Description and Reference in the Age of Automation

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Abstract: This article is a report of the results of a survey conducted in 1986 to determine the effects of descriptive practice on retrieval capabilities of archive and manuscript materials described in bibliographic utilities. Forty repositories inputting into RLIN AMC were surveyed on (1) standardization in the choice and construction of headings, (2) levels of authority control, and (3) treatment of out-of-scope materials. Massive inconsistency in descriptive practice was found. The author makes five recommendations to correct inconsistency in the file and the retrieval difficulties that result.

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DURING THE PAST DECADE, the desire to share information on archival holdings in an automated environment emerged near the top of the archival profession's agenda. Although there were a variety of options, many repositories determined participation in bibliographic utilities to be the most viable method for information exchange. David Bearman's 1981 report on the work of NISTF (National Information Systems Task Force) outlined more than a dozen possible prototypes for information sharing.[1] The choice to automate through bibliographic utilities represented merely one option that offered the archival community distinct benefits. First, it provided a way to integrate archival and manuscript collections with other types of material in library catalogs, offering repositories whose mother institutions were RLIN or OCLC members both a vehicle for greater local visibility and the promise of wider use. Second, participation in bibliographic utilities offered improved local and network-wide subject access to holdings. Third, and not incidentally, bibliographic utilities rapidly introduced many archives to automation. Information sharing through bibliographic networks, thus, allowed archivists to mainstream materials into library catalogs, exchange information on holdings with other archives, and begin the automation process within repositories.

Information sharing through bibliographic utilities involved tradeoffs, however; joining these systems meant adopting system standards, which led to some fairly predictable problems for archival repositories. For example, because there were few archival descriptive standards suitable for an automated environment, repositories, in order to automate quickly, had little recourse but to accept the library conventions used by bibliographic utilities—such as Anglo-American Cataloging Rules, second edition (AACR2), Library of Congress Subject Headings (LCSH), and the Library of Congress Name Authority File (LCNAF). As a result, library cataloging largely supplanted customary archival description in preparing the automated record at this early stage of archivists' work. Resolving tensions between existing local practice, the needs of a system, and the requirements of a group of users is a complicated matter. Because a number of archives have participated in bibliographic utilities for several years, a body of data exists that permits evaluation of the status of information sharing within the profession, the implications of the use of library standards for archival retrieval, and the steps that can be taken to improve network access to descriptions of archival collections.

The actual performance of national networks in providing access to archival and manuscript holdings has never been tested. Various elements influence searching and system-wide retrieval capabilities in automated bibliographic networks, including format design, system architecture, the application of standards, and the compatibility of standards with particular formats of material. The research discussed below examined the variant descriptive practices of the forty repositories inputting into the Research Library Group's (RLG) Research Library Information Network (RLIN) Archival and Manuscript Control (AMC) file in 1986. By surveying these repositories, it was possible to evaluate the extent to which lack of uniform descriptive practices complicates accessing information

[1]David Bearman, "Towards National Information Systems for Archives and Manuscript Repositories: Alternative Models; First Working Paper on Scenarios for Multi-Institutional Exchange and their Implications for the Profession," unpublished, 20 August 1981.

within a data base. The survey included questions on three types of practices: (1) standardization in the choice and construction of headings, (2) levels of authority control, and (3) treatment of out-of-scope materials (i.e., holdings that are outside a repository's topical, geographical, or chronological collecting policy guidelines). Thirty-six of the forty repositories actively inputting into RLIN AMC responded to the survey, representing 88 percent of the records in the data base.

Network environments rely on the use of standard conventions to facilitate information retrieval. Because computers are unforgivingly literal, the degree to which cooperating repositories can agree or "converge" on what they put into the system directly affects what they can get out of it. Although standard conventions guide their work, archivists are far from achieving standard practice. Extreme inconsistency in describing materials is the key problem facing archival reference in the age of automation. Archivists are inconsistent in both *how* they describe and in *what* they describe. Resolving these discrepancies will profoundly affect the ability of the reference archivist to respond to user queries. This article will report inconsistencies found in the RLIN AMC data base, examine the implications of these inconsistencies, and suggest methods for improving retrieval in automated bibliographic networks.

The first area of inconsistency appears in the assignment of topical index terms. Previous information retrieval studies have shown a positive relationship between interindexer consistency and retrieval effectiveness; that is, the more convergence in cooperating repositories' choices of index terms, the greater the likelihood of retrieving relevant materials from the data base.[2] In this study, interindexer consistency among those inputting into RLIN AMC was measured by asking all repositories to assign topical index terms to the same three descriptions of collections, using their own descriptive procedures (see Appendix A). Consistency was calculated by determining the total number of different terms selected to describe each collection in ratio to the number of terms selected by all repositories. An unrealistically high level of convergence might be expected, because survey respondents performed this exercise with the equivalent of an identical card catalog description in hand, preventing many of the opportunities for divergence that arise in drafting descriptions from the beginning.

The findings, however, contradicted initial expectations. In the first of three descriptions, the Carter family of Indiana, 21 indexing repositories assigned 162 different access points to this collection (see Appendix A).[3] No term was assigned by all indexers, resulting in an indexing consistency rate of zero. Even when terms were reduced through truncation to their most global representation, such as WOM#N or INDIANA# (which would result in an unwieldly number of hits if searched as such), interindexer consistency still equaled zero; there was not one term, collapsed to its most generic root, that was chosen by all repositories to describe this collection.

The other two collections included an even more extreme bias toward interindexer convergence. Each repository was asked to describe one collection—either

[2]William S. Cooper, "Is Interindexer Consistency a Hobgoblin?" *American Documentation*, no. 20 (July 1969): 276

[3]Although thirty-six repositories responded to the survey, not all repositories answered every survey question. When less than thirty-six repositories responded to a particular question, the number of responses has been supplied in the text.

record group or a manuscript collection —that represented its predominant holdings (see Appendix A). This self-selection should have resulted in overrepresented consistency, because convergence depended on the agreement of a few repositories indexing familiar materials. Again, however, there was no consistency. The extreme lack of consistency in the assignment of topical index terms constitutes the major finding of this study.

Survey analysis reveals that repositories avoid certain kinds of topical terms, further complicating network-wide access. Terms identifying "occupations" and "conferences or meetings" tend to be used significantly less often than other points of entry. Respondents indicate that 19 percent of records are not assigned occupation index terms even when appropriate. Twenty-two percent of records are not assigned conference or meetings index terms. Although the percentage is slightly higher for the latter, the absence of occupation terms poses the more serious problem because occupation terms permit searches related to a particular activity (e.g., teaching, nursing, publishing). The ability to search by activity-related terms is central to archival retrieval, yet survey reports indicate that search queries using occupation terms will result in a significant number of misses.

Considerable nonconformity also appears in the preferred level of specificity in choosing topical terms. For example, some respondents described a trip by rail to Florida as "Voyages and travel," while others termed it "Railroad travel—United States." Records documenting the sale of public lands in Indiana might be "Indiana—Government property" or "Land titles—Registration and transfer —Indiana." The eighteen repositories that entered 61 percent of the records surveyed favored narrow terms. Seven respondents, representing 13 percent of the records surveyed, favored broad terms. The other seven repositories, representing 25 percent of the records surveyed, used both types of terms. Although survey responses indicate that repositories are much more apt to assign specific terms rather than broad terms when creating records, irregular practice in this area creates further retrieval difficulties.

Lack of uniformity in the choice and construction of topical index terms is compounded by a second inconsistency, inadequacies in RLIN's syndetic structure. Syndetic structure is the linking mechanisms used with groups of words or phrases in an information system.[4] An authority file that uses "see" and "see also" references is the most commonly found syndetic structure in library catalogs. Authority control files are the key mechanism for ensuring consistency within bibliographic catalogs by distinguishing names, showing relationships (among variant forms of names, parent bodies, and earlier to later names), and documenting decisions. Such files thereby promote consistency in the subsequent determination of relationships and identification of headings.[5]

RLIN AMC users use the Library of Congress Name Authority File (LCNAF) for system-wide authority control for

[4]Ritvars Bregzis, "The Syndetic Structure of the Catalog," *Authority Control: The Key to Tomorrow's Catalog*, Proceedings of the 1979 Library and Information Technology Association Institutes, ed. Mary W. Ghikas (Phoenix, Az: Oryx Press, 1982), 26.

[5]David R. McDonald, "Data Dictionaries, Authority Control, and Online Catalogs: A New Perspective," *Journal of Academic Librarianship* 11, no. 4 (1985): 219. An authority file distinguishes two persons with the same name who were alive at approximately the same time by indicating that one was a biologist and one a molecular scientist, or by providing place of birth, names of publications, or other differentiating information. Similarly, an authority file leads one from Samuel Clemens to Mark Twain or indicates that the Atomic Bomb Casualty Commission has been known by at least five other names.

personal names and corporate entries. The respondents reported searching from 0 to 100 percent of their personal and corporate name terms in the LCNAF, with an overall average of 90 percent. Although most RLIN AMC users regularly search the LCNAF, their terms are not apt to appear in the file because it contains names associated with published works. Only 36 percent of the index terms entered into RLIN AMC have been searched and found in the LCNAF; as a result, approximately two-thirds of respondents' personal and corporate name index terms have been entered into the system with no network-wide authority control. This lack of rigorous system-wide authority control significantly compromises access capabilities.

The survey results likewise indicate an alarming lack of authority control on the local level. Nearly one-half of the records input by surveyed repositories relied exclusively on the LCNAF and/or the RLIN AMC file for authority control of personal and corporate names. These repositories maintained no separate local authority file, but instead used RLIN AMC in that capacity. For many repositories, using RLIN AMC in this way appears a reasonable accommodation to the costs of automation. Maintaining an authority file is extremely labor intensive.[6] RLIN AMC, however, is a catalog, not an authority file. It is not designed nor intended to alleviate inconsistency and provides no comprehensive mechanism for linking variant forms of headings, distinguishing names, and documenting decisions. Reliance on a catalog for authority control ultimately harms retrieval. If two-thirds of the names entered are not screened for system-wide consistency and there is inadequate control of one-half of the respondents' RLIN AMC records, inconsistency is surely epidemic.

The third area of inconsistency concerns the descriptive treatment of out-of-scope material. The extent to which such materials are assigned access points is significant because the ability to share information on these holdings constitutes a key benefit of national networks. Network members, however, stand divided in their willingness to make out-of-scope materials accessible through the AMC file. Nine repositories, representing one-half of the records surveyed, reported that their indexing of out-of-scope materials was inferior to their indexing of core holdings. In many cases, these materials are insufficiently described in finding aids and thus must be reprocessed to permit better access, tremendously taxing a repository's available resources. Determining the appropriate balance between local priorities and network demands is automation's key challenge for the profession. With respect to out-of-scope materials, survey results indicate that RLIN AMC repositories currently tend to favor local priorities.

Providing network-wide access to information in bibliographic utilities is complicated, because the use of standard conventions has not yet produced a standard practice. But to achieve effective retrieval, data bases require convergence on what is entered. Determining the most cost-effective use of a file characterized by massive inconsistency in subject headings, authority control, and description of holdings presents formidable challenges for the reference archivist. There is, however, reason to persevere, as bibliographic automation offers archivists a

[6]One Library of Congress cataloger estimates that 50 percent of LC's descriptive catalogers' staff time is spent exclusively on name authorities. See Lucia J. Rather, "Authority Systems at the Library of Congress," *Authority Control: The Key to Tomorrow's Catalog*, 158.

significant tool and an extraordinary catalyst for professional growth and development. The strategies adopted to improve data input and retrieval must be well researched and wisely selected. Based on this study, five corrective approaches are recommended, some quickly accomplished and others long-term in nature.

First, measures should be taken to upgrade indexing. This is not to suggest that all archivists require basic instruction in subject cataloging. Indeed, repositories usually chose very appropriate, although different, terms in completing the survey. Although the zero consistency among this survey's respondents is extreme, all studies on retrieval have found some inconsistency.[7] Retrieval experiments report considerable disparity even when the same indexer performs an identical exercise at two different times.[8] Thus, information retrieval scientists have concluded that substantial interindexer inconsistency forms the rule rather than the exception.[9]

Information scientists hesitate to generalize about rates of consistency that can be reasonably attained. They do, however, point to factors such as the degree of vocabulary control, the subject of materials indexed, and the conditions under which indexing is performed, as elements that affect indexing quality.[10] A consistency rate of zero is unacceptable, however, regardless of limitations. Yet concentrating the profession's efforts exclusively on upgrading indexing is no solution. Archivists can best address this problem by creating network users' groups whose purpose is to determine common use, promote adherence to conventions, provide needed training, and monitor participants' practice. Agreeing to agree is the prerequisite to achieving consistency.

As a second step, the inconsistency related to the use of LCSH, an orderless controlled vocabulary, must be reduced. The library community has criticized LC subject headings for many years, citing problems with terminology, form and structure, complexity and size, currency and prejudices, and the use of Cutter's rule of specific entry.[11] Despite its adoption of rules to guide subject term selection, Library of Congress practice has wavered seriously on adherence to established principles.[12] LCSH were adopted for use with automated systems in spite of a lack of consensus within the library community. As one observer remarked, using LC subject headings for computer access with MARC makes MARC "rather like a modern jet plane powered by a late nineteenth-century model of a steam engine; the thing might possibly move or even fly, but it will soon be prone to accidents, unreliable, and above all, the

[7]David C. Blair, "Indeterminacy in the Subject Access to Documentation," *Information Processing and Management* 22, no. 2 (1986): 230.

[8]Frances I. Hurwitz, "A Study of Indexer Consistency," *American Documentation*, no. 20 (January 1969): 92–93.

[9]See for instance William S. Cooper, "Is Interindexer Consistency a Hobgoblin?" 268; Pranas Zunde and Margaret E. Dexter, "Indexing Consistency and Quality," *American Documentation*, no. 20 (July 1969): 259; Blair, "Indeterminacy in the Subject Access to Documentation," 220; and Michael R. Middleton, "A Comparison of Indexing Consistency and Coverage in the AEI, ERIC and APAIS Data Bases," *Behavioral and Social Sciences Librarian* 3 (Summer 1984): 140.

[10]Middleton, "Comparison of Indexing Consistency and Coverage," 140.

[11]Pauline A Cochrane, *Critical Views of Library of Congress Subject Headings: A Bibliographic and Bibliometric Essay; and an Analysis of Vocabulary Control in the Library of Congress List of Subject Headings* (Syracuse, N.Y.: Eric Clearinghouse on Information Resources, Syracuse University, 1981).

[12]See Richard S. Angell, "Library of Congress Subject Headings—Review and Forecast," *Subject Retrieval in the Seventies: New Directions*, Proceedings of an International Symposium held at the Center of Adult Education, University of Maryland, College Park, 14–15 May 1971, ed. Hans Weelisch and Thomas D. Wilson (Westport, Ct: Greenwood Publishing, 1972), 148–49 and 153; and Cochrane, *Critical Views*.

streamlined features of the fuselage will be wasted because of the slow speed attained."[13]

Both economic and political realities, however, make serious consideration of revamping LC subject headings unfeasible. Thesaurus construction is prohibitively expensive. Development time for a small specialized thesaurus can require up to three years. Studies estimate that a small-scale thesaurus of only 2,500 terms would require two full-time staff six months to complete.[14] The creation of a subject-controlled vocabulary or thesaurus designed for use with bibliographic utilities and appropriate to archival and manuscript materials would entail thousands of terms and call for the input of countless subject specialists as well as the development of a sophisticated mechanism for continual administration, update, and change. Further, nearly all national, academic, and public libraries in the United States, and many such libraries abroad use LCSH.[15] The overhaul of LCSH would require either complete archival detachment from the library community or a commitment from innumerable archivists, librarians, administrators, resource allocators, and the bibliographic utilities to transform LCSH. Archivists are not in a position to inaugurate either change.

Topical term selection, while currently inconsistent, is nevertheless not random; some terms are chosen more than others. Providing on-line access to LC subject headings with a running count of each heading's use within AMC would promote greater consistency in term selection. Archivists could use this file when creating index terms and, where choices exist, select the heading most often used in the data base. Because archival term selection is original and seldom derivative, archivists have a greater need than librarians to know the extent to which headings are used within a system. Incorporating information on heading-use patterns into the term selection process ultimately should lead to greater convergence. RLG plans to provide online access to LCSH in RLIN, but current plans do not include provision for reporting on the use of terms.[16]

Augmenting the syndetic support available on RLIN AMC offers a third way to improve access. The authority file provides the foundation of the automated library system.[17] It is the primary tool used throughout the data processing industry to maintain consistency within data bases.[18] The need for authority control when automating in a cooperative network has been firmly documented. While archivists might argue about the high costs of implementing authority control, they cannot ignore the greater costs associated with excessive searching or failed retrieval.

Archival participation in the Library of Congress's Name Authority Cooperative (NACO) offers a beginning. Qualified RLIN AMC users will soon be able to contribute to the LC Name Authority File through NACO, which permits libraries throughout the country "to provide their own local name authority data to be included in the LC automated name authority file and made available as a

[13]Hans Wellisch, "Subject Retrieval in the Seventies—Methods, Problems, Prospects," *Subject Retrieval in the Seventies: New Directions*, 15.

[14]State Historical Society of Wisconsin Archives Division MSAGP Subject Access Position paper, unpublished, ca. 1980, 5.

[15]Wellisch, "Subject Retrieval in the Seventies," 16.

[16]Conversation with Ed Glazier of RLG, 28 July 1986.

[17]*Initial Considerations for a Nationwide Database*, prepared by Edwin J. Buchinski, ed. and revd. Henriette D. Avram and Sally McCallum, Network Planning Paper (Washington, D.C.: Library of Congress, 1978), 1.

[18]McDonald, "Data Dictionaries," 222.

whole."[19] Attention also must be devoted to developing local authority files. In the age of automation, providing access to materials necessarily includes the cost of developing substantial syndetic systems.[20]

As a fourth route to greater access, archivists should direct resources to developing an archival science of searching. Some may consider the term "science of searching" an overstatement. Results of this survey suggest, however, that successful retrieval of primary source materials from bibliographic utilities requires systematic data gathering, analysis, and testing. Additional research especially is needed because the process of providing access in RLIN AMC to primary materials differs in three ways from that of providing access to books.

First, archival records describe heterogeneous collections that require many more index terms than those used to describe monographs. The average number of index terms assigned to records by the survey respondents was thirteen; the average number assigned to books by the Library of Congress is 3.[21] Retrieval specialists have discovered that "information systems do not scale up. That is, retrieval strategies that work well on small systems do not necessarily work well on larger systems."[22] The greater number of access points created for archival and manuscript collections, therefore, significantly affects retrieval. Second, archival retrieval is complicated by less adequate authority control and the tendency toward less convergence of terms because archival cataloging is primarily original and seldom derivative. Consequently, greater inconsistency characterizes the file.

Third, the expectations of library and archival users differ, which creates conflicting demands on the system. The retrieval of *some* relevant citations, either books or journal articles, normally satisfies most library patrons. Scholars using primary source materials, however, are more likely to expect an exhaustive listing of the relevant collections. Complete information on their topic then allows them to develop a research strategy. Two different kinds of retrieval are involved: the library patron needs precision retrieval; the scholar, recall retrieval. Precision and recall are the most widely used measures of retrieval effectiveness. Precision assesses how well a system retrieves *only* relevant documents, or the probability that a retrieved document will prove relevant. Users who want a few relevant citations are served best by high-precision retrieval. Recall, on the other hand, measures how well a system retrieves *all* relevant documents, or the probability that a document relevant in any degree will be retrieved. An inverse relationship exists between a system's ability to be precise and its ability to be exhaustive. This only

[19]Suzanne L. Liggett, "The Name Authority Co-op Project at the Library of Congress," *Crossroads*, Proceedings of the First National Conference of the Library and Information Science Association, 17–21 September 1983, Baltimore, Md., ed. Michael Gorman (Chicago: American Library Association, ca. 1984), 121.

[20]Little has been written on archival authority systems. The work of David Bearman, Max Evans, and Richard Szary comprises current thinking and deserves wide reading within the profession. See Richard V. Szary, "Expanding the Role of Authority Files in the Archival Context," paper presented at the annual meeting of the Society of American Archivists, Austin, Texas, 1 November 1985; Max J. Evans, "Authority Control: An Alternative to the Record Group Concept," *American Archivist* 49 (Summer 1986): 249–61; David Bearman and Richard Szary, "Beyond Authorized Headings: Authorities as Reference Files in a Multi-Disciplinary Setting," paper delivered at ARLIS/NA Conference on Authority Control, 10 February 1986. An online archival authority system is currently under development for the archives catalog of the Smithsonian Institution Bibliographic Information System.

[21]Sally McCallum, "Evolution of Authority Control for a National Network," *Authority Control: The Key to Tomorrow's Catalog*, 56.

[22]David C. Blair and M. E. Maron, "An Evaluation of Retrieval Effectiveness for a Full-Test Document-Retrieval System," *Computing Practices* 28 (March 1985): 298.

known "law" of information retrieval performance presents the key stumbling block archivists will encounter when transferring library retrieval methods to an archival setting.[23] Searching strategies devised for libraries cannot necessarily serve as models for archives. Instead, concentrated research leading to the development of search strategies for primary source materials is needed.

As a beginning, RLIN AMC users might maintain a record of research questions searched in AMC, the nature of each query (precision or recall), the search strategies employed, the search query statements, and the search results. The goal would be to collect sufficient data in order to identify successful patterns that might guide the searching of archival data bases. Precision requests probably will be quite perfunctory; the system can readily provide some relevant items for most searches. Recall retrieval, however, is apt to be more complicated. To retrieve all relevant network material, archivists must conduct repeated searches, using all related and synonymous terms in countless combinations until relevant records are no longer retrieved. Recall searches, therefore, inevitably entail considerable computer time and retrieve many irrelevant items.[24] Consequently, archivists should not hold unrealistic expectations of the system. They must compare the most effective types of search strategies with different types of inquiries to provide cost-effective, efficient service to users. Retrieval research should result in a set of model searches or prototypes that are particularly effective for archival materials. By identifying searching as essential to enhancing retrieval, archivists will build on the existing strength of the reference archivist as expert intermediary between users and materials.

Fifth, to improve access to archival and manuscript collections in bibliographic utilities, archivists must come to terms with the treatment of out-of-scope materials. Research has shown that RLIN AMC members usually did not adequately describe these holdings. The benefits of participation in a national network will only increase through cooperation in this area. Network participants should agree to share full information on out-of-scope materials processed in the future, and they should seek outside funding to upgrade access to those out-of-scope materials already entered into the data base in order to correct the existing file.

In conclusion, the research discussed above has shown (1) that the use of standard conventions has not yet produced a standard practice among archivists; (2) that the lack of consistency in archival practice impedes the ability to access information; (3) that attaining consistency within bibliographic utilities will be difficult to achieve; and (4) that the resolution of these problems requires research, allocation of resources, and a willingness to balance local priorities with those of the network.

Automating through bibliographic utilities entails numerous compromises for archival and manuscript repositories. An awareness of the intrinsic limitations should temper unrealistic expectations of these systems. Adopting library standards used with bibliographic utilities creates problems in providing access to archival holdings. But automating through this route also offers advantages. In addition to mainstreaming primary source materials into the library research com-

[23]See Karen Sparck Jones, ed., *Information Retrieval Experiment* (London: Butterworth and Co., 1981), 2; M.H. Heine, "The Inverse Relationship of Recall and Precision in Terms of the Swets' Model," *Journal of Documentation*, no. 29 (1973): 81; and Cyril W. Cleverdon, "On the Inverse Relationship of Recall and Precision," *Journal of Documentation*, no. 28 (1972): 199.

[24]Elizabeth D. Barraclough, "Opportunities for Testing with Online Systems," *Information Retrieval Experiment*, 129.

munity and enhancing access to archival holdings, this process can provide an effective way to gain needed education in information systems, challenge archivists to begin transforming internal practices, and encourage the development of a body of users expert in archival automation. The knowledge gained from participation in this process will prepare archivists to undertake the tasks needed to create a new generation of information systems more authentic to archival retrieval.

Appendix A: Questionnaire and terms selected by surveyed repositories to describe collections.

Below you will find three hypothetical descriptions of collections. Assuming the information is complete, please create RLIN AMC records, on paper, for *2* of these collections, *following the internal conventions of your repository*. Please send me descriptions formatted on your own worksheets or whatever your repository normally uses to create a record. For the purposes of this exercise, complete only the bibliographic fixed and variable fields, not the archival control segment, and do not conduct any authority work on personal or corporate names (the information supplied is assumed to be correct). Be sure to create index terms (6XX & 7XX fields) *in accordance with standard practice within your repository*. Assume, however, that your repository is located in the state of Indiana, and has state history as its collecting theme.

Question: To be Completed by all Repositories

1. Carter family of Indiana
   3 linear feet

Papers, 1815–1950 and 1967, of the Carter family of Muncie and South Bend, Indiana. Contain papers of Mark Carter, Muncie businessman and postmaster, concerning banking, milling, and railroads, and includes letters from his son Leonard, concerning his studies in the 1840s at Indiana University and Brown University, travels in Europe, and his participation in the Dred Scott slavery case; papers of his wife, Rose Vaill Carter, local teacher and woman's rights advocate, relating in part to the Civil War, her interest in the cause of coeducation and suffrage for women and her involvement in the First Presbyterian Church of Muncie; papers of their son, Leonard, attorney and regent of Indiana University, 1883–1884, concerning business matters, family affairs, post-Civil War politics in Virginia, and his campaign for Indiana state supreme court justice in 1885, and his work on the board of regents, particularly as relates to the School of Medicine at Indiana University; papers of Leonard's son, Mark Carter, South Bend attorney and Grand Master of the Knights of Templar in the United States, largely concerning freemasonry activities, but also including Indiana University student notebook, 1877, of course taught by Charles K. Mathews, and scrapbook, 1875–1876, of university life; papers, 1916–1932 of Leonard's daughter, Maria Carter Murray, South Bend physician, concerning her work as a settlement house reformer and on behalf of the reproductive rights of women; papers of Mark's son, Abbott Carter, concerning his interest in political issues, 1936–1946, as reflected in correspondence with the state's congressional delegation, and letters, 1967, from his grandson, Allan, concerning opposition to the Vietnam war and the draft at Indiana University; and related papers of other family members, notably the Halsey family of Missouri.

Charles K. Mathews, 1835-1902
Abbott Carter, 1887-1968
Leonard Carter, 1823-1894
Maria Carter Murray, 1856-1938
Mark Carter, 1796-1882
Mark Carter, 1857-1943
Rose Vaill Carter, 1797-1876
Allan Carter, 1949-

Terms assigned by repositories for the Carter family of Indiana:

Abortion—Moral and ethical aspects (1)
Banks and banking (3)
Banks and banking—Indiana (1)
Banks and banking—Indiana — Muncie (2)
Banks and banking—Muncie (Ind.) (1)
Banks and banking—19th century (1)
Birth control (2)
Birth control—Indiana — South Bend (1)
Birth control—Moral and ethical aspects (1)
Birth control—Law and legislation (1)
Business (1)
Business records (2)
Businessmen (3)
Businessmen—Indiana (2)
Businessmen—Indiana—Muncie (1)
Churches—Indiana—Muncie (1)
Coeducation (4)
Coeducation—Indiana (1)
Coeducation—19th century (1)
College students (1)
College students—Indiana (1)
College students—Indiana—Political activity (1)
Correspondence (2)
Education (1)
Education, Higher—Providence (R.I.) (1)
Electioneering—Indiana (1)
Elections — Indiana—1885 (1)
Elections and election campaigns—Indiana (1)
Essays (1)
Europe (2)
Europe—Description and travel (5)
Europe—Description and travel—1800-1918 (2)
Family—Indiana (1)
Family—Missouri (1)
Family papers (1)
Family records (1)
Feminists (1)

Flour and feed trade (1)
Freemasonry (3)
Freemasonry—United States (1)
Freemasons (2)
Freemasons—United States (1)
Indiana (2)
Indiana—Commerce (1)
Indiana—History (4)
Indiana—History—Civil War, 1861-1865 (3)
Indiana—History, local (1)
Indiana—Industries (1)
Indiana—Muncie (2)
Indiana—Politics and government (7)
Indiana—Politics and government—19th century (1)
Indiana—Politics and government—1865-1950 (1)
Indiana—Politics and government—1929-1938 (1)
Indiana—Politics and government—1939-1945 (1)
Indiana—Social conditions (1)
Indiana—South Bend (2)
Lawyers (4)
Lawyers—Indiana (3)
Letters (2)
Letters—19th century—Indiana (1)
Letters—20th century—Indiana (1)
Medicine (1)
Medicine—Indiana—South Bend (1)
Medicine—Study and teaching (1)
Military service, compulsory (1)
Military service, compulsory—Draft resisters (1)
Military service, compulsory—Public opinion (1)
Military service, compulsory—United States—Draft resisters (1)
Milling—19th century (1)
Mills and mill-work (1)
Mills and millwork—Indiana—Muncie (1)
Mills and mill-work—Muncie (Ind.) (1)
Missouri (2)
Missouri—History—Sources (1)
Muncie (Ind.) (8)
Muncie (Ind.)—Churches (1)
Muncie (Ind.)—Commerce (1)
Muncie (Ind.)—History (2)
Muncie (Ind.)—Industries (1)
Muncie (Ind.)—Manufactures (1)
Muncie (Ind.)—Social life and customs (1)
Notebooks (4)
Notebooks—19th century (1)
Physicians (4)
Physicians—Indiana—South Bend (1)

Political letter writing—20th century—Indiana (1)
Politicians (1)
Politics, Practical (1)
Postal service—Indiana—Postmasters (1)
Postal service—Muncie (Ind.) (1)
Railroads (1)
Railroads—Indiana (5)
Railroads—Muncie (Ind.) (1)
Railroads—19th century (1)
Reconstruction—Virginia (1)
Reformers (1)
Scrapbooks (8)
Scrapbooks—19th century (1)
Settlement houses—Reform (1)
Settlements, social (1)
Slavery (2)
Slavery—Anti-slavery movements (1)
Slavery—Law and legislation—United States (1)
Slavery—Legal status, laws, etc. (1)
Slavery—United States (3)
Slavery—United States—Law and legislation (1)
Slavery—United States—Legal Status of slaves in free states (3)
Slavery in the United States—Indiana (1)
Slavery in the United States—Law and legislation (1)
Slavery in the United States—Legal Status of slaves in free states (1)
Social reformers (1)
Social reformers—History—Indiana (1)
Social reformers—Indiana—Muncie (1)
Social science (1)
Social settlements (4)
Social settlements—Indiana—South Bend (2)
South Bend (Ind.)—Social life and customs (1)
South Bend—Social conditions (1)
South Bend (Ind.)—History (2)
South Bend (Ind.)—Benevolent and moral institutions and societies (1)
South Bend (Ind.) (6)
Student movements (1)
Students—Indiana—Political activity (1)
Teachers (2)
Teachers—Indiana—Muncie (1)
Travel (1)
Travel—Europe (1)
United States (1)
United States—History—1849-1877 (1)
United States—History—Civil War, 1861-1865 (9)
United States—History—Civil War, 1861-1865—Women's work (1)
United States—History—Vietnamese conflict—1961-1975—Public opinion (1)
Universities and colleges—Indiana (2)

Universities and colleges—19th century (1)
Universities and colleges—Rhode Island (1)
Vietnamese conflict—1961-1975 (4)
Vietnamese conflict, 1961-1975—Draft resisters—Indiana (2)
Vietnamese conflict, 1961-1975—Protest movements (7)
Vietnamese conflict, 1961-1975—Public opinion (1)
Virginia (1)
Virginia—History—1865-1950 (1)
Virginia—Politics and government (4)
Virginia—Politics and government—1865-1950 (3)
Voyages and travel—Europe—19th century (1)
Woman—Rights of women (1)
Woman—Suffrage (2)
Women—Education (2)
Women—Suffrage (8)
Women—Suffrage—19th century (1)
Women—Suffrage—United States (1)
Women in church work (1)
Women physicians (3)
Women physicians—Indiana (2)
Women social reformers (1)
Women teachers (1)
Women's rights (10)
Women's rights—19th century (2)
Women's rights—20th century (1)
Women's rights—Indiana (3)
Women's rights—United States (1)

Question: Create a Record for Either #2 or #3 Below (use whichever description most closely resembles the collections found in your repository).

2. Indiana. State Land Office
   207 volumes and 3 linear feet.

Records, ca. 1818-1924 and 1944-1946, of the Indiana State Land Office; contain plat and tract books containing the record of the survey and sale of public lands in Indiana, 1818-1920; surveys of lumber on state-owned land, 1890-1919; records of lands owned by the Indiana Harbor Belt Railroad, including taxes paid on these lands, 1879-1915; and record of plats and notes on the surveying of the state road between Muncie and South Bend; also, records pertaining to the policy concerning suburban development and the sale of state lands.

Terms assigned by repositories for the Indiana State Land Office:

Administrative agencies—Indiana (1)
Cities and towns—Indiana—Growth (1)
Forests and forestry—Indiana—Mensuration (1)

Indiana (1)
Indiana—Forest policy (1)
Indiana—Government property (1)
Indiana—History (1)
Indiana—Public lands (4)
Indiana—Surveys (1)
Land—Indiana—Taxation (1)
Land grants—Indiana (2)
Land subdivision—Indiana (1)
Land titles—Registration and transfer—Indiana (1)
Land use (1)
Land use—Indiana (1)
Land use—Planning (1)
Maps (1)
Notes (1)
Patents (1)
Plats (3)
Plats—19th century (1)
Plats—20th century (1)
Public lands (1)
Public records—Indiana—State Land Office (1)
Real estate development (1)
Real property (1)
Real property, exchange of (1)
Real property—Indiana (1)
Real property—Indiana—Maps (1)
Real property—Maps (1)
Real property tax—Indiana (1)
Roads—Indiana—Surveying (2)
Surveying—Public lands (1)
Surveying—Public lands—Indiana (1)
Surveys (Land) (2)
Surveys—19th century (1)
Surveys—20th century (1)
Tracts (1)

3. Philip Slater diaries, 1840–1847, 1854–1858, 1885, and 1887–1888.
5 volumes

Farmer in Vernal Township, Monroe County, Indiana. Description of farm life in New York and his settlement in Monroe County, Indiana; also diary of his son Edwin, 1887–1888, recording farm and church activities, local affairs, the gubernatorial election of 1888, and weather; and diary of his daughter Grace describing a trip by rail to Florida.

Philip Slater, 1828–1902
Edwin Slater, 1852–1935
Grace Slater, 1877–1956

Terms assigned by repositories to the Slater diaries:

Agriculture (1)
Agriculture—Indiana (1)
Agriculture—Indiana — Monroe County (1)
Agriculture—New York (State) (2)
Agriculture—Social aspects—Indiana—Monroe County (1)
Agriculture—Social aspects—New York (State) (1)
Churches—Indiana—Vernal (1)
Churches—Monroe County (Ind.) (1)
Diaries (6)
Diaries—19th century (1)
Elections—Indiana (1)
Elections—Indiana—1888 (1)
Family records (1)
Farm life (1)
Farm life—Indiana (6)
Farm life—Indiana—Monroe County (1)
Farm life—Monroe County—Indiana (1)
Farm life—New York (State) (7)
Farmers (3)
Farmers—Indiana—Monroe County (2)
Farmers—New York (1)
Farms—Indiana—Monroe County (1)
Farms—New York (State) (1)
Florida—Description and travel (4)
Florida—Description and travel—1865-1950 (1)
Governors—Indiana (1)
Indiana (1)
Indiana—Governors—Election (1)
Indiana—Governors—Election, 1888 (1)
Indiana—History (2)
Indiana—Monroe County (1)
Indiana—Politics and government (3)
Indiana—Politics and government—19th century (1)
Indiana—Politics and government—1865-1950 (1)
Indiana—Religious life and customs (1)
Indiana—Social life and customs (1)
Journals (1)
Monroe County (Ind.) (3)
Monroe County (Ind.)—Climate (1)
Monroe County (Ind.)—History (3)
Monroe County (Ind.)—Social conditions (1)
Monroe County (Ind.)—Social life and customs (2)
Monroe County (Ind.)—Vernal Township—History (1)
New York (1)
New York (State) (1)
New York (State)—History—1865—Indiana—History (1)

Railroad travel (1)
Railroad travel—United States (5)
Rural families (1)
United States (1)
United States—Description and travel (1)
United States—Description and travel—1865-1900 (1)
Vernal (Ind.)—Social life and customs (2)
Voyages and travel (1)
Weather (1)
Weather—Monroe County (Ind.) (1)
Women—Diaries (1)