
This study explored the workflows used by institutions for processing large film photography collections. I conducted semi-structured interviews with professionals from seven cultural heritage institutions and created workflow maps to visualize the procedures that each institution followed when processing their collections. By creating these workflow maps, I intended to demonstrate the similarities and differences between the institutions’ arrangement and description practices for processing large film photography collections. I also asked participants questions to investigate whether Greene and Meissner’s More Product Less Process recommendations influenced how their institutions processed large film photography collections. Although each of the participating institutions described some or all of their collections at the item level, many used aspects of minimal processing in their workflows.

Headings:

- Photography archives
- Archival processing
- Cataloging of archival materials
- Interviews with archivists
- Workflow
PRODUCT, PROCESS, AND PHOTOGRAPHS:
ARCHIVAL WORKFLOWS AND MORE PRODUCT LESS PROCESS
(MPLP) IN LARGE FILM PHOTOGRAPHY COLLECTIONS

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**Introduction**

Since its beginnings, photography has transitioned from being a rare and highly specialized medium to becoming a ubiquitous part of contemporary culture. As Norris (1985) writes, “the evolution of photography from an arcane and highly technical craft practiced by a few professionals to a popular pastime of millions and a standard tool for documenting news, science, and business has resulted in voluminous collections” (p. 129). As early as the 1880s, consumers were able to produce hundreds of photographs using the Kodak Box camera, which came pre-loaded with enough film to take one hundred exposures and was later returned to the manufacturer by customers for developing services and to be loaded with more film (Tisdale, Singer, Seppala, Geysbeek, & Purrazzo, n.d.).

Many archives have acquired large collections of film photographs in recent decades, as a result of digital formats becoming the dominant medium for both professional and amateur photographers (McCann, 2017). Examples of these collections include newspaper photo morgues, scholarly visual reference materials, and personal or family photographs (McCann, 2017; Miller, 2015; Chaudron, 2012). These large film photography collections often contain thousands, hundreds of thousands, or even millions of items, and are comprised of multiple photographic formats that “reflect the dominant and available technology of successive time periods” (McCann, 2017, p. 165). Many large film photography collections may include a combination of negatives, prints, and slides created with varying processes and equipment (Chaudron, 2012; McCann, 2017).
Large collections of photographs are often some of the most popular and useful resources found in their respective archives (McCann, 2017). Ritzenthaler and Vogt-O’Connor (2006) write that “while photographs are used increasingly to support a broad range of research topics and outreach services, archival practice regarding their organization and management remains far from standardized” (p. xiv). Chaudron (2012) also notes 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” (p. 7).

Even though they are valuable resources for archives and their users, photography collections present unique physical and intellectual challenges to archivists. Many of the typical issues concerning photography collections relate to their arrangement, description and preservation, and managing large collections of film photographs can exacerbate these concerns. While surveying newspaper photo morgue collections, McCann (2017) “observed a wide range of processing strategies, from item level to minimal” and concluded that a lack of resources for processing was the primary obstacle to managing those collections (p. 177-80). To put these observations in simpler terms, McCann (2017) also writes that managing large photography collections is “complex and resource demanding” (p. 176).

With the combination of an increased number of archives accessioning photography collections, limited resources for processing collections and growing demand from researchers, archivists have had to develop their own workflows for processing large film photography collections in order to make their contents accessible to users. Although the minimal processing recommendations found in Mark Greene and
Dennis Meissner’s (2005) foundational article, “More Product, Less Process: Revamping Traditional Archival Processing,” were directed toward managing unwieldy backlogs of documents and records, archivists have also successfully applied More Product Less Process (MPLP) principles to large film photography collections (Chaudron, 2012; Foster, 2006). When considering MPLP for certain cases, Chaudron (2012) states that minimal processing may be the only way to make some large photography collections accessible (p. 6). Nevertheless, archivists must consider their available resources and potential user needs to determine what level of processing is appropriate when working with specific large film photography collections.

The purpose of this exploratory study was twofold. First, I conducted semi-structured interviews with seven library, archives, and museum professionals who were involved with processing large film photography collections. I interviewed these professionals to gather more detailed information about the arrangement and description practices that their institutions used when processing large film photography collections. By researching the ways that participating institutions arranged and described these collections, I expected to gain a better understanding of their specific processing procedures.

After interviewing each participant, I created workflow maps to visualize the procedures that their institutions followed when processing large film photography collections. These visual workflow maps are intended to demonstrate the similarities and differences between each institution’s processing workflows.

This study also explored the implications of Greene and Meissner’s (2005) More Product Less Process minimal processing recommendations. I asked participants
questions to investigate whether Greene and Meissner’s recommendations influenced
how their institutions processed large film photography collections and whether the
participating institutions considered MPLP when developing their processing workflows.
Literature review

Traditionally, managing and processing photographic materials has been regarded as a niche, and at times undesirable, specialization within the archives profession (Schlak, 2009). As Ritzenthaler and Vogt-O’Connor (2006) note, “[p]hotographs have not always been recognized as important assets within archival repositories” (p. xiii). Visual illiteracy is believed to be one contributing factor that has “relegated photographs to the margins of archivy” (Schwartz, 2002). Schwartz (2002) argues that the field’s insistence on defining photographs as “special media” only further marginalizes their status within archives (p. 57). Archivists have been urged to strive toward improved visual literacy, so that they might be better-equipped to interpret and work with photographs and other non-textual materials (Kaplan & Mifflin, 1996; Moix, 2011). Kaplan and Mifflin (1996) note that improved visual literacy in archives could ultimately lead to the creation of better finding aids and catalog records that are able to meet the needs of researchers.

Archivists have also been criticized for not working more closely with collections of photographs, because they present unique challenges to long-established professional practices (Schlak, 2009; Chaudron, 2012). These challenges are reported to affect a variety of steps in the archival process, including “arranging, describing, cataloging, use, and preservation” of collections (Evans, 1977, p. 173). Specific challenges that are encountered when working with photographs include the fragility of some formats, the potential for finding duplicate items in a collection, the amount of information associated
with each photograph, complex relationships between photographs and textual materials, varying storage requirements, missing or insufficient identifying information, copyright and usage concerns, and collections without any apparent original order (Ritzenthaler & Vogt-O’Connor, 2006). Matusiak and Johnston (2014) note that “collections of visual materials have not benefited from the same level of information organization and intellectual control as… books and periodicals,” and preserving film-based photographic materials “remains a major challenge of the twenty-first century” (p. 242). A lack of literature about processing photography collections has also been noted as an issue that contributes to archivists being “afraid of photographs” (Gotwals, 2008, p. 74).

Processing archival photographs often requires more attention to individual items than other collections, and the practices regarding their management also lack standardization (Ritzenthaler & Vogt-O’Connor, 2006; Foster, 2006). This tailored approach to managing photography collections can be demanding for institutions that do not have adequate enough resources for the intensive, item-level processing that it may require. Blackburn, Bower, and Starkey (2008) detail their experiences in this regard when describing the process of organizing, describing, and digitizing 11,000 unlabeled photographs. They write that “as box after box of photos were opened and sifted through, it became overwhelmingly apparent how difficult sorting, much less inventoring, the entire group of boxes would be for the staff” (Blackburn, Bower, & Starkey, 2008).

While Blackburn et al. (2008) explain the monumental effort of simply sorting and inventoring a large unlabeled photography collection, their case study also describes the resource-demanding process of digitizing those materials. Although it may not be necessary to digitize photography collections in some cases, many institutions choose to
do so as an additional step in their processing workflows. However, photography collections must at least be arranged before they are digitized, and the descriptive information for each item will need to be reviewed and possibly refined to account for the detailed level of processing that is required for digitization (Ritzenthaler & Vogt-O’Connor, 2006). Ritzenthaler and Vogt-O’Connor (2006) state that “the time and effort to expand information or verify its accuracy cannot be discounted” when digitizing photography collections (p. 382). For example, Blackburn et al. (2008) estimated that completely arranging, describing, and digitizing their previously unsorted collection would take a maximum of ten years at an average rate of about 1,100 photographs per year (p. 37).

From a preservation perspective, film photographs in particular are known to present major challenges that influence their required level of archival care (Matusiak & Johnston, 2014). Unstable formats like nitrate and acetate negatives may make up the majority of items found in many film-based photography collections. The deterioration of nitrate and acetate negatives not only causes irreversible damage to the items themselves but can also affect the condition of neighboring materials in an archive (Matusiak & Johnston, 2014). In addition, nitrate negatives have earned a reputation among archivists “because they present a great potential hazard,” due to their flammability and the acid-forming gases that they release when deteriorating (Fisher, 2012). These issues present potential health and safety risks for archivists and researchers working with photography collections that contain a large number of nitrate negatives (Matusiak & Johnston, 2014; Ritzenthaler & Vogt-O’Connor, 2006).
Benefits for researchers

Despite these challenges, photography collections are still considered to have a high degree of cultural and research value (McCann, 2017; Teper, 2013; Peek, 2015). Matusiak and Johnston (2014) note that “archival film-based photographic collections provide rich and often untapped sources of historical evidence” (p. 242). Along with this evidential value, photography collections are regarded as having artifactual, informational and associational value that warrant their preservation in archives or special collections (Ritzenthaler & Vogt-O’Connor, 2006). Blackburn et al. (2008) elaborate on the informational and associational research values of photographs when writing, “Would the telling of history be as powerful without photographs of Anne Frank’s attic or those of Martin Luther King Jr.’s March on Washington in which to associate these events?” (p. 31).

Ritzenthaler and Vogt-O’Connor (2006) also note that photographs with evidential, informational, and artifactual values “usually are the most heavily used images in a repository” (p. 105). In a survey of repositories that managed newspaper photo morgues, respondents reported that the collections’ photographs were some of the most requested items held by their institutions (McCann, 2017). Surveys have also shown that historians frequently use photographs for their research (Chassanoff, 2013). Additional literature about photography collections mentions their usefulness to other groups of professionals and researchers, including artists, designers, genealogists, journalists, historic preservationists, architects, museum curators, film and television production staff, geographers, and scientists (Matusiak & Johnston, 2014; McCann, 2017; Miller, 2015).
More Product Less Process (MPLP)

The issues that arise from managing photographs in an archival setting are compounded when working with large photography collections, which often contain thousands or millions of items (Evans, 1977; McCann, 2017). With this in mind, Norris (1985) writes that “the photo-archivist frequently encounters large collections to which item-oriented processing techniques are poorly suited” (p. 129). Blackburn et al. (2008) also note that “photograph collections tend to be expansive” (p. 32). They attribute this expansiveness to the fact that photographs are inexpensive, easy to acquire, and can serve as records of our environment and activities (Blackburn et al., 2008).

Greene and Meissner’s (2005) article, “More Product, Less Process: Revamping Traditional Archival Processing,” urges archivists to rethink their approaches for processing large collections of records in an effort to reduce backlogs. The main tenet stemming from Greene and Meissner’s (2005) article is for institutions to increase the accessibility of collections to patrons by streamlining their processing procedures. In doing so, Greene and Meissner (2005) recommend that institutions define minimal processing guidelines when evaluating collections based on the specific needs of the materials and their institutions.

Greene and Meissner (2005) note that archivists should not arrange materials in groups below the series level, and they may arrange the series in a collection with varying degrees of intensity (p. 243). Furthermore, archivists should describe materials at the same level as their arrangement, rather than providing unnecessary details about their content. When addressing preservation concerns, Greene and Meissner (2005)
recommend against rehousing materials “unless the folders are in poor condition or the collection is supremely valuable” (p. 251).

However, a degree of flexibility is also implied in Greene and Meissner’s (2005) More Product Less Process recommendations. The authors emphasize that they “are not interested in simply replacing one set of processing prescriptions with some other set” (Greene & Meissner, 2005, p. 209). Instead, they encourage archivists “to adopt a more flexible concept of what it means to ‘process’ a collection” (Greene & Meissner, 2005, p. 233). Using this approach allows archivists to complete the steps involved with arrangement, description, and preservation on a continuum that varies between series and supports intermediary rather than fixed levels of processing within collections (Greene & Meissner, 2005, p. 233).

Although Greene and Meissner’s (2005) recommendations largely address the processing of papers and manuscripts, their call to action has implications for professionals working with photography collections. Additional publications by Foster (2006) and Chaudron (2012) provide details about the decisions involved when processing large photography collections with recommendations provided by MPLP. In Chaudron’s (2012) case study, these considerations included not creating any additional series, leaving photographs in their original enclosures, and only using the existing folder-level descriptions that had already been written on the envelopes. Foster (2006) details several cases of minimal processing projects for photography collections, including one example of maintaining the original numbering system, housing, and storage cabinets for 10,000 slides. These materials were described at the collection-level and were “processed in less than a day” (Foster, 2006, p. 115).
Ritzenthaler and Vogt-O’Connor (2006) promote similar recommendations in their guide to the archival care and management of photographs published by the Society of American Archivists. In particular, Ritzenthaler and Vogt-O’Connor (2006) recommend addressing the overall needs of photography collections in order to “ensure a useful level of control over many photographs rather than a few” (p. xiv). They also discourage archivists from describing photography collections at the item level if series contain similar or duplicate images (Ritzenthaler & Vogt-O’Connor, 2006).

Prior to the popularity of MPLP, Norris (1985) also encouraged archivists to carefully evaluate and plan their strategies before processing large photography collections. When processing these collections, Norris (1985) suggests describing photographs as groups of records rather than individual items and maintaining a collection’s original organizational system if the archive can use it. Norris’ (1985) main suggestion is that “something is better than nothing” (p. 133). He explains that “[a]ny accession of a hundred thousand images or more is unlikely ever to be entirely accessible, but less than satisfactory access is far more desirable than none at all” (p. 133). By processing large collections of photographs at a minimal level and making them at least partially accessible, researchers are able to review collections that would otherwise be hidden. In addition, archivists can revisit minimally processed collections to refine them at a later time “should resources become available” (Norris, 1985, p. 133).

Archival workflows

When discussing their roles and functions, Tracey Schuster, Head of Permissions and Photo Archive Services at the Getty Research Institute, describes photo archives as
“ecosystems” because of “the active and complex internal systems that are imposed on
the archives and their contents” (Peabody, 2016). These internal systems, including
“photo mounts, accompanying ephemera, related acquisitions and research files,
inventories, card catalogs, databases, etc. … interact with each other and with their
surrounding institutional or private environments” (Peabody, 2016). Schuster also
explains that “it is within these ecosystems that archivists, librarians, and scholars
interact” (Peabody, 2016).

Due to the complexity of these systems, libraries and archives have had to evaluate
their practices using techniques from the business world (Mitchell, 2007). Process
mapping is one method that academic libraries have adapted from a business context in
order to visualize and reorganize their services (Mitchell, 2007). Libraries and archives
have also adapted process maps to visualize digital forensics workflows for managing
born-digital content (Gengenbach, 2012). Gengenbach (2012) explains that creating
process maps based on interview data can “provide additional documentation and context
for archives and special collections seeking to develop their own processes” (p. 6). This
type of transparency is also apparent when examining the applications of process
mapping in academic libraries and the sharing of results between institutions (Mitchell,
2007).

Flowcharts are “one of the most basic methods of process mapping” and show a
series of steps that form a process (Gengenbach, 2012). In this style of diagram, arrows
represent the path that a workflow follows “from one step to the next” (Sharp &
McDermott, 2008, p. 216). Standardized symbols representing each step of a process
indicate specific actions that users or organizations must complete in order to continue following the workflow (Sharp & McDermott, 2008).

Gengenbach (2012) chose the term “workflow maps” to describe diagrams of institutional processes for archiving and preserving born-digital materials (p. 26). This study will also refer to flowcharts as workflow maps, in order to maintain consistency with the language used by archivists when describing diagrams of processes at their institutions. A legend follows the workflow maps in this study in order to help define the symbols representing each step or task. The symbols on the workflow maps and legend reflect standards that are consistent with Universal Modeling Language, “an international standard for drawing process maps” (Lucid Software Inc., 2018).
Methods

This study applied qualitative research methods while investigating the workflows of libraries, archives, and museums that process large film photography collections. I collected this data by conducting semi-structured interviews with professionals who work closely with large photography collections. These professionals volunteered to participate in the study and work in various cultural heritage institutions including museum archives, university archives, state archives, public library special collections, and historical societies. A total of seven participants completed interviews over the phone or in-person for this study. I chose interviews as the method of data collection in order to gain detailed descriptions of the workflows and practices that participating institutions used when arranging and describing their large film photography collections, as well as the factors they considered when processing or planning to process those materials.

I recorded audio from each interview, and then transcribed and analyzed the data to identify common themes found in the participants’ responses. I also created illustrated models of the processing workflows used by participating institutions based on each participants’ interview responses. Visualizing these workflow maps was meant to demonstrate the similarities and differences between each institutions’ arrangement and description practices as they pertain to processing large film photography collections.

After creating the workflow maps, I asked each participant to review a draft illustrating their institution’s procedures, in order to confirm its accuracy and to provide
suggestions that could improve the visualization. I then created subsequent drafts of the workflow maps based on these suggestions and sent them to participants for additional comments before finalizing the visualizations.

In addition, I analyzed the participants’ interviews in order to identify and compare responses to questions that addressed whether their institutions considered Green and Meissner’s More Product Less Process (MPLP) recommendations when developing workflows for processing large film photography collections. I also identified additional common themes that participants discussed in their interviews when analyzing the qualitative data and have included those responses in the study’s results.

**Recruitment and sampling**

I selected a convenience sampling approach as the primary method of recruitment for this study because it was the most effective way of contacting experienced professionals who worked with relevant collections. Since processing photographic materials is a specialization of its own within the archival field, and this is especially true as it relates to large film photography collections, I contacted participants by sending recruitment messages to email lists hosted by professional organizations for archivists.

I identified two professional mailing lists for recruitment: the Visual Materials Section (VMS) of the Society of American Archivists (SAA) and the Society of North Carolina Archivists (SNCA). I selected the VMS section of SAA for recruitment over the association’s more general discussion lists, because the group’s discussions focus exclusively on archiving visual materials, making it the most relevant of the SAA’s forty-six professional subgroups (Society of American Archivists, 2016). I also selected the
SNCA email list due to its active discussions and the general proximity of the professional group’s members to the University of North Carolina at Chapel Hill.

I distributed one recruitment email to each of these discussion lists (Appendix A). This recruitment email explained the study’s purpose and its data collection methods, and asked candidates to respond by sending an email off of the discussion list if they were interested in participating. The recruitment email also included contact information for myself, the principal investigator, as well as the study’s faculty advisor, should the candidates have any further questions before deciding to participate.

I replied to each candidate who responded to the recruitment email with an attached information sheet that included more details about the study, which potential recruits reviewed for additional details before continuing to participate (Appendix B). I also included information about scheduling an interview for the study and asked participants to respond with possible interview times if they had an interest in participating.

When planning this study, I expected between six and ten participants to complete semi-structured interviews. In total, eleven interested candidates responded after I sent the initial recruitment messages to the VMS SAA and SNCA email lists. I contacted each of these candidates with follow-up materials about the study. Of the initial eleven potential candidates, seven participants responded to the subsequent follow-up emails and scheduled interviews.
Data collection

I conducted semi-structured interviews with seven participants to collect qualitative data for this research study. When recruiting each participant, I contacted them via email and asked to schedule a convenient time for conducting an interview that would last approximately one hour. If participants were located within a reasonable driving distance of Chapel Hill, North Carolina, I also presented the option of completing an interview either in-person or over the phone, depending on which method would be best for their schedules and institutions. I considered meeting participants at their institutions to be preferable for data collection, since it would provide a better understanding of each archive, including their photography collections and policies for processing materials. However, if participants were unable to meet in-person or if travel was not possible, I conducted and recorded the interviews over the telephone. Overall, I completed three of the interviews in person and four through telephone calls.

Prior to beginning each interview, I reminded participants about the study’s purpose. I explained that its research focus was to collect data about the large photography collections they worked with and how their institutions processed those collections. After briefing them about the study, I asked participants for their verbal consent to record audio of the interviews, so that I could review and transcribe their responses at a later date. I recorded each interview using an iPhone and took additional notes to supplement the audio recordings and interview responses.

I followed an interview guide with a series of standardized questions during the data collection process (Appendix C). The interview guide provided a common structure
for each interview and a consistent set of questions that I asked all of the participants. However, because data collection relied on conducting semi-structured interviews, I also asked additional probing questions to clarify a participant’s responses when they were necessary.

The study’s recruitment materials stated that I expected each interview to last about one hour. Overall, the seven interviews ranged from 32 minutes to 95 minutes in length. The mean time for all seven interviews was 59 minutes. Whenever interviews became close to exceeding one hour, I notified participants that their expected time commitment was approaching and that they could bring the interview to a close if they would like to. Although I offered this option to all study participants whose interviews were longer than one hour, none of the participants decided to end their interviews when they exceeded the expected time commitment.

Analysis

Following each of the seven interviews, I reviewed the recorded audio files from that interviews and partially transcribed them into separate text documents. I then completed a first pass of the qualitative data in the transcribed documents to review the participants’ answers and make note of any particularly relevant responses to the interview questions.

After completing this first pass of the data for all seven interviews, I imported the transcribed documents into the qualitative analysis software package, QSR NVivo. I then reviewed the responses from each participant again using QSR NVivo, which allowed me
to check the interview transcriptions for accuracy a second time while coding the data according to their emergent themes. During this stage of analysis, I identified similar themes in many of the interviews. I coded responses that coincided with these common themes and organized them into common categories or nodes. Using this method of qualitative analysis allowed me to review each interview individually at first, and then to categorize the responses across all of the identified nodes based on their common themes. Performing this analysis helped to inform the process of creating workflow visualizations for each participating institution, along with addressing the study’s secondary research question of whether the institutions considered MPLP when developing their archival workflows.

Finally, after reviewing the responses and emergent themes from the interviews, I created high-level workflow visualizations to illustrate the processes that participating institutions used when arranging and describing their large film photography collections. Analyzing the data from participants’ interview responses about how each of their institutions arranged and described large photography collections informed the process of creating workflow maps for this study. I then illustrated these workflow maps using Lucidchart, an online platform for creating flowcharts and other diagrams.

After creating these workflow maps, I emailed each participant a draft of their institutions’ processing workflow, so that participants could confirm the steps and offer suggestions for improving their accuracy. Six of the seven participants confirmed that they reviewed the workflows, and five participants provided suggestions for improving the workflow maps for their institutions. I used this feedback to create additional drafts and revisions of the workflow maps. The five participants who provided comments about
the initial drafts also reviewed subsequent versions of their institutions’ workflow maps and offered further suggestions before I finalized the visualizations for the purposes of this analysis.
Findings

Brooklyn Historical Society Archive

The Brooklyn Historical Society features a world-renowned archive with thousands of holdings that contribute to the historical record of Brooklyn, New York (Brooklyn Historical Society, 2017). These holdings include several large photography collections featuring the work of both amateur and professional photographers. During the interview, the participant discussed four large photography collections that they noted as being both significant in terms of their size and the importance of their contents to researchers. The largest of these collections remains unprocessed and is comprised of approximately 20,000 negatives. The remaining three collections document the built environment in Brooklyn at different periods ranging from the early and middle parts of the 20th century. Of these collections, two contain approximately 4,000 negatives each, and the remaining collection contains approximately 2,000 negatives. Altogether, these four photography collections contain about 30,000 negatives dating from the 1910s to the mid-1960s.

At the time of the interview, one of these collections had been completely processed, while an estimated ten percent of the remaining two collections were processed. The Brooklyn Historical Society Archive defined completely processing a large photography collection as creating a collection-level finding aid, re-housing and digitizing each photograph in the collection, and creating item-level records for the
digitized images in the institution’s catalog. Links to item-level catalog records in PastPerfect were added to the finding aid, and the catalog records also contained links to the finding aid, in order to promote accessibility between the two sources.

Although the three collections that the participant discussed during the interview were being digitized and processed at the item-level, they noted that this was not the case for all of the Brooklyn Historical Society’s photography collections. Instead, the archive determines the necessary level of description prior to processing its photography collections. This is a result of their “accessioning as processing” approach to ingesting new collections, which aims to reduce the institution’s processing backlog. Shortly after accessioning, the archives staff creates a collection-level finding aid for each collection and they assess its materials for processing. In some cases, the staff may process photography collections at either the series or the collection level, especially if the collections are not candidates for digitization or item-level processing. However, the staff may revisit the processing level for a collection if researchers request it more frequently than expected or the staff determines that it does not have an adequate level of description when working closely with its materials.

The interview participant also noted that interns and grant-funded staff were an important part of the Brooklyn Historical Society’s processing workflow, especially when digitizing photographs from their collections. Digitization relied largely on interns and grant-funded staff to complete those portions of the processing workflow, while archivists supervised the intern’s tasks and completed quality assurance steps at different points of the digitization process. These hand-offs between the intern and the supervisor
are illustrated as separate stages of the digitization process in the following workflow map.
Figure 1. Brooklyn Historical Society

Initial acquisition of collection → Create collection-level finding aid → Re-house all items according to format →

- Re-house negatives and transparencies in Mylar sleeves
- Re-house prints and cabinet cards in individual folders
- Store slides in high-volume boxes
- Re-house glass plate negatives in four-flap enclosures
- Re-house and store daguerreotypes separately

Will the collection be digitized? No → Organize items in series by subject → Add series-level descriptions to finding aid → Perform more detailed description if requested →

Yes → Intern begins digitization process →

- Create folders to organize digitized files
- Digitize items in the collection
- Track digitization progress using a spreadsheet

Supervisor verifies intern's progress →

- Perform quality assurance checks on digitized files
- Move approved files to a new folder

Intern continues digitization process →

- Create XMP metadata file, apply to digitized files
- Upload thumbnail images to PastPerfect
- Add item-level description in PastPerfect

Supervisor finalizes digitization process →

- Perform quality assurance checks on PastPerfect records
- Upload item-level records to online image gallery
- Add links to the finding aid for each item-level record
Workflow Legend

- Process
- Decision
- Document
- Manual Input
- Database
- Data Input/Output
- Terminator
- Hard Disk
- Stored Data

Primary process  Future process
Outer Banks History Center

The Outer Banks History Center is a branch of the State Archives of North Carolina dedicated to supporting research about the coastal region of North Carolina and its surrounding areas (Outer Banks History Center, n.d.). When conducting the interview, the participant from the Outer Banks History Center specifically mentioned that its photography collections are one of the Center’s strengths. The participant also noted that the Outer Banks History Center has collected photographs continuously since founding its archive.

Two collections at the Outer Banks History Center were the focus of the interview, because they are the largest photography collections in the archive. The Aycock Brown collection contains an estimated 50,000 to 75,000 images that span from the 1940s to the 1970s. The second collection features photographs by Drew C. Wilson and contains approximately 10,000 images from the 1980s and 1990s. Both Brown and Wilson were professional photojournalists who had instrumental roles in promoting the Outer Banks as a vacation destination and showcasing activities in the region throughout the twentieth century.

The participant estimated that about 90% of the Drew C. Wilson collection has been processed to the item level. While all of the collection’s negatives were housed in new sleeves, described, and assigned identification numbers, some remaining prints still needed to be processed. About 65-70% of the Aycock Brown collection was processed at the time of the interview. This item-level processing included housing negatives and prints in new sleeves, identifying individual images whenever possible, and arranging the collection’s materials in date order.
Historically, collections at the Outer Banks History Center that contained photographs and other materials like manuscripts were split into different collections, which would be processed separately by the archives. Both the Aycock Brown and Drew Wilson collections have collection-level records in the archive’s catalog. However, volunteers are largely responsible for processing these two collections, which they arrange and describe at the item level. The processing workflow followed by volunteers includes arranging and organizing these collections into series based on their photographic formats and the chronological dates of each item. Volunteers also identify the subjects of each photograph whenever possible after they re-house each item.

Previous Outer Banks History Center staff who accessioned both of these large photography collections are thought to have made the decision to use item-level processing approaches for their contents. Volunteers are now continuing this item-level processing approach in order to provide consistency within the collections.

Although neither of the collections discussed during the interview have public-facing finding aids, the staff has used other methods of tracking the photographs’ description information and accessing their materials. After volunteers identify and re-house items from the collections, staff members may consult the archive’s catalog to determine if other item-level records have been created for that collection. If item-level records have been created for previous items in the collection, the Outer Banks History Center staff will continue adding new records for each item into the catalog. However, if item-level catalog records have not been made for that particular collection, they will continue using the parent record in the catalog instead. In addition to using the collection-level parent record to access basic information about the collection, the staff may also
create internal finding aids if they decide that they would be helpful for searching the collections.
Figure 2. Outer Banks History Center

Initial acquisition of collection

Derive new collections from acquisition

Process manuscripts and papers separately

Store photographic materials in original boxes

Create collection-level parent record in MARS online catalog

Volunteer

Organize photographic materials by date and format

Re-house prints and negatives in new sleeves

Identify individual photographs as much as possible

Will item-level records be created for the collection?

No

Access parent record in MARS online catalog

Yes

Create item-level records for photographs in MARS online catalog

Write internal finding aid (if necessary)

Save internal finding aid as a Word document (optional)
Haverhill Public Library Special Collections

The Haverhill Public Library established its Special Collections Department in 1923 with the goal of preserving the library’s existing special materials and acquiring new collections pertaining to the town’s local history (Haverhill Public Library, 2018). Along with its holdings of manuscript collections and genealogy papers, the Haverhill Public Library Special Collections Department features a large collection of photographs estimated to contain approximately 50,000 images. About twenty percent, or 10,000, of these images are either nitrate or acetate negatives, while the remaining portion of the collection is comprised of photographic prints.

Within the past year, the Haverhill Public Library began a grant-funded project to digitize their photography collections and make the images available online. Although other institutions that completed interviews for this study were also digitizing the entirety or portions of their photography collections, the Haverhill Public Library was unique because they were having an external vendor complete the processing and digitization portions of their project. The workflow visualization for the Haverhill Public Library highlights these vendor-provided digitization and processing services while detailing the procedures that the special collections staff follow before and after sending materials to the vendor.

At the onset of the digitization project, staff members arranged the collection’s photographic prints and negatives into further subseries. The staff arranged the photographic prints into subseries based on their subject matter and the negatives according to their formats. Arranging the negatives by format was an important step in
the digitization project because the library is digitizing their nitrate and acetate negatives and placing them into cold storage before processing other items in the collection.

Once the staff arranged the images and they were ready for digitization, the vendor began collecting negatives from the library and processing them externally. This processing includes re-housing each item in new enclosures, assigning the enclosures unique identifiers and barcodes, creating digitized versions of each image, and storing the materials in new archival boxes. When the vendor completes these processing steps for each batch of photographs, they return the physical materials, along with a hard drive that contains the digitized images. After receiving the physical materials and digitized images from the vendor, the Haverhill Public Library places any nitrate or acetate negatives into cold storage, while storing other items on-site in the Special Collections Department.

The staff then imports the digitized photographs into PastPerfect and catalogs the images at the item level. The cataloging staff also adds additional descriptions to the catalog records in the form of keywords that are based on the Haverhill Public Library’s own controlled vocabulary and Library of Congress subject headings. The library derives low-resolution versions from the digitized images and saves them with watermarks that identify the photographs as being part of the Haverhill Public Library’s special collections. After the staff catalogs the photographs from each batch in PastPerfect and creates low-resolution versions of them, they upload the descriptions and watermarked images to the collection’s website. Although the website is not yet accessible to the public, the library plans to make it live after they have digitized and cataloged a sufficient number of photographs. As the project progresses, the Haverhill Public Library will
continue uploading batches of images and catalog records to the website until they have completely digitized the collection.
Figure 3. Haverhill Public Library Special Collections

Start digitization project

Maintain original order for collection

Arrange prints by subject categories

Arrange negatives by format (nitrate, acetate, polyester, glass plate)

Prioritize digitizing negatives first

Organize negatives in batches for digitization

Vendor picks up batches of negatives from library

Vendor re-houses negatives in new enclosures

Vendor assigns unique barcodes to enclosures

Vendor digitizes negatives in each batch

Vendor returns digitized images on hard drive

Vendor returns physical items in new archival boxes

Import digital images into PastPerfect

Use existing barcodes as unique identifiers

Catalog digital images at the item level

Save low-resolution images with watermarks

Add additional descriptions to catalog records

Upload watermarked images and descriptions to website

Make collection website public

Store nitrate and acetate negatives in cold storage

Return other materials to the collection
Workflow Legend

- Process
- Decision
- Document
- Manual Input
- Database
- Data Input/Output
- Terminator
- Hard Disk
- Stored Data

Primary process → Future process
Chicago History Museum

The Chicago History Museum’s archival collections contain an estimated two million photographs including daguerreotypes dating back to the 19th century as well as contemporary born-digital images. The museum’s prints and photographs holdings are “the single largest source of pictorial information for the Chicago metropolitan area from the early nineteenth century to the present” (Chicago History Museum, 2017). The most common format found in the museum’s prints and photographs collection are black and white silver gelatin prints, and nearly half of all the photographs are located in two of the museum’s collections. The largest of these two collections, the Hedrich-Blessing architectural collection, consists of approximately 550,000 photographs that were produced from the late 1920s through the 1980s. In addition, the museum manages the Chicago Daily News photo morgue, which includes approximately 400,000 photographs that were produced from the early 1900s until the 1970s.

Of these two collections, the Hedrich-Blessing architectural collection is completely processed and described at the job or series level. The museum retained the collection’s original numbering system at the donor’s request and used it to identify jobs in the collection. Each job was re-housed in new folders and then stored separately by format. The archive stores all of its color prints and negatives, along with its black and white negatives, in varying degrees of cold storage within the museum.

The museum is processing and describing the Chicago Daily News collection at the item level. The decision to process and describe each item in this collection was based largely on the fact that researchers frequently request its images for digitization and the difficult task of creating separate series based on the subjects of newsworthy events in
Chicago. Unlike the Hedrich-Blessing collection, materials from the Chicago Daily News are only re-housed if their enclosures are damaged or if researchers request them for digitization. Otherwise, the staff keeps the materials in their original enclosures and stores them in the appropriate area of the archive depending on their format. After the staff completes this physical processing and re-housing, they assign each series or photograph a call number that designates where to store the items in the archive.

The Chicago History Museum describes collections that receive more detailed processing beyond the collection level in finding aids that reflect their level of description. Because the museum is processing and digitizing the Chicago Daily News collection at the item level, the staff also creates an additional record in the institution’s catalog after the museum’s Rights and Reproductions Department scans each image and assigns metadata to the digitized items.
Forsyth County Public Library Special Collections

The Forsyth County Public Library’s North Carolina Room includes six large photography collections that contain an estimated total of 300,000 images. The images in these collections “feature people, events, buildings, and street scenes” from Winston-Salem, North Carolina and date back to the late 19th century (Forsyth County Public Library, 2018). The largest of these collections was accessioned from Coppedge Studio, a professional photography studio that operated locally from the mid-20th century until the early 1990s. The Coppedge Studio collection includes about 250,000 images and is mostly comprised of black and white negatives. The Frank Jones collection is the North Carolina Room’s second largest photography collection and contains approximately 20,000 images dating from 1937 to 1975 that were created by a former photographer for the Winston-Salem Journal newspaper.

Although the Frank Jones collection was taken out of its original order at one time, it has since been processed at the item level and re-arranged in chronological order. As part of this processing workflow, the library staff assigned unique identification numbers to the prints and negatives and re-housed them in Mylar sleeves and acid-free enclosures. Any identifying information that was associated with the images was either written on the back of the prints or on the negative enclosures. During processing, the library’s staff also determined whether negatives from the Frank Jones collection had any matching prints prior to storing each format in separate rooms.

In contrast, the North Carolina Room accessioned the Coppedge Studio collection with its original order still intact and retained the business’ numbering system for the photographs. The studio had previously assigned these identification numbers to each job.
or series in the collection and included them on the existing enclosures. The studio also stored additional data about the photographs in each job on order cards that they labeled with the same numbering system. Because the collection already included this method for accessing its extremely large number of photographs, the staff chose to perform a minimal level of processing for those materials. The library kept the photographs in their original enclosures, cleaned the sleeves to remove dust, and inspected the collection for mold or other types of deterioration. After cleaning and inspecting the negatives, the staff members arranged them in filing cabinets, and stored the order cards with descriptive information for each job separately in a card catalog.

The library’s special collections staff is now entering descriptions of the materials in both the Frank Jones and Coppedge Studio collections into a Microsoft Access database. These descriptions vary according to their levels of processing. For example, the library indexes each job or item number that is assigned to the materials in the database, along with any descriptive information from their enclosures or order cards. When more information is known about the photographs, the staff also includes additional descriptions or keywords in the database records during the indexing process. Library staff members then use the Access database as the primary method for searching each collection, along with consulting the Coppedge Studio collection’s card catalog.

In addition, staff members add scanned images from the collection to their corresponding database records after digitizing any photographs. Currently, the North Carolina room is prioritizing digitization for any negatives that show signs of deterioration or negatives that do not have matching prints available. A volunteer assists with the digitization process by scanning negatives that the staff selects and assigns to
them. After the volunteer digitizes those images, the North Carolina Room discards any severely damaged negatives and imports the high-resolution images into their respective Microsoft Access database records.
Figure 5. Forsyth County Public Library Special Collections

Initial acquisition of collection → Assess collection to determine processing level (job or item) → Does collection have existing ID numbers? → Yes, Retain existing numbering system → No, Assign unique ID numbers to each item → Re-house prints in Mylar sleeves → Write ID number, date and description (if known) on back of print → Re-house negatives in acid-free enclosures → Write job or item description on sleeve → Clean enclosures to remove dust, mold, etc. → Determine if negatives have matching prints → Store prints and negatives in separate rooms → Store prints in archival boxes → Store negatives in filing cabinets → Store order cards in card catalog → Create records for numbered items in Access database → Add keywords and descriptions to database records → Will the collection be digitized? → Yes, Access collection through database records and/or catalog cards → No, Prioritize scanning damaged items or negatives without prints → Volunteer → Scan assigned negatives and prints → Discard damaged negatives → Add scanned images to existing database records
Workflow Legend

- Process
- Decision
- Document
- Manual Input
- Database
- Data Input / Output
- Terminator
- Hard Disk
- Sterling Data

Primary process  ---  Future process
Greensboro History Museum Archives

The Greensboro History Museum Archives features four large film photography collections from local professional photography studios, as well as images from individual photographers in the area (Greensboro History Museum, 2018). The museum acquired the largest of these collections from Martin’s Studio. The Martin’s Studio collection includes approximately 300,000 to 400,000 images that were photographed between the 1930s and the 1990s. There are similarities between the Martin’s Studio collection and the previously-mentioned Coppedge Studio collection. Both collections already included job-level series when their current institutions received them, and each photography studio labeled the collections using their own numbering systems. In addition, like the Coppedge Studio collection, the Martin’s Studio collection consists mostly of black and white negatives.

After evaluating the Martin’s Studio collection, the Greensboro History Museum Archives decided to retain its existing series arrangement and numbering system. The museum also left the prints and negatives in their original enclosures and stored the materials in new archival boxes. The collection’s order cards were filed in card catalogs, and the photographers’ calendar books, which contained additional descriptive information about the jobs, were stored in an adjacent section of the archive.

Following these initial acquisition steps, the Martin’s Studio collection has received item-level processing, primarily from volunteers who are interested in Greensboro’s local history. Volunteers work in three capacities when processing the collection and complete a series of tasks and hand-offs that contribute to the item-level processing workflow.
To begin with, the archivist assigns a group of negatives to a volunteer who re-houses them. This first volunteer examines the negatives from each job and arranges them in sequence if additional information about their order can be determined from proof prints, the negatives themselves, or the other documentation. If the photographs are studio portraits, the volunteer also weeds duplicate negatives from the collection at that time. The volunteer re-houses the negatives in polypropylene sleeves. Then, the volunteer copies job-level information from the original enclosures onto adhesive labels and attaches them to the new polypropylene sleeves.

A second volunteer receives the materials after they have been re-housed and labeled. This second volunteer indexes information about each enclosure or job into a Microsoft Access database. The volunteer is primarily responsible for entering the titles and descriptions written on the labeled enclosures, along with any information that is on the order cards or in the calendar books. However, the cataloging volunteer often includes rich, item-level descriptions for each photograph in a job, which they enter into an additional field in the database. After the volunteer creates database records for each batch of photographs, the archivist reviews their descriptions and makes any necessary edits to the information. At this time, the museum stores descriptions of items in the collection exclusively in the Access database, but the staff plans to export the database records and make them available online in the future.

Lastly, a third volunteer is responsible for completing the final digitization component of the processing workflow for the Martin’s Studio collection. The volunteer primarily digitizes the items in chronological order, beginning with the earliest photographs in the collection. The volunteer retrieves batches of negatives from storage.
based on their dates and then selects which photographs to digitize. However, they only digitize a portion of the images from each job. The volunteer selects and scans images based on their interests and whether the photographs would address any relevant research questions that the archive has received.

After scanning the photographs, the volunteer enters descriptive information from the enclosure into the digitized images’ EXIF metadata. EXIF, or Exchangeable Image File Format, is a metadata standard for digital images that includes descriptive information for each file (Camera & Imaging Products Association, 2016). While EXIF metadata may automatically contain certain information about each digitized image, including its creation date and file type, volunteers also enter other descriptive information into the EXIF metadata fields (Ritzenthaler & Vogt-O’Connor, 2006). This additional descriptive information may include the photographer’s name and any captions, dates, or descriptions from the photographs’ enclosures that the volunteer enters into the digital images’ corresponding EXIF metadata fields.

Once they have finished updating the EXIF metadata, the volunteer saves the digitized image files to a directory on the archive’s computer network, where the archivist can access them. Then the volunteer enters additional data about the digitized images into a separate Access database. NC ECHO developed this database as part of their digital cultural heritage project, which compiles data from institutions around North Carolina and allows users to search for content across many collections (NC ECHO, n.d.).
Workflow Legend

- Process
- Decision
- Document
- Manual Input
- Database
- Data Input / Output
- Terminator
- Hard Disk
- Stored Data

Primary process  Future process
Duke University Technical Services

The Duke University Technical Services Department processes large collections of film photographs for the Archive of Documentary Arts and other archives within the David M. Rubenstein Rare Book and Manuscript Library. The Rubenstein Library established the Archive of Documentary Arts after acquiring the photographs and papers of Paul Kwilecki in 1991 (Duke University Libraries, n.d.). During the following year, the archive also acquired the photographs and writings of William Gedney, which strengthened the institution’s commitment to collecting the complete archives of documentary artists including their negatives, proofs, prints, journals, and other items (Duke University Libraries, n.d.).

The acquisitions of both Kwilecki and Gedney’s collections still remain two of the largest photography collections in the archive. The Paul Kwilecki collections contains approximately 9,480 items including negatives, contact sheets, and black and white photographic prints (Duke University Libraries, 2017). The William Gedney collection contains approximately 56,871 items in various formats including “negatives, contact sheets, work prints, exhibit-quality prints, test prints, personal snapshots, and slides” (Duke University Libraries, 2015).

After acquiring these artists’ archives and similar large photography collections, the Technical Services staff works with the curator to assess the collections and determine which level of processing is appropriate for their materials. To assist with this assessment, the department has developed a rating scale that presents four potential levels of processing for a collection. Typically, large film photography collections receive either Level 3 or Level 4 processing, which are equivalent to either the folder or item level.
When the level of processing has been determined, the staff often drafts a proposal that addresses the expected processing strategy, including the planned series to feature in a collection, the necessary levels of description and housing for items, and the required staffing needs.

Once processing begins for a collection, the staff inspects its contents for any urgent conservation issues that they need to address before continuing. If the collection already has an identification system for its images, the staff tries to incorporate that original system into the institutional identifiers that they assign to the collection. Otherwise, the staff assigns unique institutional identifiers to items in the collection based on the planned levels of processing.

If the photographs are candidates for digitization, the collection receives Level 4 processing, which involves re-housing and describing those materials at the item-level. Staff members may also complete more intensive conservation measures for this level of processing or generate additional metadata at this stage to prepare for the digitization process.

Alternatively, if the materials in a collection will not be digitized, they frequently receive Level 3 processing. At this level of processing, the Technical Services staff arrange and describe collection materials at the folder level. Technical Services staff re-house some items if they are not in folders or if the old folders are damaged. Otherwise, the staff leaves items in their original enclosures. The staff may also create additional series when organizing the collection. Typically, they arrange these folders and series in either chronological or alphabetical order depending on their contents.
After the staff arranges and describes a collection, they separate its various photographic formats for storage, regardless of which level of processing it receives. The staff separates black and white negatives from color, and they also separate prints by format. Once the staff separates the materials, they create a finding aid for the collection based on its level of description. Thus, finding aids for Level 3 collections would include folder-level information and finding aids for Level 4 collections would include item-level information. The Technical Services staff also creates a catalog record using data from the collection’s finding aid and adds it to the library catalog. Finally, the staff prints and assigns barcodes and box labels to identify the collection materials after completing all of the other processing steps.
Figure 7. Duke University Technical Services Photograph Collections

Initial acquisition of collection

Alert curator of collection's arrival

Create accession record and preliminary catalog record for collection

Check for urgent conservation issues (send to conservation staff if necessary)

Add project to Trello tracking board

Wait for Manuscript Unit head to assign processor to collection

Will the collection be digitized?

Yes

Discuss metadata and arrangement to conform to digitization standards

No

Draft proposal for processing and description strategy (series, metadata, housing, staff, etc.)

Did the creator employ a system of image identification?

Yes

Try to incorporate legacy system into institutional identifiers

No

Staff assigns numbering sequence for institutional identifiers

Document processing and description strategy and progress on Trello tracking board

What level of processing and description will be applied?

Level 3 Processing

Store loose materials in new enclosures

Re-house materials if original folders are damaged

Create series and subseries if necessary

Level 4 Processing

Arrange folders in order (chronologic or alphabetic)

Separate black and white / color negatives and prints

Describe materials at the folder level

Re-house some or all materials at the item level

Complete more intensive conservation if necessary

Separate black and white / color negatives and prints

Describe some or all materials at the item level using required metadata elements

Capture additional option metadata if needed (dimensions, inscriptions, subject terms, etc.)

Create finding aid according to level of description

Create catalog record from finding aid data

Create barcodes and box labels
Discussion

After reviewing the workflows for each participating institution, several similarities and differences became clear when comparing their processing procedures. Many of the institutions emphasized the need to assess the contents of a collection as an important initial step in their workflows. By assessing the collections early on, institutions were able to determine an appropriate level of processing based on the collection materials and their expected uses. To some extent, assessing collections allowed institutions to determine if they could apply minimal processing strategies to those materials. These processing decisions contributed to subsequent steps in their workflows, including whether or not to retain an existing numbering system for identifying images, what degree of re-housing was necessary, and the level of description they would apply to the collections’ materials. Although several institutions followed workflows that included options for processing large photography collections at the collection, series or folder levels; the majority of participating institutions arranged and described their materials at the item level.

Nearly all of the institutions separated photographic materials by format when arranging their collections. Typically, institutions separated black and white and color materials and stored them in different locations as a preservation measure. Almost all of the institutions processed and stored negatives separately from prints. In addition, two of
the seven institutions stored some materials from their large film photography collections in separate cold storage areas.

Two other institutions included weeding as an additional step in their processing workflows. One of these institutions weeded damaged negatives from their collection after digitizing the images. Another institution weeded duplicate or redundant studio portraits when arranging and processing their collection.

Institutions also demonstrated different approaches to creating finding aids and catalog records when describing their collections. Several institutions created initial catalog records soon after accessioning the collections and updated these initial catalog records with additional information during later stages of processing. In some cases, institutions created finding aids prior to physically processing the collections. Other institutions included finding aid creation in the final stages in their workflows.

Four of the seven institutions noted that they may create both finding aids and catalog records for collections depending on how they choose to process their materials. While two of the institutions always created finding aids and catalog records for their collections, the other two institutions provided different reasons for creating both finding aids and catalog records. One institution reported that if they digitized items from a collection, they also created catalog records in addition to writing a finding aid. The other institution stated that they may create an internal finding aid to supplement existing catalog records if their staff identified a need for additional description when assisting researchers. Rather than creating finding aids and/or catalog records, other institutions utilized databases or collections management software to index and search for items in their collections.
The differences in these approaches may be a reflection of the varying practices followed by library, archives and museum professionals. However, the discrepancies between the workflows in this study demonstrate the range of practices that cultural heritage institutions use when processing large film photography collections.

**Influence of More Product Less Process (MPLP)**

When asked about Greene and Meissner’s More Product, Less Process recommendations and their potential influence on processing large photography collections at participating institutions, six of the seven interviewees noted that they were familiar with the basic concepts of MPLP. Although every participating institution described some or all of their collections at the item level, many used aspects of minimal processing in their workflows. Interviewees frequently reported that their institutions considered a variety of factors when determining the necessary levels of arrangement, description, and preservation for large film photography collections. One participant described the factors considered by her institution for processing large photography collections as “a combination of internal needs, research requests, and digitization projects.”

While MPLP encouraged archivists to avoid performing unnecessary item-level work, Greene and Meissner also recommended that institutions define appropriate minimal processing guidelines based on the specific needs of their collections and institutions. One participant clearly summarized this aspect of MPLP when stating:
What MPLP acknowledged or rather shouted was that… we have huge backlogs because we adhere to this kind of excruciatingly granular level of description, when in fact we should be analyzing our collections more and applying different descriptive practices to them based on criteria that is institution specific.

Furthermore, several of the participants pointed out that previous archivists made the decisions to process large photography collections at the item level in their institutions, and that their institutions were continuing that level of processing in order to maintain consistency within each collection. As one participant noted, “[b]efore MPLP, it was item-level for photographs all the way… Now it's a little bit different.” In fact, Greene and Meissner (2005) specifically wrote that they were “not arguing that some exceptional collections do not deserve more meticulous—even item-level—processing” (p. 254). Rather, they urged archivists to rethink their practices, in order to reduce backlogs and avoid the prescriptive approaches for arrangement, description, and preservation that the profession previously considered to be the standard for processing large collections.

A lasting takeaway that several participants mentioned about MPLP was the flexibility it offers to institutions in terms of how they define what it means to completely process a collection. As one participant stated,

What I really like is the flexibility… you know, we don't do all item-level work, and there's no way we can. So, we've decided with these big photographic collections to really apply different levels and process them into different components… I think that's been one of the best things we did.

While the participants in this study largely acknowledged that “MPLP only works for certain kinds of things,” Greene and Meissner’s recommendations provide archivists with
a starting point for processing large collections and the option of tailoring their workflows to what is determined to be the best option for their institutions.

This flexibility was apparent both in terms of the initial accessioning and processing of collections, and the potential for reevaluating their levels of arrangement and description at a later time. When elaborating on this approach, one participant mentioned that “the way to build off of MPL… is to acknowledge that maybe it's not enough and you need to go back and describe further, and that's okay.”

**Processing considerations**

**Condition**

Participants cited a variety of considerations that influenced the level of processing that their institutions applied to large photography collections. Among these considerations were the overall condition of a collection, its original order, and any identifying information that was already associated with the photographs at the time of accessioning. When discussing the importance of having existing identifying information for photography collections one participant joked, “I told someone that I'm pretty crazy, but I wouldn't take [thousands of] negatives unidentified.”

Institutions were likely to leave collections in their original order if they included series and identification systems from their creators or donors. Although maintaining original order is now a common practice when processing many kinds of archival collections, Greene and Meissner (2005) specifically recommended this approach as one way to facilitate minimal processing and reduce backlogs. Several participants confirmed
this when explaining that receiving collections with existing series and numbering systems helped to expedite the arrangement process. As one participant explained, “We just took it out of the boxes that [the photographer] had and put it in archival boxes just as it was, and it was fine.” When discussing a similar decision about retaining a collection’s existing numbering system for identifying items, another participant noted that it “was kind of the pivot around which everything else revolved… so it was wonderful.”

**Value**

Participants also emphasized that the perceived value of materials in a collection was a main factor in determining what level of processing it would receive. As one participant stated, “it isn't just the size, but it's also the value of the collection.” Many of the participants noted that the large photography collections at their institutions had a high research value and were among their most requested and frequently used resources:

They have very high research value, and one of the reasons is because they are well labeled by the photographers.

The… collections I mentioned, as I said, high research value, frequently requested by pretty much all of our researchers… So everybody loves these photographs, right?

We get a lot of requests for portraits… let's say they want portraits of all the YMCA presidents or all the people who were the board presidents for the Salvation Army… I really get asked that, so we use the collection quite a bit.

Aside from evaluating photography collections based on their research value, one participant noted that her institution considered other sources of value as well. The participant explained, “that can be financial, it can be research… there all kinds of value; exhibit value, condition, the frequency of use and demand on it, the types of uses.”
In addition, participants mentioned that comparing the potential value of certain materials within collections, as well as the different values of separate collections, was one way of determining how to prioritize the institution’s processing resources:

We might decide you know what, the paper materials in these institutional records are high research value, and we're going to describe those down to the series level. But we're going to leave the photographs at the series level, and if we get a request for these photographs then we might do some further processing.

Ultimately, one participant noted that taking this approach toward processing collections at her institution contributed to having some unprocessed or partially processed collections, but it also prioritized making the most valuable material accessible,

“so the result is that we have a lot of manuscript collections that aren't described, but on the other hand the collections that probably contain the richest material are described.”

**Digitization and Exhibits**

The choice to digitize items or collections was another factor that influenced the level of processing that institutions used. Participants noted that if researchers frequently requested certain images, then they would consider more detailed item-level processing, including digitizing the materials, for those collections. One participant addressed this processing consideration when stating, “if you're constantly digitizing from a collection, then of course you know you need to do that item-level description.” When discussing items in their collections, one participant noted that “they’re also our most commonly requested for digitization, so I think that's how the item-level [processing] kind of came about.” Another participant stated that when evaluating collections to determine the appropriate level of processing:
One of the main factors for how we're going to treat something is whether or not it's going to be digitized. That's like a big, big deal. If we think that something might be digitized, we will give it some sort of item-level work.

Institutions that frequently used collection materials in exhibits were also more likely to undertake detailed levels of processing for their large photography collections. One participant explained this difference in processing priorities when stating,

I was looking at specific collections… and processing them, but processing them not at the MPLP level because it was for an exhibition and a big elaborate narrative.

In addition, another participant noted that applying minimal processing to a collection actually placed their institution at a disadvantage later on, due to the popularity of its materials and their use in exhibits and other projects.

The archivist basically applied MPLP to good portions of it; and that turned out to be our downfall really, because it became… a very desirable collection that was pursued for various reasons. Either book projects [or] exhibits.

These specific uses for collections highlight the various needs of institutions and provide examples of considerations that institutions review when determining whether minimal processing is appropriate. Some collections may appear to be candidates for minimal processing, but the intended use of their materials and the institution’s future goals are also important to consider when creating processing plans for large photography collections.
Processing challenges

Common themes about the challenges that participants faced when processing large photography collections at their institutions were also apparent in the interview responses. These challenges primarily consisted of a lack of resources, including the number of staff and the available storage space at their institutions, as well as the amount of time that their institutions required to complete detailed levels of processing for photographic materials.

When joking about the amount of time involved with the item-level processing at one institution, one participant said “as I tell my cataloguing guy… he's going to finish cataloging when he's around 160 years old.” Another participant explained that rather than feeling burdened by the amount of time and effort involved in processing a large collection,

you just have to just chip away at it and not be overwhelmed by the fact that there are so many [photographs] that need to be indexed, there's so many that need to be scanned; you’ve got to do this, and that, and the other.

The number of staff at each institution was another factor that contributed to the amount of time it took to process their collections. The majority of participants noted that their institutions relied on volunteers or interns to complete some or all of the processing responsibilities for their collections. One participant explained that this challenge was not unique to their institution, but rather, “everybody seems to always be one step behind in terms of staffing. You're perpetually sort of understaffed.”

Several participants also commented on the difficulty of finding and retaining volunteers to complete processing tasks, especially when working with large collections.
As one participant explained, “that really takes a long time… and volunteers don't just last forever.” Another noted that “practicum students will stay on as volunteers until… they get a job or they get an internship elsewhere.” Other participants stated that although their institutions were able to consistently manage volunteers, they often completed processing tasks at a slower pace or with more attention to detail than was necessary for the collections. Even when enough volunteers were available, one participant noted that managing more volunteers and interns would also be challenging when stating, “obviously I need more people working on this collection if we're going to finish it… but I probably have about as many people as I can manage at the moment.”

Lastly, some participants mentioned that the amount of available storage space at their institutions was a challenge when processing these large and potentially fragile collections. Because the optimal preservation conditions for photographic materials require specific facilities including varying degrees of refrigerated storage space and separate areas for negatives and prints, older or smaller institutions may face challenges when processing and storing large collections of film photographs.
Conclusion

The goal of this study was to explore the workflows used by institutions for processing large film photography collections and to investigate whether Greene and Meissner’s More Product Less Process recommendations influenced how the participating institutions processed their collections. I conducted semi-structured interviews with seven library, archives, and museum professionals and created workflow maps from the qualitative data to visualize the procedures that each institution followed when processing their collections.

Evaluating the workflows of participating institutions may be beneficial for other professionals and institutions working with similar collections. Libraries, archives, and museums are expected to continue acquiring large film photography collections as they become available from donors like newspapers, businesses, and professional photographers. Furthermore, participants noted that the photographs in these collections are some of the most requested and valuable items at their institutions. The value of these materials emphasizes the importance of processing large photography collections to make them accessible to researchers.

Although the majority of participating institutions described some or all of their collections at the item level, several incorporated elements of minimal processing into their workflows. This included using existing numbering systems for identifying collection materials and leaving images in their original enclosures. Participants noted
that it was important to assess large collections using their institutions’ workflows, because it allowed them to determine an appropriate level of arrangement and description before processing the materials.

However, participants also stated that their institutions have specific needs that minimal processing approaches to large photography collections may not fulfill. Even so, participants noted that they appreciated the amount of flexibility that they could apply to processing large film photography collections when considering Green and Meissner’s (2005) More Product Less Product recommendations.

Differences between the participating institutions’ workflows included the use of finding aids, catalog records, and collection management software for describing large photography collections. These approaches may be a reflection of the various practices followed by library, archives and museum professionals. Workflows also varied between institutions that were digitizing their collections. The discrepancies in these workflows demonstrate the range of practices cultural heritage institutions use when processing large film photography collections.

While this study was able to collect data about the factors that influence how institutions process their large photography collections, it does have limitations. The participants who completed interviews for this study worked for relatively small cultural heritage institutions with specific collecting interests and a limited number of employees. The size of these participating institutions could impact the study’s findings, because smaller institutions may be more likely to face challenges when processing large collections than organizations that have a greater number of staff or more resources available to them.
The management of photography collections is an area of archival practice that is worthy of further study. Additional research would be helpful for addressing the limited number of publications about processing photographs in archives and special collections. Future publications could also determine whether the processing workflows, challenges, and considerations discussed by participants in this study are applicable to other, larger institutions.
Bibliography


Appendix A: Recruitment Email

Hello [Professional or Group],

I am a graduate student in the Master of Science in Library Science program at the University of North Carolina Chapel Hill, and I am writing to ask for your participation in a research study I am conducting. This study is titled Product, process, and photographs: Archival workflows and MPLP in large photography collections. The study’s purpose is to illustrate specific workflows that archives use when processing large film photography collections and to explore whether MPLP was considered when these workflows were developed.

Archivists employed in institutions with large film photography collections are eligible to participate. While large photography collections may vary in size, they are defined as having more items than can be viewed, arranged, or described at any one time for the purpose of this study. Many large photography collections will likely contain thousands or millions of items.

Your participation in this study is entirely voluntary. Participants will complete an interview that is expected to last approximately one hour. When possible, these interviews will be conducted in-person, if participating archivists are located within a reasonable traveling distance from Chapel Hill, NC. If travel is not possible, interviews may be conducted via telephone or online video chat software, like Skype. Compensation is not provided for this study, but your participation will contribute to a better understanding of archival practices in this specialized area.

If you are interested in participating in this study, please contact me at jessemo@live.unc.edu. You may also contact my faculty advisor, Dr. Christopher (Cal) Lee, at callee@email.unc.edu or (919) 962-7024. I appreciate your consideration.

Best regards,

Jesse Moore
MSLS Candidate - Spring 2018
School of Information and Library Science
University of North Carolina at Chapel Hill
jessemo@live.unc.edu
Appendix B: Research Information Sheet

University of North Carolina at Chapel Hill
Research Information Sheet
IRB Study #: 17-3030

Title of Study: Product, process, and photographs: Archival workflows and MPLP in large photography collections

Principal Investigator: Jesse Moore
UNC-Chapel Hill Department: School of Information and Library Science
Email Address: jessemo@live.unc.edu
Faculty Advisor: Christopher A. (Cal) Lee, School of Information and Library Science
Faculty Advisor Phone Number: (919) 962-7024
Faculty Advisor email: callee@email.unc.edu

The purpose of this research study is to illustrate the workflows archives use when processing large film photography collections and to explore whether the More Product Less Process minimal processing recommendations were considered when developing these workflows. You are being asked to take part in this research study because you have been identified as an archivist who works with one or more large film photography collections.

Being in a research study is completely voluntary. You can choose not to be in this research study. You can also agree to participate now and change your mind later. If you agree to take part in this research, you will be asked to complete an interview to discuss your institution’s archival workflows and practices. This interview will include questions about the procedures you follow when arranging and describing large film photography collections and whether More Product Less Process minimal processing guidelines were considered when developing these workflows.

Your participation in this study is expected to take about one hour to complete an interview. Other involvement in this study may include answering brief follow-up emails to clarify interview responses or to review the findings from your original interview. We expect that approximately 8-10 people will take part in this research study. Direct benefits are not expected from taking part in this research study, but your participation will contribute to a better understanding of archival practices in this specialized area.
This project was determined to be exempt from federal human subjects research regulations.

The possible risks to you in taking part in this research are:
- Interviews, scheduling, or follow-up communications are not expected to contribute to physical, psychological, or social risks for study participants.
- However, due to the relatively limited number of archivists working with large archival photograph collections, there may be a risk of disclosing your identity through deductive reasoning of the study’s findings.

To protect your identity as a research subject:
- Interview questions will focus primarily on institutional workflows and your general professional practices.
- You can decide how much information you are comfortable providing about your institution’s workflows and your professional practices.
- It will be necessary to collect contact information including your name, email address, and telephone number to communicate during the study, but personal information will be stored separately from the interview data in a password-protected document. This document will be kept in a different location than the research data and will be used by the researcher to link participants’ personal information to their de-identified interview responses.
- The only person with access to personally identifiable information data will be the researcher.
- The collected interview data will not be stored alongside or directly associated with your name.
- The study’s resulting workflow illustrations will be identified by institution name only.
- All digital audio recordings of interviews will be retained on the researcher's password-protected personal computer.
- Digital audio recordings will be permanently deleted after all necessary interview transcription has been completed.
- At the end of the study, all interview transcripts will also be permanently deleted.

If you have any questions about this research study, please contact the Principal Investigator named at the top of this form by calling 336-575-8541 or emailing jesemo@live.unc.edu. If you have questions or concerns about your rights as a research subject, you may contact the UNC Institutional Review Board at 919-966-3113 or by emailing IRB_subjects@unc.edu.
Appendix C: Interview Guide

1. Meet participant at the planned interview location or using the agreed upon form of communication (phone, Skype, FaceTime, etc.). Thank them for taking the time to be interviewed.

2. Review study information with the participant and obtain consent from them. Explain the preference for recording interviews and obtain separate consent to record audio of the conversation.


4. Provide a general introduction to the interview:

   "I am conducting research to study the workflows that archives use when processing large photography collections. By interviewing archivists, I plan to collect information about the methods of arrangement and description they use when processing large film photography collections. Then, I will use that information in order to illustrate the specific workflows that archives follow when processing their collections. I will also ask you questions about how these workflows were established and certain factors that may have influenced their development."

5. Ask the participant if they have any additional questions about the study before beginning the interview.

6. Proceed with the interview:

   • Please describe the large photography collection (or collections) that you work with in your archive.

   • Participants will be asked probe questions to find out more details about the collection. If they work with more than one large photography collection, they will be asked to describe each collection separately.

     • How large is the collection, in terms of the number of items it contains?
     • What types of photographic formats or materials are in this collection
• Do you know what percentage of each format is found in the collection?
  • Could you estimate if you don’t know the exact percentages?

• Do you use a specific workflow when arranging and describing this collection?
  • If so, please describe the workflow.

• Additional probe questions may be needed to understand the workflow:
  • What steps do you follow for arrangement?
  • Are materials rehoused in new enclosures? (No, only some, all items)
  • At what level are the materials described? (Collection, series, box, enclosure, item)
  • Is that descriptive information available on the finding aid?

• How was this workflow developed and established?
  • Did the archivist develop it on their own or were other staff members involved?
  • Were other departments involved?
  • Has the workflow ever needed to be changed or updated?
    • If so, why?

• Was the More Product Less Process (MPLP) framework considered when developing this workflow?
  • If so, what parts of MPLP were considered?
  • Has applying concepts from MPLP been helpful for processing the collection?
    • If so, how? Has MPLP been helpful for arrangement, description, or both?

7. Conclude interview.

8. Thank the participant again. State plans to follow-up soon to confirm that their analyzed interview responses, and the workflow illustrations based on them, are accurate.