, Carol C. "OCLC's Role in the CONSER Project," *Serials Review* 6:75–77 (Oct./Dec. 1980).
"Descriptive Cataloging," [a] *Cataloging Service Bulletin* no.11:15–16, 46–48 (Winter 1981).
_____, [b] *Cataloging Service Bulletin* no.12:25–29 (Spring 1981).
"Editor's Notes," *Journal of Library Automation* 14:149 (Sept. 1981).
"Electronic Document Delivery," *IFLA Journal* 7:303 (1981).
Electronic Document Delivery II. Commission of European Communities. Eur. 7606. Oxford, England: Learned Information, Ltd., 1981.
"Faxon Provides Union List of Serials Service," *Serials Review* 7:82 (Jan./March 1981).
Glasby, Dorothy J. "The Year's Work in Serials: 1980," *Library Resources & Technical Services* 25:310–18 (July/Sept. 1981).
Grochmal, Helen M. "The Serials Department's Responsibilities for Reference," *RQ* 20:403–6 (Summer 1981).
Hayes, Florence C. "Pre-AACR2 Special Records: Cornell's Experience with a Closed Catalog," *Serials Review* 7:85–86 (April/June 1981).
IBM, International Business Machines Corporation. Data Processing Division. *Library Automation—Computerized Serials Control.* White Plains, N.Y.: IBM, 1971.
IFLA, International Federation of Library Associations and Institutions. *Draft Medium-Term Programme 1981–1985.* Leipzig: IFLA, 1981.
"Increases in Periodical, Newspaper Publishing Reported in China," *Library of Congress Information Bulletin* 40:62–63 (Feb. 20, 1981).
"ISBD(CP) Component Parts," *International Cataloguing* 10:14–15 (April/June 1981).
"Japan: Publication of a Revised Periodicals Directory," *International Cataloguing* 10:42 (Oct./Dec. 1981).
Kovacic, Ellen Siegel, and Ericson, Randall L. "Serials Cataloging under AACR2," *RTSD Newsletter* 6:32–34 (May/June 1981).
Kronenfeld, Michael R., and Thompson, James A. "The Impact of Inflation on Journal Costs," *Library Journal* 106:714–17 (April 1, 1981).
Lancaster, F. W., and Goldhor, Herbert. "The Impact of Online Services on Subscriptions to Printed Publications," *Online Review* 5:301–11 (Aug. 1981).
"Library Issues Guide to Arab-World Newspapers at L.C.," *Library of Congress Information Bulletin* 40:37 (Jan. 23, 1981).
Linkins, Germaine C., ed. "Bibliography of Articles and Monographs on Serials," *Serials Review* 7:105–9 (July/Sept. 1981).
LINXLetter 1:2 (Jan./Feb. 1982).
McKinley, Margaret. [a] "A Pragmatic Approach to Serials Data Conversion," *Serials Review* 7:85–91 (Jan./March 1981).
_____. [b] "Serials Departments: Doomed to Extinction?" *Serials Librarian* 5:15–24 (Winter 1980).
Melin, Nancy Jean. "Serials in the 80's: A Report from the Field," *Serials Review* 7:79–82 (July/Sept. 1981).
"Online Serials Control for Sale," *American Libraries* 12:510 (Sept. 1981).
"Online Union Listing Users Are Enthusiastic," *OCLC Newsletter* 3 + (Nov. 1981).
"Recommendations Arising from the UNESCO/IFLA Union List Project," photocopied memorandum, Aug. 1981.
"Section Committee and Discussion Group Reports," *RTSD Newsletter* 6:12–16 (March/April 1981).
Serials Automation for Acquisitions and Inventory Control. William Gray Potter and Arlene Farber Sirkin, eds. Chicago: American Library Assn., 1981.
"Seventh ISDS Meeting Held," *Library of Congress Information Bulletin* 41:7 (Jan. 8, 1982).

Singleton, Alan. "The Electronic Journal and Its Relatives," *Scholarly Publishing* 13:3–18 (Oct. 1981).

Stine, Diane. [a] "The Cataloging of Serials in Microform under AACR II Rules," *Serials Librarian* 5:19–24 (Spring 1981).

_____. [b] "Serials Departments Staffing Patterns in Medium-Sized Research Libraries," *Serials Review* 7:83–87 (July/Sept. 1981).

"The Title and Scope of *International Cataloguing*," *International Cataloguing* 10:37 (Oct./Dec. 1981).

"UK Tests Electronic Journal," *American Libraries* 12:106–7 (Feb. 1981).

Uluakar, Tamer. "Needed: A National Standard for Machine-Interpretable Representation of Serial Holdings—A Commentary," *RTSD Newsletter* 6:34–35 (May/June 1981).

Verity, John B. *Automated Serials Records, an Oblique Look at the State of the Art.* UCRL-71729. Livermore, Calif.: Lawrence Radiation Laboratory, 1969.

Whiffin, Jean. *Guidelines for Union Catalogues of Serials.* Photocopied. Victoria, B.C., 1981.

Willard, Louis Charles. "Microforms and AACR2, Chapter 11: Is the Cardinal Principle a Peter Principle?" *Microform Review* 10:75–78 (Spring 1981).

Yu, Priscilla C. "International Gift & Exchange: The Asian Experience," *Journal of Academic Librarianship* 6:333–38 (Jan. 1981).

"Z39 Committee Meets at Library," *Library of Congress Information Bulletin* 40:211 (June 12, 1981).

Micrographics, Reprography, and Graphic Communications in 1981

William Saffady and Rhoda Garoogian

THIS YEAR'S ARTICLE reviews activities in the field of micrographics and reprography, broadly interpreted, as in past years, to include such video-oriented document recording and transmission devices and methodologies as videodiscs and facsimile. This review is not comprehensive, but rather attempts to highlight some of the most important product developments and publications of 1981.

VIDEODISCS

As in 1980, the potential of videodiscs attracted the lion's share of attention among persons following technological and application developments in the field of graphic communications during 1981. Yet actual accomplishments lagged well behind anticipation, and available products continued to emphasize entertainment rather than information storage and retrieval applications. Pioneer and Magnavox continued to market players for the laser-oriented optical videodisc (OVD) in consumer applications, as did DiscoVision Associates and Sony in industrial applications. Magnavox introduced a remote control option as an enhancement to its videodisc player, thereby bringing it into line with capabilities offered by U.S. Pioneer. New Media Graphics Corporation introduced a device that links the DiscoVision model PR7810 industrial videodisc player to a computer through a standard RS-232C interface. DiscoVision itself introduced its model PR7820-2, a microprocessor-controlled video disc that can be directly connected to a remote computer. The most important development, however, was RCA's announcement of its Selectavision Capacitance Electronic Disc (CED) System, which uses a stylus to read information contained in the prerecorded grooves of a twelve-inch disc. Following the RCA announcement, CED disc players were introduced by Elmo, Zenith, Hitachi, Toshiba, Sanyo, Radio Shack, and Montgomery Ward. While RCA likewise announced the availability of about one hundred prerecorded

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disc titles, the amount of prerecorded software available for both the optical and CED disc systems remains disappointingly small. The limited availability of prerecorded software—which, in the absence of direct recording capability, is essential to the acceptance of videodisc technology—was a primary contributor to the disappointing sales experienced by videodisc systems during 1981. RCA reported a 1981 loss of $106.8 million associated with the Selectavision system, and, by the year's end, CED players could be purchased for as little as $299, a substantial reduction when compared to the suggested retail price of $499 at the start of the year. While statistics are unavailable, optical videodisc systems apparently fared little better. Optical videodisc players, which retailed for approximately $800 at the start of the year, could be purchased for less than $600 at Christmas time. In early 1982, DiscoVision Associates, the joint venture of IBM and MCA Communications that manufactured prerecorded optical videodiscs as well as industrial optical videodisc players, was disbanded, leaving the manufacturing of prerecorded videodiscs to Pioneer, a Japanese company. In the meantime, the JVC Company, a subsidiary of the Japanese electronics firm Matsoshita, deferred the introduction of its Video High-Density (VHD) videodisc system, which was previously announced for availability in mid-1981. The VHD format is incompatible with the optical videodisc and CED formats and will face the same limitations with respect to prewritten software.

Despite this disappointing reception in consumer applications, a number of information management specialists continue to view the optical videodisc as a potential alternative to microforms, although much confusion exists regarding the current applicability of optical videodisc technology to problems of document storage and retrieval. Optical videodiscs can store the equivalent of about fifty thousand video frames per side, and, to convey the information storage capabilities of videodiscs dramatically, several observers have noted that the entire Encyclopedia Britannica could be recorded on a single videodisc. Evidently carried away by this enthusiasm, Maruskin, in a book on OCLC, reported incorrectly that such a disc is currently available.[1] Aretê Publishing did, however, demonstrate an experimental twenty-minute videodisc version of its *Academic American Encyclopedia,* combining still frames, moving pictures, and sound. The current limitations of optical recording technologies are reviewed in an excellent article by Brody, which describes the various research and development activities designed to produce optical videodisc systems for the storage of documents and data.[2] The Brody article discusses the much-publicized Direct-Read After Write (DRAW) optical disc, which permits the direct recording of documents or data without the time-consuming and expensive mastering process associated with the production of optical videodiscs for consumer applications. Videodisc technology and the potential DRAW discs were likewise reviewed in a paper by Ford and Meyer, delivered at the 1981 National Online Conference.[3] Optical disc technology and its potential for document storage and retrieval were discussed in a report by Barrett[4] for the National Reprographic Centre for documentation (NRCd), and

in an article by Walter,[5] prepared under the auspices of the National Micrographics Association's C13 Standards Committee on the Electronic Storage, Transfer, and Reproduction of Reduced Document Images. While published in early 1982, the Walter article reflects work performed in 1981. Walter is also preparing a book-length study of optical recording technology which will be published by the National Micrographics Association in mid-1982. The above sources note the limitations of conventional television technology in document-recording applications, indicating that the use of optical videodiscs as an alternative to microforms or paper documents will require high-resolution recording formats and graphics display terminals. Available consumer and industrial videodisc systems, however, conform to the low-resolution recording standards encountered in conventional television systems. Schipma,[6] whose previous works have emphasized the developmental character of videodisc technology in document storage applications, described a system for the storage and display of textual material using standard television technology. The system requires the reformatting of printed or typed text and records a typical page on an average of 5.3 videodisc frames.

Resolution characteristics that limit the application of conventional videodisc technology to the storage and retrieval of textual information are less constraining in applications involving graphic information, and several products and applications reported in 1981 are of special interest to libraries. Pergamon Press, for example, announced the availability of a system for the storage of patent drawings on optical videodiscs, and Dartmouth College received a $200,000 grant from the Alfred P. Sloan Foundation to explore the potential of videodisc technology in various educational and instructional applications. Dartmouth will reportedly develop interactive videodisc recordings of items in its permanent art collection, and will explore the possibility of recording the journal *Cell Motility* and the *World Book Encyclopedia* on optical videodiscs. Mole[7] discussed a pilot project to explore the feasibility of using videodiscs to store graphic and nongraphic documents at the Public Archives of Canada. Sustik described the use of an interactive, computer-controlled videodisc as an alternative to the traditional slide library at the University of Iowa.[8] A useful videodisc bibliography, which contains reports of similar applications, is a continuing feature in the *Videodisc/Videotext Magazine* (formerly *Videodisc/Teletext*), published by Meckler Publishing.[9] A glossary by Pettipas and Paris attempts to eliminate some of the confusion associated with terminology used to describe videodiscs and related technologies.[10]

Despite the attention given to the information storage and retrieval potential of videodisc technology, micrographics remains the reprographic technology of choice for the storage of document images. As in the previous year, 1981 saw the introduction of several interesting products designed to support the so-called computer/micrographics interface. DatagraphiX, for example, introduced its 4590 COM recorder as the top-of-the-line model in its popular 4500 series. It is a minicomputer-controlled device that features a Winchester-type hard disc for the online

storage of job parameters and related data. The same vendor also expanded its activities into the paper output market with the introduction of a xerographic printer, the model 9825, which is capable of operating at speeds up to 21,000 lines per minute. NCR Corporation also announced a minicomputer-controlled COM recorder with a hard disc, the 5330, which, like other NCR COM devices, is a recorder/processor that produces fully developed microfiche. Bell and Howell introduced the 3900, a high-speed addition to its line of CRT-type COM recorders. The 3M Company announced a channel control unit for its 700 series COM recorders, which permits the devices to operate both online and offline to a computer main frame.

Several vendors introduced turnkey computer-assisted retrieval (CAR) systems or selected additional components for use in CAR systems introduced in previous years. Metropolitan Microforms, for example, announced its MCAR system, a microcomputer-based configuration that utilizes micrographics cameras and reader/printers manufactured by Minolta. The Bruning Division of AM International announced a turnkey system, the AM Navigator, to operate with its models 95 and 96 microfiche retrieval units, but following the announcement of substantial corporate financial losses, AM International sold the Bruning Division, and the future of the Navigator system is uncertain. Eastman Kodak experienced similar difficulties with a prewritten CAR software package designed to run on the IBM 5120 series of microcomputers in conjunction with the Kodak IMT-100 and IMT-150 retrieval units. Shortly after the package became available, IBM announced its widely advertised personal computer, and the 5120 all but dropped from active marketing status. The 3M Company, which has lost some market strength in the area of blip-counting reader/printers to the Kodak IMT units, announced its 6000 Page Search, a microprocessor-controlled device with capabilities similar to the IMT. Visual Systems, which markets the popular VISCO Controller, a microprocessor-based blip-counting device, designed for attachment to the conventional reader/printers of other manufacturers, announced a model capable of online operation in CAR systems. Microform Data Systems announced its CARMS/II, an enhanced version of a computer-assisted retrieval system for the selection of document images stored on ultrastrips.

Following the lead of Planning Research Corporation and Teknikron Controls, several vendors introduced micro-facsimile products designed to link computer-assisted retrieval systems with image digitizers for the video transmission of microform images to remote monitors and/or printers. In late 1981, Teknikron announced its ADMIN system, the latest in its line of sophisticated document retrieval and transmission systems. It offers users the option of storing documents on optical discs in addition to microforms. Access Corporation introduced its 2010 system, which utilizes the Access System M high-capacity, random-access storage unit for microfiche or other flat microforms linked to a conveyor belt that delivers retrieved microforms to an image digitizer, a high-speed duplicator, or other peripheral devices. Ragen Information Systems announced the Ragen 1010, an enhanced version of the Ragen 95 that

combines computer-assisted retrieval and automatic cartridge selection with the digitization of specified images and their transmission to a specially constructed work station where a temporary electrostatic paper copy is printed for the operator's inspection. If the operator wants a permanent copy, the powdered toner that forms the image is fused to the paper; otherwise, the toner is erased and the paper can be reused. Terminal Data Corporation announced its VideoMate VMT-2000, a 2200-line, high-resolution CRT terminal for the display of transmitted document images and computer graphics as well as conventional alphanumeric data. The same company also announced its DocuScan image digitizer, a modified version of its popular DocuMate III automatic feed microfilmer.

Among conventional source document microfilmers, the 3M Company introduced its EF 5000, a microprocessor-controlled variant of its 3401 rotary camera which features multilevel blip-encoding capability. Kodak likewise introduced its Starfile RV-3 microfilmer, an improved version of the RV-2 model, which features higher resolution and can be optionally equipped with an interface to a terminal for use in CAR indexing systems. Minolta began selling its Auto 16 planetary camera, which was previously sold in the United States by Bell and Howell. Motion Technology announced a 16mm rotary camera that produces film for eventual reformatting into standard microfiche. Fuji announced its MICLE 1200, a camera/processor that produces fully developed strips of 16mm microfilm for insertion into microfilm jackets. Dietzgen introduced its "Big D" step-and-repeat camera for the recording of engineering drawings, newspapers, and other large documents on 42X microfiche.

In 1981 there was a further elaboration of the tendency toward the development of so-called families of microform readers, consisting of a line of related products that share certain components and design attributes but differ in screen size, microforms accepted, and other characteristics that influence the suitability of a given reader for a particular application. The number of specific models in a given reader family varies from as few as two recently introduced in the NCR 4601 series to as many as ten in the Micron Series 700 product line. As in past years, the reader marketplace remained dominated by devices for microfiche and other flat microforms, and new desk-top fiche readers were introduced by such companies as Micron, Micro Design, Realist, Northwest Microfilm, DatagraphiX, Cordell, and Topper Micrographics. Several vendors introduced portable readers of innovative design. Intercap and Topper both announced lap-style portable fiche readers, the latter introducing a dual lens model, the Dual Eighty, for the 80 percent magnification of 24X source documents and the 50 percent magnification of 42X COM-generated images. Information Design began marketing a cube-shaped portable reader. For micropublishing applications aimed at technicians, Realist and Visidyne both introduced portable readers with compartments for tools and repair supplies. Micro Design and Topper Micrographics introduced palm-size microfiche readers with very small screens, which are designed as a hand-held alternative to monocular

viewers. DatagraphiX introduced its DeskMATE, a space-saving microfiche reader designed for installation inside a desk drawer.

Micro Design, a division of Bell and Howell, introduced an electrofax process reader/printer that differs from most available models in using a dry toner. The same device will be marketed to libraries by Bell and Howell's Micro Photo Division. Canon introduced several additional models in its NP-Matic line of reader/printers, all of which are based on the Canon line of plain-paper office copiers. Xerox introduced a coin-operated attachment for its model 740 microfiche reader/printer, which, like the Canon models, uses plain paper. The 3M Company announced a dual fiche version of its popular model 800 dry silver reader/printer. National Microsales introduced a prototype model of its Pageflo enlarger/printer for 16mm- and 35mm-roll microfilm. It will compete with the Dybell/Ware Systems 35 Autoprint in filling a void left by the demise of the Xerox Copyflo in the early 1970s. Among devices for use with aperture cards, the 3M Company introduced its model 618 enlarger/printer, a plain-paper device that employs the same printing technology as the popular 3M Quantimatic. Imtec announced several printing devices for engineering applications, including the IMS 105 reader/printer, which is designed for 105mm full-frame microfiche, and the Al Mark 2 enlarger/printer, one of the few available devices capable of making full-size prints of D-size drawings. These devices may prove of interest to technical libraries charged with responsibility for the maintenance of archival drawing files.

Among microform duplicators, NCR introduced 4202D, a microfiche duplicator noteworthy for its copierlike design. It can produce up to 400 fiche copies per hour and is intended for the first-time COM user. DatagraphiX announced its DataMaster, a microprocessor-controlled duplicator capable of producing up to 1,500 fiche copies per hour. It features a display panel for communication with the operator and is intended for high-volume COM applications. Photomatrix Corporation introduced an automatic fiche stacker for use with its duplicators. Extek introduced its model 2101, a desk-top silver halide duplicator.

Several authors discussed specific aspects of microfilm technology. Especially notable was an excellent article by Wolf discussing the three available updatable microfiche technologies.[11] Updatable fiche systems were likewise treated in an informative unsigned article in *Modern Office Procedures*.[12] An article by Carden argued for the replacement of 35mm aperture cards by 105mm full-frame microfiche in engineering drawing applications.[13] Goulard discussed the current limitations of color microfiche, noting problems of resolution and fidelity of color reproduction.[14] Grimaldi discussed progress in the development of COM-generated color fiche, suggesting that the limitations noted by Goulard apply primarily to source-document applications.[15] Dealing with a neglected but important topic for the library community, Taylor discussed the manufacturing of acid-free microfiche storage envelopes.[16] In 1981 the customary high number of articles dealt with COM technology. Miller, for example, discussed the selection and installation of a COM system, with special reference to his experience in the banking industry.[17] Abowd an-

alyzed the economic and management advantages of COM as an alternative to paper, using supporting examples of COM applications at the University of Illinois.[18] Kelley surveyed microform reader manufacturers to determine current trends in the development of micrographics display equipment, noting advances in image quality, light levels, the placement of control, and screen angle as noteworthy features of newer readers, while Farrington, a librarian at the State University of New York at Albany, reviewed criteria for the selection of display equipment for public use applications.[19] A report by Horder for the National Reprographic Centre for documentation surveyed automated micrographics retrieval systems available in Western Europe.[20] Costigan reviewed methods of economic analysis in micrographics applications.[21] Miller discussed current prospects and likely future developments in the field of microfacsimile.[22]

As in 1980, the relationship of micrographics to so-called office-of-the-future technologies attracted considerable attention during 1981. Books dealing with automated office systems by Saffady, and Kalthoff and Lee, included extensive discussions of micrographics.[23] An article by Kalthoff examined challenges to the micrographics industry from other technologies, emphasizing the role of micrographics in productivity improvement among white-collar workers.[24] Productivity improvement was likewise the key theme in articles by Walter, Neary, Lewis, Polak, and Samole.[25] Maxwell reviewed the role of micrographics, specifically computer-assisted retrieval, in so-called electronic filing systems, while Cheadle discussed the combined use of micrographics and word processing at the U.S. Department of Agriculture Animal and Plant Health Inspection Service.[26] The word processor is used to index document images stored on microfiche. Landau reviewed the potential impact of automated office technologies, including micrographics, on libraries.[27]

MICROGRAPHICS

Among articles dealing specifically with micrographics in library applications, Avedon reviewed the history and benefits of microform use by libraries and also considered the archival qualities of silver gelatin microforms in relation to processing and storage requirements.[28] Ellison et al. examined the requirements of a regular care-and-maintenance program for active library microform collections, discussing such factors as storage conditions, packaging, handling, cleaning, and repair.[29] An illustrated book by Boss and Raikes discussed the development of microform reading facilities in libraries.[30] Cruse discussed the potential of micrographics for cartographic documents and the future of map librarianship, while articles by Samuel and Walsh reviewed the use of microforms for the storage, retrieval, and display of visual materials encountered in art libraries and museums.[31] Albert analyzed the utility of microforms in cathedral libraries, noting their importance for space saving, security, and simplified dissemination of manuscripts and other library materials.[32] Keene described the extensive use of microforms in the British Public Records Office, where thirty-three planetary cameras are in current operation.[33] In a two-part article, Pontius discussed the

public-service aspects of library microform collections.[34] Farrington reviewed important considerations in the decision to convert journal back files to microform, emphasizing the need to develop a microform collection and criteria for title selection as well as the importance of appropriate equipment selection.[35] Marion discussed the conversion of a portion of the journal collection to microform at the University of Minnesota's Physics Library, indicating that few problems of user resistance were encountered.[36] Dealing with a problem familiar to many librarians, Worden described the conversion of twenty drawers of vertical-file materials to microfilm jackets at the Kalamazoo Nature Center for Environmental Education.[37] Baker provides a historical review of micrographics-based preservation activities at the New York Public Library.[38]

Compared to previous years, library literature contained few reports of COM applications. Breedlove reviewed the positive impact of COM-generated statewide union catalogs on resource sharing, citing examples from Maryland and Colorado.[39] The possibility of a multimedia catalog, combining online and COM components, was discussed in articles by Bierman and Chervinko.[40] In an article dealing with a facet of the computer/micrographics interface, McClure discussed the importance of microfiche collections of government documents to librarians searching online databases, emphasizing their potential for improved document delivery services.[41]

While scholarly micropublishing is hardly the growth industry it was in the 1960s and early 1970s, micropublishers continued to add interesting titles to their product lines in 1981. The American National Standards Institute issued Standard Z39.32-1981 *Information on Microfiche Headings* and a revision of its Standard Z39.26-1981 *Advertising of Micropublications.*[42] A book by Hernon reviewed the micropublishing activities of the U.S. government.[43]

In the literature dealing with micropublishing, Teague reviewed micropublishing activity in Great Britain.[44] Bruner likewise surveyed micropublishing activity within the U.S. federal government, while Bell described the advantages of micropublishing for scholarly materials of limited interest.[45] Frank suggested a revival of the text/fiche concept, originated in the 1970s by the University of Chicago Press, in which textual material in paper form is supplemented by photographs or other graphic materials on microfiche.[46] Grills assessed the potential impact of recent copyright legislation on the micropublishing industry, while Bush and Dreyfuss provide a casebook containing materials for the study of the broad problem of copyright protection.[47] Librarians' continuing concern for improved bibliographic control of microforms was reflected in articles by Hyde, Mikita, Niles, and Stebelman.[48]

In the general literature on micrographics applications, Freeman suggested the dissemination of position papers on microfiche as an economical alternative to computer-based teleconferencing.[49] Connor discussed the use of microfiche as an enhanced-print medium for low vision and other visually handicapped students.[50] Roundy discussed the use of microfiche for the storage of medical records, while Reimann advocated the use of microforms as an alternative to the conventional storage of medical X rays.[51] A survey by Wheeler reviewed micrographics activity

in the federal governments of six industrial nations, indicating the need for more-organized development of micrographics applications, training programs, and managerial supervision of micrographics operations.[52]

COPIERS AND FACSIMILE

As in the past several years, Japanese-made equipment continued to account for some of the most interesting developments in these two related product groups. Companies like Toshiba, Canon, Minolta Ricoh, Panasonic, Sharp, and Mita introduced low-cost plain-paper copiers with reduction capabilities, sorters, automatic document feeders, and other features previously associated only with larger, more expensive devices.

As in the past, the literature on copiers during 1981 was limited to product surveys in trade publications, probably the most informative being a review by Hanson that emphasized the falling costs of desk-top plain-paper units.[53] He notes that the equivalent of a machine that sold for $12,000 in 1975 could be purchased for less than $3,000 in 1981, with prices projected to fall below $2,000 by 1983.

Facsimile continued to attract users, as sales were bolstered by improved equipment reliability, faster operating speeds, increased adherence to C.C. I.T.T. standards for low-speed analog and high-speed digital equipment, and the general-office interest in electronic mail and message systems. The state of the art was reviewed in articles by Prince, Rivers, Steinbrecher, Kaplan, Niles, and Jordan, as well as in various anonymous surveys in trade publications.[54] Voos reviewed the advantages of facsimile for the library community.[55] Probably the healthiest sign for the short-term future of facsimile transmission was Wang Laboratories' decision to add facsimile equipment to its line of integrated office systems. In the long run, however, most observers still question the viability of image-oriented technologies such as facsimile, in view of the increasing amount of character-oriented data available in machine-readable form.

SUMMARY

In 1981, as in 1980, there was continued discussion of the potential of videodiscs in document storage and retrieval, but little in the way of practical results apart from visual (as opposed to textual) materials. The micrographics industry, on the other hand, introduced new products designed to facilitate the use of microforms, while library and other professional literature reported the advantages of microforms in various types of information storage and retrieval applications. Copier product developments were largely dominated by the announcement of various low-cost plain-paper units from Japan. The Japanese likewise played an important role in the development of facsimile technology, which enjoyed considerably increased market acceptance during 1981.

REFERENCES

1. Albert F. Maruskin, *OCLC: Its Governance, Function, Financing and Technology* (New York: Marcel Dekker, 1980).

2. Herb Brody, "Materials for Optical Storage: A State-of-the-Art Survey," *Laser Focus* 17:47–52 (Aug. 1981).
3. William H. Ford, Jr. and Alan H. Meyer, "Videodisc and Its Implications For Online Information Systems," in Martha E. Williams and Thomas H. Hogan, comps., *National Online Meeting-Proceedings, 1981* (Metford, N.J.: Learned Information, Inc., 1981), p.209.
4. R. Barrett, "Developments in Optical Disk Technology and the Implications for Information Storage and Retrieval," *Journal of Micrographics* 15:22–26 (Jan. 1982).
5. Gerard O. Walter, "Video Disc for the Storage of Office Documents and Engineering Graphics," *Journal of Micrographics* 15:12–20 (Jan. 1982).
6. Peter B. Schipma, "Videodisc for Storage of Text," *Videodisc/Videotext Magazine* 1:168–72 (Summer 1981); see also Peter B. Schipma and David S. Becker, "Text Storage and Display via Videodisc; or, Someday My Prints Will Come," in Martha E. Williams and Thomas H. Hogan, comps., *National Online Meeting Proceedings, 1981* (Metford, N.J.: Learned Information, Inc., 1981), p.427–31.
7. Dennis Mole, "The Videodisc as a Pilot Project of the Public Archives of Canada," *Videodisc/Videotext Magazine* 1:154–61 (Summer 1981).
8. Joan M. Sustik, "Art History Interactive Videodisc Project at the University of Iowa," *Videodisc/Videotext Magazine* 1:78–85 (Spring 1981).
9. George L. Abbott, comp., "Videodisc Bibliography: General Articles," *Videodisc/Teletext* 1:47–56 (Winter 1981); "Videodisc Bibliography: Technical Articles," *Videodisc/Videotext Magazine* 1:120–29 (Spring 1981).
10. Lisa Anne Pettipas and Judith Paris, "Glossary of Terms," *Videodisc/Videotext Magazine* 1:173–86 (Summer 1981).
11. David R. Wolf, "The Technologies and Role of Updatable Micrographics," *Journal of Micrographics* 14:23–28 (Aug. 1981).
12. "What's in the Cards for Updatable Micrographics?" *Modern Office Procedures* 26:134–37 (Sept. 1981).
13. Ray C. Carden, "A Case for Replacing the 35mm Aperture Card with 105mm Fiche," *Journal of Micrographics* 14:35–37 (Oct. 1981).
14. Claude Goulard, "Color Microfiche: Myth or Reality?" *IMC Journal* 17:11–13 (Third Quarter, 1981).
15. John E. Grimaldi, "Computer-Generated Color Microfiche Today," *IMC Journal* 17:11–13 (Fourth Quarter, 1981).
16. C. D. Taylor, "Certified Acid-Free Microfiche Envelopes," *Journal of Micrographics* 14:39–40 (Dec. 1981).
17. Joseph F. Miller, "Selecting, Installing and Designing a COM System," *Journal of Micrographics* 14:39–42 (Sept. 1981).
18. Anthony Abowd, "Computer Output Microfilm (COM): An Attractive Alternative to Paper Output," *Journal of Micrographics* 14:40–43 (Nov. 1981).
19. Neil D. Kelley, "Microform Readers—Some Comfort for the User," *Infosystems* 27:58–63 (Dec. 1980); J. Farrington, "How to Select a Microfilm or Microfiche Reader: Some Practical Considerations," *Modern Office Procedures* 25:75–79 (Dec. 1980).
20. Alan Horder, *Automated Retrieval of Microforms: A Guide and Directory* (Hatfield Herts, England: National Reprographic Centre for documentation, 1981).
21. Daniel M. Costigan, "Economics of a Micrographics System," *Journal of Micrographics* 14:15–30 (March 1981).
22. Frederick W. Miller, "Facsimile Courts Other Technologies," *Infosystems* 28:62–66 (Aug. 1981).
23. William Saffady, *The Automated Office: An Introduction to the Technology* (Silver Spring, Md.: National Micrographics Assn., 1981); Robert J. Kalthoff and Leonard S. Lee, *Productivity and Records Automation* (Englewood Cliffs, N.J.: Prentice-Hall, 1981).
24. Robert J. Kalthoff, "Micrographics: How Will It Fare in the Productivity Push of the '80s?" *Journal of Micrographics* 14:29–31 (Sept. 1981).
25. Gerard O. Walter, "Micrographics Interfacing Technologies: Office Productivity Improvement," *Journal of Micrographics* 14:13–18 (June 1981); Dennis R. Neary, "Interfacing DP and Micrographics Technology to Save DP Dollars," *Journal of Micrographics* 14:17–18 (Feb. 1981); James Lewis, "Productivity—The Case for High Re-

duction COM," *Journal of Micrographics* 14:44–46 (April 1981); George A. Polak, "Micrographics in the Automated Office," *Information and Records Management* 15:42–43 (July 1981); Robert L. Samole, "Growing Up to Information Systems," *Administrative Management* 6:57–58, 60–61, 64 (June 1981).

26. M. Maxwell, "Prepackaged Software Expands Electronic Filing Application," *Journal of Micrographics* 14:29–31 (Dec. 1981); Audry J. Cheadle, "Interfacing Micrographics and Word Processing to Improve Paperwork Procedures," *Journal of Micrographics* 14:41–43 (Aug. 1981).
27. Robert M. Landau, "The Impact of Office Automation on Libraries," *Special Libraries* 72:122–26 (April, 1981).
28. Don M. Avedon, "Microforms as Library Tools," *Library Trends* 30:253–65 (Fall 1981).
29. John W. Ellison and others, "Storage and Conservation of Microforms," *Microform Review* 10:90–93 (Spring 1981).
30. Richard W. Boss and Deborah Raikes, *Developing Microform Reading Facilities* (Westport, Conn.: Microform Review, 1981).
31. Larry Cruse, "Microcartography and Cartographic Data Bases," *Library Trends* 29:391–416 (Winter 1981); Evelyn K. Samuel, "Microforms and Art Libraries," *Microform Review* 10:141 + (Summer 1981); P. Walsh, "Microforms and Their Part in the Retrieval and Study of Visual Materials," *Microdoc* 20:14–22 (1981).
32. S. C. Albert, "Multum in Parvo: Applications of Microfilm in Cathedral Libraries," *Microdoc* 20:36–47 (1981).
33. J. A. Keene, "Microforms in the National Archive," *Microdoc* 20:3–7 (1981).
34. Jack Pontius, "Public Service of a Large Microforms Collection," Part 1, *Microform Review* 10:18–23 (Winter 1981); Part 2, *Microform Review* 10:84–89 (Spring 1981).
35. Jean Walter Farrington, "Adding Microforms to Academic Libraries: Developing a Journal Conversion Program," *The Serials Librarian* 5:79–82 (Fall 1980).
36. Donald Marion, "Microfilm Conversion in an Academic Physics Library," *Microform Review* 10:170–72 (Summer 1981).
37. Diane D. Worden, "A Cooperative Conversion Project from Vertical File Hardcopy to Jacketed Microfiche," *Special Libraries* 72:270–76 (July 1981).
38. John P. Baker, "Preservation Programs of the New York Public Library, Part I: The Early Years," *Microform Review* 10:25–27 (Winter 1981).
39. Elizabeth Ann Breedlove, "The Impact of COM Statewide Union Catalogs on Resource Sharing," *Catholic Library World* 52:272–75 (Jan. 1981).
40. Kenneth J. Bierman, "Multimedia Catalog: COM and Online," *Journal of Library Automation* 14:110–12 (June 1981); James S. Chervinko, "Online COM Catalog to Revolutionize Library Service and Efficiency," *Data Management* 20:26–28 (Jan. 1982).
41. Charles R. McClure, "Online Government Documents Data Base Searching and the Use of Microfiche Documents Online by Academic and Public Depository Librarians," *Microform Review* 10:245–59 (Fall 1981).
42. American National Standards Institute, *Information on Microfiche Headings* (Z39.32-1981) and its *Advertising of Micropublications* (Z39.26-1981) (New York: The Institute, 1981).
43. Peter Hernon, *Microforms and Government Information* (Westport, Conn.: Microform Review, 1981).
44. John S. Teague, "Micropublishing in Great Britain," *Microform Review* 10:7–12 (Winter 1981).
45. Richard G. Bruner, "Micropublishing in the Federal Sector," *Journal of Micrographics* 14:44–47 (Nov. 1981); Alan Bell, "Micropublishing, the Scholarly Enterprise," *Microform Review* 10:13–15 (Winter 1981).
46. Jerome P. Frank, "Has the Time Come for Text-Fiche?" *Publishers Weekly* 219:72–77 (March 6, 1981).
47. Caroline M. Grills, "Micropublishing in the 80s under the Revived U.S. Copyright Law," *Journal of Micrographics* 14:13–16 (July 1981); G. P. Bush and R. H. Dreyfuss, *Technology: Copyright: Sources: Materials* (Mt. Airy, Md.: Lomond Publishers, 1981).
48. Nancy Hyde, "ARL Adopts Plan for Improving Access to Microforms," *Microdoc* 20:54–55 (1981); Elizabeth G. Mikita, "Monographs in Microform: Issues in Cataloging and Bibliographic Control," *Library Resources & Technical Services* 25:352–61

(Oct./Dec. 1981); Ann Niles, "Bibliographic Access for Microform Collections," *College & Research Libraries* 42:576–80 (Nov. 1981); Scott Stebelman, "Bibliographic Control of Microforms: Suggestions for Improved Local Access," *Microform Review* 10:162–65 (Summer 1981).

49. Andrew Freeman, "Brainstorming on Microfiche: An Alternative to Computer Conferencing," *Educational Technology* 21:21–23 (May 1981).
50. Aikin Connor, "A Comparison of Traditional Large Type and Microfiche as Reading Modes for Low Vision Students," *Journal of Micrographics* 14:32–38 (Nov. 1981).
51. Glen Roundy, "Microfiche: An Answer to a Medical Records Paper Problem," *Journal of Micrographics* 14:23–28 (Sept. 1981); Z. Reimann, "X-Ray: USA-O, UK-1," *Microdoc* 20:53–54 (1981).
52. William Wheeler, "The Management of Micrographics in Federal Governments," *IMC Journal* 17:27–31 (Fourth Quarter, 1981).
53. Richard E. Hanson, "Will Copiers Go the Way of Calculators?" *Administrative Management* 42:56–79 (Dec. 1981).
54. Jeffrey S. Prince, "Facsimile: Getting the Message Across Faster," *Administrative Management* 42:38–41 (Feb. 1981); David A. Rivers, "Electronic Mail: Alternatives for Document Distribution," *Word Processing & Information Systems* 8:20–24,53 (Jan. 1981); David Steinbrecher, "Facsimile Transmits Typed/Signed Messages at Low-Cost," *Word Processing & Information Systems* 8:29–34,57 (March 1981); Gadi Kaplan, "Communications III. Information Transfer," *IEEE Spectrum* 18:51–52 (Jan. 1981); Howard Niles, "Electronic Mail: After Years of Promise—It's Here and Now," *Dun's Business Month* 11:112–13,115 (Sept. 1981); Alan Herbert Jordan, "Telecommunications Insights," *Office* 94:189 (Dec. 1981); "An All-Out Drive to Equip the Office of the Future," *Business Week* no. 2718:78 + (Dec. 14, 1981); "Japan Takes Over in High-Speed Fax," *Business Week* no. 2712:104 + (Nov. 2, 1981).
55. Henry Voos, "Telecommunications and Facsimile," *Special Libraries* 72:118–21 (April 1981).

Practical Microform Materials for Libraries: Silver, Diazo, Vesicular

Allen B. Veaner

For more than a century, metallic silver imagery created by chemical processes was the sole practical system for publishing text in microform. Although many experimental materials and processes were suggested and attempted in this century, it was not until the 1950s that materials competitive with silver—diazo and vesicular films—became readily available. The distinctions between the three major types are discussed in detail in the author's *The Evaluation of Micropublications.*[1] It is not the purpose of this essay to restate that detail but rather to make a few summary remarks on the general question of permanence and durability and to point out some technical and economic facts that govern the choice of microform materials for libraries.

A first principle in this discussion is that the search for a "permanent" material—something that lasts forever—is by definition fruitless: every recording material has its own array of advantages and disadvantages. There are certain reciprocity arrangements or characteristics of recording materials that ultimately relate to the laws of thermodynamics and entropy. Generally, a medium that is easy to record on is also easy to erase; something that is hard to record on but which is reasonably durable also tends to require an expensive and complex technology to *apply* the data and sometimes an equally costly technology to present the data for reading by people. One author has put the recording dilemma very succinctly: "The ideal optical medium is easy to identify and impossible to produce. 'Everybody in the field is looking for the same thing—a material that's infinitely stable but can be recorded on with zero energy.' "[2]

This journal is not the place to publish a highly technical treatise on various recording media and processes. The purpose of the above remarks is simply to affirm that in selecting a microform medium, one has to choose alternatives that are (1) least worst and (2) affordable. So let us not fall into the trap of claiming that a given material is the best, more practical, or the most practical. One always must ask: best for what? To

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make choices it is helpful to be armed with facts. Let us survey a few facts concerning the three major types of easily available materials.

Facts about Diazo Films

Diazo film images are organic dyes. Investigations in England have shown that dyes will fade. Although the keeping qualities of processed diazo films stored in the dark (i.e., unused) have improved greatly in recent years, diazo films that are *used*—which have a projector's light thrown through them for reading purposes—show measurable fading if the image is illuminated for long periods, several hours or more.[3] So right away one can conclude that diazo films would be quite suitable for publishing data that are constantly updated or replaced with new film, and that diazo would be unsuited to research library materials requiring long periods of study or that are intended for indefinitely long retention, e.g., manuscripts or newspapers.

Diazo films can be produced by unskilled labor and therefore are inexpensive for the producer; images in diazo film show less reduction of legibility from scratching than do silver images. There is no standard method of testing a diazo film to see if the image has been properly and fully developed. Diazo film cannot be used in a microfilm camera; it is suitable only for making distribution copies.

Facts about Vesicular Films

Like diazo, vesicular film is cheap to produce because it does not require skilled labor or complicated equipment. Vesicular film is normally produced on a polyester base that is almost impossible to tear—in marked contrast to acetate-base film, once the only base on which silver film was available. Vesicular film can lose its imagery if subjected to heat in excess of 100° F. Vesicular film is virtually immune from the ravages of water, bacteria, fungi, or air pollution, and like diazo, in respect to image legibility, it is more tolerant of scratches than is silver. Like diazo, vesicular film can only be used to make distribution copies. Vesicular films do not store well with other types of films.

Facts about Silver Film

Silver film is subject to biological attack (bacteria, fungi), chemical attack (air pollution), and water damage (floods). Silver imagery can fade if the film has not been properly processed. To process silver film properly requires complex equipment, complex technology, and highly skilled labor; hence this material is more expensive than the other two products. Properly processed silver imagery is highly resistant to brief exposure to heat. Like vesicular, silver film is also available on strong, thin, tear-resistant polyester base. There are nationally accepted standard test methods to determine whether silver films have been properly processed. Silver films must be stored away from extreme conditions (heat, humidity, dryness, air quality).

Facts Applicable to All Types of Film

The lasting qualities of any publicly accessible microform materials depend upon (1) training the patron to use the equipment so as not to

damage the material, (2) maintaining the equipment, and (3) storing the materials under reasonably favorable conditions. Like books, microfilms are subject to wear and tear; certain high-use items may have to be replaced from time to time, regardless of film type.

FUNDAMENTAL CONCERNS AND THE FUTURE

Fundamentally, the basic questions and problems of microform durability are no different from those that apply to paper. A film type or a paper is generally selected by a publisher for its profit potential, not for its potential durability. As institutions dedicated to preserving civilization's records, libraries face the preservation problem with collective weakness: no quality control over the recording media entering their collections and miniscule financial resources to upgrade their intake through preservation microfilming or to delay deterioration through cold storage.[4]

Given the mixture of advantages and disadvantages in the three types of film currently available, the library community is turning more and more attention to the bibliographic and technical control of microform masters—the matrices from which distribution copies can be made at will on any type of film.[5] These master films are still mainly silver films and will continue to be made by silver processes until some totally new recording system—perhaps large-scale digitization—is easily available.

To assure continuing availability of masters from both the nonprofit and for-profit sectors, some new socio-technical construct may be required. Perhaps what is needed is a kind of "national micrographics trust," to assure that new masters will be created according to established national standards and that these and all important existing masters will be (1) retained under proper storage conditions, (2) available for copying at reasonable cost, and (3) continually accessible to the public. We do not yet have such a mechanism, and until we do, we shall continue to be addressing the microform preservation problem from the wrong end—the user end. Concurrent with this effort is the need for more research into new recording processes that represent improved compromises between the contradictory aspects of data recording—the durability of the medium versus the ease of modulating (writing on) it.[6]

REFERENCES

1. Allen B. Veaner, *The Evaluation of Micropublications* (Chicago: American Library Assn., 1971).
2. Robert Elfant, quoted by Herby Brody in "Materials for Optical Storage: A State-of-the-Arts Survey," *Laser Focus* 18:47–52 (Aug. 1981); reprinted in the *Journal of Micrographics* 15:33 (Jan. 1982).
3. R. N. Broadhurst, *An Investigation of the Effects of Exposure to Light on Diazo Microfilm,* NRCd Publications, no.5 (Hatfield, Herts., England: National Reprographic Centre for documentation, 1976).
4. Gordon Williams, "The Preservation of Deteriorating Books. Part II: Recommendations for a Solution," *Library Journal* 91:189–94 (Jan. 1966).
5. See the New York Public Library's *Proposal to the Andrew W. Mellon Foundation for the Creation of an Automated Data Base of Preservation Microfilming*; also note the preservation program of the Research Libraries Group.
6. Allen B. Veaner, "Permanence: A View from and to the Long Range," *Microform Review* 8:75–77 (Spring 1979).

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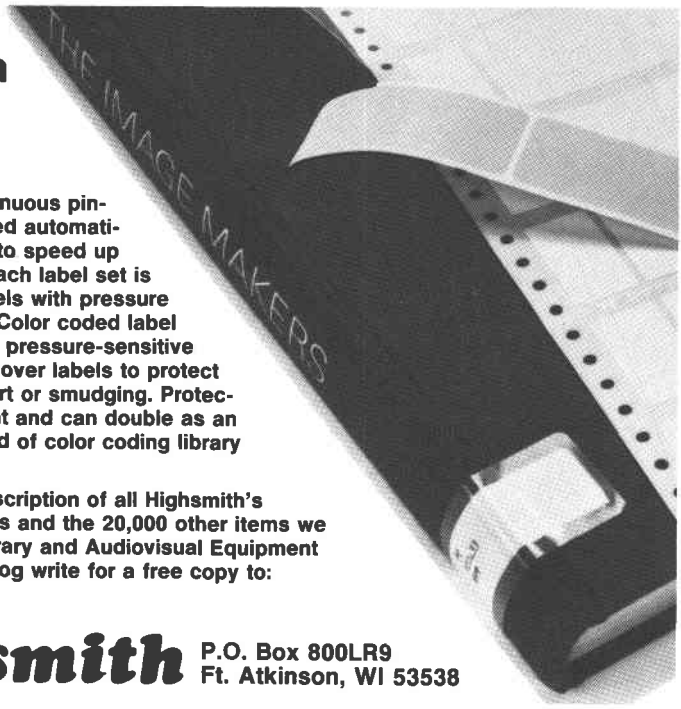

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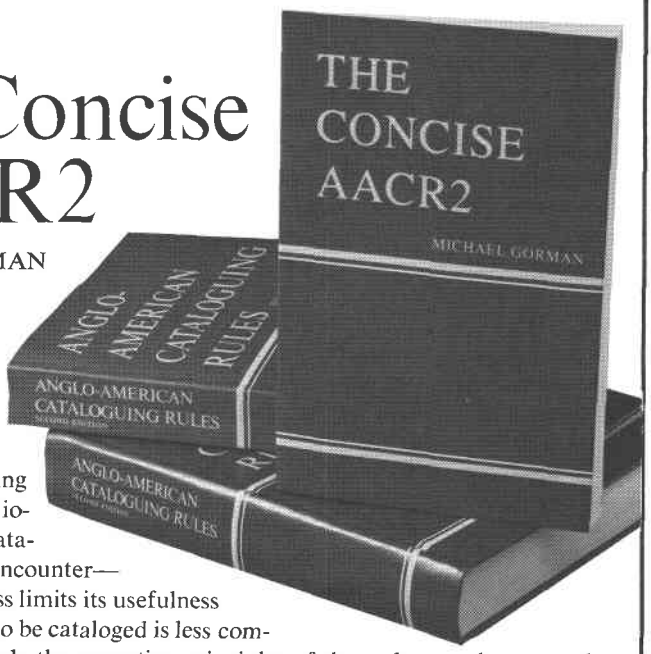

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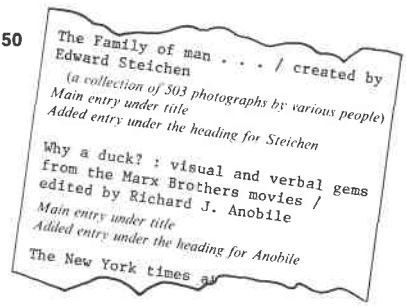
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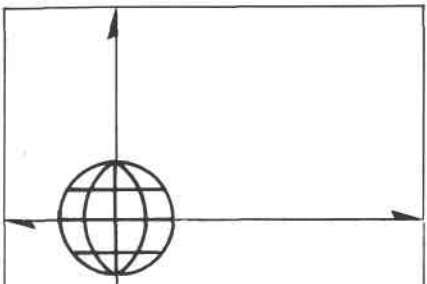

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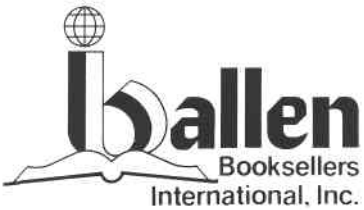

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