

SELECTED PAPERS

History, Technology, and Hard Work: A Field Guide to Digitizing a Large Garment Collection at a Small Institution

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Similar to a “verbal article,” we are proposing a presentation wherein we discuss the brief history of what it took to apply for the Hidden Collections grant at our institution, what transpired between receiving the great news and the grant start date, and then how things progressed for us from that point forward. We would also look live at our Omeka site and discuss the technical know-how required to get us to where we are today. We would also aim to answer a question we often ask ourselves: “With 10,000 items available, how can we communicate the strengths and unique character of our collection using a fraction of those items?” After the presentation, we envision a “think-pair-share” section so the audience can formulate questions, gather with partners to potentially generate more, and then share with the group. Our aim is to inspire other institutions that may have costume or similar collections that they aren’t sure how to approach.

While our CLIR grant project involves much collaboration, each member of our creative team, consisting of the curator/stylist, project assistant, photographer, and archivist, often works autonomously. After workflows were beginning to take root last year, everything began to flourish. In this spirit, the authors of this paper each wrote accounts of their part of the process, with the principal investigator (PI) also standing in for the initial archivist, who left the university in July. These labeled accounts are written in first person, while the history section and final two sections are more inclusive.

Dan Vinson, Principal Investigator

A Brief History

Let’s start from the very beginning. The Fashion Department at Mount Mary University (then Mount Mary College) was founded in 1965, making it the first four-year Fashion Design degree program in the country. Sister Aloyse Hessburg, fresh out of graduate school, was chosen to lead the brand-new department. The fledgling program quickly gained a number of advocates working for its benefit. One of these was Aileen Ryan, fashion editor for the Milwaukee Journal. Ryan wasted no time in connecting Sister Aloyse to influential people in New York City. Based on advice from designer Charles Kleibacker, the Fashion Department began collecting historic costumes.

The Fashion Archive of today is the result of nearly 60 years of collecting. With roughly 10,000 objects spanning from the late eighteenth to the twenty-first centuries, the collection is a priceless resource. The strengths of the Fashion Archive mirror the uniqueness of Mount Mary itself: Milwaukee area figures, female designers, and couture treasures. It features Dior, Balenciaga, Givenchy, Valentina, and Bonnie Cashin, among many others. The wealth of handmade, high-quality garments calls back to the original couture focus of Mount Mary's Fashion program. And it all harkens back to the centuries old tradition of the School Sisters of Notre Dame (SSND) who founded Mount Mary College. The SSNDs came to America with the express purpose of educating women, particularly in the needlework arts.

Why were we so anxious to digitize the Fashion Archive? Well, there are a few reasons. Although the Midwest has its share of historic costume collections, there are not any of similar size and significance in the upper Midwest. Furthermore, Mount Mary University has an active Fashion Design degree program. This means that the Fashion Archive is not just a resource for studying fashion history, but a chance for students to examine couture techniques and decades of construction methods from masters of the craft.

The Mount Mary community is full of historically marginalized groups. The museum and fashion fields have typically been spaces of privilege with significant gatekeeping to deny access to outsiders. Over the past 20 years, the Mount Mary student population has undergone a dramatic shift. Recently designated a Hispanic-Serving Institution, over 35 percent of its student body is Hispanic and 66 percent identify as women of color. Additionally, 45 percent are first-generation college students, with many of that number coming from immigrant families. Sixty-five percent of students are eligible for Pell grants to fund their university education.

Flash forward to 2017. A dean won a small grant from the Stella Jones Foundation. This pilot grant collection was 32 Hubert de Givenchy garments, photographed by an adjunct professor in the Fashion Department who knew textile history and a bit about photography. Our IT Department set up Omeka, an open-source online exhibition platform, and Filezilla, a file transfer program, while the grant bought a computer with sizable memory, lights, and also photography software with a 360° output option. Spinning garments with high-definition zoom capability was our goal from the outset. Most historic costumes are not photographed this way. We looked at similar online collections to match or exceed their styles of display. The team's philosophy was and is to give users the most detailed views possible of each item.

The adjunct, the university archivist, and the library director started a workflow and digitized for a summer. In the end, this pilot Omeka exhibition turned out well enough, although the zooming capability wowed no one. Once the new (now previous) president was firmly in place, we planned to apply for a CLIR grant to digitize much more. While our 2019 proposal was not accepted, our 2020 one was, happily.

Metadata Choices

For the proposal, we had to choose a metadata schema and controlled vocabulary. We struggled to find a useful schema, as most did not specialize in objects. We explored the Visual Resources Association Core (VRA Core), among others, but apparel entries or even textiles generally were not specific enough to be a good choice. While reading some articles about institutions that had

digitized garment collections, Dan came across Costume Core. Based on Dublin Core, it was designed by a professor with a lengthy history in digital visual arts collections and it aimed to address the very metadata schema gap we had. Choosing a controlled vocabulary was challenging for similar reasons. We ultimately arrived at the Getty Research Institute's Union List of Artist Names (ULAN), as a spot check of lesser-known fashion designers from our Fashion Archive yielded decent results in the ULAN compared to other options.

On the Eve of the Grant

Learning we had won the grant set a number of things in motion: needing to hire a curator/stylist, a photographer, and fashion students; finalizing the space for photography and updating photography software; and taking stock of supplies on hand that we thought might work. Each of these brought challenges. Grant hiring was new to Dan, and there were unexpected hoops to jump through. Since we had a photographer in mind who had already worked at Mount Mary fashion shows, he was hired as a contractor. The university's photo studio was the ideal space to shoot in, but it came with baggage from before the pandemic. The software purchased by the previous grant needed updating, as did the computer with lots of memory, since it had been essentially sitting idle since early 2018. The pilot grant had also purchased some lights, a backdrop, a camera, and, most importantly, a turntable. There were other supplies in the room that no other players wanted to take ownership of. All these challenges got sorted out just in time. As outlined later, once the project began, the photography studio was a challenge to keep secure. With Public Safety's help, we cleared this up. Additionally, one of the storage spaces for the Fashion Archive, which happened to contain many of the most valuable garments, would occasionally have chairs or tables shoved in it for storage. It is located just outside a large meeting room, and this was a practice for years, apparently, and without a curator, there was nobody to say anything. Dan finally found the right person with Buildings and Grounds to stop this practice.

The necessary technology was supposed to be ready by the time we began the project, but our IT Department experienced frequent staff changes and shake-ups that spring that left them unable to see to grant-related issues. It took extra time to get Omeka updated to the current version, as well as to get the additional software our photographer wanted installed on the studio computer. As we experimented with Omeka themes, it also took time to get those downloaded. We are using Omeka Classic, which is server-based and hosted on campus. IT locks downloading as a matter of practice, so we have to rely on them for downloads and updates.

Dan called several meetings with the creative team to establish workflows. Within the first two months, solid content was arriving online regularly. The wider CLIR team of consultants, consisting of the Fashion Department chair, fashion executive fellow, and dean of the School of Arts and Design, began to meet in the fall. The full team was integral in exploring Omeka as well as troubleshooting, as our initial grant archivist continued teaching himself various aspects of the platform. He taught himself everything he learned either through experimentation or through Omeka documentation and forums. He took meeting feedback and tweaked and then asked for feedback again. We finally agreed on a theme and site structure in October.

Without a web developer, open-source Omeka has its limitations. We had to create workarounds, chiefly regarding the 360° view placed inside an iframe. Zooming is only available in full screen mode and, in fact, within the iframe the zoom does not work. So, we had to create code that opens

the 360° view in a new tab. This is fine, unless a visitor does not see the link. And there are a couple of nuances to using the 360° view controls that will escape some. Overall, however, despite its major learning curve early on, Omeka has worked out well for our project.

Amanda Cacich, CLIR Grant Curator/Stylist

Hit the Ground Curating

When I started as curator/stylist in July 2021, I had three main priorities: determine what supplies were needed, figure out a workflow with the other team members, and get to know the Fashion Archive. The supplies needed could be divided into two categories: materials for photography and materials for storage. Due to my background working with costume collections, I was immediately able to identify what storage supplies to order. Part of the stated goal of the grant is to leave the collection better than we found it. To this end, we invested in fresh archival tissue, materials to make padded hangers, and labeling supplies.

For photography supplies, there were three Dorfman adjustable dress forms from the 2018 pilot grant. I did some initial trials mounting garments on these. While these soft mannequins worked well for small-sized clothing, they were not going to be the best choice for larger pieces. We ordered two more of the soft type and three larger fiberglass mannequins from Mannequin Mall. This system has worked well for us due to the variety of eras and designers in our collection. Having eight mannequins to work with has been essential to maintaining our workflow.

Speaking of workflow, the CLIR grant team discussed early how to efficiently move garments and information between the various key players. How could we keep track of which garments were ready to be photographed? How would photographed items and descriptions make their way onto the Omeka site? Due to some technical difficulties with our IT Department, we finally decided to use Google Drive so all team members could access the documents. The photographer and I created a standard Google Sheet that would move through various folders as the garment was prepped, photographed, and uploaded to Omeka. I create the sheet for each item. I input all descriptive information and relevant provenance from our collections database, PastPerfect. I also include instructions for photography, including desired detail shots. This is saved into a folder called “To Photo.” Our photographer refers to this sheet once the dressed mannequin is in the studio and on the turntable. He makes note of when the garment has been photographed and moves the sheet to the folder called “To Web.” From there, our archivist takes all the information, along with the image files, and uploads it to Omeka. We’ve finessed the process along the way, but the basic formula has remained the same for the past 15 months.

With supplies accounted for and a workflow arranged, I now had to make decisions on what pieces from the collection to feature. Since the most recent curator left over eight years ago and there have been significant changes in the faculty and staff of the department, not many people were knowledgeable of what was in the Fashion Archive. In order to make informed selections, I needed to familiarize myself with the collection. I ran into my first challenge when searching the collections database. The locations listed for items were vague and unhelpful. Many objects did not have records at all. This meant that I could not just perform a quick search for different designers or eras because the information generated would not necessarily be correct.

Fortunately, I had two project assistants, both Mount Mary fashion students, assisting me at this time. They quickly began a large inventory project. I created a more sophisticated location system and went to work labeling shelving units and cabinets. Once various sections were inventoried by the students, I updated locations in PastPerfect using the system I had created. I also created new object records when necessary, digging through old catalog records to get donor information. This has been a long and tedious process, and we still are not finished. However, I feel much more confident in my knowledge of the Fashion Archive and my ability to prioritize garments to photograph.

Selection Process

One of the aspects of this process that people are most curious about is how garments are selected for photography. Highlighting the voices of minorities and underrepresented communities has always been the highest priority. During my assessment of the Fashion Archive, special note was taken of opportunities to tell forgotten or ignored histories. The result has been a strong emphasis on female designers, as it represents both a strength of this particular collection as well as a group whose contributions to fashion have largely been overlooked. Furthermore, several female designers had relationships with Mount Mary University. The most notable are Pauline Trigere and Bonnie Cashin. As an all-women's university with a sixty-year-old Fashion Design program, Mount Mary is uniquely qualified to tell the stories of female designers.

Another opportunity was to emphasize designers or personalities with connections to Milwaukee and Wisconsin. Three of the most significant so far are a large collection of garments worn by chanteuse Hildegard; hats created by milliner Frank Olive, a favorite at the Kentucky Derby; and clothing from legendary childrenswear designer Florence Eiseman. All three have roots in Milwaukee, and their work is barely represented online.

To maximize efficiency, I try to prepare all garments in a collection as much as possible before photography. The first step is identifying all items. This happens in a few ways. First, I do a search in the database. Knowing that all garments might not have database records, I search through catalog records to find keywords or names. I make sure each garment has a database record, creating one if necessary, with accurate information and location detail. The initial grant archivist also enhanced catalog records when possible. Once I've compiled a list of all garments within a collection, I relocate the items to the main workroom for the project assistants and I begin physical preparation.

Each item gets a new archival tag, an accession label made of twill tape and sewn inside, and a padded hanger or fresh archival tissue inside its box. Items are arranged by accession number so they are easier to find in the future. During this stage, I create a spreadsheet to track which items within the collection have been photographed and when. I also use this spreadsheet to track when the items are returned to storage.

Marshall Lee, CLIR Grant Photographer

Pre-setup and Challenges

There were a number of hurdles to be overcome when I started working on the CLIR project. The proof of concept was completed years before in 2018 through an earlier grant. Another

photographer oversaw the purchasing of the equipment and software and created the first shooting process. This adjunct professor did not have a professional photography background, and that added some challenges into the remount of the project when I joined the team.

As Dan mentioned previously, an early challenge was the university's photo studio. The pilot grant gear had been there for three years without supervision while the studio was used by many different departments, including Marketing, and a photography course, with people with varying degrees of studio photography knowledge. The grant equipment was intermingled with university-owned photographic equipment. Due to the laissez-faire management of the studio, the room and equipment were not clean or organized. I inventoried, cleaned, and tested the equipment, a process that lasted several weeks. The room was fully cleaned, old white paper backgrounds were removed, some new items were purchased, and software updated.

Another difficulty was integrating our new needs while using gear and software purchased in 2018. The original 360° Iconasys program lacked some basic editing functions, so we added software that could handle our new archival level process. The pilot grant camera and lighting were bought on a tight budget. Based on my years of experience, I made the decision to upgrade to a higher quality lens and buy an AC adaptor to eliminate battery use. We are slowly upgrading the lamps to LEDs that match the color temperature, replacing the old constant lights with soft boxes that were purchased when fluorescent lamps were the norm. The previous white paper background was changed to a neutral gray, and a gray card was purchased to assure the correct white balance. Adobe Lightroom was added, as the Iconasys program could not work with RAW (or TIFF) files. I use this to color-correct and crop all the images. I make a JPEG copy of these files to work with Iconasys for the 360° spin.

With three separate programs open on our studio computer working with 37 images (with each image around 23 MB), I got the rare chance to watch a computer work in slow motion. To increase efficiency, we upgraded our computer RAM. This took a while to purchase and set up with our IT Department, who was stretched thin.

Once we figured out the process for a standard garment over the first couple of months, the project ran smoothly and quickly. Things changed when we eventually moved to accessories within our collection: hats, shoes, purses, and flat pieces. Through trial and error, set pieces were bought, built, or found to properly display these accessories and the lighting was adjusted accordingly. After tackling a variety of objects we feel confident in handling similar challenges.

An ongoing struggle has been adapting to, rather than solving, certain problems. With our team spread across the campus in three different buildings, communication can be difficult. The curator/stylist and I do not have campus phones in our work areas, and cell phone service can be spotty in our basement work spaces. Balancing my own desire for perfection with the reality of limited time and resources is a never-ending endeavor. It is tempting to spend hours fully cleaning dust off each garment, but in the interest of the grant it makes more sense to not aim for magazine-level perfection. By spending somewhat less time on each individual garment, we can digitize more.

Photography Process

Unless in use briefly by a campus department, the unused half of the studio is mostly open for staging of garments before and after they go on set. The project assistants or the curator/stylist bring items from our storage through a tunnel that extends about 500 feet into another campus building. This includes two turns and two ramps. The dress forms are dressed in the studio and garments are steamed, cleaned, and styled as needed by the project assistants or the curator/stylist. At this point garments are ready to be shot.

I usually work alone in the studio. To create a 360° spin shot I first move the garment onto the set and place it on the center of the turntable. This is a 21-inch turntable, USB-controlled, from Iconasys. The lighting consists of six hot lights on stands with attached soft boxes; four in front of the garment and two lighting the backdrop. Each one contains four fluorescent lamps and one LED cobb light; all at 5500k. Lighting is adjusted if needed. Using the Iconasys Shutter Stream 360° software, I check camera position and focus and adjust as needed. Once everything looks good, I take a single image with the gray card in the shot (currently we use a Canon Rebel SLR camera with a 24mm prime lens). This image is checked for focus and saved as a RAW file.

The garment is now ready for its main photography. After removing the gray card and rechecking the focus one last time, the automated process can be started. The program moves the turntable 10° and snaps an image. The program creates 36 23-MB, RAW images. Upon completion, I check the focus one last time. Because the software is a bit lacking, I need to open all 37 images in Adobe Lightroom. Once there I work on the gray card image. I take the white balance, adjust lightness/darkness, and crop the image. These settings are then applied to the other 36 images. At this point I am able to see the spin by scrolling through all 36 images. If anything gets cut off or goes out of frame in the spin, the crop can be readjusted. If everything looks good, I will export the 36 images as JPEGs at around 3000 KB file size each.

The next step is using the Iconasys 360° View Creator software to make the HTML5 code needed to display the spin on a website. I import the 36 JPEG images and adjust the output sizing. We want the final image to display no larger than 400 px × 600 px on the web page. The location and color of the controls may need to be adjusted. If I am happy with the look, I let the program process the images and create an HTML5 output folder. At the end of the shooting day, all output folders are deposited in FileZilla, where the grant archivist uses them for Omeka. If there is an additional 360° series needed (for example: remove the coat and shoot another 360°) I restyle the garment and shoot that set of images. For some garments there will be one or more detailed images of something noteworthy, such as buttons, a closure, or stitch that cannot be easily seen in the rotation. These single images are set up and photographed manually. The lighting and camera position may have to be changed for these images. In addition, holding open the garment to see interior stitching or seams may require studio gear and restyling. This is where my product photography background comes in handy. Using clamps, monofilament, wire, wooden sticks, gaffer tape, and makeup sponges we try to display what needs to be seen while hiding all these materials holding it in place. This is all done in a way not to damage the garment.

Upon completion of the day of shooting, file management comes into play. All archival images (high-resolution RAW images) get copied to a backup hard drive and then the originals get moved to a “backed up” folder. The JPEG copies are also stored in another folder to save time if another

spin copy is needed. The copied HTML5 folders are also moved to a storage folder to save time in case another spin copy is needed quickly. The photographed garments are removed from the set by the project assistant or curator/stylist and taken back to storage. We expect to get between 10 and 20 percent of the project done during the grant period. Another set of garments is always on the way to be photographed.

Moving Right Along

Around the five-month mark, content was flowing and everyone excelled in their work. IT had stopped imploding and a key member who had left returned in December. This was good, as he was the Omeka administrator! We had a few fashion-inclined donors visit the CLIR spaces. Occasionally students stopped by the studio, located in a high-traffic hallway. The full CLIR team then began to focus on how to promote the project both on campus and more widely. *Mount Mary Magazine*, which gets sent to thousands of alumni, among others, featured the project in the Spring 2022 issue. In early spring we presented our progress to the university's corporate Board of Trustees. We have received research questions. Unfortunately, settling in also meant a touch of complacency with spending.

Around six months in, after digging and asking some questions of people he thought were monitoring, Dan became aware that spending in three key areas was far outpacing the proposal. Dan and the university's grants manager finally began receiving up-to-date numbers consistently from the Business Office. After consulting with the grants manager, who left in April, in the spring of 2022, we ended up instituting a work slowdown. (The grants manager returned in June.) We had been operating rapidly for several good months. Great for content, but not for the budget. Spending did slow fairly well, and when one of our two project assistants, both Mount Mary Fashion students, graduated in May, we decided not to add another. Luckily, our other project assistant is staying with us for another year!

In late spring, a university air quality test yielded high levels of particulates in the main Fashion Archive storage space and the photography studio. These were not dangerous particulates, but still cause for concern. The university initially planned to jump right into a major cleaning of both spaces with Buildings and Grounds staff, but, luckily, the curator/stylist and photographer were able to successfully pause this. Among their concerns: Where exactly were 10,000 pieces going to be safely stored during cleaning? How would they be stored? How would they be transported? What chemicals would be used? After eventually meeting with the curator/stylist and photographer, who explained the need for strategic and careful cleaning, the administrators decided to postpone. They have held other meetings with the wider team to plan properly. HEPA filter machines were placed in each space for the short term, and a mindful, professional cleaning will likely take place over the winter interim.

When the CLIR grant archivist, who helped craft the both proposals and worked on the grant for over a year, left in July, it created a major backlog for garments waiting to go online. The PI simply could not keep up. Luckily, our new archivist began remotely last month and is doing very well!

Next Steps and Hopeful Outcomes

In addition to continued digitization, marketing the project and the Fashion Archive is key. This has been challenging. Just when a video marketing initiative was supposed to take root last summer, the leadership of Mount Mary's Marketing Department changed. Despite the size of this grant, the CLIR project never quite seems to be a high priority for the university. Another hope we had for promotion was through Recollection Wisconsin, a digital hub for dozens of Wisconsin institutions. Recollection Wisconsin also feeds into the Digital Public Library of America. They harvest metadata four times per year. We thought everything was ready in the spring, but it turned out we were not populating two required fields and the harvest failed. Through a lot of backtracking, our initial archivist populated the subject and item type fields. Unfortunately, he had not gotten very far when he left in July. The PI continued this work for the next two months, but did not finish before the September harvest. The next harvest is in March, and we will be ready.

Our long-term goal is to make researchers, academics, and students aware of the Fashion Archive as a resource for study and inspiration. We'd like to engage with other institutions about lending pieces from our collections for exhibit and promote our collection to fashion and textile scholars. If these plans come to fruition, a curator position would need to become permanent. A new, climate-controlled storage location would be an ideal outcome. This new facility would have a full photo studio for continued digitization and spaces for handling the collection, processing new donations, and hosting researchers.

In the short term, we aim to finally create videos with the Marketing Department for each stage of the workflow; our curator will submit a proposal for the annual conference of the influential Costume Society of America held in May; we will explore becoming a partner in the Google Arts and Culture platform; we plan to update publish this paper as an article in the future, and we will continue highlighting hidden garments from marginalized or forgotten fashion designers.

Epilogue

Our CLIR grant funding concluded on May 31, 2023. The authors of this paper, along with our second grant archivist, Laura Vavrosky, wrote and published a journal article of the same title based on this content in the *Journal of Digital Media Management*. It is available by subscription only, but you can read the [abstract online](#). The publisher of the journal contacted us after Amanda's symposium presentation last October. ●

Author Bios

AMANDA CACICH is the curator/stylist for the Council on Library and Information Resources grant. She has an MS in Museum Studies with an emphasis on Dress and Textile Histories from the University of Glasgow. She has worked with textile collections in the US and UK, with experience as a registrar, exhibition specialist, and curator.

MARSHALL LEE has a varied background. He has a degree from the University of Wisconsin–Milwaukee in Technical Theatre through the Professional Theatre Training Program. He has worked as a product photographer, a photography wet-lab manager, audio and video set-up, and currently shoots archival photography of live theater, dance, music, and fashion events. He is the photographer for this grant project.

DAN VINSON is the principal investigator (PI) for Mount Mary University's Council on Library and Information Resources grant and the director of the Library. An archivist at heart, he earned his MLIS from the University of Wisconsin–Milwaukee, as well as a Certificate in Archives and Records Administration.