

Case Study

Preservation Microfilming: The Challenges of Saving a Collection at Risk

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Abstract: This case study describes Amherst College Archives' experience with the Dwight W. Morrow Papers Preservation Microfilming Project. The authors consider the factors in the managerial decision to commit to a preservation-microfilming project; outline the project management and activities; describe the unanticipated challenges encountered and the solutions that were reached through creative problem solving; and analyze the outcome of the project. The study should be particularly useful for small and medium-size archives that have active programs and limited staff and resources and that are considering similar projects. Practical recommendations for similar projects are offered. An appendix to the article gives cumulative statistics documenting manuscript preservation-microfilming tasks.

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IN 1954, MORE THAN TWENTY years after the death of her husband, Dwight W. Morrow (Amherst College, Class of 1895), Elizabeth Cutter Morrow donated his papers to Amherst College. The material arrived in a single alphabetical sequence, housed in twelve four-drawer filing cabinets. The following year, four more filing cabinets of unorganized material arrived; several additional cartons were sent later, for a total of more than 100 linear feet.

Amherst College formally recognized the importance of collecting and preserving historical records in 1851. Since that time, the collection, now known as the Amherst College Archives, has grown to more than 4,000 linear feet of historical manuscripts, institutional records, and memorabilia—one of the largest small-college archives in the country. Over the last decade, Amherst has focused on preserving its collections by evaluating and improving environmental conditions, rehousing materials, and reformatting certain collections that have a pattern of high use that has contributed to their physical deterioration. Several of these collections also have a high monetary value. The Morrow papers are a part of this rich and actively used resource.

Dwight W. Morrow

The Dwight W. Morrow papers reflect their creator's multiple roles as Wall Street lawyer, international financier, statesman, public servant, alumnus, and board member.

Dwight W. Morrow, born in Huntington, West Virginia, was the son of a teacher. He graduated from Amherst College with the class of 1895; he was a classmate of Calvin Coolidge and later advised the president. In 1903, Morrow married Elizabeth Reeve Cutter, with whom he had four children: Elizabeth, Anne, Constance, and Dwight, Jr. Anne's marriage in 1927 made him father-in-law to aviator Charles A. Lindbergh.

After graduating from Columbia University Law School in 1899, Morrow entered the Wall Street firm of Simpson, Thacher, and Bartlett. In 1914, he changed fields and entered banking as a partner in the international banking firm of J. P. Morgan and Co. He became active in national and international financial matters, and by the end of the First World War his political and diplomatic activities were under way. Morrow served on many associations and boards, including the Allied Maritime Trade Board (1919), the President's [Coolidge] Aircraft Board (1925), the London Naval Conference (1930), and the Regional Plan and Survey of New York and Its Environs (1922–31). President Coolidge appointed him ambassador to Mexico in 1927, a post he held until 1930, when he became a Republican U.S. senator from New Jersey. With references to his potential as a presidential candidate, newspaper columnists mourned his passing when he died unexpectedly in 1931 at the age of fifty-eight.

Provenance of the Morrow Papers

During the twenty-three years the Morrow papers were held by the family, their order and physical condition were altered. Biographer Harold Nicholson had custody of some of the papers for a period of time, and he modified their original order to fit his research needs. In addition, Elizabeth Cutter Morrow had hired a librarian to organize the papers before she sent them to Amherst. Pencil annotations in the librarian's hand indicate the creation of new "topical" folders, suggesting that materials were moved from their original order. The librarian's folder-title listing of the first twelve file cabinets was the only access tool to the papers for the next thirty-six years.

Once the papers were at Amherst College, their research use began almost immediately, despite little effort to publicize

the collection. The twelve file cabinets of alphabetized material were used most frequently. More than 30 linear feet of unidentified material—additional correspondence, photographs, scrapbooks, financial records, and objects—remained “undiscovered” until 1990.

A Collection at Risk

Elizabeth Cutter Morrow’s gift of her husband’s extensive papers was Amherst College’s first experience with a collection of such size. The incomplete topical listing that was considered a satisfactory “finding aid” in 1954, when the papers were opened for research use, would fall far short of today’s accepted access tools. Equally important, in retrospect, was the lack of a preservation strategy for their ongoing survival. This aspect of the collection’s management was not addressed for more than thirty years.

Specific preservation concerns were identified as researchers used the papers. Much of the correspondence was brittle. Many items—including copypress books, early carbons, and wet paper copies—were faded and deteriorating. Some items had originally been produced on bad paper. Poor-quality news clippings and scrapbooks were rotting away. The water and mold damage caused by a flooded storage room in the Morrow home had also contributed to the advanced state of deterioration.

Selection for Preservation

Dwight Morrow’s historical significance was evident at the time his papers arrived, but what was not so clear was the breadth of the research demand that the Morrow papers would incur. Also unclear were the access problems they would pose to staff and researchers.

By 1989, when Daria D’Arienzo, the archivist of the college and the preservation officer, reviewed the Morrow papers, it

was apparent that both improved access and preservation measures were required. D’Arienzo conferred with Willis E. Bridgam, the librarian of the college, who had become a strong supporter of preservation activity in the Amherst College Library. Fortunately, both the archivist and the librarian were interested in the materials’ preservation. They reviewed the situation, examined the pattern of past use, and discussed the potential for ongoing use of the Morrow papers. As part of the review process, they evaluated the research value of the collection, its uniqueness, and its breadth. To ensure that accurate technical decisions would be made, they planned to engage a preservation consultant to review the physical condition of the papers. They questioned the importance of the papers to the Amherst College Library and the research community, and they reviewed the library’s commitment to preservation. After considering the needs of the archives collections—and of this collection in particular—in the context of both the library’s preservation priorities and other available resources, they agreed that applying for a preservation grant for the Morrow papers was warranted. The archives began to prepare for that goal.

The Challenge to Amherst

The challenge Amherst faced was meeting the preservation concerns while providing better access to all the papers. The papers’ significance and unstable physical condition made application for a preservation grant the best option. While such a project would be a major commitment for a small college archives responsible for both archival and records management programs, the application was justified. The project, with outside funding, was viable.

Before Amherst could seek outside funding, the Morrow papers needed arrangement and description to meet current archival standards; modern finding aids

were also needed. Amherst planned to review the range of materials and to evaluate the extent of the preservation problems and the access concerns in the papers. In addition, the “undiscovered” thirty linear feet of material needed to be rediscovered.

Processing

To accomplish the level of processing that would meet National Endowment for the Humanities preservation grant guidelines, the archives undertook a three-month project to arrange and describe all the papers. The library funded one full-time project archivist, three student assistants working fifteen hours per week, and supplies and work space.

As a result of the three-month project, both access to and preservation of the papers were improved. Specific accomplishments included the following:

- The papers were organized according to current archival standards.¹
- The papers were rehoused in appropriate storage boxes.
- Previously unidentified material was identified and integrated into the papers.
- A 237-page finding aid was created, offering series-level description and folder-level listings.
- US MARC AMC records were created for OCLC and the local on-line catalog.

The most important result of the three-month project was the identification of the range of preservation problems in the Morrow papers. This information was useful in preparing the grant applications and in planning the next phase of handling the papers.

At this stage, the consultant hired to appraise the physical and intellectual content of the papers issued his report. It paralleled the archives' concerns for the physical condition of the Morrow papers: “The correspondence files . . . [have] evidence of mold growth. . . . This condition can only get worse with time. . . . [C]arbons, telegrams, moldy paper and scrapbooks . . . are beginning to disintegrate. . . . Many manuscript collections have been microfilmed to make them more available to researchers in distant localities. A smaller number have been microfilmed with only the preservation of their content in mind. The Dwight W. Morrow Papers clearly must be microfilmed for both reasons.”²

The need to reformat for permanent preservation and access was evident. Yet, the archives had to consider the feasibility of assuming so large a project with the department's limited resources.

Planning for the Preservation Project

The Amherst College Archives assessed its ability to take on the project. It evaluated the strengths and weaknesses of the project and of the archives itself. These findings are presented as the following:

Strengths

- The project would be staffed by highly motivated, resolute individuals who would produce quality work.
- Staff members were well-organized and goal-oriented and were accustomed to working with tight deadlines. Planning and project management were among their particular strengths.
- The Morrow papers had recently been reprocessed, so staff members for the proposed project would be familiar with content, organization, and pres-

¹Current archival principles derived from: Frederic M. Miller, *Arranging and Describing Archives and Manuscripts* (Chicago: Society of American Archivists, 1990).

²Gregor Trinkaus-Randall to Daria D'Arienzo, 25 May 1990.

ervation problems. They also would be familiar with institutional characteristics. Training time would be minimal, an important consideration for a time-lean project.

- Amherst College would provide appropriate housing for the papers and maintain them in a climate-controlled environment.
- Amherst College would provide cataloging and reporting to national and local bibliographic utilities.

Weaknesses

- The archives staff was small, consisting of the head of the department, one full-time and one half-time support staff members and student assistants. Additional staff would be needed for the proposed project.
- The volume of details to manage was potentially overwhelming.
- Without support for the additional temporary staff, a project of this size would inundate the archives and subsume ongoing archives responsibilities.
- Staff members had little experience with microfilm projects.

The evaluation helped to identify areas in which the archives should concentrate, and it also clarified the benefits and challenges of the potential project:

Benefits

- Microfilmed papers would improve and increase access for all researchers and would facilitate use of the materials by researchers unable to travel to Massachusetts.
- The project would provide permanent preservation of Morrow's business and public papers.
- The project would demonstrate Amherst College's commitment to the access and preservation needs of the greater research community.
- The preservation-microfilming effort would provide the archives with broader visibility.

- The successful completion of the project would allow the archives to demonstrate its effectiveness to the librarian of the college, in an area of particular significance to the librarian.
- A successful project could serve as a model for other small-college archives microfilming projects.

Challenges/Threats

- *Time*: Would there be enough time to develop realistic estimates for tasks and then to complete the project successfully?
- *Logistics*: Organizing and managing staff time, work space, and the proper tools for the project would be very demanding.
- *Quality control*: Even with an experienced preservation-microfilm vendor and a contract, ensuring that contracted quality standards are met is a challenge when filming occurs outside an archives' doors.

After review and discussion, the librarian of the college and the archivist decided to pursue the Morrow papers preservation project and to submit grant proposals. The next steps were taken.

Seeking Financial Support and Technical Expertise

Preparing grant proposals. In its search for funds for staff as well as for microfilming, Amherst prepared two grant applications. One was submitted to the National Endowment for the Humanities (NEH), Division of Preservation and Access, and the other to the U.S. Department of Education, Strengthening Research Library Resources Program, Title II-C. Two major tasks during this period were setting up a work plan and gathering bids from vendors.

Compiling a work plan with a reasonable timetable was the greatest hurdle in preparing the proposals. Unlike book and

serial microfilming, there are no standard time estimates for manuscript microfilming tasks such as physical preparation, counting, and inspection. Colleagues with experience in manuscript microfilming offered a wide range of time estimates. The archives staff members evaluated the numbers, considered the context of their own institution, and made educated guesses for the Morrow proposals. (A statistical summary of the microfilm project appears in the appendix to this article.)

Soliciting vendor estimates. Amherst College Archives solicited estimates from three preservation-microfilm vendors as part of the grant proposal process. To facilitate accurate bids, the project archivist used the detailed description of the papers that had been prepared in the short processing project. This document provided information on the factors that affect preservation-microfilm production: the physical condition of the material, including mold damage and brittleness; the variety of paper types, weights, and colors; the volume of oversized and printed items; any special handling requirements; and an approximate count for estimating the number of frames for filming.

To offset vendor costs, Amherst planned to perform all prefilming activities. Amherst selected the vendor that examined the papers because it believed the vendor prepared the most realistic estimates of tasks and costs for the project. In the end, this vendor's estimate was closest to the actual number of frames filmed.

Negotiating with granting agencies. A grant project is often subject to negotiation between the granting agency and the proposing institution. In Amherst's case, the negotiations centered on timeframe and material to be filmed.

Some projects seem to be funded for a period of time without regard to the ongoing responsibilities of an archives. The original Morrow project as proposed to NEH was designed to be completed in a

24-month period. NEH recommended funding for a shorter period of time. The negotiated result was an 18-month project, with which both granting agencies agreed.

Negotiations between Amherst and NEH also occurred over the material that would be filmed. Approximately two-thirds of Morrow's papers stemmed from his business and public activities. The donors, protective of family privacy, had set restrictions on personal material. Although the NEH's usual policy is to provide funds for filming complete collections, Amherst proposed that only Morrow's business and public papers be filmed. The restricted family material would not be included in the microfilming. In the end, twelve of sixteen series were identified for filming.

Funding Is Received

NEH and Title II-C each funded a portion of the Dwight W. Morrow Papers Preservation Microfilming Project. The combined \$124,000 supported staffing needs and vendor costs for the filming of Morrow's business and public papers.

The project began in August 1991. Daria D'Arienzo served as project director. Anne Ostendarp, who had been the archivist for the processing project, also served as project archivist for the microfilm project. In addition, there were thirteen months of part-time student-assistant support.

Reassessing the Work Plan

One of the first steps in the project was reviewing the work plan, which had been prepared two years earlier for the grant proposals. Time estimates were reevaluated to confirm that the figures were still accurate.

Access was the next consideration. In addition to the microfilmed version, Amherst had decided to keep the original papers for on-site research use. (Although only the business and public papers were being filmed, the collection was maintained

as a whole for its integrity and in recognition of its monetary value.) Access decisions for microfilm would therefore also consider access to the original papers. For example, some filming projects arrange manuscripts chronologically to simplify access on microfilm. In Amherst's case, strict chronological arrangement of 96 linear feet of documents made little sense. The papers would be filmed by series as arranged. A detailed guide to the microfilm would be prepared to facilitate effective access.

During the course of the project, access to the papers would be limited while a series was being prepared for filming. Series were closed for research use once physical preparation of the documents began.

Project Activities

The microfilming project included a range of simple and complex tasks. In addition, solving unanticipated challenges further broadened the range of activities. Given the nature of the project and the limited timeline, activities often occurred concurrently.

Staff training. The first prefilming activity was staff training. The project archivist attended a preservation-microfilming workshop. The selected vendor conducted a training session on manuscript-filming preparation and document counting for all project and archives staff. All archives staff members were trained so that other workers would be able to step in and perform various tasks as needed. The project assistant and a second short-term student assistant were hired and trained in physical preparation.

Physical preparation. Physical preparation consisted of the usual activities: removing hardware, flattening items, arranging documents in frame order, and so forth. In addition, preservation photocopying was performed on telegrams, news clippings, and other materials that placed surrounding documents at risk. Amherst decided to take

on this labor-intensive activity because the original papers would be retained.

The average time per linear foot for the physical preparation of the manuscripts was 7.6 hours, but the range was from 2 to 25 hours per linear foot. (The average physical preparation time rose to 10.7 hours per linear foot when reorganization was necessary.) Note that the times are calculated in "pure time" without the usual interruptions that occur in a workplace.

Curatorial preparation. The project archivist reviewed the materials identified for microfilming. She checked the physical preparation completed by the assistants, verified the organization of documents in each folder, and reviewed items for any access considerations. During this stage of work, she prepared specific directions to the filmer for each series. This part of the overall curatorial preparation averaged 4.2 hours per linear foot, but its range was from less than one hour to 10.6 hours.

Legal and privacy issues. Because of the ongoing privacy concerns of the donors, the project archivist reviewed the papers for references to such areas as family members' health or finances. If, according to the family's directions, an item required restriction, it was either refiled in the family/personal papers series or was replaced with an expunged photocopy, identified as such. Concurrently, specific access and privacy questions, as well as complex legal problems, were reviewed with the project director and were researched and resolved as appropriate.

Access tools. The project archivist also prepared the access tools to the microfilm, including the on-film listing and frame-title guides. In the course of the curatorial review, the original folder listings for each series were updated to reflect any reprocessing or corrections. To provide on-film access to each reel, the final listing for each series was filmed as part of the opening bibliographic sequence. In addition, a copy of the folder listings was edited to create

frame-title guides, which provided in-frame identification for the microfilmed materials.

The project archivist prepared a limited number of editorial targets. The targets give future users of the microfilm information about the documents themselves, such as "Image not legible in the original," "Attachment referred to not with the original," and "Page 3 missing."

Filming guidelines. Early in the project, the project archivist developed general filming guidelines for the vendor (e.g., "Documents too large to film at 12x should be filmed at 16x or 18x"). The strategy here was to envision the desired image on film and to describe the steps necessary to attain that result. Filming instructions for documents needing specific directions were prepared as part of the curatorial review and were given to the filmer with the incoming material. These instructions were produced on colored paper and placed in front of each document needing the instructions; this information was repeated in a separate list, which noted the item's location.

Frame count. One of the last prefilming steps was to count the number of frames per folder to facilitate reel programming. The staff averaged 2.4 hours per linear foot counting the documents. The actual times ranged from 0.6 to 7.1 hours per linear foot.

Filming management. The timetable was set up so that while some series were at the filmer, others were undergoing pre-filming preparation. When questions arose regarding the filming of specific documents, filmers and project staff relied on the general filming guidelines and the detailed directions to filmers to determine answers. These documents were particularly useful for Amherst's staff in addressing questions, since the manuscripts were already with the vendor.

Inspection. The work plan called for a 100 percent film inspection of all material.

(The technical inspection was performed by the vendor; the project archivist received the reports to ensure that contracted standards were met.) As the tightness of the grant's timeframe became more apparent, Amherst considered an alternative inspection plan to save time: if the first two shipments of microfilm met standards, subsequent shipments would receive 100 percent bibliographic inspection of the opening and closing sequences and a 30 percent spot inspection of the contents.

During the film-inspection process, film inspectors assessed image clarity, verified the accuracy of in-frame folder-title targets and frame numbering, and checked for completeness. This information was used to prepare the guide to the microfilmed papers.

The inspection process also incorporated access functions. Film inspectors noted the frame numbers of the opening and closing documents of each folder; this information provided the equivalent of folder-level access for the guide to the microfilm.

Filming difficulties in numerous shipments demonstrated that a 100 percent frame-by-frame inspection would be needed for all of the film. Examples of such difficulties found during inspections included missed letter versos, documents filmed out of sequence or not at all, and documents that were refolded or mended for filming. These actions did not comply with Amherst's filming and handling guidelines.

A change in vendors. With six months left in the grant period, 20 rolls of microfilm had been received and inspected. Of these, only 4 rolls had been filmed to preservation standards and Amherst's directions. It was apparent that the vendor would not be able to meet the grant deadline. Amherst consulted with the granting agencies and decided to engage a second microfilm vendor. This filmer, another of the three originally considered for the project, agreed to film approximately 50 linear feet before the end of December 1992.

Compressing the schedule. By October 1992, 12 of the expected 168 rolls had been filmed, inspected, and accepted. Because of the tight schedule and unmet filming goals, project staff reexamined the inspection procedures and criteria. In the first fourteen months of the grant, refilming was requested when documents were filmed incompletely or when frame numbers were inaccurate. During the final four months of the grant, when the feasibility of receiving corrected film during the contracted grant period appeared to be impossible, alternatives to refilming were considered.

To ensure that researchers would have all the information at hand, staff prepared transcriptions of more than fifty documents missed during filming; these would appear in an appendix to the guide to the microfilmed papers. A note in the frame listing identified the location of any unfiled documents. Frame title or frame number aberrations, information about items filmed out of sequence, and transcription of otherwise illegible documents were also included in the guide.

In December 1992, 32 rolls of film were received and needed inspection. To hasten the process, Amherst's librarian of the college provided funding for additional temporary film inspectors. Ten people inspected film on the three available microfilm readers between December and February. Despite these extra efforts, final inspection could not be completed during the original granting period. A two-month extension was requested, and inspection continued. By the end of the extension, 168 rolls of microfilm had received 100 percent inspection and 72 rolls of corrected microfilm had been reinspected.

Postfilming and postinspection. Prefilming preparation and microfilm inspection were labor intensive, averaging 17.3 hours per linear foot and 3 hours per roll, respectively. The postfilming tasks consumed much less time.

Unpacking the inspected papers was straightforward. Film inspectors turned the blue-colored filming instructions on end, allowing the pages to protrude from the tops of folders. Once the film was accepted, these sheets were removed, and the boxes were returned to the shelves.

Near the end of the project, unpacking the papers took on an added step. During the course of filming, the "minifolders" used to keep related materials together (in lieu of paperclips) had not been replaced. The order of some documents was rearranged while at the filmers. The folder contents of approximately 25 linear feet needed to be resorted and the internal order reestablished. Since Amherst had specified handling procedures with the vendors, this was unanticipated work that had not been factored into the schedule.

When the film had been inspected and accepted and the papers unpacked, the filmed series were reopened for research use.

Developing the film guide. Preparing the guide to the microfilm was crucial to the project's successful completion. Once inspection was complete, the frame numbers (corresponding to folders) were identified by the film inspectors and added to the guide. As described earlier, transcriptions of documents missed during filming were prepared for the appendix to the guide to the microfilm.

Final Statistics

With the film inspected, the boxes unpacked, and the guide completed, the physical work on the project was essentially finished. The cumulative average for all prefilming activities was 17.36 hours per linear foot. The quantifiable tasks associated with prefilming and postfilming activities averaged 38.5 hours per linear foot. Calculations made when the project was complete showed a straight task time totaling 2.5 years (30 months). Due to the se-

quential nature of microfilming, unanticipated filming problems pushed multiple tasks to the end of the grant period and eventually led to a two-month extension. The chronological project timeframe was a total of 20 months. (See the appendix to this article for summary statistics.)

Managing the Project

Amherst correctly identified strengths. They were the features that brought the project to a successful completion. Amherst also correctly identified weaknesses and worked to overcome them. And some of the predicted challenges were among those that staff members encountered. But there were also unanticipated challenges whose solutions required flexibility and creative problem solving.

At Amherst, the role of the project director was to coordinate the project—to make it happen. Many of the tasks took place before the project was officially under way. They included

- developing a strategy to meet the goal.
- demonstrating the importance of preservation for library work, thereby preparing an institutional environment receptive to the project. At a small institution, the head librarian's support is vital for survival.
- identifying the collection that would be best served by a preservation reformatting project.
- identifying appropriate funding sources.
- ensuring that material would meet the physical and intellectual control standards of the funding sources.
- developing all aspects of the proposal and writing the grant(s).
- identifying and selecting key personnel.

Through the work phase of the grant, the project director was responsible for

- monitoring progress and keeping operations and personnel on track.

- personnel management, including providing the resources and the environment for project staff to accomplish their goals.
- maintaining morale, both in the face of unanticipated setbacks and in recognition of the good work and extra efforts all archives staff members expended on the project.
- problem prevention and problem solving, adjusting plans and resources as necessary.
- ensuring quality control and standards maintenance.

With the close of the project, the project director became responsible for

- reporting to the granting agencies.
- recognizing the combined efforts of staff, vendors, and granting agencies and acknowledging their contributions.

Managing multiple responsibilities in a regularly changing environment with limited time and money was the project director's major aim. The ability to view changes and problems from various perspectives, to identify alternative methods of analysis, and to implement creative solutions were key elements in meeting the goal and bringing the project to completion.

The Final Analysis

When Amherst evaluated the microfilming project against the criteria it had used in project planning, there were, as expected, both costs and rewards. One reward surely was the swift response to the announcement of the Morrow papers' "re-opening" and its availability on microfilm: researchers, both locally and abroad, called for the papers. Other rewards and costs were these:

- The project served the department's mission—to provide access to primary resources and to preserve them.

- The Morrow papers are on film. The business and public papers are permanently preserved for future use.
- Researchers have broader access to the papers than was previously available, and they can request the microfilm via interlibrary loan. Researchers and libraries may also buy prints at cost.
- The filming provided a service to the greater research communities, and Amherst College can be recognized for providing this service.
- Amherst made a contribution to the archival profession by compiling statistics for prefilming and postfilming activities for this manuscript preservation microfilming; these statistics may be used as guidelines by other institutions.

- The staff's experience adds to the department's depth of knowledge in its field.

Project staff agree with Dwight Morrow, who spoke to the fundamental importance of access to historical materials in his 12 January 1922 address at Yale University:

I hope you will believe me when I tell you that no man is fitted for large responsibilities in . . . the professions unless he has a wide knowledge of history. And by that I do not mean the knowledge of names and dates . . . but that more fundamental thing of how we came to be here as we are.

Practical Recommendations for a Microfilming Project: Transferring Experience with Documents to Experience with Microfilm

Amherst learned some practical lessons from the Morrow project. They included the following observations.

A collection “processed to archival standards” is not necessarily ready for filming. The linear nature of microfilm and the organization and condition of the original documents all affect access and preparation decisions.

Ongoing, regular, and clear communication with preservation-microfilm vendors is vital. The success of any project hinges on the quality of communication when the actual filming is contracted out.

The contract between an agent and an institution must be more specific and detailed than those prepared for the microfilming of books. Defining the turnaround time, spelling out the delivery schedule, and specifying the number of boxes per shipment are vital points that should appear in the contract. A penalty clause for noncompliance can be a useful tool in keeping projects a top priority for the vendor. An additional incentive is to identify the terms and timetable for payment, for example, by specifying that payment will be made only after the institution inspects and accepts the microfilm for each shipment. This policy also forces the institution to maintain the timetable.

Early attention to the logistics for actual filming may prevent delays and problems:

- Ask to see the vendor's filming-procedures manual.
- Review the manual with the needs of the specific project in mind.
- Visit the vendor's plant.
- Train the vendor's filers in handling your manuscripts.
- Define the use of editorial targets, which reflect the actual condition of the original documents.
- Work with the vendor to meet your requirements for handling the project.

Appendix: Cumulative Statistics—Notes

All times were tracked in “pure” time, not “real” time—standard work site interruptions were not included when the time for each activity was measured. The following notes describe the series with conditions or time requirements that fell outside the expected norm.

I.1 Letterpress Books (7 volumes)

This was the first series handled; all work was carefully checked and the count confirmed. The letterpress books (i.e., copypress books) were in good to fair condition; the tissue pages were awkward to handle. Inspection was relatively quick with the book-format and paginated leaves.

I.2 Correspondence (46 linear feet)

The core of the collection contained business correspondence. However, the materials included typescripts, manuscripts, letters, some printed items, news clippings, and a range of other items. Most of the paper was white bond or yellow carbon tissue. Most documents were letter or legal size; a few were oversize. Approximately 10 to 15 percent of the series had water, moisture, or mold damage; perhaps 5 percent was illegible due to this damage. Physical preparation and inspection times rose proportionally with the poor condition of materials. Reprocessing was required to improve access to folders with headings such as “Correspondence” and “Memoranda—General.” Inspection time per roll ranged from 10 hours for a training period to 1.25 hours for an experienced inspector checking a “short” roll. A median time for inspection was close to 2.75 hours for experienced inspectors. Thirty-eight rolls of film contained moisture spots due to underprocessing. When the rewashed rolls were returned from the vendor, they were briefly examined again.

II Speeches and Writings (3 linear feet)

Formats included drafts, typescripts with and without annotated text, galley proofs, and some short publications. On the whole, the series was in good physical condition, but the organization was inconsistent and required correction. The reprocessing was included in the physical preparation time. The variety of paper forms contributed to a longer-than-expected inspection time.

III.1 Newspaper Clippings (7 linear feet)

Of the 7 linear feet, 5 feet consisted of 43 volumes of news clippings pasted into scrapbooks, which were in good order and in satisfactory condition. The remainder of the subseries—loose clippings—were attached to alkaline-buffered paper. The task took 157 hours. This step took less time than it would have taken to photocopy on alkaline paper. Furthermore, the vendor recommended filming the news clipping originals to maintain image quality. Inspection of paginated, standard-size documents was quick.

III.2 Scrapbooks (18 volumes)

Physical preparation time varied widely with the complexity of the scrapbooks, which ranged from news clippings pasted flat on pages, to multiple ephemera and tip-ins attached to a page. Three scrapbooks needed only their covers removed. Six scrapbooks were moderately complex and needed directions for the filming sequence of attachments and enclosures (2 to 3 hours of preparation time). The remaining scrapbooks were relatively straightforward to film, with only a few items (1 to 5 items on 57 to 260 pages) needing additional directions (1.25 to 3 hours of preparation time). Preparing clear filming directions was the most time-consuming aspect of the prefilming activities.

V New Jersey Prison Inquiry Commission (2.5 linear feet)

This series contained a number of documents that raised concern for the privacy rights of third parties. The time required for curatorial review was proportionally increased.

VI National War Savings Committee for New Jersey (1 linear foot)

VII Allied Maritime Transport Council (0.5 linear feet)

VIII Regional Plan for New York and Its Environs (2 linear feet)

Of the 3 linear feet, 2 were printed documents. Inspection of the paginated publications was very quick.

IX President's Aircraft Board (1 linear foot)

X Ambassador to Mexico (7 linear feet)

This series required reprocessing for improved access to folder headings, such as "General Correspondence" and "Memoranda." (Correspondent and title access were provided.) The volume of duplicate and triplicate copies of correspondence and reports added to the curatorial time requirements, as did documents with family privacy concerns. This series was prepared late in the project. These time statistics reflect efficient handling of fragile and disorganized documents.

XI Campaign for U.S. Senator from New Jersey (3 linear feet)

Reprocessing time was not separately tracked but is included in the physical and curatorial preparation time.

XII London Naval Conference (2 linear feet)

XIII Personal and Family Papers (4.5 linear feet)

This was one of the last series to be prepared and inspected. Experience was the key element of efficiency in the preparation and inspection times, despite the variety of formats (notebooks, manuscript letters, typescripts) and range of condition (brittle, water damage). Reinspection was performed only on the refilmed portions of the microfilm, not on the entire roll.

Appendix: Cumulative Statistics

Series	Linear Feet	No. Rolls	No. Frames	Est. No. Frames	Prefilming Time					
					Reproc.	Physical Prep	Curator Prep	Count	Comb. pre-filming	Avg. pre-film/ft.
I.1	2.00	4	4192	4864	.00	17.50	18.75	14.25	50.50	25.25
I.2	46.00	92	80466	100000	252.00	316.00	209.00	114.00	891.00	19.36
II	3.00	3	3264	15000	.00	30.25	18.00	4.25	52.50	17.50
III.1	7.00	7	6322	5000	.00	177.50	5.00	15.50	198.00	28.28
III.2	16.00	11	4469	4000	.00	37.25	30.00	9.75	77.00	4.80
V	2.50	4	3463	5500	.00	8.00	13.50	7.50	29.00	11.60
VI	1.00	1	769	400	.00	2.75	2.00	2.50	7.25	7.25
VII	0.50	1	984	1200	.00	2.75	5.50	1.25	9.50	19.00
VIII	2.00	3	2902	2559	.00	4.00	4.50	7.50	16.00	8.00
IX	1.00	1	984	748	.00	3.25	2.75	4.50	10.50	10.50
X	7.00	18	14274	17500	43.75	72.00	43.50	17.50	177.00	25.25
XI	3.00	5	5814	4439	.00	42.75	32.00	19.50	93.75	31.25
XII	2.00	2	1651	2219	.00	8.75	5.00	4.00	17.75	8.87
XIII	4.50	15	10700	10250	.00	24.00	26.50	12.50	63.00	14.00
	97.50	167	140254	173679	295.75	746.75	416.00	234.50	1692.75	17.36/ Avg.

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Inspection Time					Packing Time			Activities Summary		
Inspect	Avg. /Roll	Reinspect	No. roll Reinspect	Comb. Inspect	Pack	Repack	Unpack	Cum. Total	Avg. time /foot	Avg. time /roll
8.00	2.00	13.75	5	21.75	0.50	2.00	1.00	75.75	37.87	18.93
319.00	3.46	12.00	38	331.00	11.50	1.00	25.50	1260.00	27.39	13.69
13.00	4.30	.00		13.00	0.75	.00	0.75	67.00	22.33	22.33
25.25	3.60	15.00	7	37.00	1.75	25.75	1.25	263.75	37.67	37.67
16.00	1.45	.00		16.00	1.00	.00	1.00	95.00	5.20	8.63
10.75	2.60	.00		10.75	0.50	.00	0.50	40.75	16.30	10.18
2.00	2.00	2.25	1	4.25	0.25	4.00	0.25	16.00	16.00	16.00
2.50	2.50	.00		2.50	0.25	.00	0.25	12.50	25.00	12.50
4.50	1.50	8.50	3	13.00	0.50	1.25	0.25	31.00	15.50	10.33
2.50	2.50	.00		2.50	0.25	1.00	0.25	14.50	14.50	14.50
40.75	2.20	.00		40.75	1.75	.00	2.25	221.75	31.67	12.31
9.75	1.95	.00		9.75	0.75	.00	1.00	105.25	35.08	21.05
4.75	2.37	6.50	3	11.25	0.50	2.75	0.50	32.75	16.37	16.37
42.75	2.85	8.00	15	50.75	1.00	2.50	1.75	119.00	26.44	7.90
501.50	3.00/ Avg.	66.00	72	564.25	21.25	40.25	36.50	2355.00	38.54/ Avg.	22.50/ Avg.