Archival Information Exchange and the Role of Bibliographic Networks

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MORE THAN 70,000 BIBLIOGRAPHIC records describing archives and manuscript holdings had been entered into the Research Libraries Information Network (RLIN) by 1 August 1986.[1] These catalog records were contributed by forty-seven archival programs, including special libraries, art museums, state archives, and the National Archives, as well as university repositories. This database, inaugurated in January 1984, is already the largest compilation of archival data accumulated and is currently growing at a rate of 900 records per week. In 1988, the Library of Congress' *National Union Catalog of Manuscript Collections* (NUCMC) will begin using RLIN to compile descriptive data for its annual volumes.[2] The OCLC (Online Computer Library Center) database includes about 50,000 Archival and Manuscripts Control (AMC) records.[3] In addition, the University of Toronto Library Automation Systems (UTLAS), has announced implementation of the MARC AMC format, and the Washington Library Network (WLN) has begun planning for format implementation. The evidence suggests that participation in library bibliographic networks is becoming integral to the management of archival information.

At this point, the adoption of library bibliographic networks as viable means for managing archival information seems a natural development. Archivists and librarians share the same goal of information

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control and dissemination. Library networks use the MARC (MAchine-Readable Cataloging) format, the most widely adopted implementation of the American National Standards Institute's (ANSI) standard for exchange of bibliographic information, and access to the bibliographic networks is available in thousands of libraries across the country. The concept of integrated access to the variety of library holdings is becoming increasingly attractive; however, the Society of American Archivists (SAA) had not anticipated this outcome a decade ago when it formed the National Information Systems Task Force (NISTF) to examine current national programs for the development of a national information system.[4]

There are basic differences between common archival practice and standard library procedures. That technical compatibility and a community of interest have developed is the result of a cooperative process. In continuing this process, it is necessary to understand the issues that have been central to cooperation and which will be important in determining the role that bibliographic networks will play in the future. This article reviews past developments, describes current activities, and examines basic issues for the next decade.

IDENTIFYING STANDARD ELEMENTS FOR ARCHIVAL DESCRIPTION

The task initially assigned to NISTF by the SAA council was the resolution of a conflict generated by a request from the staff of the National Historical Publications and Records Commission (NHPRC)—the staff requested SAA endorsement of their effort to develop a national database of archival information. This request seemed to conflict with the profession's traditional support of NUCMC. By authorizing a comparative evaluation, SAA sought a technical solution to a largely political question. Chaired by Richard Lytle of the Smithsonian Institution, the task force avoided the choice between two highly charged options by broadening its focus from a consideration of "current national programs" to an exploration of ways to construct the best possible national informational system for archives and manuscript control.

Fundamental to NISTF planning was the assumption that archives (institutional or governmental records) and manuscript collections (personal papers) were sufficiently similar to be well served by the same system. Traditionally, distinctions have been made between methods

appropriate for the management of archives and methods for the management of manuscript collections. Representative of this division was NUCMC's exclusion of institutional or governmental archives maintained by the originating agency, which effectively excluded the vast majority of such records.[5] In order to address the issue of similarity, NISTF commissioned a study to examine current archival descriptive practices.

With the support of the National Endowment for the Humanities (NEH), Elaine Engst of Cornell University conducted an analysis of the descriptive practices of a broad variety of repositories and of the various national and specialized databases. Based on this study, a report, "Standard Elements for the Description of Archives and Manuscript Collections," was submitted to the task force in September 1980. The study found that various types of repositories have similar needs and responsibilities to provide physical and intellectual control of and access to their holdings, and that commonly accepted methods of archival description are used to carry out these functions.[6] Because of these similarities, common standards for bibliographic description, encompassing the needs of both archives and manuscript repositories, could be developed; however, the development of viable information-sharing mechanisms would be obstructed by the lack of a common nomenclature for recording information. It was increasingly apparent to the members of NISTF that the role of SAA was to develop and maintain standards to facilitate the interinstitutional exchange of information, rather than to build or operate an information system. Therefore, development of a data element dictionary and an exchange format was begun in early 1981.[7]

In order to prepare a data element dictionary, NISTF established a working group, chaired by David Bearman, NISTF project director, and composed of representatives of the National Archives and Records Service (NARS), the Library of Congress (LC), the Research Libraries Group (RLG), and the NHPRC Data Base participants. The dictionary was intended to provide standard definitions for all information elements employed in any and all archives, records centers, and manuscript repositories; it included administrative data as well as bibliographic information. A draft was prepared by the working group and was issued for professional review in February 1982.[8]

DEVELOPING COMPATIBILITY BETWEEN LIBRARY STANDARDS AND ARCHIVAL PRACTICE

The task force next embarked on the creation of an exchange format. While the data element standard was intended for manual as well as automated systems, the exchange of data in machine-readable form was always a primary concern.[9]

The exchange format needed to include designated fields for recording all information elements defined in the dictionary, and it needed to conform to national and international standards for exchange of bibliographic information in machine-readable form. In addition, the format had to accommodate the collective approach to bibliographic description and include fields for recording the activities involved in the acquisition and maintenance of archival materials. While a manuscript collection may be composed of a single document, most collections include thousands of items which are treated as a single bibliographic entity. Documents in a collection may have several personal or corporate authors, address a broad range of topics, and include correspondence, diaries, account books, and other types of documents. It was essential to include fields for recording collection management data in order to reflect the integration of bibliographic description with other processes—such as acquisition, arrangement, storage, and preservation—in the control, maintenance, and use of archival holdings.

The most commonly used and widely accepted standard for bibliographic exchange is the MARC format. Unfortunately, the MARC format for manuscripts published in 1973 was primarily designed for individual item cataloging and poorly suited for archival use.[10] In early 1981, however, LC indicated its willingness to make substantial changes and allowed SAA to conduct the revision process.

The revised format, USMARC Format for Archival and Manuscripts Control (AMC), was accepted by the SAA Council in the fall of 1981, approved by the American Library Association (ALA) Committee on the Representation in Machine-Readable Form of Bibliographic Information (MARBI) in January 1983, and published by LC in late 1984.[11] The format incorporates the collection approach to cataloging and includes all data elements defined in the dictionary; an "Actions" field (MARC field 583) can be used for recording information about administrative and reference actions.[12] In response to discussions with the Standard Elements Committee of the ALA Division on Rare Books and Manuscripts, the format also includes fields for cataloging publica-

tions handwritten before the advent of printing. The preexisting fields—for single item cataloging and for other bibliographic systems—were retained. These inclusions broadened the acceptability and usability of the format. Future modifications require approval by both LC and the SAA Committee on Archival Information Exchange, which succeeded NISTF in 1983.

The development of MARC AMC was essential to the current level of archives/library integration, but the degree of its success would not have been possible without the completion, almost simultaneously, of two other projects. One of these was the substantial revision of the Anglo-American Cataloging Rules for manuscripts, compiled by Steven Hensen at the Library of Congress.[13] This revision was part of an LC project (sponsored by NEH and carried out in conjunction with the Council of National Library and Information Associations) to prepare a series of manuals to treat special format materials not adequately covered in the second edition of the *Anglo-American Cataloguing Rules* (AACR2).[14] The resulting manual, *Archives, Personal Papers, and Manuscripts: A Cataloging Manual for Archival Repositories, Historical Societies, and Manuscript Libraries* (1983), has not been accepted as an "official" revision of AACR2 but has been accepted as a standard for AMC cataloging by both OCLC and RLG.[15] The other significant project was the development of enhancements to RLIN that supported the functions and design of the new format.

LIBRARY BIBLIOGRAPHIC NETWORKS AND ARCHIVAL MANAGEMENT GOALS

Providing effective access to the wealth of historical documentation housed in archives and manuscript repositories is a fundamental goal of archival practice. In attempting to meet this goal, the creation of a national database long has been seen as a critical objective. In 1949, a Joint Committee on Historical Manuscripts was formed by SAA and the American Association for State and Local History to study the development of a national union catalog. After deciding that such a catalog could be established through the voluntary cooperation of libraries and other repositories, the committee began to search for a host institution.[16] The offer in the fall of 1951 by LC to house and administer this catalog eventually led to the establishment of NUCMC. The potential benefits of automation in providing nationwide access to archival resources led to the creation of the NHPRC Data Base Project in 1976 and the

establishment of NISTF the next year, and is a significant element in the continuing growth of network participation.[17]

Library bibliographic networks have become major databases of information concerning the nation's published resources. However, this significant development has come as a by-product of the effort to derive the maximum benefits inherent in shared cataloging. While the networks have, to varying degrees, developed other programs and services, shared cataloging remains the primary motive for library participation. Shared cataloging also remains critical to the financial well-being of the networks, and their fiscal management is largely predicated on this factor.

Archival participation falls almost entirely outside of this fiscal structure. Since their collections are unique, archivists contribute original records at minimal cost and seldom "derive" bibliographic records. Therefore, they do not benefit from the economics of shared cataloging, nor do they contribute substantially to network income. The number of AMC records in any bibliographic database will probably never exceed 1,000,000, so archival participation is not a substantial drain on the system resources in gross terms. However, the need for greater record lengths, special processing functions, and the capacity to use numerous name, form, and topical headings to facilitate access means that AMC use cannot be ignored in estimating development and operating costs.

In addition to economic considerations, there are other differences between library and archive network participation. In the realm of published materials, as a network matures, the value of each new membership by a similar institution tends to decrease. With archival participation, the potential value of each new member's contribution remains constant. Conventional borders of membership also differ. Membership by state, federal, and corporate repositories, which may have little interest in other network programs and services, are critical to the enrichment of the database. Additionally, archivists have more to lose from the traditional competitiveness and division between the bibliographic networks. For archivists and users of historical documentation, divided access is limited access.

All of these differences serve to complicate issues of both governance and mission. It seems apparent that in order to satisfy archival goals and expectations and to rationalize their management, networks must acknowledge their role as scholarly and public resources and develop the mechanisms necessary to support that role.

PROCESSING AND DISSEMINATING ARCHIVAL INFORMATION

Archivists first began to use computers in the mid-1960s, primarily in order to provide detailed access to the contents of a specific collection or small groups of related collections.[18] These printed indexes and inventories, commonly referred to as archival finding aids, were generated by mainframe computers in the 1960s and 1970s; today they are usually produced by microcomputers. But whether manually created or computer generated, archival finding aids are central to the control and use of collections and are the chief source of information in compiling an archival cataloging record.[19] It is unlikely that the AMC format will be widely used in the compilation of finding aids, but there is considerable interest in developing online interfaces between cataloging databases and finding-aid databases maintained locally. This would allow a system user to go directly from a catalog record of interest to a finding aid describing the collection in detail. This interface parallels the natural progression of the research process and will be a focus of future development. Currently, there are three major areas of AMC-related development: broadening access to archival information; developing mechanisms for recording and tracking collection management functions; and integrating access to published and unpublished sources. In all three of these areas, some of the issues are technical, but many are matters of policy, practice, and politics.

Broadening Access to Archival Information

The implementation of RLIN AMC in early 1984 established the viability of the new MARC format. This crucial development resulted from a cooperative project of Yale, Cornell, and Stanford University Libraries, the Hoover Institution, and RLG, with funding from the U.S. Office of Education's Title II-C (Research Libraries) Program.[20] The system was designed to meet the needs of a broad range of repositories, and RLG has maintained its commitment to build a database of national scope. In addition, in the summer of 1986 RLG tape-loaded 12,507 records describing the holdings of 594 New York State repositories. These records were originally produced using SPINDEX (Selective Permutation INDEXing), a batch-processing system developed by the National Archives and were compiled by the Historical Documents Inventory, a statewide survey conducted by the New York Historical

Resources Center at Cornell University. In 1985, the Historical Resources Center began entering survey records directly into RLIN and by 1990 will have added the holdings of some 400 additional repositories. When NUCMC begins to use RLIN in 1988, it will offer an avenue through which any repository can contribute data to the RLIN database. The Center for the History of Physics is planning to serve as a similar avenue for collections documenting the history of physics. These and other special projects, as well as member contributions, will continue to enrich the database. RLG has also assiduously encouraged "special membership" by archival programs and has given archivists a formal voice in governance through the establishment in 1983 of a Task Force on Archives, Manuscripts, and Special Collections.

To this point, RLG has played a predominant role in integrating archives management and access with network activities and services. This is due to a combination of factors—the initiative taken by certain RLG member libraries; the availability of funding from the Title II-C Program, NEH, and the NHPRC; and support by the RLG Board of Directors and staff. Additionally, RLG's mission statement explicitly acknowledges its role as a scholarly information resource. Nonetheless, the process of integration has not been without its difficulties. Questions regarding consistent application of system-wide standards have concerned both archivists and librarians. Allocation of staff to support archival projects will never be timely or sufficient. Clarification of the roles various archives and special collections should play in the shared resources programs is only now beginning. Developing mechanisms to facilitate shared access to RLIN and to holdings in other networks is also a major concern. These and other practical and political issues must be addressed. Fortunately, it does appear that a forum for constructive discussion is in place.

OCLC implemented the original MARC manuscript format in the mid-1970s, but few repositories adopted it. In addition to constraints in the format's design, the limited length of OCLC's bibliographic records and the absence of subject searching further discouraged interest. However, OCLC added AMC in November 1984, and, with expanded record size and subject searching capabilities scheduled to be included in 1987, it will be a viable system for consideration by archivists.

Many archival programs are divisions of OCLC libraries, and an increasing number will use OCLC AMC to catalog their holdings. OCLC will not use the type of special archival management features which RLG developed, but repositories will use the system to provide multi-institutional access, to produce catalog cards, and to generate

machine-readable tapes for loading into local online catalogs. OCLC now has begun to actively solicit archival participation, and the potential exists for OCLC to play a major role in expanding access to archival holdings. However, in order to limit possible frustrations, OCLC must be aware of archival requirements and objectives, be willing to make technical enhancements to support these requirements, and to adopt political strategies that foster these objectives.

The role of any one network in broadening access is vital but limited; cooperation between networks is essential. Whether through the regular exchange of data between networks or through the implementation of telecommunication protocols allowing mutual access to the various databases, information-sharing is necessary to meet archival access goals.

Tracking Collection Management Functions

While considerable attention has been focused on expanding access to archival information, substantial effort has been devoted as well to the development of information processing and management capabilities. In the RLG database, an RLIN AMC record is composed of two parts, a "bibliographic" segment for recording bibliographic information, and an "archival control" segment for recording management information. The archival control segment, which is based on MARC fields 541 (Immediate Source of Acquisition) and 583 (Actions), is itself divided into two parts, a processing control screen which includes accessioning, donor, and location information, and an action screen where specific management functions can be specified. Multiple processing control screens can be included in a single AMC record to record additional accessions to existing collections, and multiple action screens may also be recorded for any particular accession. Access to archival control screens can be restricted to the creating repository, and access to donor information is always restricted.

The use of management data in RLIN AMC is facilitated by the RLIN Reports System (RRS), a generalized reporting package which can be used to produce a variety of printed reports, including accessions lists and donor lists. RRS can also generate time-triggered alerting reports on the status of materials in process, on access restrictions due to expire, on the scheduled transfer of documents from an office to the archives, or on any other designated functions. Particularly valuable to government archivists is its ability to link access to all of the records from the various divisions of a large state or federal agency. The "related

title" search in the online system, based on data in field 773 (Host Item Entry), allows the retrieval of bibliographic records for materials that are component parts or subunits of a particular "host" or "parent" collection. Additionally, local indexes allow one to search one's own holdings by any local control number or by donor name or originating agency.[21]

Government archivists are quite interested in investigating the use of AMC for recording and tracking management functions and for decision-making. The seven state archives that are RLG "special members" (a membership category available to nonresearch libraries) are participants in an NHPRC-funded project. The project supports both integrating access to government records with access to other historical materials, and evaluating RLIN AMC as a mechanism for sharing management information; the project's purpose is to share data regarding archival appraisal.[22] Appraisal does not mean monetary value but indicates, rather, the process of determining the value of records based upon their current administrative, legal, and fiscal use; their evidential and informational or research value; their arrangement; and their relationship to other records.[23] Based on this appraisal, records are selected for archival preservation or designated for destruction.

Appraisal is a major function of government archival programs. While the statutes and agencies of the various states differ, increasingly, the same functions of government are conducted in all states, and records containing comparable data are generated. This project seeks to determine whether mutual access to appraisal decisions—and the grounds for those decisions—will improve and simplify the appraisal process in these repositories. If successful, the project could broaden the basis for archival participation in bibliographic networks.

Between July 1984 and January 1986, the staff of the National Archives and Records Administration (NARA) conducted a study which examined the capacity of the MARC AMC format to carry information for both the control of, and access to, federal records throughout their "life cycle." (The "life cycle" of a body of records dates from their creation through their active use, occasional use, and ultimate disposition—either archival preservation or destruction.) RLIN AMC was selected as the "test" vehicle, allowing a comprehensive evaluation of RLIN. Seven terminals were installed, and archivists responsible for appraisal, arrangement and description, reference, and record center activities entered information that their units generated or used.[24]

Testing was completed in the fall of 1985, and a final report was submitted in February 1986.[25] The format is capable of holding descrip-

tive information across the entire range of life cycle stages and the AMC fields are compatible with most data elements inherent in NARA and agency-produced descriptions. However, NARA staff found that the process control functions were not sufficiently sophisticated to handle easily the needs of a repository as large as the National Archives. Nonetheless, the project staff recommended developing automated systems with data elements compatible with MARC fields that will also support the creation of MARC records for exchange purposes. The project staff also recommended continued use of RLIN as a means to disseminate descriptive information about their holdings and to provide NARA staff with access to this valuable source of archival data.[26]

NARA's decision to process management information locally and to generate bibliographic data in MARC format for loading into national networks is an approach that may be adopted by many repositories. This approach, in fact, is integral to the design of MicroMARC:amc, microcomputer system software developed at Michigan State University; it will support local cataloging, reference, and report generation, and will also create a MARC AMC data file for transfer to other systems. OCLC advocates a local-processing approach, which is consistent with their decision not to incorporate special features for processing AMC data. However, local-processing assumes a willingness by networks to load locally-produced magnetic tapes or to develop the necessary links for electronic transmission. (This process may require special costs to support the loading of relatively few bibliographic records.) It is essential that appropriate agreements and protocols be established early in order to avoid unrealistic expectations.

The AMC format was designed to provide integrated access to bibliographic and process management data. Devising effective, cost-efficient means to support this integration is a current priority; local integrated library systems will play a major role in this area.

Integrating Access to Library Holdings

Traditionally, access to unpublished library holdings was isolated from the listings of published materials. If an archival department maintained a card catalog, it was often maintained as a separate entity, both intellectually and physically separate from the "general" catalog. Library of Congress Subject Headings (LCSH) were considered too broad for archival use, and AACR conventions deemed inappropriate. Often these methodological differences were accompanied by administrative separation—collections existed as libraries within libraries.

While few would suggest that this situation has benefited the user, library administrators have often allowed this situation to continue, concentrating instead on "mainstream concerns." Archivists and other special collection curators, too, have guarded their independence and opposed efforts to increase conformity. Library networks have mirrored the situation in their member libraries, concentrating on monographic and serial control. This situation is changing however. New or revised formats for visual materials, archives, and manuscripts, and machine-readable data files have been recently developed as library administrators increasingly expect that networks should support the control of all forms of library holdings.[27]

The cooperative project by Yale, Cornell, Stanford, and RLG, which developed RLIN AMC, sought to integrate library records. The participants chose to adopt conventions supporting the use of LC Name Authorities, AACR2 forms of headings, and LCSH. While these sources often have been criticized by archivists, they were necessary; common standards and access terms are essential to providing multi-institutional access to archival holdings and integrated access to the various materials within each library.[28] These practices have been widely followed, in government archives as well as in library repositories.[29]

Increasingly, integrated access will be provided via online public access catalogs. RLIN AMC records have been loaded into online catalogs at Stanford and New York University (NYU). These transfers have led to some difficulties; at NYU, over 90 percent of the AMC records were too long for the full public display, and restricted management data appeared in the public displays. With the installation of the next generation of Geac hardware and software, it is expected that these problems will be resolved; in addition, the Geac system will provide a linked authorities subsystem which will be of considerable value to the archivists at NYU.[30] At the Ohio Historical Society, OCLC cataloging will be used to generate AMC records for loading into a local online catalog, which in turn will provide the kind of subject searching capabilities not yet available in OCLC.[31] The growing number of online public access catalogs and the development of local processing capabilities make it essential that archivists get involved in planning and formulating local library systems' requirements; the traditional methodological and administrative isolation of special collections must become a thing of the past.

The creation of the AMC format led to new ways of processing and disseminating archival information. National bibliographic networks offer capabilities long needed by archivists and researchers. Network

participation will open new opportunities, affecting acquisition, preservation, and use of documentary materials. And new mechanisms for communication and cooperation will develop. In conclusion, this article describes some of these developments and their impact.

THE IMPACT OF BIBLIOGRAPHIC NETWORKS ON ARCHIVAL PRACTICE AND THE ARCHIVAL PROFESSION

During the next decade, archival practice will be significantly influenced by widespread participation in national bibliographic networks. Some changes will be directly attributable to this participation; other changes will be more subtle, resulting from the interaction of various factors. In surveying these developments, five general areas will be examined: standards, professional relationships, cooperative arrangements, collection use, and education and training. These categories are not exclusive; developments in one area clearly will affect other areas. The examination is only cursory and is intended to present issues facing archivists and to suggest the effects they may have on the profession.

Standards

Standards are common to both the archive and library environments. There are specification standards, designed for simplification and interchangeability. Other standards are guidelines: sets of definitions and rules that will produce improved results if applied, but that are not designed for mechanical uniformity or interchangeability.[32] While a standard may be derived from the policies of a single individual or institution, the creation and maintenance of a consensus standard is often a complex and demanding process. It was a significant step for the archival profession when, in 1980, NISTF decided to develop a standard for the exchange of descriptive information.[33]

Although archivists have traditionally cited the virtues of standardization and criticized the profession for its lack of descriptive standards, little progress was made until the 1980s.[34] Impetus for recent progress came primarily from three closely related areas: use of automation, interest in multi-institutional data exchange, and participation in bibliographic networks. When archivists first began using automated techniques, it was quickly apparent that increased standardization was

necessary in order to derive any benefits from computerization. It was equally clear that standards were essential for multi-institutional sharing of descriptive information.[35] Bibliographic networks are playing an important role in the development of descriptive standards for several reasons. Network participation requires conformity to certain standards through the networks' incorporation of enforcement mechanisms that support standardization. Networks provide an effective working environment for the creation and maintenance of standards, and networks can represent archival concerns in the development of national and international standards. Networks will continue to play an important part in standardizing descriptive practice, but it is important that their role not become confused with the role of SAA in the standards process.

Professional Relationships

Many different forces are changing the professional relationships of archivists, including the "information explosion," the use of new technology, and the rapid deterioration of printed and other information sources. However, it appears that network participation will be the most influential in affecting relationships between the archival and library professions, between the different types of archival programs, and among the various departments in libraries.

A little over a decade ago, when SAA was offered an opportunity to play a consultative role in the revision of the *Anglo-American Cataloging Rules*, the matter was not considered sufficiently germane to the primary interests of archivists to be pursued actively. Now, the SAA bibliographic exchange standard is also a library standard, and it is being jointly maintained by SAA and LC. In 1986, an RLIN Users Roundtable was established by SAA, followed by an OCLC Roundtable. These changes are indicative of trends to expect in the future. SAA has broadened its perspective and expanded its role; it must now be willing to devote the resources necessary to fulfill this role and to adequately represent the widening interests of its members.

Institutional divisions have always characterized the archival profession. Now a diversity of documentary holdings is represented in a single database, and integrated access to this information is available across the country. University repositories and governmental archives can belong to the same network, share an electronic mail system, and use the same conventions in describing and providing access to their holdings. Network participation may serve to bridge long-standing institutional and methodological differences.

Librarians, archivists, and curators will feel a greater sense of common cause. This should produce a general strengthening of library resources. For archivists, there may be increased automated systems support. Awareness of archival holdings and methods will increase. It is possible that the collective approach to cataloging may be adopted for control of various printed and microform materials. Additionally, improved communication and cooperation among special collections staff may enhance the role of special collections in overall library management.

Cooperative Arrangements

Most archivists share a rather holistic view of the universe of documentation and a sense of common purpose in the continuing effort to document the nature of human existence. While there is occasional competition for a few select collections, most archivists now agree that there are many more collections deserving preservation than there are archival resources with which to preserve them. As a result, institutional cooperation has been viewed as a means to expand archival capabilities. In the 1960s and 1970s cooperative archival networks were established in several states, primarily in the Midwest. The goals of these statewide networks were to increase the preservation of historical materials and to expand the accessibility and use of archival sources. While the organizational structure of the networks varied, they were all based on the leadership (or generosity) of a central state agency. Although these networks made progress in meeting their primary goals, the budgetary constrictions of the late 1970s and early 1980s reduced funding overall and placed constraints on the program support role of central agencies. These cutbacks made it apparent that the breadth of cooperative support and services was, in some states, inadequate to maintain a viable level of network activity.[36]

While the success of these statewide networks has been limited, there are demonstrable benefits to sharing bibliographic information and broadening access to archival sources. Although in some states, such as Missouri, a comprehensive catalog of the holdings of network repositories is available at all sites, the advantages offered by an online bibliographic network are substantial. In addition to being an effective tool for sharing access, bibliographic networks could greatly facilitate the centralized cataloging functions provided in some states. Electronic mail and interlibrary loan systems will also support cooperative programs. In a state like New York, where the holdings of most repositories

will be in RLIN and most research universities belong to RLG, the potential is considerable. However, the vitality of statewide archival networks is dependent on the development of organizational structures with adequate resources, effective governance, and essential services.

Collection Use

Bibliographic networks could have a considerable effect on the use of archival holdings. Within a given repository, access will be improved as a result of more consistent cataloging procedures; in those systems offering sophisticated searching capabilities, the user can search the holdings using various combinations of personal, corporate, topical, chronological, geographical, and form and genre headings. Researchers will be able to use just one search strategy to identify relevant published and unpublished sources; and they will be able to do national searches to find related collections housed in repositories across the country. Although the effects will be gradual, the expanded availability of bibliographic information will lead to an increase in both the volume and diversity of collection use.

Reference services also will be substantially affected. Researchers will have the ability to access data regarding archival holdings at sites other than the reading rooms of archives and manuscript repositories. In some cases, access will be located in the library's general reference area, necessitating a broadened knowledge by reference librarians of the nature and usage of archival materials. In other cases, researchers will use a public access catalog terminal, although it is not yet clear what kinds of online displays will be best for AMC catalog data. Network participants will have to develop cooperative protocols for reference and interlibrary services. The RLG Task Force on Archives, Manuscripts, and Special Collections has recently prepared guidelines regarding the loan, photocopying, or microfilming of special collections materials for scholarly research. These developments will alter traditional archival reference functions and existing patterns of interaction among librarians, archivists, and researchers.

Education and Training

In recent decades, a graduate degree in either history or library science met the educational criteria for admission into the archival profession. According to a study done by David Bearman, of the 140 job advertisements that appeared in the *SAA Newsletter* between September

1985 and August 1986, more advertisements requested either an MA or an MLS than cited either alone.[37] Evidence suggests, however, that the prominence of the MLS is now gradually increasing; Bearman's study reports that, of those advertisements requesting one degree or the other, more than two-thirds cited an MLS. However, the rate of change is not great. Much more striking is the rapidly increasing frequency of requests for "knowledge of the MARC AMC format" or, more specifically, "knowledge of RLIN/AMC." SAA workshops teaching the fundamentals of MARC AMC cataloging are being heavily attended across the country. Familiarity with these new descriptive practices and standards and with their application will become an important element in the education and training of archivists.

Bibliographic networks are playing an important role in this educational process by providing basic training and serving as a tool for developing and refining new techniques. Network participation will contribute to a homogeneity of experience, making it possible for a trained archivist to move from one repository to another without extensive retraining. Having this base of common experience will contribute to increased professionalism and a sense of common mission.

Conclusion

In summary, then, bibliographic networks can play an important role in the management and dissemination of archival information. They can improve access to archival holdings and integrate access to both published and unpublished resources. Networks can also serve as a link for communication and cooperation between the various professions and institutions engaged in preserving historical documentation. Bringing these opportunities to fruition will require innovative policies, programs, and governance.

References

1. As of 6 Aug. 1986, 71,024 bibliographic records had been entered into the RLIN AMC files. Research Libraries Group. "Growth of the AMC File." Unpublished report to the Society of American Archivists RLIN Users Roundtable, Chicago, 27 Aug. 1986.

2. With the publication of its twenty-second issue in 1986, the *National Union Catalog of Manuscript Collections* has published descriptions of approximately 54,799 collections located in 1,297 different repositories. Library of Congress, Processing Services. *National Union Catalog of Manuscript Collections, Catalog, 1984.* Washington, D.C.: LC, 1986, p. iii.

3. Of the estimated 50,000 records in the OCLC database as of August 1986, approximately 40,000 were originally entered in the MARC Manuscript format prior to the implementation of the MARC Archival and Manuscript Control format in November 1984. Glenn Patton, Senior Support and Training Specialist, OCLC, to H. Thomas Hickerson, personal communication, 27 Aug. 1986.

4. "Minutes of the Meeting of the Council of the Society of American Archivists, 6 Oct. 1977." *American Archivist* 41(Jan. 1978):119-20.

5. Library of Congress. *National Union Catalog of Manuscript Collections, 1959-1961.* Ann Arbor, Mich.: J.W. Edwards, 1962, pp. v-vi.

6. Engst, Elaine D. "Standard Elements for the Description of Archives and Manuscript Collections." Unpublished report to the Society of American Archivists Task Force on National Information Systems, 1980.

7. Bearman, David. "Toward National Information Systems for Archives and Manuscript Repositories." *American Archivist* 45(Winter 1982):53-56.

8. Hickerson, H. Thomas. "Archival Information Exchange: Developing Compatibility." In *Academic Libraries: Myths and Realities* (Proceedings of the Third National Conference of the Association of College and Research Libraries), edited by Suzanne C. Dodson and Gary L. Menges, pp. 62-65. Chicago: ACRL, 1984.

9. Lytle, Richard H. "An Analysis of the Work of the National Information Systems Task Force." *American Archivist* 47(Fall 1984):362-63.

10. Library of Congress, MARC Development Office. *Manuscripts: A MARC Format.* Washington, D.C.: LC, 1973.

11. Library of Congress, Automated Systems Office. *MARC Formats for Bibliographic Data* (Update No. 10). Washington, D.C.: LC, 1984.

12. Sahli, Nancy. *MARC for Archives and Manuscripts: The AMC Format.* Chicago: Society of American Archivists, 1985.

13. Hensen, Steven L., comp. *Archives, Personal Papers, and Manuscripts: A Cataloging Manual for Archival Repositories, Historical Societies, and Manuscript Libraries.* Washington, D.C.: LC, 1983.

14. Gorman, Michael, and Winkler, Paul W., eds. *Anglo-American Cataloguing Rules,* 2d ed. Chicago: ALA, 1978.

15. OCLC Online Computer Library Center, Inc. *Online Systems, Archives and Manuscript Control Format.* Dublin, Ohio: OCLC, 1984; and Research Libraries Group, Inc. *RLG Standard for Archives and Manuscripts in RLIN.* Stanford, Calif.: RLG, 1984.

16. "Report of the Joint Committee on Historical Manuscripts." *American Archivist* 17(April 1952):176-80.

17. Hickerson, H. Thomas. "Expand Access to Archival Sources." *Reference Librarian* 13(Fall 1985/Winter 1985-86):195-99.

18. _____. *Archives and Manuscripts: An Introduction to Automated Access* (Society of American Archivists Basic Manual Series). Chicago: SAA, 1981, pp. 22-29.

19. Hensen, *Archives, Personal Papers, and Manuscripts,* p. 8.

20. Abrams, Lofton. "Yale, Cornell, and Stanford Awarded Grant for Development of RLG Automated Bibliographic System for Manuscripts and Archives." *American Archivist* 46(Fall 1983):477-80.

21. Engst, Elaine D. "Nationwide Access to Archival Information." *Documentation Newsletter* 10(Spring 1984):4-6.

22. "Project Creating National Public Records Database Using MARC AMC Format." *SAA Newsletter,* Nov. 1986, p. 3.

23. Evans, Frank B., et al. "A Basic Glossary for Archivists, Manuscript Curators, and Record Managers." *American Archivist* 37(July 1974):417.

24. Holmes, William M., et al. "MARC and Life Cycle Tracking at the National Archives: Project Final Report." *American Archivist* 49(Summer 1986):305-06.

25. National Archives and Records Administration, Archival Research and Evaluation Staff. *The MARC Format and Life Cycle Tracking at the National Archives: A Study.* Washington, D.C.: NARA, 1986.

26. Holmes, et al., "MARC and Life Cycle Tracking," pp. 307-09.

27. Dowler, Lawrence. "Integrating Archival Management with Library Networks: Implications for the Future." In *Academic Libraries: Myths and Realities* (Proceedings of the Third National Conference of the Association of College and Research Libraries), edited by Suzanne C. Dodson and Gary L. Menges, pp. 80-84. Chicago: ACRL, 1984.

28. Hensen, Steven L. "The Use of Standards in the Application of the AMC Format." *American Archivist* 49(Winter 1986):36-40.

29. Holmes, "MARC and Life Cycle Tracking," p. 308.

30. Frusciano, Thomas J. "Integrating the Archivist: AMC, Local Systems, and Archival Management in Research Libraries." Paper delivered at the Annual Meeting of the Society of American Archivists, Chicago, 29 Aug. 1986. Np: nd.

31. Marjorie J. Haberman, Resource Sharing Group Manager, Ohio Historical Society, to H. Thomas Hickerson, personal communication, 19 Nov. 1986.

32. Crawford, Walt. *Technical Standards: An Introduction for Librarians*. White Plains, N.Y.: Knowledge Industry Publications, 1986, pp. 34-43.

33. Lytle, "An Analysis of the Work of the National Information Systems Task Force," pp. 360-64.

34. Papenfuse, Edward C. "The Retreat from Standardization: A Comment on the Recent History of Finding Aids." *American Archivist* 26(Oct. 1973):537-42; and Working Group on Archival Descriptive Standards of the Bureau of Canadian Archivists. *Toward Descriptive Standards: Report of the Canadian Working Group on Archival Descriptive Standards*. Ottawa: Bureau of Canadian Archivists, 1985, pp. 8-18.

35. Hickerson, H. Thomas, et al. *SPINDEX II at Cornell University and a Review of Archival Automation in the United States*. Ithaca, N.Y.: Cornell University Libraries, Department of Manuscripts and University Archives, 1976, pp. 31-48.

36. Cameron, Richard A., et al. "Archival Cooperation: A Critical Look at Statewide Archival Networks." *American Archivist* 46(Fall 1983):414-32.

37. "Recruitment of Archivists: 1985-1986." *SAA Newsletter*, Nov. 1986, p. 9.

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