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Architectural drawings wrapped on tubes are stored in special “beehive” storage developed by Patterson Pope. Each hive can hold between 648 and 2,000 tubes. Photograph courtesy of North Carolina State University Libraries, Special Collections Research Center

To MPLP or not to MPLP: That is the Question with Photographs

by Gerald Chaudron

Abstract

Minimal processing, or “More Product, Less Process” (MPLP), has been widely discussed in the archival world since Greene and Meissner published their seminal article in 2005. Some institutions have adopted MPLP for processing photographs but it is still not employed commonly for this format. Minimal processing is one method used by Special Collections at Mississippi State University Libraries to process photograph collections on a case by case basis. Two examples show why MPLP can be an effective tool in the processing of images, and why it may not always be the best processing choice.

When reviewing the literature for this article, it became clear that minimal processing, also known as “More Product, Less Process” (MPLP), has become a topic of intense discussion since Mark Greene and Dennis Meissner published their seminal article in 2005.¹ Could they have predicted how much analysis, both positive and negative, “More Product, Less Process” would receive or that they would need to explain and defend these principles quite so much?² The impact of MPLP on the archival community has been marked and while acceptance is not universal, there can be no denying that MPLP enjoys a high recognition factor among archivists. A recent study by Stephanie Crowe and Karen Spilman found that nearly 80 percent of repositories surveyed had implemented “some aspect of MPLP.”³ While

Greene and Meissner make the point that MPLP was devised to cope with the challenges of large quantities of modern records, they also note the possibility that it could be applied to photographs within collections.⁴ This article will examine the impact of minimal processing on the processing of photographs in the collections of the Manuscripts Division of Special Collections at Mississippi State University (MSU) Libraries. The case studies will show that minimal processing cannot be a cookie-cutter approach, and as Greene and Meissner have suggested repeatedly, the decision whether to apply MPLP to a collection is dependent on the unique requirements of the collection.⁵

Literature review

For archivists who want to know how to process and make available photographs in their collections, the literature is rather thin, and, to some extent, discouraging. It seems that few of us are equipped to deal with a format which deviates from the comfortable norm of paper documents. Jenny Gotwals claims that “many archivists and librarians who are used to working with non-visual, primarily textual collections are often afraid of photographs.”⁶ According to Joan Beaudoin, archivists have been guilty of according a low status to visual materials in their collections because of a lack of understanding of the media.⁷ Joan Schwartz goes further in apportioning blame to archivists. “Visual illiteracy . . . within the profession,” she charges, “has relegated photographs to the margins of archivy.” In their inadequacy, Schwartz proclaims, archivists have embraced descriptive models that are “clear, consistent and wrong.”⁸ Elizabeth Kaplan and Jeffrey Mifflin probably agree with Schwartz but are kinder to us. They suggest that

archivists need to improve their visual literacy in order to understand the history, technology and conventions of visual materials so that the norm of poor descriptive access can be changed.⁹

The great failing of the majority of archivists with regard to photographs, the critics suggest, is in viewing photographs as “special” materials which do not have the same functional origins and material effects as textual materials.¹⁰ Content and meaning are merged and obscured by item-level descriptions focused on subjects, dates and the names of photographers but ignoring provenance and context.¹¹ Many archivists are obsessed with trying to understand the “physical aspects of the media for practical ends,” such as preservation and digitization, when they should be placing more emphasis on understanding intellectual issues in an effort to do appraisal, arrangement and description better.¹² Kaplan and Mifflin have come to our aid by offering a simple, three-level hierarchy of description that we can employ to better assist our users in finding the images and content they seek. An awareness of the possibility that images are less than truthful or that all images are manipulated reality requires a sophisticated level of understanding from the archivist.¹³ Since few of us work at institutions devoted specifically to visual materials, acquiring such understanding is a tall order. We non-specialists can take heart that unlike Schwartz, Kaplan and Mifflin accept our limitations and urge us to aspire to do more by getting more information about provenance from donors and going beyond basic description. They see little point in conscientiously preserving images as well as digitizing them if the information we offer our users about the content is inadequate.¹⁴ It seems we could do better but

does MPLP assist us in our efforts?

Most of the case studies related to minimal processing published in recent years have not focused on photographs alone; they typically recount how MPLP has been implemented successfully with only passing reference to non-textual formats. A key point they all concede, as Greene and Meissner also note, is that there is an element of gray to minimal processing.¹⁵ This flexibility can be seen in Christine Weideman's article on Yale University's use of MPLP, in which she states that minimal processing might not be applied to a whole collection if portions deserve more in-depth processing. But with Yale's accessioning as processing procedure, preservation of photographs is minimal—no interleaving or routine separation, for example.¹⁶ Donna McCrea adopted similar procedures at the University of Montana and apart from noting that photographs were no longer sleeved, one has to deduce that images are now treated with the same level of attention as textual materials.¹⁷

In 2006, Anne Foster published a case study dealing specifically with the use of MPLP in processing photograph collections. Then at the University of Alaska-Fairbanks, Foster was confronted with a 300 linear foot collection of scientific photographs which had frustrated previous attempts at processing. Taking the no item-level processing mantra to heart, Foster based her collection-level description on the scientific purpose of the photographs and was able to process them relatively quickly. In so doing, she did what the critics of archivists have long complained we do not do which is to recognize the central place of provenance and context in our descriptions of photographs.

Having successfully processed the collection, Foster became a convert to MPLP and has promoted the concept

ever since. She developed a set of best practices that incorporate much of what Greene and Meissner advocate: encourage donors to identify and weed before handing over their images, attempt little preservation and no new numbering, do not separate or weed images after acquisition, keep the original arrangement and only create series if absolutely necessary, and assign only a small number of standardized and broad subject headings. Though a missionary for MPLP, Foster recognized that her new rules could not be absolute. She allowed for item-level preservation of nitrate film, glass plate negatives, and images that had been raccoon bedding, and any image older than 1896 accompanied by a donation, or collections concerning “trendy” subjects such as climate change or underrepresented ethnic groups, would receive more processing. In addition, if images were slated to be digitized the archivist would create item-level metadata and assign numbers. Foster does not preclude the possibility of description below the series level and acknowledges that end use can affect decisions on preservation.¹⁸

Just as Greene and Meissner originally envisaged MPLP being applied most usefully to large collections of records, Foster and others have found that minimal processing also works well with large collections of photographs.¹⁹ In fact, such processing may be the only way to bring these collections out of their “hidden collections” dungeon. The question is how, or whether, MPLP is useful also for smaller groups of images and photographs found in collections of mixed formats. The short answer is that archivists seem hesitant to apply minimal processing to such cases, either because they consider photographs to be special, or they simply do not regard them as equivalent to paper

documents.²⁰ Crowe and Spilman found that only 32 percent of institutions surveyed had applied MPLP to photographs.²¹ Indeed, the use of MPLP for any format apart from personal papers and business and institutional papers is low. It is true that photographs, along with audiovisual materials, maps, works of art, and artifacts, to name a few of these troublesome formats, present their own challenges. But is our reluctance to use minimal processing with photographs justified or merely a holdover from traditional processing practices as noted above?

Processing photographs at Mississippi State University

The Manuscripts Division at MSU has been using elements of minimal processing for many years. When new collections are accessioned, they are given a record which includes a collection-level description, basic subject headings and a container list. Provided there are no obvious conservation issues or donor restrictions, collections are open to researchers from the moment they are accessioned. Full processing may not occur for some time, so in that sense there is a backlog, but Greene and Meissner's concern about users being unable to access unprocessed collections is not an issue.²² Many of the collections include photographs but few have large numbers of images. Photographs and other non-textual materials are usually separated physically though they remain part of the collection intellectually.

Over the past four years, greater attention has been paid to photographs through a more systematic approach to their arrangement, description, and preservation. This is based on the recognition that images have particular appeal to users and convey information which cannot be found in textual materials. In addition, images are vulnerable to

deterioration and damage in different ways than paper documents and thus separation continues to be practiced for most collections with images for preservation purposes. Older prints mounted on card are susceptible to tearing, buckling, and breaking if they remain in folders with documents which are browsed by users. Different sizes of prints can bulk out a folder and cause stress on the items. Cased images and glass plate negatives need to be removed from collections because of their fragility, and the same is true for negatives that require preservation treatment to ensure their continued availability as sources of information.

Some critics are concerned about the way archivists separate photographs, arguing that this can lead to images becoming orphans, physically and intellectually separated from other materials and thus losing valuable provenance information.²³ Archivists at MSU are very conscious of this in our separation procedure. Not all prints are separated since they may not have any value as distinct images: for example, snapshots of a room or object which are referred to by and accompany a letter in a collection would not be separated. If an individual photograph is removed from a folder of other materials, a photocopy of the image and its reverse side is placed in the folder. We have found that for most users this is sufficient for their research purposes. All information in the folder which identifies the image is recorded with the separated photograph or negative on the interleaved tissue or on a separate sheet placed with the item. When an image is related to the contents of a folder, the finding aid maintains that relationship.

However, many of MSU's collections contain photographs collected by families which have no obvious relationship to other documents or even to each other. In

these cases it is necessary to construct a photographs series and describe and arrange the contents separately. Where there are photograph albums, an assessment of their condition and the creator and/or owner's contribution in the form of labeling and notes determines their retention. While it is desirable to keep albums intact, some albums arrive in very poor condition and have no descriptive information or retain few of the original prints, and thus have little intrinsic value. Twentieth century albums can have problems related to poor-quality or magnetic pages which pose a preservation threat to the images. In such cases, the pages are photocopied to retain any information the image placement may provide, as well as show any notes written on the pages. If an album is in good condition, the choice of interleaving with tissue or acid-free paper will be conditional on the state of the binding. Where images are glued or taped into an album and cannot be removed safely, interleaving is undertaken and if the album is in poor condition a use copy will be made.

Mylar is too expensive for us to use on a sustained basis, thus MSU archivists' standard preservation method for items of various size is to interleave prints with acid-free paper and house the prints in archival boxes and large drawers. The interleaving paper serves a dual purpose of protecting the prints and recording information about the image. Non-35mm negatives are stored in the same way as prints, except for a very small amount of nitrate stock, and 35mm negatives and transparencies are placed in paper envelopes with the prints.

MPLP at Mississippi State University

Greene and Meissner are probably despairing of us by now, for the above does not appear to owe anything to

minimal processing but indicates that we only employ traditional methods in the processing of photographs. However, that is an oversimplification. Like other institutions, we have adopted a more flexible view of processing. In some cases, collections are minimally processed because their arrangement and housing do not require intervention or much augmentation from us. In others, the processor will decide that the existing housing is inadequate or that the arrangement and/or description are insufficient to be useful to users, and some work is required.

In deciding whether to employ MPLP, the factors of use, size, and content will be considered. A collection which is expected to have a high level of use will justify a greater depth of processing. We also subscribe to the belief that a collection will be used more often if researchers know more about it, and that more detailed descriptions generate demand. Greene and Meissner and Foster agree that description may warrant greater detail than the arrangement.²⁴ Where a collection is large or the content is similar, minimal processing can suffice.

Archivists at MSU do not regard minimal processing as a second-best option but as a useful tool where appropriate. To better illustrate how the decision to use MPLP is made, two collections which contain mostly photographs or a large number of photographs have been chosen as examples. The collections will be described and then the factors which led to the final decision are discussed.

Case studies

1. Harris Barnes papers (1897-2006), 144 cubic feet.

As one of the largest collections of images acquired

by the Manuscripts Division, the Harris Barnes papers contains seventy-two thousand negatives, fifty-seven thousand prints, and fifty-one thousand slides. Barnes (1918-2006) was a cotton farmer in the Mississippi Delta who became a noted agricultural journalist. Most of the collection's earlier images were slides stored in wooden cabinets, while the later images were in manila or photo processors' envelopes in plastic boxes, as well as various other containers such as paper bags. The housing raised preservation issues but more immediate were the problems of arrangement and description.

Sampling revealed that the collection contained thousands of images associated with cotton cultivation: cotton plants, cotton farms, cotton picking machinery, cotton transportation, and cotton processing. In addition, there were images of soy beans, corn, peanuts, rice and other crops. It was clear that we did not have the resources to describe the images at the item level even if that were desirable. But organizing the collection into series seemed just as daunting and certainly time consuming considering the envelopes appeared to contain images from one or more shoots, often with more than one subject. Thus, no arrangement was imposed. With provenance as our guiding priority, we decided to use Barnes' brief notes on the envelopes as folder-level descriptions. These varied but usually included the date, depicted crop, and location of the shoot. Sometimes the farmer's name or the journal Barnes was working for might be noted, or the particular farming technique or problem Barnes was interested in. This information was deemed sufficient to offer users access to the images.

My sampling also revealed that most of the images were in stable condition. Not having the means to re-house

the collection immediately led to the decision to keep the images in their envelopes since these also held the descriptive information. Only the plastic containers and paper bags were discarded and replaced by record cartons to make the best use of our shelving. All of these decisions were consistent with MPLP and would have been sufficient if we were not intending to seek grant funding to further process and digitize the collection, but in order to calculate the size of the grant, we needed to know how many images of each format the collection contained. This step necessitated that each envelope be opened and so we decided to include a preservation assessment in this step.

Seven students, each working 20 hours per week, were hired to assist me in processing the collection. A database was created into which the students entered Barnes' notes, the number and format of the images, and any preservation issues for each envelope. We were fortunate that only a few envelopes contained images damaged by dampness and/or mold; these were cleaned and stabilized. There were paper documents and artifacts in the collection but most were not related to particular images or envelopes; these were separated at this stage and any relationship to an envelope was noted in the database entry for that envelope.

The project took fifteen weeks to process one hundred and eleven record cartons of images, thirty-one drawers of slides, and seventeen record cartons of non-photographic materials. The descriptions of the envelopes and slide drawers became the folder titles within each box. By consulting the database a researcher can narrow the results for cotton images, for example, to pictures of cotton fields in Texas or young cotton plants in Mississippi. We feel this gives most potential users a good starting point if they

are looking for a particular image.

2. Hightower, Montgomery, Perkins, Castles, and Stiles families papers (1848-1997), 33 cubic feet.

The second case study involves a series of personal photographs and is typical of material that may be contained in manuscript collections. This collection contains documents, costumes, artifacts, and two thousand images documenting the lives of five local families, one of which is related to a former MSU president. Upon acquisition, the collection had no discernible original order. The photographs were in containers such as candy or shoe boxes, or were scattered among the correspondence and artifacts. As is often the case with personal photograph collections, there were few negatives and, apart from the studio portraits, most of the prints were snapshots dating from the 1920s to the 1970s. Also typical was that many of the prints had limited or no contextual data such as captions or dates.

Arranging the photographs simply as a series with only family subject terms may have been possible under MPLP but this would provide severely limited access. Even family members would have found searching through hundreds of random prints daunting and so in this case minimal processing was not considered an option. The photographs were deliberately left as the last series to be arranged and described. Only by processing the correspondence and other documents first was it possible to discover information about the families which would help identify the people in the photographs by name, age, location, studio names, and activities.

The images were arranged by family, and then by individual, in chronological order. This would seem to be a

time-consuming task but in fact my familiarity with the subjects meant identification was completed relatively quickly. Images from the same shoot scattered among family members were reunited and contextual information associated with one image helped identify related images. Relating people to family homes or schools featured in the images also assisted identification, and it was even possible to correct occasional misdating. Trying to identify the members of the five families over five generations was a challenge, but at the end there were few images left without any metadata. An unexpected bonus was the discovery of images of women wearing costumes and jewelry contained in the collection.

Where possible the prints were removed from clearly acidic studio portrait folders, although the folders were retained if they had studio names or other information, or were particularly decorative. Housing the snapshots in suitable boxes has stopped the curling that was taking place and makes for efficient storage. All told, arranging, describing and re-housing the photograph series took three weeks but the result has been better access and greater usefulness to family members and other researchers.

Conclusion

Over the last four years, minimal processing has been considered as an option for all of the collections processed in the Mississippi State University's Manuscripts Division containing large numbers of photographs. Of sixteen such collections that I have processed in that time, only one truly could be said to have been given MPLP treatment. Minimal processing worked very well for the Harris Barnes papers because of the very large number of

images involved and the decision not to rearrange the collection. Retaining the original envelopes and slide drawers was efficient because the images were stable and this ensured the retention of the only contextual information available to us. The processing plan was relatively straightforward which enabled student assistants to process the collection effectively and only required the supervision of one archivist. The result is sufficiently satisfactory that I would be inclined to maintain the current arrangement and description of the collection even if we are successful in obtaining funding for new housing and digitization.

We have taken a more nuanced approach with other collections. Where a collection has an adequate arrangement, we do not impose another simply to conform to best practice. If the housing is stable we do not re-house. Finally, a collection that comes with metadata such as subject, date, location, and perhaps photographer, is considered to have sufficient description. Just as we no longer provide item-level description of correspondence, I believe that most archivists do not have the time to go beyond basic descriptions of images, and I would argue further that to attempt more is indeed to treat photographs as “special.” We offer an entry point, but to achieve the levels of description demanded by Schwartz is unrealistic at our institution. Interpreting the historical, social, psychological, and technological contexts has to be left to the individual user.

Minimal processing presupposes at least a basic level of arrangement, description, and preservation. Unfortunately, few manuscript collections with photographs fulfill all, or even some, of these conditions. The Hightower, Montgomery, Perkins, Castles, and Stiles families collection is perhaps an extreme case in having no arrangement, little

description, and poor housing. The more likely situation is that the images will have been stored in unsatisfactory housing and this problem certainly requires remediation. Basic descriptive metadata is usually available but arrangement is often problematic: in one journalist's collection, the alphabetical system was so idiosyncratic that the nearly four thousand images were difficult to access until they were rearranged by subject.²⁵

The primary responsibilities of archivists are to provide access for collections in their care as well as to ensure the long-term survival of those materials. Minimal processing is one tool MSU uses to fulfill that responsibility with regard to photographs, but the unique conditions of a collection direct the level of processing. If a collection requires more intervention, and we find that many do, then we apply MPLP principles where feasible. This is a much more holistic approach to processing which allows us to focus on providing the best access and preservation in spite of always-inadequate resources.

Gerald Chaudron is an archivist in the Manuscripts Division of Special Collections at Mississippi State University, managing processing and online access. He has a PhD in History from the University of Canterbury, New Zealand, and an MLIS from Louisiana State University, and has just published New Zealand in the League of Nations: The Beginnings of an Independent Foreign Policy, 1919-1939 (McFarland).

NOTES

1. Mark A. Greene and Dennis Meissner, "More Product, Less Process: Revamping Traditional Archival Processing," *American Archivist*, 68.2 (2005): 208-263.
2. A selection of Greene and Meissner's writings include: Mark A. Greene, "MPLP: It's Not Just For Processing Anymore," *American Archivist*, 73. 1 (2010): 175-203; Mark A. Greene and Dennis Meissner, "More Application While Less Appreciation: The Adopters and Antagonists of MPLP," *Journal of Archival Organization*, 8. 3/4 (2010): 174-226, doi: 10.1080/15332748.2010.554069; Dennis Meissner, "More Product, Less Process: Why It Matters to Archivists, Librarians, and Researchers," (2010) <http://www.oclc.org/research/events/20101012h.pdf>. Critical articles on MPLP include: Carl Van Ness, "Much Ado About Paper Clips," *American Archivist*, 73. 1 (2010): 129-145; Christopher J. Prom, "Optimum Access? Processing In College and University Archives," In *College and University Archives: Readings in Theory and Practice*, eds. Christopher J. Prom and Ellen D. Swain (Chicago: Society of American Archivists, 2008); Jeffrey S. Suchanek, "More Product, Less Process: One Size Does Not Fit All," Session 501, *More Product, Less Process (MPLP) Revisited: Choosing the Right Processing Strategy for Your Repository and Collections* (Society of American Archivists meeting, Austin, Texas, August 15, 2009), http://saa.archivists.org/4DCGI/events/eventdetail.html?Action=Events_Detail&Time=-442159866&InvID_W=1081; Robert S. Cox, "Maximal Processing, or, Archivist on a Dark Horse," *Journal of Archival Organization*, 8.2 (2010):134-148, doi: 10.1080/15332748.2010.526086.
3. Stephanie H. Crowe and Karen Spilman, "MPLP @ 5: More Access, Less Backlog?" *Journal of Archival Organization*, 8.2 (2010): 115-117, doi: 10.1080/15332748.2010.518079.

4. Greene and Meissner, "More Product, Less Process," 251; Greene, 193.
5. Greene and Meissner, "More Product, Less Process," 254; Greene and Meissner, "More Application While Less Appreciation," 199.
6. Jenny Gotwals, "Review of *Photographs: Archival Care and Management* by Mary Lynn Ritzenthaler and Diane Vogt-O'Connor," *Journal of Archival Organization*, 5.3 (2008): 74.
7. Joan E. Beaudoin, "Visual Materials and Online Access: Issues Concerning Content Representation," *Art Documentation*, 26.2 (2007): 24.
8. Joan M. Schwartz, "Coming to Terms with Photographs: Descriptive Standards, Linguistic 'Othering,' and the Margins of Archivy," *Archivaria*, 54 (2002): 144, 170.
9. Elizabeth Kaplan and Jeffrey Mifflin, "'Mind and Sight': Visual Literacy and the Archivist," in *American Archival Studies: Readings in Theory and Practice*, ed. Randall C. Jimerson, (Chicago: Society of American Archivists, 2000): 91, 94.
10. Joan M. Schwartz, "We Make Our Tools and Our Tools Make Us": Lessons from Photographs for the Practice, Politics, and Poetics of Diplomats," *Archivaria*, 40 (1995): 44, 50-51; Schwartz, "Coming to Terms with Photographs," 148; Margot Note, *Managing Image Collections: A Practical Guide*, (Oxford: Chandos Publishing, 2011): 72; Hugh A. Taylor, "Documentary Art and the Role of the Archivist," *American Archivist*, 42.4 (1979): 419.
11. Schwartz, "Coming to Terms with Photographs," 146, 148, 157; Allen C. Benson, "The Archival Photograph and Its Meaning: Formalisms for Modeling Images," *Journal of Archival Organization*, 7.4 (2009): 154, doi: 10.1080/15332740903554770.
12. Kaplan and Mifflin, 73-74; Tim Schlak, "Framing Photographs, Denying Archives: The Difficulty of Focusing on Archival Photographs," *Archival Science*, 8.2 (2008): 94-95, doi: 10.1007/s10502-009-9081-6.
13. Kaplan and Mifflin, 79-82.

14. Ibid, 94-97.
15. Greene, 176; Greene and Meissner, "More Application While Less Appreciation," 199.
16. Christine Weideman, "Accessioning as Processing," *American Archivist*, 69.2 (2006): 274-283.
17. Donna E. McCrea, "Getting More for Less: Testing a New Processing Model at the University of Montana," *American Archivist*, 69.2 (2006): 284-290.
18. Anne L. Foster, "Minimum Standards Processing and Photograph Collections," *Archival Issues*, 30.2 (2006): 107-118.
19. Greene and Meissner, "More Product, Less Process," 208, 253. See discussions at Session 109, "'More Product' in the Image Archives: Applying Minimal Process Guidelines to Visual Materials Collections," (Society of American Archivists meeting, Washington, D.C., 3 August 2006); Session 602, Focusing the Wide-Angle Lens: Minimal Processing of Visual Materials Collections, Society of American Archivists meeting, Austin, Texas, 15 August 2009).
20. Paul Eisloeffel, "Mixed Media: Working with Audio and Visual Materials," *MAC Newsletter*, (October 2010): 21-22; Matt Gorzalski, "Minimal Processing: Its Context and Influence in the Archival Community," *Journal of Archival Organization*, 6.3 (2008): 196, doi: 10.1080/15332740802421915.
21. Crowe and Spilman, 115, 117.
22. Greene and Meissner, "More Product, Less Process," 231-234.
23. Note, 72-74.
24. Greene and Meissner, "More Product, Less Process," 247; Foster, 113.
25. The Charles Johnson Faulk Papers (circa 1864-1990), 7.5 cubic feet, contains 2,300 prints and 1,700 negatives shot or collected by the Pulitzer Prize-winning *Vicksburg Evening Post* editor.

Processing Large-Scale Architectural Collections

by Emily Walters

Abstract

This white paper discusses how to efficiently process archival architectural collections. It includes a description of a Council on Library and Information Resources-funded architectural processing project, a discussion of processing procedures, a report on an analysis of costs associated with this type of archival processing, and guidance on efficient architectural processing procedures.

Introduction

Architectural records, being both documentation of professional activity and artistic artifacts, are critical to understanding the environment in which people live, work and define their community. As such, architectural materials have a wide appeal and research value beyond the field of architecture. This white paper discusses how to efficiently process archival architectural collections. It includes a description of a Council on Library and Information Resources-funded architectural processing project, a discussion of processing procedures, a report on an analysis of costs associated with this type of archival processing, and guidance on efficient architectural processing procedures.

North Carolina State University Libraries, Special Collections Research Center

The mission of North Carolina State University's (NCSU) Special Collections Research Center (SCRC) is to

identify and collect rare and unique materials to support the research and teaching needs of the university. By emphasizing established and emerging areas of excellence at the university and corresponding strengths within the NCSU Libraries' overall collection, the SCRC is strategically developing collections with the aim of becoming an indispensable source of information for generations of scholars.

The SCRC builds collections in all formats within priority subject areas. These areas are chosen in consultation with faculty, collection managers, and other specialists and in response to various opportunities. The SCRC serves as the repository for important architectural materials and collections in North Carolina and includes papers, drawings, and records of prominent architectural firms in the state and region; papers and records of prominent architects, with an emphasis on major modernist architects; and papers and drawings of prominent landscape architects and golf course designers. The architecture collections also emphasize papers, drawings, and monographs documenting the historic architecture of the state of North Carolina.

Changing the Landscape

Like much of the rest of the country, North Carolina experienced a post-war building boom. North Carolina State College established the School of Design (present day North Carolina State University College of Design) under the leadership of Dean Henry Kamphofner in the late 1940s. Within a decade, North Carolina had become an internationally renowned center for American modernism due in large part to the School of Design. It was in this

context that modernists began to create a built environment that was expressive and supportive of a new progressive era.

In the fall of 2009, the SCRC received a Council on Library and Information Resources Hidden Collections (CLIR) grant to process architecture and landscape architecture collections that document North Carolina's modernist legacy. *Changing the Landscape: Exposing the Legacy of Modernist Architects and Landscape Architects* was a two-year project to arrange, describe, and make available the collections of six modernist architects and landscape architects who forever changed their professional field, as well as the regional and national landscape. The collections selected for the project include the Matthew Nowicki Drawings and Related Materials; the Biberstein, Bowles & Meacham Records; the George Smart Papers; the Holloway and Reeves Records; the Richard Bell Papers; and the Lewis Clarke Collection. These collections, which contain over 1,200 linear feet of original plans and drawings in paper and electronic formats and related project files and records, offer valuable insight into the evolution of the field and modernism's relevance today.

SCRC's processing proposition

Most architectural collections are large and require an investment of both supplies and space. Likewise, the labor costs incurred through processing, preserving, and providing access to these kinds of collections is not insignificant. Architectural materials traditionally have been afforded a fine level of granularity when it comes to their arrangement and description. For example, in Cathy De Lorge's recommendations for cataloguing architectural collections, she suggests including "the number of drawings, plans,

elevations, or sketches, together with a page count, and then the size or range of sizes measured in centimeters.”¹ Duplicates are mentioned, as are scale, medium, and any necessary additional description. If the size or importance of the collection warrants it, an inventory is prepared.

With the *Changing the Landscape* project, the SCRC challenged this tradition of intensive cataloging of architectural records. We combined the principles of flexible, cost-effective processing advocated by Mark A. Greene and Dennis Meissner in “More Product, Less Process: Revamping Traditional Archival Processing,” with the practices suggested in *Standard Series for Architectural and Landscape Design Records*, by Waverly Lowell and Kelcy Shepherd, and in *Architectural Records: Managing Design and Construction Records*, by Waverly Lowell and Tawny Ryan Nelb.²

In most cases, architects organize their files and drawings by project, so architectural collections lend themselves to arrangement at the project level rather than the item level. In *Changing the Landscape*, we concentrated our processing efforts on providing access at the project level, with architect, project name, client, date, and geographic location information. If a collection was already organized by project or type of material, we maintained this original order among and within folders. If a collection had no order at all, we collocated drawings from specific projects to ease future research.

Our processing workflow

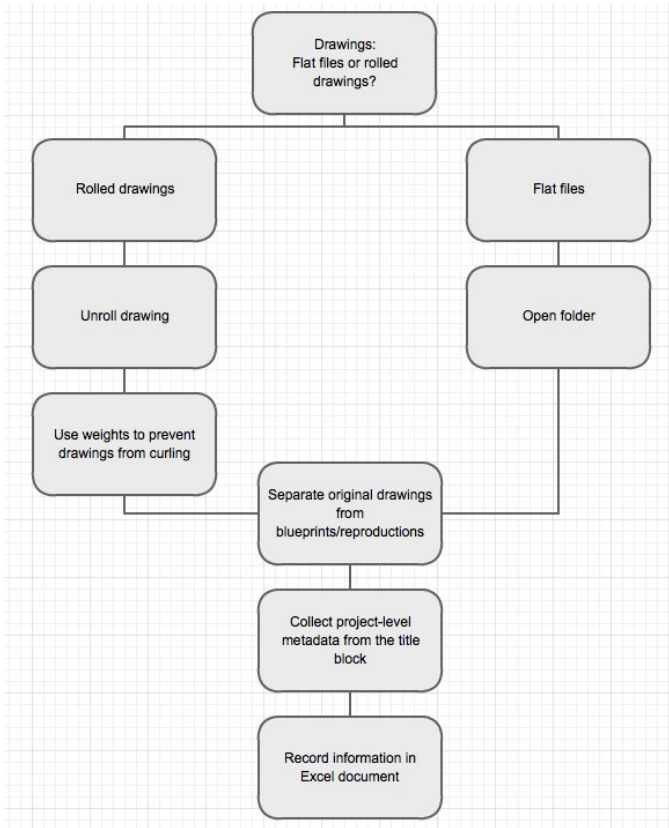
Most of the *Changing the Landscape* collections contained both drawings and project files, and occasionally additional materials, such as photographs and electronic

records. We adopted different processing strategies, including format-based arrangements, for each of these types of materials. Though we do not believe that format-based series are always appropriate, we used them for our architectural collections because of the nature of architectural research and based on information gathered from focus groups composed of architectural scholars. After surveying other architectural repositories' online finding aids, it seems that repositories adopt format-based series approximately half of the time.

Drawings

Prior to processing, we gathered together a group of architects, architectural professors, and architectural historians to advise us on what metadata we should collect from the drawings at the project level in addition to architect name, project name, client, date, and geographic location. Based on feedback from the architectural advisory group, we learned the importance of geographic location and chose to focus our efforts on collecting that information. Traditionally we have collected much, if not all, of this information (when available) and placed most of it in the title field in a collection record in Archivists' Toolkit (AT), the collection management tool the SCRC uses to collect and maintain information about collections. We amended that practice in order to be in compliance with a separate geo-location project of the Digital Library Initiatives department at NCSU Libraries. In order to make geo-location information usable, we are now placing it in its own field.

Fig. 1



Workflow

Figure 1 illustrates the workflow we adopted for processing drawings. The workflow for rolled drawings and flat drawings differed slightly from one another. Ideally, we would flatten all rolled drawings before processing the materials, as standard practice suggests. Unfortunately, the amount of time required to flatten drawings prohibited us from doing so. The NCSU Libraries’ preservation librarian

estimated the flattening process for a single collection (a collection composed entirely of drawings and measuring just over 200 linear feet) would take nearly five years. Thus, for our two-year grant, we chose to rehouse materials the way the creators housed them. Drawings that came to the SCRC rolled were rerolled and those that arrived flat were transferred to flat folders. Rolled drawings were a bit harder to handle as the drawings tended to curl up after being rolled for months, years, or decades. We found weights to be particularly useful as we worked to collect metadata and rehouse the drawings. Flat drawings were generally much easier to process.

Once the tube or folder of drawings had been unrolled or opened, we began the process of separating blueprints/reproductions from original drawings. Because of the chemicals involved in the blueprinting process, we separated blueprints from other drawing formats to prevent the deterioration of the drawings. Blueprints come in all shapes, sizes, and interesting colors, but it is best to simply focus on distinguishing between original drawings (sketches, renderings, tracing paper drawings, etc.) and reproductions (blueprints, plotter prints, etc.). When blueprints were separated from original materials, we made note of the presence of the blueprints in a flat folder or tube so that future researchers would know if they were working with reproductions or original drawings. We learned of the importance of noting this distinction through our discussions with architects, architecture professors, and architectural historians.

After the drawings were separated, we filed flat drawings in flat folders and rolled drawings on tubes. It is important not to overfill a folder or to add too many

drawings to a tube as doing so can potentially damage the drawings. We often filed more than one project per folder; however, doing this required that each piece of paper within the file be clearly labeled so that future researchers can determine which drawings are associated with a given project. We only filed multiple projects per folder if they were all clearly labeled with the project title. This also applied to wrapping drawings around tubes.

Per the workflow design, we next collected the following information from the title block found at the bottom center or bottom right of most architectural drawings:

- Project name
- Architect's name (this is important for landscape architecture collections when there are additional creator names listed; typically collections are named after the creator)
- Client name (this is often not available)
- Date of drawing
- Geographic location
- Format (only if it is a blueprint/reproduction drawing)

We decided to add geographic locations as subject headings at the file level, as well as additional creators, such as architects and landscape architects. Collecting the metadata from a collection was not particularly difficult or time consuming, as this information is generally available in the title block of a drawing; it was the creation of a name (or subject) authority that was problematic in AT. To create a subject, one must first create the entry in the subjects table, a controlled vocabulary database for all of a repository's collections, before attaching it to the collection record. This

extra step was time consuming. Additionally, we were not comfortable with our students creating subject headings within the controlled vocabulary database without any supervision.

We used Excel spreadsheets to create the container lists for most of the architectural collections (see Figure 2). We then imported those lists into AT using an Excel-to-XML script, *Steady*, developed by Jason Ronallo, associate head of the Digital Library Initiatives department. The script also greatly simplified subject heading work: when we recorded a name or location in an Excel document, the script created a subject heading and assigned it at the folder level upon importing. The project librarian reviewed the list of assigned subject headings before importing to make sure they were appropriate for our subjects table.

Although these files were backed up nightly, we wanted to add an extra layer of security by saving each day's work in a separate file. If we sorted an Excel document incorrectly—an easy error to make in Excel—we would still have the second copy saved. This extra step ensured that we would only have to redo a day's work rather than weeks and weeks of work if an Excel missort occurred. We referred to this as the rolling date method of saving and preserving our metadata.

Fig. 2 (opposite page)

	A	B	C	D	E	F
	series	series title	file title	file dates	geogname	geogname_so
1	number				urce	name
2	Series 1	Project Drawings	1409 Hillsborough Street renovations (1 of 2)		1990 Raleigh (N.C.)	LCSH
3	Series 1	Project Drawings	1409 Hillsborough Street renovations (2 of 2)		1990 Raleigh (N.C.)	LCSH
4	Series 1	Project Drawings	1500 Loom Corduroy Mill & Dye House		1944 Henderson (N.C.)	LCSH
5	Series 1	Project Drawings	1500 Loom Corduroy Mill & Dye House		1944 Henderson (N.C.)	LCSH
6	Series 1	Project Drawings	1619 Bickett Blvd: Alterations		1992 Raleigh (N.C.)	LCSH
7	Series 1	Project Drawings	20 Woodlink Road		1958	
8	Series 1	Project Drawings	20 Woodlink Road		1958	
9	Series 1	Project Drawings	Adams Elementary School		1952 Wilson (N.C.)	LCSH
10	Series 1	Project Drawings	Agricultural research facilities (1 of 2)		1966 Raleigh (N.C.)	LCSH
11	Series 1	Project Drawings	Agricultural research facilities (2 of 2)		1966 Raleigh (N.C.)	LCSH
12	Series 1	Project Drawings	Agricultural research facilities		1966 Raleigh (N.C.)	LCSH
13	Series 1	Project Drawings	Agriculture building boiler plant renovation		1986 Raleigh (N.C.)	LCSH
14	Series 1	Project Drawings	The AIA Tower for AIA North Carolina Chapter		Raleigh (N.C.)	LCSH
15	Series 1	Project Drawings	Alamance County Hospital, Inc.: 100-Bed General Hospital		1949 Graham (N.C.)	LCSH
16	Series 1	Project Drawings	Alamance County Hospital, Inc.: Incorporated ICU-CCU addition and renovation	1985-1986	Burlington (N.C.)	LCSH
						Peterson Ass

The script required precision in order for it to work. Any misspellings of the fields would cause the script to break. Figure 3 is an example of the fields that are commonly found in a Steady spreadsheet.

Fig. 3

field	example of contents
series number	the collection and series number, e.g. "MC 00344 Series 2"
series title	"SAPL Administrative and Research Files"
series dates	"1955-1990s"
file title	the folder label, e.g. "Correspondence--Clark, Joseph"
file dates	"1965-1967", "15 December 1977", etc.
physdesc	folder size, e.g. "letter" or "legal"
scopecontent	any notes about the folder; for most rows, this will be blank.
instance type	usually "Mixed materials"
container 1 type	"carton" or "legalbox", etc.
container 1 number	"2-003"
container 2 type	"folder"
container 2 number	"31"

When the Excel document was complete, it was saved as a CSV file and then uploaded into Steady (available at: <http://steady.herokuapp.com>). We used Oxygen, an XML editor, to edit the XML before importing it into AT. The edits we made in Oxygen were minimal, such as changing

the header of the XML file to match that of our institutional standard. We directly added all notes and the top level finding aid information into AT. Likewise, we added locations manually because it is not possible to import locations into AT.

If the collection contained only drawings, the process was complete and we published the finding aid. If the collection contained papers or additional series, those materials were processed according to departmental standards and the description added directly to AT before we published the finding aid.

Papers

We arranged and described paper series according to the recommendations of Waverly Lowell and Kelcy Shepherd in *Standard Series for Architecture and Landscape Design Records: A Tool for the Arrangement and Description of Archival Collections*:

- Personal papers
- Professional papers
- Faculty papers
- Office records
- Project records.

It was most often the case that we merely had project records and office records, although there were collections for which we had materials that represented each of the standard series. We also frequently had photographic materials, which we generally grouped into a single series (usually entitled “Photographic Materials”), and added a note at the file level indicating the type of media.

Our staffing model

Throughout the course of the project, we employed one FTE project librarian, as well as undergraduate students, graduate students, and postgraduate students. At different times, the project employed as many as eleven people and as few as two. Each band of employees, as described below, worked on different parts of the project.

Undergraduate students

Undergraduate students typically collected the metadata, entered it into a spreadsheet, and reboxed the materials (either refolding or rerolling drawings onto a tube). With most architectural collections, especially large ones, there is a great deal of repetitive work required to process drawings. Because the information is generally easily identifiable, it makes a good task for undergraduates.

Graduate and postgraduate students

Our graduate and postgraduate students spent much of their time working on the more complicated series. This group wrote the bulk of our finding aids and edited our catalog records. They also often contributed posts to our public blog, *Changing the Landscape* (<http://news.lib.ncsu.edu/changinglandscape>), which we created to engage the greater processing community. Our graduate and postgraduate students also played a large role in training and troubleshooting with our undergraduate students.

Project librarian

The project librarian was responsible for overseeing the staff, managing the processing workflows and processing production, maintaining the processing space, updating the project blog, and ensuring that the project met financial and timeline requirements.

Space requirements

It is incredibly important to consider the amount of space required to process architectural collections. We found that a surface space measuring at least three feet by six feet was required for processing drawings, though a larger space was often preferred. As with the processing of traditional papers, it was helpful to have at least two feet by four feet on which to spread out and sort documents. This kind of space is often not available at repositories, so it is an important consideration when deciding whether or not to acquire architectural collections.

Finding work space for all of our employees proved challenging. We often had to schedule only four employees on a given shift as we didn't have the physical space required for more. We found that by pushing together several tables, we were able to create the space needed to work (see Figure 4).

Fig. 4



Supply needs

Supplies, like the drawings they house, are often large and, as such, are both expensive and require a great deal of storage space. Buying and storing such supplies proved to be quite costly.

Throughout the course of this grant we used supplies in the following approximate amounts:

Flat folders	3,164
Tubes	3,872
Tube boxes	196
Record Storage Cartons	20
Document cases	923
Half-boxes	9
Folders	18,463
Oversize boxes	26
Slide boxes	49

Storage solutions

Boxes of papers are stored on shelves, but drawings require special shelving. Drawings housed in flat folders are stored in flat folder drawers. Drawings wrapped on tubes are stored in special “beehive” storage developed by Patterson Pope (see Figure 5). Several of our current hives have tube storage built on top of flat folder drawers. Throughout the course of this project we have constructed (and nearly filled) four hives. Each hive holds between 648 and 2,000 tubes; the smaller hives also have flat folder storage capabilities.

Fig. 5.



Timing study and cost analysis

In this project we wanted to move beyond processing to examine the costs associated with transforming architectural collections from unprocessed and inaccessible to usable for scholarship and research. Although it was intimidating to consider the many issues that complicate this question (for example, it is impossible to calculate the true benefit of this type of work or to fully calculate the cost of work), it was crucial to take steps towards being able to make more accurate cost predictions. To this end, we conducted a cost analysis to determine the true cost of collecting, processing, describing, and exposing architectural collections. The hope is that these findings will aid our own future collecting and processing decisions, as well as help inform others interested in collecting architectural materials. (See appendices for *Changing the Landscape* cost analysis.)

Processing data is much more useful to the archival community when shared, as we all seek to find the balance between appropriate processing and user satisfaction. Thus, for this project, we availed ourselves of the processing metrics database created by Harvard University's Center for the History of Medicine. This tool standardizes data on processing metrics in a central location, making it possible for institutions to learn from one another and draw meaningful conclusions about processing times.

A Microsoft Access database was used to track our processing time. We isolated each processing task, for example, writing notes, refolding papers, and barcoding items. Instead of simply counting the number of hours our staff works, we collected data about exactly what work was accomplished during each and every staff hour. Our processors recorded the amount of time it took to plan out

processing, to list folders, or to do subject heading analysis. We even timed the amount of time it takes to track time. We were then able to calculate the cost of labor for an entire collection as well as the cost of each individual part of a collection.

We customized the database so that we recorded the time it takes to complete each of the following tasks:

- *Authority work*: this included the time it took to ensure that the subject headings we applied to a collection are correct.
- *Barcoding and labeling*: this included any time spent creating, printing, and affixing labels. This did not include time spent labeling individual folders. (See Refolding.) Barcoding included the time it took to apply barcodes and create barcode entries in the Libraries' integrated library system and in AT.
- *Collection review and processing planning*: this included the initial first pass through a collection and any time spent doing a processing plan.
- *Description*: this included any time spent writing notes for the collection guide. This did not include time spent doing authority work for subject headings.
- *Folder listing*: this included any time spent creating the container list in AT or Excel.
- *Preservation tasks*: this included any time spent flattening/humidifying drawings. As this work was done by our Preservation Department, no data would be captured for this element.
- *Processing research*: this included time spent researching collections at other libraries or archives.

- *Project tracking*: this was the amount of time it took to time. This was an important piece of data to collect because we wanted to know how sustainable this practice would be for the future.
- *Rearranging*: this included the time required to arrange materials into a particular order.
- *Rehousing photographic materials*: this included the time it took to rehouse photographic materials of any kind.
- *Refoldering drawings*: this included time spent labeling and refoldering drawings into flat files.
- *Refoldering papers*: this included time spent labeling, refoldering and reboxing papers. Instead of tracking the time it took to refolder and to rebox, we did one general "rehousing" element, though we called it refoldering.
- *Rolling tubes*: this included the time it took to roll, wrap, tie and label drawings wrapped around tubes.

We tracked this information by individual employee, though the project librarian never used the database to generate information about specific employees. Instead, reports were run to determine information about a specific type (undergraduate, graduate or postgraduate student) of employee. Figure 6 is a screenshot of the form used to enter daily processing activity. The project librarian populated tables containing information about employees, collections, series, subseries, and the various processing activities.

The following information explains how we filled out the form:

- *record_id*: Access automatically generated a record id number (users did not enter new information in this field).
- *employee*: the user (employee) chose his or her name from a drop-down menu.
- *collection*: the user chose the collection they were working on from a drop-down menu.
- *series*: the user chose the series they were working on from a drop-down menu.
- *sub-series*: most of our collections did not have sub-series. There was no need to fill in this field, unless the collection had sub-series.

Fig. 6.

The screenshot shows a web form titled "Form03_Daily Activities & Tracking Log". The form is displayed in a browser window. The form fields are as follows:

- record_id**: A text input field containing the text "[New]".
- employee**: A dropdown menu.
- collection**: A dropdown menu.
- series**: A dropdown menu.
- subseries**: A dropdown menu.
- subsubseries**: A dropdown menu.
- activity_date**: A text input field.
- activity**: A dropdown menu.
- count_hours**: A text input field containing the value "0".

At the bottom of the form, there is a navigation bar with the following elements:

- Record: 1 of 1
- No Filter
- Search

- *sub-sub-series*: none of our collections had sub-sub-series; there was no need to fill in this field.

- *activity_date*: date of activity, entered in day-month-year format.
- *activity*: each activity, chosen from a drop-down menu, required the user to create a unique record.
- *count_hours*: we rounded to fifteen minute increments, represented in the following way:
 - 15 minutes = .25
 - 30 minutes = .5
 - 45 minutes = .75

We decided to keep track of timing information at the series level as well as the collection level. We asked employees to keep track of the rearranging, refolding, rolling drawings or creating a folder list specific to a series. Barcoding and labeling, collection review, description, preservation, and project tracking data were collected at the collection level.

It should be noted that the comfortable navigation of the timing database required a certain degree of expertise with Access. The database has the capability of producing in-depth timing reports, but without a solid background in Access, the reports that could be created were minimal. The project librarian took an advanced course on Access databases through NCSU's McKimmon Center and was then able to create basic monthly reports that detailed the amount of time spent on each task, per collection.

One major failing of the labor cost analysis is that it does not include timing data for the project librarian. Because no timing data was collected for the project librarian, the costs reported are most likely significantly less than they would have been had they included the project librarian's time (see appendix 2).

We also collected data on the cost of storage, from the supplies to the buildings in which the materials are permanently stored. Over the course of this two-year project, the cost of supplies rose significantly. It would be worth taking the time to compare updated costs to the costs for this project (see appendix 1). With regard to physical structures, such as flat files and buildings, each institution handles these types of overhead costs differently, so we ultimately made the decision not to account for that type of cost in this analysis. Though it is not included in this report, it is vital that this cost be considered when choosing to collect architectural materials. Storage, as with every other facet of architectural processing, can be extremely expensive.

Using the timing data collected and the cost of supplies, we determined the cost of processing each collection, including the average cost per linear foot (see appendix 2 for further information about the costs per collection and per foot.) It is hoped that this work will aid processing decisions in the future and help the SCRC to budget resources effectively.

Efficient processing

In order to achieve more efficient processing, we streamlined our practices in several key ways. Our main and most important change was the introduction of the Excel-to-XML script that altered the way that we created our container lists and added subject headings. Additionally, several smaller changes helped contribute to our overall efficiency.

First, we hired experienced processors. As such, there was very little learning curve for most of our staff, which contributed to efficient workflow. Experienced staff

trained the staff members who did not have previous processing experience. We also had our undergraduate employees doing the bulk of the rehousing work on our drawings and the collection of metadata. Most of the time, drawings were clearly labeled such that beginner and first-time processors could collect metadata quickly and efficiently with minimal time devoted to training.

Second, most of the collections we processed came to us with some level of organization that we were able to build upon. Because of the size of architectural collections, the papers and drawings were usually housed separately. Most architects also organized their own materials by some sort of project number. We often were able to build on this organization system.

We were also willing to use information from any available source to facilitate arrangement and description. For example, we were able to repurpose an appraiser's report of one of our biggest and most disorganized collections. Reusing information saved a great deal of time.

We also relied on help from other departments. Our Facilities department custom-built us a cart that allowed us to work more efficiently and enabled us to handle materials more safely (see Figure 7). Prior to having the cart, two employees were required to move drawings. The cart allowed one employee to manage drawings alone. The cart also supports the materials while they are transported.

Lastly, because we took a lighter than usual approach to processing architectural collections and made the best use of all resources available, we were able to process twice the linear feet we had originally proposed, totaling 2,425 linear feet and 49 processed collections.

Fig. 7.



Conclusion

Architectural collections are challenging to process and require an investment of resources, but they are worth preserving. It is hoped that this document will serve as a guide to those considering architectural processing as well as aid those currently undertaking the work of processing these valuable collections.³

Emily Walters led NCSU Libraries' Council on Library and Information Resources Hidden Collections processing grant to process six modernist architecture and landscape architecture collections containing over 40,000 original plans and drawings. Walters received an MSLS from the University of North Carolina at Chapel Hill and a BA in English from Furman University.

NOTES

1. Cathy De Lorge, "Architectural Cataloging," *The American Archivist* 42.2 (1979): 198-199.
2. Mark A. Greene and Dennis Meissner, "More Product, Less Process: Revamping Traditional Archival Processing," *American Archivist* 68.2 (2005): 208-263; Waverly Lowell and Kelcy Shepherd, *Standard Series for Architecture and Landscape Design Records: A Tool for the Arrangement and Description of Archival Collections* (Berkeley: College of Environmental Design, 2000); Waverly Lowell and Tawny Ryan Nelb, *Architectural Records: Managing Design & Construction Records* (Chicago: Society of American Archivists, 2006).
3. Anyone interested in seeing the documents used during the course of the project (a sample monthly Access report, directions for generating a monthly report from the database, examples of spreadsheets, or the appendices with all collected data included) should contact North Carolina State University Special Collections Research Center and request the *Changing the Landscape* documentation.

Appendix 1: Supplies

	Product Number	Vendor	Cost Per Unit	Cost Per Item
<i>Drawings Supplies</i>				
Flat Folders, 36x48", 10 pt, tan	PF3648 (11070)	Hollinger Metal Edge	\$7.70	\$7.70
Tube Box	30335	Hollinger Metal Edge	\$12.10	\$12.10
Tube Cores, 3" diameter, 4' long, blue gray	52233	Gaylord	\$151.20 (10)	\$15.12
Permalife Bond Roll, 34" x 100 yards	PBR34100	Hollinger Metal Edge	\$101.65	\$2.03
Cotton tying tape, 5/8th" x 1000 yards	TT81000	Hollinger Metal Edge	\$102.25	\$0.10
Tube Total (tube core, paper, tying tape)	N/A	N/A		\$16.98
<i>Papers Supplies</i>				
Document Case, Letter Size	12510	Hollinger Metal Edge	\$7.00	\$7.00

Appendix 1 (continued)

	Product Number	Vendor	Cost Per Unit	Cost Per Item
Document Case, Legal Size	15510	Hollinger Metal Edge	\$7.35	\$7.35
Document Case, Half Box	12210	Hollinger Metal Edge	\$6.80	\$6.80
Carton	MB-15	Paige Company	\$163.00 (25)	\$6.52
Oversized Flat Box	20163	Hollinger Metal Edge	\$13.10	\$13.10
File Folder, 1" full tab, Letter	911LF	Hollinger Metal Edge	\$36.05 (100)	\$0.36
File Folder, 1" full tab, Legal	914LF	Hollinger Metal Edge	\$38.40 (100)	\$0.38
<i>Photographic Supplies</i>				
Slide File Box	WW-B2211	Gaylord	\$5.45	\$5.45
Outer Slide Box	WW-C11143	Gaylord	\$11.95	\$11.95
Slide Box Total (Box and inner box)	N/A	N/A		\$17.40

Appendix 2: Collection Costs

Collection Name	Extent (Linear feet)	Supply Total	Undergraduate/ Graduate Student Cost	Total Cost	Cost Per Linear Foot
Richard C. Bell Drawings and Other Materials MC 00084	203.85	\$15,430.34	\$96.60/\$5,438.65	\$20,965.59	\$102.85
Ballard, McKim & Sawyer Drawings of the Physical Science Building, University of North Carolina at Chapel Hill MC 00109	3.20	\$271.68	\$0/\$75.80	\$347.48	\$108.59
Harris and Pyne Records MC 00114	1.95	\$175.88	\$46.29/\$0	\$222.17	\$113.93
Gil Wheless Papers MC 00145	48.60	\$3,879.78	\$738.59/\$113.70	\$4,732.07	\$97.37
Charles Kahn Papers MC 00149	1.70	\$54.76	\$42.26/\$0	\$97.02	\$57.07

Appendix 2 (continued)

Collection Name	Extent (Linear ft.)	Supply Total	Undergraduate/Graduate Student Cost	Total Cost	Cost Per Linear Ft.
Jerome Robert Cerny Drawings for Truman and Annie Williams residence MC 00150	0.60	\$50.94	\$32.20/\$0	\$83.14	\$138.57
Doris J. Stanley Drawings MC 00153	1.00	\$84.90	\$14.09/\$0	\$98.99	\$98.99
Peter Batchelor Papers MC 00157	29.00	\$207.70	\$217.35/\$0	\$425.05	\$14.66
Holloway-Reeves Records MC 00172	147.40	\$11,450.76	\$607.78/\$1,728.24	\$13,786.78	\$93.53
Lewis Clarke Coll. MC 00175	593.30	\$29,394.42	\$6,250.83/\$5,396.96	\$41,042.21	\$69.18
Rondesics Leisure Homes Corp. Collection of Drawings, Photographs and Other Materials MC 00177	0.50	\$6.80	\$0/\$68.22	\$75.02	\$150.04

Appendix 2 (continued)

Matthew Nowicki Drawings and Other Materials MC 00190	9.00	\$82.70	\$0/\$94.75	\$177.45	\$19.72
Biberstein, Bowles & Meacham Records MC 00222	14.50	\$555.02	\$0/\$488.91	\$1,043.93	\$72.00
Albert C. Woodroof and A.C. Woodroof, Jr. Papers MC 00325	65.50	\$4,375.14	\$895.56/ \$1,129.42	\$6,400.12	\$97.71
George Smart Papers, MC 00326	55.20	\$1,295.74	\$0/\$1,671.39	\$2,967.13	\$53.75
Brian Shawcroft Papers, MC 00370	21.70	\$593.78	\$0/\$473.75	\$1,067.53	\$49.19
William Waldo Dodge Drawings MC 00372	153.00	\$5,841.74	\$2,809.45/ \$1,675.18	\$10,326.37	\$67.49
Arthur Ralph Cogswell Papers MC 00399	3.30	\$49.70	\$0/\$174.34	\$224.04	\$67.89
Greenways, Incorporated, MC 00405	28.70	\$1,071.76	\$0/\$746.63	\$1,818.39	\$63.36

Appendix 2 (continued)

Collection Name	Extent (Linear ft.)	Supply Total	Undergraduate/ Graduate Student Cost	Total Cost	Cost Per Linear Ft.
Reynolds and Jewell Drawings MC 00412	0.80	\$32.38	\$0/\$26.53	\$58.91	\$73.64
Harrye B. Lyons Vertical Files MC 00415	3.50	\$49.00	\$0/\$481.33	\$530.33	\$151.52
David Fischetti Papers MC 00423	453.80	\$16,425.52	\$1,557.68/ \$3,229.08	\$21,212.28	\$46.74
Richard Burke Schnedl Drawings MC 00428	23.70	\$1,781.38	\$0/\$473.75	\$2,255.13	\$95.15
Harwell Hamilton Harris Architectural Drawings MC 00433	0.40	\$33.96	\$0/\$30.32	\$64.28	\$160.70
North Carolina State University, Office of Finance and Business, Office of the University Architect Records UA 003.026	368.50	\$4,978.40	\$706.39/ \$212.24	\$5,897.03	\$16.00

Appendix 2 (continued)

North Carolina State University, Libraries, Harrye B. Lyons Design Library Records, UA 012.033	3.50	\$49.00	\$0/\$818.64	\$867.64	\$247.90
North Carolina State University, College of Design, Office of the Dean Records UA 110.001	50.75	\$664.30	\$959.96/\$0	\$1,624.26	\$32.01
North Carolina State University, College of Design Annual Reports, UA 110.002	1.75	\$27.80	\$0/\$181.92	\$209.72	\$119.84
Home Environment Design Initiative, Home of the Month Records, UA 110.051	1.00	\$14.00	\$0/\$79.59	\$93.59	\$93.59
North Carolina State University, College of Design Publications, UA 110.200	12.50	\$175.00	\$221.38/\$0	\$396.38	\$31.71
TOTALS		\$99,104.28	\$15,196.39/ \$24,809.34	\$139,110.01	

REVIEWS

Christina Zamon. *The Lone Arranger: Succeeding in a Small Repository*. Chicago: Society of American Archivists, 2012. 157p. Bibliography, index and notes. \$69.95 (nonmember); \$49.95 (member).

Against a backdrop of three decades of rapid change in the archival field, archivists have strived to establish a uniform set of standards and values, encourage professionalization and continuing education, promote the adoption of new technologies, and articulate a shared professional identity. Author Christina Zamon argues that these efforts have not always bridged the gap between the stated goals of the profession and the actual challenges of running a one-person shop. Recognizing that a significant portion of U.S. archives are small repositories and that the archival literature has “underrepresented or overlooked” them (1), Zamon has written an engaging handbook to assist “lone arrangers” who are managing collections and aspiring to apply best practices, despite their limited resources.

Skimming the table of contents of Zamon’s work, one could conclude that the work is a conventional guide to managing a small archival repository since it addresses the issues of collection management, technology, facilities, reference and outreach, and finances. Yet, I believe Zamon is attempting to do something much more innovative in the way she uses case studies to foster an inclusive and supportive conversation with individuals who may or may not self-identify as archivists, including individuals who may lack archival training or have primary job responsibilities in a different department. Many of these case studies portray

archivists applying best practices in the face of limited resources or institutional resistance and show how lone arrangers must adjust their goals and expectations to move a project forward. By using actual case studies written by lone arrangers, Zamon promotes a sense of community and counteracts the deep professional isolation felt by many solo archivists. Her informative narrative, detailed case studies, and timely readings and online resources encourage lone arrangers to recognize common challenges and issues, identify solutions that are scalable to small repositories, network with colleagues in similar circumstances, and contribute to the development of a collaborative professional community.

Drawing on her own experience as a lone arranger, Zamon stresses the need to apply fundamental management approaches when establishing an archival program. In chapter one, she outlines the key first steps for any newly hired lone arranger to take. They include: the need to conduct an environmental scan, the establishment of mission and vision statements, the review of the organizational structure, and the consideration of the level of institutional support for the program. John Slate's case study of a local government archives underscores the value of undertaking an organizational assessment: he notes that his study of the organization's structure and culture saved him precious time in communicating with record creators and identifying collections that have immediate use.

In chapter two, Zamon turns to the issue of establishing intellectual control over a collection. She provides the reader with sample mission statements, deeds of gift, and excerpts of collection development policies. These documents help to identify the core functions of an archive

and assist in the crafting of acquisition policies, the surveying of existing collections, and the arranging and describing of collections. Michelle Ganz's practical case study of imposing order on inherited processed collections that do not conform to SAA standards points to how lone arrangers have to be flexible and consider solutions that lie beyond the standard way of doing things. Indeed, Ganz notes that due to time and resource limitations, she opted to work around improperly processed collections rather than reprocess them.

With most lone arrangers managing a staff of one (themselves), it is incumbent on the archivist to be able to evaluate her immediate situation, marshal resources, and determine which archival programs are essential to implement. In chapter four, Zamon identifies programs in preservation, records management, volunteer recruitment, and internships as programs critical to the successful stewardship of a collection. Case studies offered by Jeremy Linden, Peg Poeschl Siciliano, Russell Gasero, Meg Miner, and Terry Baxter all point to the need for the lone arranger to make an upfront investment of time in planning and advocating for these needed programs to build and sustain institutional support. In the case of Meg Miner's case study on lobbying for a records management program, Miner confesses to the reader that she underestimated the amount of time needed for both project advocacy and implementation. She was forced to go back and drastically alter project timelines. Miner states that projections of staff time have to be factored into the initial planning of a project.

With the arrival of the digital era, Zamon asserts that lone arrangers are struggling to incorporate information technology and social media into their efforts to improve

access and community outreach. In chapter three, she states that many lone arrangers lack either the training or IT support to properly choose an archival collection management system, a digital asset management system, and an electronic document management system. At the same time, many archivists at small repositories are increasingly encountering electronic records (either as donated items or internally created records). By asking lone arrangers to evaluate their access needs, Zamon looks to lower the level of anxiety and offer solutions that do not involve a great deal of investment in money, training, and staff support. She asks why one should invest in a collection management system when an Excel spreadsheet or Access database will meet the institution's needs. Zamon also recommends small scale solutions to address the challenges of managing digital projects and creating metadata. As to the question of whether to move to EAD-encoded finding aids, Tamara Gaydos' case study provides a viable approach to making finding aids accessible online despite the lack of institutional support for a collection management system.

As collections are made more accessible and visible, the lone arranger faces the opportunity and challenge of increasing reference queries and researcher visits. In chapter four, Alison Stankrauff's case study examines how her repository's enhanced web presence and community engagement quadrupled its reference statistics. To avoid being overwhelmed by reference requests, Zamon provides a number of easy tips to manage internal and external reference requests, ranging from setting time limits on requests to implementing a fee schedule for specific services. As to the adoption of social media to push users to specific collections, Zamon states that the lone arranger has to

consider how much time she can devote to maintaining and updating content. Ultimately, the author concludes that this investment in time is recouped in the effective engagement of users and the promotion of a creative and dynamic research environment.

Serving as the sole steward of the collection, the lone arranger has to master new skills to support facilities management, budgeting, disaster preparedness, and grant writing. Zamon offers the reader detailed bulleted lists of action items. All of these tasks involve a great deal of planning, research, advocacy, and project management. Nicole Thaxton's case study of the construction of a new facility (chapter five) offers the reader insight into how to lobby an institution for stable and secure archival space. To achieve institutional buy-in, Thaxton couples her space planning findings with her disaster preparedness needs. Barbara Austen's case study of managing a cataloging grant project with minimal staff (chapter seven) reveals how she had to prioritize collections for processing and adopt MPLP to meet her grant-imposed project timeline.

The use of case studies in Christina Zamon's handbook underlines her central message that lone arrangers need to be strategic in their goal setting, management of projects, and the use of limited resources and staff time. By offering practical solutions to real problems, Zamon is able to highlight innovative and adaptable lone arrangers who thrive in a collaborative environment.

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Clay Shirky. *Cognitive Surplus: How Technology Makes Consumers into Collaborators*. New York: Penguin Press, 2010. 242p. Index and notes. \$16.

In his 2008 book, *Here Comes Everybody: The Power of Organizing Without Organizations*, Clay Shirky explored how the Internet empowered groups outside of traditional organizational structures. His 2010 book, *Cognitive Surplus: How Technology Makes Consumers into Collaborators*, expands that theme, expertly examining how and why individuals choose to join these technologically-enabled groups and analyzing how these groups are transforming modern communications. Defining “cognitive surplus” as “the free time of the world’s educated citizenry as an aggregate” (9), Shirky uses examples from around the world. These include everything from a crowd-sourced service to track ethnic violence in Kenya to the LOLCats of ICanHasCheezburger.com, all in order to analyze the source of our cognitive surplus and the ways it can be harnessed effectively. In a world of participatory archives and a focus on developing new user groups, Shirky’s observations and recommendations are pertinent to archivists striving to grow communities locally and online.

Cognitive Surplus is divided into seven chapters. The book begins with Shirky’s definition of “cognitive surplus” and introduces his case for the source of this asset. He argues that, for decades, television served as the primary medium for the use of free time. Individuals played the role of consumer, digesting entertainment provided by corporate media without a means to react or converse. The Internet, however, presented an opportunity for these individuals to repurpose their free time by becoming contributors or even

creators instead of passive consumers. New social technologies allow for the aggregation of this free time, allowing us to “treat free time as a general social asset that can be harnessed for large, communally created projects, rather than as a set of individual minutes to be whiled away one person at a time” (10). Individuals now have the ability to contribute to a larger group conversation and spend their free time focused on subjects they are passionate about.

The following three chapters explore the hows and whys of cognitive surplus. Shirky argues that flexible, inclusive, and cheap media technologies have set a foundation for public contributions outside of traditional media outlets. These technologies, in turn, allow for public expression of two primary motivations—a personal desire to be recognized as a knowledgeable resource and a social desire to belong and make a meaningful contribution to a group. The Internet in particular provides an opportunity for social technologies and motivations to meet, creating “a way for groups to create new opportunities, at lower cost and with less hassle than ever before, and to advertise those opportunities to the largest set of potential participants in history” (128-129).

In chapters five and six, Shirky analyzes how these groups build their communal culture and can contribute to a larger public mission. He states that “culture isn’t just an agglomeration of individual behaviors; it is a collectively held set of norms and behaviors within a group” (134). It is a way for building and sharing collective knowledge, assuming that the members of the group share “assumptions about how it should go about its work, and about its members’ relations with one another” (143). New social media outlets allow these groups to form and grow without geographical

limitations. Additionally, these outlets allow groups to self-determine their mission and focus. Groups can be loosely formed and created primarily for entertainment. They can be developed as a resource for a limited population or the general public. Or they can be focused on what Shirky calls “civic sharing”—a group “actively trying to transform society” by creating a real change in their everyday world (173).

Shirky concludes his book with recommendations for harnessing and guiding the cognitive surplus in useful, meaningful ways. He argues that successful communities are social and supportive in nature, providing group members with value and motivation to contribute and experiment. These groups grow and improve in response to community needs, adapting without requiring the members themselves to adapt. Shirky closes by imploring the reader to think of useful ways to contribute to and develop the cognitive surplus. He states that “the opportunity before us, individually and collectively, is enormous; what we do with it will be determined largely by how well we are able to imagine and reward public creativity, participation, and sharing” (212).

The cognitive surplus described by Shirky provides a clear opportunity for archives and archivists to harness the collective efforts of researchers and passionate amateurs to build, enhance, repurpose, and promote our holdings. A number of archival institutions have developed crowdsourcing projects focused on transcriptions and description enhancement. Contributors may add valuable social metadata, but, if the group is fully realized, it can provide even greater benefits to the archives. The National Library of Australia's Australian Newspapers Digitisation

Program, for instance, began by asking its group to correct text transcriptions of articles. The group gradually expanded its role by suggesting new titles for digitization, raising funds for the program, and developing workshops and webcasts to educate others on the program and its use.

The development of this sort of active communal program, however, requires archivists to cede a level of control over the archives' description and development. It compels archivists to embrace change and accept the potential for failure as well as an opportunity for success. Additionally, it demands a certain trust in the community group—recognition that “citizen archivists” (a term used in similar crowdsourcing projects led by the National Archives) are passionate but also knowledgeable and reliable.

As Shirky effectively argues in *Cognitive Surplus*, individuals actively seek ways to contribute their free time to a project or cause that interests them. Archives and archivists need to critically examine their current outreach efforts, questioning how these efforts facilitate conversation. A one-way transmission of information, with the archives poised as the sole resource for reliable information, will not effectively reach an audience seeking true engagement. By incorporating Shirky's recommendations and building on successful relationships and projects, archives can reinvent their presence in the social media world as a place for community engagement with archival records—a place where the cognitive surplus can be harnessed to further enhance our mission. As Shirky notes, “We [should] look everywhere a reader or a viewer or a patient or a citizen has been locked out of creating and sharing, or has been served up passive or canned experience, and [ask]: If we carve out a little bit of the cognitive surplus and deploy it here, could we make a

good thing happen?” (213). Our answer to that question can only be found when archivists are willing to open their doors, their collections, their metadata, and their conversations to the community.

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“DigitalNC: North Carolina’s Cultural Heritage,” <http://digitalnc.org>. North Carolina Digital Heritage Center, The University of North Carolina at Chapel Hill. Reviewed June 14, 2012.

DigitalNC, with the slogan “North Carolina’s Digital Heritage,” is an online repository containing digital collections from institutions across the state. The site is presented by the North Carolina Digital Heritage Center, located at the University of North Carolina at Chapel Hill, but is truly a joint initiative. Support is provided through the State Library of North Carolina with funds through the Institute of Museum and Library Services (IMLS) and through the University Library at UNC-Chapel Hill. There are 89 participating institutions representing 46 of North Carolina’s 100 counties contributing close to 24,000 items (as of June 14, 2012). Contributors include colleges and universities, museums, historical societies, public libraries, and other cultural institutions. Although some contributors may currently have only one item in their collection, there is the potential for growth and expansion, especially if UNC-Chapel Hill is able to continue to provide staff, guidance, and equipment for the initiative. An advisory board with members from across the state provides more support by

advising the staff at the Digital Heritage Center and establishing priorities.

Each of the digitized items falls under one of six specific collections: Durham Urban Renewal Records, Images of North Carolina, North Carolina City Directories, North Carolina Memory, North Carolina Newspapers, and North Carolina Yearbooks. Materials are primarily newspapers and photographs, but also include almanacs, flags, menus, scrapbooks, yearbooks, books, diaries, oral histories, and a myriad of other formats. The repository is text- and image-based, although most of the text is searchable through Optical Character Recognition (OCR). This makes items like the city directories especially useful to local historians and genealogists. There is one item cataloged as “Sound Recordings,” but it is an image of a framed gold record received by Leola Faye Edwards in 2001 and contributed to the repository through the Davie County Public Library.

Part of the Digital Heritage Center’s mission is to assist smaller institutions in making their collections available online. This serves the greater goal of increasing access to North Carolina’s cultural heritage and promoting lifelong learning; it also democratizes the digitization process for institutions that may not have the funds or staff to take on these projects alone. When I worked for a project with a similar mission, we had many partnering organizations run by volunteers or with only one or two employees but which were very interested in providing more access to their materials and participating in a digitization initiative.

The Digital Heritage Center will digitize materials in Chapel Hill that are transported or delivered by the home

institution. It does not charge for its services, and it states that the original institutions maintain the rights to their materials, which enables those institutions to also post the materials and their metadata to their own websites. Contributing institutions are assumed by the Digital Heritage Center to have contributed only materials that are in the public domain or materials for which they have received permission to digitize and share. Materials are part of DigitalNC and have also been incorporated into digital exhibits and slideshows.

How to Participate, under the About section, provides links to documents for contributing institutions explaining how to select and prepare materials for digitization and how to describe those materials, including metadata guidelines for each field and sample records. While the documentation is specifically for participating institutions, the guidelines and requirements may be useful for other institutions involved in similar collaborative projects or setting up their own digital libraries.

Visually, the website is well laid out and attractive with a rotating header featuring images from various collections, as well as a link to the image's full record. More images are displayed on the main part of the homepage. In addition to the visual interest they provide, these images help represent the diversity of materials and organizations included. The green-and-gray text and background colors are pleasing to the eye and coordinate with the website's logo. The homepage is easy to navigate with a row of links to About, Browse, Collections, Contributors, Counties, Blog, and Help pages. The first three links are dropdown menus leading to specific pages, such as browsing by item or type, or accessing a single collection.

DigitalNC's digital content management system is OCLC's CONTENTdm, and based on the layout, it appears to be one of the most recent versions. The technical specifications, however, are not described on the About or Help pages. A Known Issues section under Help does describe certain problems users may have with some functions because of software upgrades to the platform, which is useful information for users experiencing difficulty with viewing PDFs, for example, and may also be useful for institutions interested in how other CONTENTdm users are addressing software bugs. Much of the site has been customized for DigitalNC making the platform almost invisible to users less familiar with CONTENTdm. The recent upgrade incorporates social media tools that enable users to rate, tag, or comment on items. Browsing through the site did not show any items where these tools had been used yet, however, and CONTENTdm does not appear to allow for browsing rated items or searching user-generated tags.

DigitalNC has made good use of incorporating social media on its own with its blog featuring highlights from the collections and links to allow readers to subscribe to an RSS feed or share via various sites. Readers can also comment, which helps the blog serve as more of a conversation between the Heritage Center staff and readers. Under the Recently Discussed heading, readers can click on posts with recently added comments. This multiple-prong approach to pushing out the collections through social media and other venues—it has a Facebook page, Flickr account, and Twitter feeds and also publishes an electronic newsletter—and attracting comments and responses from readers should help the North Carolina Digital Heritage

Center promote the DigitalNC project to a wide audience.

By focusing on collaboration and partnerships across the state, the Digital Heritage Center and its DigitalNC library are providing a gateway to the cultural history of North Carolina with fewer barriers and more access. I am hopeful that the website is visited across the state and beyond and that contributing institutions continue to participate, as well as promote their collections and the overall initiative to their local communities.

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The *Journal for the Society of North Carolina Archivists* seeks to support the theoretical, practical, and scholarly aspects of the archival professions by publishing articles and reviews related to curatorial issues (e.g., collection management and development), technical services (e.g., cataloging, processing, digital collections, EAD, preservation, conservation, etc.), and public services (reference, instruction, outreach) for special collections and archives.

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