

Enhanced Authority Control: Is It Time?

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This paper, which was originally presented at a conference session with the somewhat whimsical title, "Enhanced Authority Control: An Idea Whose Time Has Come, Maybe," provided an apt assessment of both the potential and the problems of developing authority control within an archival setting. The purpose of this discussion is therefore to provide an explanation of what archivists generally mean by "enhanced authority control," to look at current or recent efforts to develop enhanced authority control, and finally to look at the issues and problems which may indicate whether authority control's time has indeed come for archives.

What Is Enhanced Authority Control?

The term "enhanced authority control" should not be unfamiliar to those who have read archival literature on description and automation in both Canada and the United States over the past ten years. A number of articles, monographs and conference papers have addressed the topic, ranging from the conceptual and theoretical — such as those by David Bearman of *Archives & Museum Informatics*, Max Evans of the Utah State Historical Society and Richard Lytle, now at the Drexel Institute — to others intended for more practical applications, such as the Bureau of Canadian Archivists manual by Elizabeth Black and the proceedings of a Smithsonian Institution seminar on authority control edited by Avra Michelson. Despite the range of voices and approaches, there is fairly common agreement on several basic characteristics of enhanced authority control.

Based on a review of the literature to date on archival authority control, the components of archival authority control (on which there has been no agreed-upon professional definition) might be summarized as follows: (1) ensuring consistency of terminology; (2) providing contextual information to support the retrieval of archival information; and (3) representing the multidimensional and multilevel relationships among entities.

- 1) *Ensuring consistency of terminology* is the most familiar component, since it corresponds to the efforts under way for many years in libraries. Most archivists recognize the importance of developing authority control over terminology in order to ensure

“collocation” of information. The value of authority control over retrieval terminology has become clearly evident as archivists develop descriptive standards, and in particular as they work with automated systems in order to ensure both individual repository access and shared access regionally and nationally. Archivists have, in fact, discussed the need for developing consistent terminology for an even greater choice of access points than librarians use, including terms for form of material, genre, function and occupation.

- 2) *Providing contextual information to support the retrieval of archival information* expands on existing library practice by calling for the addition of sometimes considerable information to the authority record. David Bearman, Richard Lytle, Richard Szary and Max Evans have all emphasized the need to provide contextual information in authority records. In corporate name authority records, for example, this might include identifying an organization’s current functions (if it is still in existence and thus creating records); identifying past functions; describing the institutional organizational structure(s); identifying the enabling legislation or memorandum of association for the organization; and identifying significant developments or occurrences in the history of the organization. Similarly for personal names, an enhanced authority record would include information on vital statistics such as birth, death and marriage; education; professional positions and activities; personal avocations or activities of note; and important actions, events or viewpoints with which the individual was associated.

The purpose of this information is to provide the critical historical or biographical details needed to understand the context in which records were created. Potential users of archival materials cannot fairly evaluate and interpret the information before them without having this contextual understanding. Unlike published sources, archival materials were not created with the intention that they be comprehensible and self-explanatory. They are in fact the “by-products” of human activity, not the coherent end results. Imagine the problems facing a researcher reading documents by Josef Stalin 100 years hence without knowing his political philosophy, his personal background and the actions which he took in his career. Certainly for well-known individuals such as Stalin, published works would have been consulted prior to research, but for those millions of records creators who are not Stalinesque in their celebrity, similar misunderstandings and misinterpretations could easily happen because there is no published route to the necessary contextual information. Furthermore, not all users of archival materials are scholarly researchers who can be assumed to have done significant background research beforehand. These are some of the reasons underlying the expansion of contextual information in an archival authority record.

Archivists have traditionally provided this type of information in finding aids, so the data to be collected is not unfamiliar. Rather, its deployment in an authority record, separated from the “bibliographic information,” is the change. The relocation is a physical change in some ways, because archivists can now rely on computers to bring such information together with the bibliographic information. In paper-based systems, on the other hand, it was simply easier to create an inventory for the fonds of a corporate body or personal or family papers, beginning with the historical or background note and then describing all the series created by that person, family, or corporate body. This seemed acceptable in a single-institution environment where there was only one “record group,” for the New York State Education Department, for example, or only one incidence of

a personal fonds, e.g., the Franklin Delano Roosevelt papers. The researcher would ostensibly read the background information first,¹ then look at the descriptions for individual series or file lists, and select the material relevant for research.

More important than the physical separation, however, is the conceptual one. The onset of automation has led a number of archivists to take a more conceptual look at the type of information provided in finding aids.² In his article "Authority Control: An Alternative to the Record Group Concept," Max Evans discusses the confusion prevalent in archival practice between bibliographic information and provenance, or contextual information. His article delineates the difference between bibliographic information, that is, information describing the records themselves, and authority or provenancial information, that is, information describing the records creators and the conditions of records creation. The conceptual clarification of the difference between bibliographic and contextual information by Evans and others may seem useful, but somewhat academic, until one considers the final component of the definition of archival authority control, provided at the outset:

3) *To represent the multidimensional and multilevel relationships among entities.* Beginning with the most basic level, "no archives is an island." Records created by an organization or an individual have a curious tendency to appear in more than one repository. Some individuals, such as Bronislaw Malinowski, the cultural anthropologist, have intentionally given portions of their papers to the archives of different institutions with which they have been associated. Records of some institutions simply "wander" away from the creating organization and ultimately are found in several archival repositories. The application of consistent naming conventions will certainly bring these physically dispersed records together in a common or shared database. A single authority record, however, can provide the background information for all the descriptive records created by all the archival repositories holding materials created by Bronislaw Malinowski. Using a common authority record is tremendously efficient for archives. It means that one may not need to conduct separate research in order to be aware of contextual information before describing records, and it also saves time needlessly spent preparing the historical/biographical information when some other institution has already done so. This is one of the few areas where archivists can take advantage of automation in order to prevent redundant work in the same way librarians have been able to do with copy cataloguing.

Beyond simple time- and cost-saving, however, archival authority records provide the ability to express clearly the complex relationships among organizations and individuals. Just as a library name authority record will provide the variant forms of the name Franklin Delano Roosevelt (Franklin Roosevelt, Franklin D. Roosevelt, F.D. Roosevelt), an archival authority record can provide not only the variant forms of the name, but also the other roles under which that person may have created records: e.g., Assistant Secretary of the Navy; Governor of New York; President of the United States. For corporate names, the authority record can relate the organization to predecessor or successor organizations, or those with a shared function. This is particularly helpful for addressing a problem which paper-based finding aids had to confront: how to represent records resulting from a function which has been assigned to an agency the name and functions of which have changed over time, or where the function has moved from one agency to another. For example, New York's Annual Statistical Reports of Schools were originally created as a function of the Secretary of State's office, then the function was transferred to the Superintendent of Public Instruction, which was later subsumed by the

State Education Department. The contextual information provided in archival authority records explains such relationships and can lead to more intelligent, effective searches.

In addition to providing multidimensional relationships, archival authority records can elucidate multilevel relationships as well. This is particularly helpful for the records of corporate bodies where a series of records was created by a particular programme office; a researcher may need to know how that programme office and its activities fit into the overall functions of the larger agency.

In addition to the value which enhanced authority information has for users of archival materials, it has value as information in and of itself. The carefully researched information on an artist or a government agency, for example, may exist nowhere else. In New York, staff found while compiling agency histories for a summary guide that several agency staff commented on the value of this information apart from the archival context and use. Agencies did not have a concise summary of their own functions, organizational changes and history, and certainly did not have it for other agencies. This information did not exist anywhere else in a coherent, summary form. Authority records are the by-product of our work as archivists, just as the records created are the by-products of the functions or activities of organizations and individuals. Like other archival records, moreover, they have value for uses beyond those originally intended by their creators. As such, they can be a valuable information resource on their own.

Archival authority control, as it has been discussed over the past eight years or more, is not a simple enhancement of the traditional library approach, such as this limited explanation might indicate. Ultimately, it leads to important questions about what archival description is, what information archivists provide as a result of their work, and how users operate and can apply the information in archival systems.³ It may be useful to consider some of the efforts currently or recently under way to develop enhanced archival authority control, and to look at the issues or questions which these efforts have raised. After doing so, the focus will shift to the bigger question of whether the time for archival authority control has indeed come.

Attempts to Develop Enhanced Archival Authority Control

Consistent Terminology

Of the three outlined components of enhanced archival authority control, most activity has taken place in the development of consistent terminology, particularly name authorities for archival materials. The recent BCA publication *Authority Control: A Manual for Archivists* provides clear direction for archivists on following the standardized practices used in libraries to establish authority control over names. A substantial effort actually to develop name authorities in an archival setting is currently under way in the United States through the grant-funded Philadelphia Area Consortium of Special Collections Libraries Name Authority Project (PACSCL), a consortium of special collections libraries in Philadelphia which recognized the value of common work on name authorities for historical figures/groups in their area. They have undertaken the Library of Congress Name Authority cooperative training, and are an official NACO node, authorized to add name authorities to the LC Name Authority File. The grant which PACSCL received from NHPRC as partial funding for the project includes an evaluative study of the costs and benefits of contributing to the national name authority file.

On the whole, it has not been difficult to convince archivists of the value of authority control over names, perhaps because its value for retrieval makes good sense. There is also a clear body of rules governing how to form authorized names, which archivists could adopt from the library community. In addition, the substantial name authority files built by libraries have provided archivists with a ready-made source for many names. One might speculate that without these pre-existing “rules and tools,” agreement on name authority control might have been more difficult to achieve. Considerable discussion relating to authority control for archives has remained in this rather safe territory, but it has been an important route towards convincing some archivists to “buy into” the overall concept of authority control — and that is a notable accomplishment.

There have been efforts to develop consistent terminology in some additional areas of particular interest to archives: form of material and function. Following the introduction of the MARC AMC format in the United States, there was a recognized need for a controlled vocabulary for form of material. Elaine Engst and Thomas Hickerson from Cornell University developed a vocabulary list, affectionately known by the acronym FTAMC (“Form Terms for Archives and Manuscripts Control”).⁴ This was used initially by many repositories, although it was a simple vocabulary list — it did not provide definitions of terms or a thesaurus structure. Ultimately, the Getty Foundation’s Art and Architecture saw the value of this list, and the archival community as users, and incorporated FTAMC into the *AAT (Art and Architecture Thesaurus)*, inserting the terms into their hierarchies and providing mutually exclusive definitions for the terms.

In the area of function, much of the work in the United States has come from the government records community. Two NHPRC-funded projects involving the Research Libraries Group and — first seven, then fifteen — government archives have explored the development and use of controlled vocabularies for function and form of material.⁵ Project staff expanded and revised a preliminary draft of function terms developed by an ad hoc group at the Smithsonian Institution.⁶ In addition to developing specific terminology, the project members also attempted to provide mutually exclusive definitions of the terms in the functions vocabulary list. Two project members, Alden Monroe from the Alabama Department of Archives and History and myself, developed a framework and set of guidelines for applying this terminology as part of a National Endowment for the Humanities (NEH) University of Michigan Research Fellowship for Study of Modern Archives.⁷ These guidelines were then used in the successor RLG Government Records Project in order to apply function and activity terms to agency history and records descriptions.⁸ Recognizing the enormous responsibilities involved in maintaining a controlled vocabulary, the RLG Government Records Project worked with the Getty Foundation’s *Art and Architecture Thesaurus*, which agreed to incorporate the vocabulary into its larger thesaurus, and to provide maintenance for the function terms.

Those institutions which have been using the AAT as a resource have become familiar with the benefits of a true thesaurus. These are first the ability to browse the hierarchy for more general or more specific terms to use, then having definitions which provide a better guide to the accurate selection of terms. The advantages of real vocabulary control have helped some archivists to appreciate the value for accurate retrieval of the added clarity and precision offered by a true thesaurus. There is even talk of further investigation into using real thesauri for ensuring access, rather than continuing to rely entirely on simple vocabulary lists (such as the *Library of Congress Subject Headings*).

David Bearman has also pointed out that authority records for these vocabulary terms might also merit enhancement along the lines suggested for names. More explanation of historical uses of terminology may be useful in understanding the relationships, for example, between older and newer forms of material. This is particularly useful when the form of material historically contained certain types of information, or was related to a specific function (one notes here the relationship to diplomatics). Just as authority records for personal and corporate names can clarify the multidimensional and multilevel relationships between people and organizations through time, moreover, authority records for forms of material and function can clarify the multidimensional relationships among different forms of material, among different functions, and particularly between forms of materials and functions. Finally, as with name authority files, the information created for use in form/function authority files may have value in and of itself to some researchers.

Providing Contextual Information

Over the past five years in the United States, there has been discussion and some implementation of authority records incorporating contextual information, largely as a result of the introduction of automated systems. Much of the effort has taken place in the government records community, but interest is growing in the area of private papers and special collections as well.

The Research Libraries Group and government records repository grants mentioned previously have taken major steps forward in implementing what are commonly called "administrative history records." A framework for such records was developed by staff of the State Historical Society of Wisconsin, implementing the ideas developed by their then colleague Max Evans in his article "Authority Control: An Alternative to the Record Group Concept."⁹ This model was adopted by the RLG Seven States Project and its successor, the RLG Government Records Project. There were some implementation difficulties associated with it, however, since within the RLIN system there is currently no provision for an enhanced authority file which is readily accessible by researchers. As a result, it was necessary to put these authority records in the same file as the bibliographic records. These problems notwithstanding, the project members have created literally thousands of administrative history records, which are available for on-line searching in RLIN.

In a paper presented at the 1991 Annual Conference of the Society of American Archivists, Debbie Pendleton of the Alabama Department of Archives and History offered an assessment of the use of these administrative history records, which raises some concerns that I shall return to in my discussion of whether the time has come for enhanced authority control. After surveying the project institutions which had created, and ostensibly used these administrative histories, Pendleton reached the fairly troubling conclusion that most institutions did not understand the concepts behind administrative history records, and were not entirely sure *why* they were creating such records, how to use them or how to instruct researchers to use them.¹⁰

The United States National Archives, which is in the process of developing automated access to its holdings, has also adopted an administrative history record very like the RLG Government Records Project. Because the automated system is still under development, however, it would be premature to comment on its potential use by researchers.

Finally, discussion has begun about the development of a personal history record for individuals which would contain enhanced biographical information. The Philadelphia Area Consortium of Special Collections Libraries, through its name authority project, is one of the groups most interested in this prospect, since its members place immediate emphasis on authority information. The Minnesota Legislative Reference Library is testing a database of biographical information about Minnesota legislators. Other institutions which hold massive files of information on individuals, and need to make that data available, such as the Getty Art History Information Program, are interested in initiating efforts to define a biographical authority control. There is obviously a considerable interest in developing enhanced authority records.

Representing Multidimensional and Multilevel Relationships

In this area, there has been at best slight experimentation, and little solid progress. This is chiefly because to ensure the provision of multidimensional and multilevel relationships will involve serious consideration of the record types developed by archivists, and the availability of far more sophisticated retrieval systems, whether automated or manual, than are currently in use by the archival community. The administrative history records in RLIN do provide access terms identifying predecessor and successor agencies. Hierarchies of description can be represented through linked records, moreover, but the linkages are limited.¹¹ This is therefore an area in particular need of attention.

Problems and Issues in Developing Archival Authority Control

A sufficient amount of attention in the professional literature, and enough initial attempts at developing some aspects of authority control in archival settings have taken place that it is certainly appropriate to be posing the question, "Has the time come for enhanced authority control?" The obvious answer to be given by any responsible archivist would be, "Of course." But this is not simply query and response. There are a range of more difficult questions to answer, or at least address seriously, before assent can be given. Some of the questions are of the practical "how shall we do this?" sort, while others are more complicated conceptual questions about what archivists are really going to do.

Some of the questions representative of the practical, application-oriented issues include the following:

- 1) What must archivists do to ensure that archival concerns are addressed in the various tools for ensuring consistent terminology, such as name authority files, thesauri and vocabulary lists?

This is no small issue. While archivists have generally had a positive experience working with national library name authority files and rules, there has been no detailed assessment of problems experienced by repositories in using them. Furthermore, should archivists become contributing members to name authority files, as the Philadelphia Consortium of Special College Libraries has done? There is a considerable amount of time and training involved — are archivists prepared to take on that responsibility?

Turning to other thesauri and vocabulary lists, one can ask similar questions. What are we going to do about those areas for which terminology either does not exist or is not sufficiently precise or accurate? Who among us will take responsibility and how

shall we work with the developers of thesauri and vocabulary lists to ensure that archival concerns are addressed? This would also involve a considerable amount of experience and time and — most difficult — gaining the stature and standing necessary to have our voice heard. Librarians in the United States, for example, have complained for a long time about the monolithic *Library of Congress Subject Headings* and the difficulty in getting one's voice heard. What will archivists have to do in order to ensure that they fare better? Are we prepared to initiate thesauri or vocabulary lists in certain areas of particular concern to archives? Who has the experience to do so, who will fund such work, and how will it be accomplished?

- 2) What hard evidence is there that using controlled vocabularies is in fact the most effective method for retrieval?

The library profession has accepted this approach, and ostensibly the research done by it may provide reason to choose controlled vocabularies over natural language searching. The computer has become significantly more sophisticated, however, since libraries committed themselves to the controlled vocabulary path. Are there other options now available which archivists should consider? In the one specialized study addressing archival access using *Library of Congress Subject Headings*, by Avra Michelson,¹² there is troubling evidence indicating that terminology is so inconsistently applied that retrieval may be seriously hampered. Perhaps more creative approaches to search strategies need to be developed. Before we commit ourselves to extensive efforts in learning and contributing to controlled vocabularies, however, we should make sure that they are needed.

- 3) The arguments for enhancing authority records by adding contextual information are very attractive to archivists. What evidence is there that researchers want and will use this information?

The cadre of archivists who have argued for enhanced authority records is small. In their arguments, moreover, these archivists tend to draw on each other as the justification for the value of this approach. User studies conducted to date have focused mostly on *who* uses *which kind* of archival records for *what kind* of study. There has been only very limited and inconclusive attention paid to *how* users search for *what kind* of information. Even though users ought to take contextual information into consideration, do they now? Will they if it is made available? Lacking solid evidence, archivists might be truly building a "field of dreams" which no one comes to use. Are we even certain that most archivists themselves would make use of this kind of information? Do most practitioners of our profession understand the importance of contextual information? The evidence, cited above, which Debbie Pendleton gathered in 1991 about the understanding within the RLG Government Records Project is most troubling. A large percentage of the participants in that project lacked an understanding of what they were doing and why. If that is true among what are supposedly the more far-sighted repositories, what is likely to be the case among the vast majority of other repositories?

- 4) How can we express the multidimensional and multilevel nature of archival records so that it is clear and comprehensible? Do archivists need different record types from those currently in use? How can archivists ensure that automated systems are sufficiently flexible to represent this information?

Archivists have struggled for years to overcome these problems through manual, paper-based finding aids and catalogues, with limited success. While the computer may offer

prospective solutions, to date, archives have not been seen as a market sufficiently viable to induce vendors to provide multidimensional and multilevel retrieval, such as currently available in hypercard systems. Several archivists have experimented in this area, but no major effort to develop an approach which comprehensively addresses repositories has been made.

These questions are daunting enough to dampen one's enthusiasm for authority control. There are a few larger questions to consider, however, in determining whether the time has come for enhanced authority control.

A consensual approach to enhanced authority control needs to be taken. This article relies heavily on the components identified by a small number of leaders in the American archival profession. There needs to be a closer examination of, and agreement on, the nature of enhanced authority control before any meaningful progress can be made. It is important to stress the word "meaningful" in this regard. Certainly, someone will forge ahead in this area. Steps will be taken, but will they truly lead in a useful, productive direction for the whole profession, or will development — as is sometimes the case in archives — be closely associated with a few strong individuals and institutions? There are real dangers in excessively personalized approaches; if they do not achieve a level of general applicability, then archivists are in danger of replicating in the automated world the eclectic, ultimately divisive practices that dominated archives in the nineteenth and twentieth centuries.

Before agreement is reached on an approach to what enhanced archival authority control is, however, archivists may need to take one more step backwards. Authority control is a tool to support archival description and access. We have not as a profession clearly enunciated the essential principles of archival access. Libraries have done this through the "Paris Principles" of 1961. These principles provide the basis upon which library cataloguing and retrieval of information are founded.

Archivists need their own coherent statement of principles of archival access if they are to define systems and tools to support the kind of access needed. Richard Szary has made an attempt to do so in a forthcoming article in *The American Archivist*, "The Role of Archival Information Systems in Description and Retrieval." There is not space here to pursue a detailed discussion of Szary's proposed principles. However, they emphasize that archival description and retrieval are both provenance-based and bibliographic record-based, i.e., archivists describe and retrieve records both through information about the characteristics of archival records, and through information about the characteristics of records creators, as well as through other conditions of creation and use. That this will come as no surprise to many archivists should verify that the assumptions which Szary is explicitly stating are accurate. The archival profession needs to state explicitly the basic principles of archival access, *then* proceed to evaluate the types of systems, structures and processes needed to ensure that access. Given the still fairly recent status of automated information retrieval in archives, we have a unique opportunity to reorient institutional practices and ensure that they more effectively help to provide efficient access to archival materials.

Has the Time Come for Enhanced Authority Control?

The question of whether the time for enhanced authority control has come for archives may be answered in three parts. First, the time has clearly come in view of the development of the archival profession. Archivists have the knowledge and capacity to evaluate, assess, and agree upon the basic principles of archival access, and thereby on the role of authority control to ensure and facilitate that access. Secondly, the time has come with respect to technology to allow archivists to develop sophisticated automated systems which will facilitate the kinds of authority files, as well as bibliographic files, needed to ensure access. Furthermore, through the development of Internet and networking generally, the opportunities are tremendous for making those archival access systems widely available.

The final component in answering the "is it time" question relies entirely on the human factor — the archival profession itself. A significant amount of sheer hard work is needed to establish an appropriate conceptual framework. After that, solid efforts to test, refine and revise actual systems for implementing authority control must be undertaken in archival repositories. Concurrently, work must also be undertaken with vendors or systems developers to ensure that appropriate systems are created which adequately support archival access. The archival profession, moreover, must be educated to understand the importance of authority control as a component of archival access, and in the practicalities of providing and using authority control. Finally, and perhaps most importantly, archivists must ensure that what they are doing meets the needs of, and is comprehensible to, the user community.

There are a number of potential actors who may step forward to take on these responsibilities, either singly or in collaboration. They might include professional organizations such as the two national associations which comprise the Bureau of Canadian Archivists, the Society of American Archivists or the International Council on Archives. They might also be public institutions such as the National Archives of Canada, the United States National Archives and Records Administration, and large provincial or state government repositories, or they might be well-established private repositories. Several universities have strong archival education or archival research programmes where work may also take place, such as the University of British Columbia's School of Library, Archival, and Information Studies and the NEH University of Michigan Research Fellowship for Study of Modern Archives. There may even be a few highly motivated individual archivists who decide to "seize the day" and move developments forward.

Some forays have already been made into the world of enhanced authority control, but no clear, concerted attack has yet been made on the problem. Until further developments take place, therefore, the final answer to the question "Has the time come for enhanced archival authority control?" will necessarily remain a resounding "maybe."

Notes

- * Paper presented at the 1992 Annual Conference of the Association of Canadian Archivists, Montréal, 12 September 1992; revised and edited for publication.
- 1 There is no real evidence of how researchers have used such finding aids; it is the supposition of archivists that historical/background notes are read.

- 2 Those who have addressed the conceptual difference between provenance, or contextual information, and bibliographic information include Max Evans, David Bearman, Richard Lytle and Richard Szary.
- 3 David Bearman's recent article in *Archivaria* 34 (Summer 1992), "Documenting Documentation," provides challenging and provocative ideas on the principles underlying archival description, or "documenting documentation," which he proposes as a different approach.
- 4 Research Libraries Group, *Form Terms for Archives and Manuscripts Control*.
- 5 The RLG Seven States Project (1986-88) included the following institutions: Alabama Department of Archives and History, Minnesota Historical Society, California State Archives, New York State Archives and Records Administration, Pennsylvania State Archives, Utah State Archives and the Sate Historical Society of Wisconsin.
- 6 In 1986 David Bearman invited a group of archivists to draft a functions vocabulary list, which the RLG Seven States Project used as a point of departure.
- 7 Alden N. Monroe and Kathleen D. Roe, "What's the Purpose," in Pat Molholt and Toni Petersen, *Beyond the Book: Extending MARC for Subject Access* (New York, 1990).
- 8 RLG Government Records Project, *Guidelines for Description of Government Records* [forthcoming].
- 9 Max J. Evans, "Authority Control: An Alternative to the Record Group Concept," *American Archivist* 49, no. 3 (Summer 1986), pp. 249-61.
- 10 Debbie Pendleton, "Is This Really Authority Control?" (Paper presented at the Annual Conference of the Society of American Archivists, Philadelphia, October 1991).
- 11 The MARC AMC format currently allows only the creation of links between subdivisions and the larger administrative history. With Format Integration scheduled to take place in 1993, however, more linkage options should become available. Nonetheless, the constraints of the current RLIN searching system are cumbersome for the purpose of searching and retrieving linked records.
- 12 Avra Michelson, "Description and Reference in the Age of Automation," *American Archivist* 50, no. 2 (Spring 1987), pp. 192-201.