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Salvaging Memories: The Recovery of Fire-Damaged Photographs and Lessons Learned in Conservation and Kindness

Debra Hess Norris and Barbara Lemmen

Presented at the PMG session of the 2016 AIC Annual Meeting in Montreal, Canada.

Abstract

With the start of our 2-week January 2015 Winterthur/University of Delaware Program in Art Conservation Photograph Conservation Block, first-year fellows and many other committed students, faculty, staff, and volunteers began the intense recovery of a collection of 260 family photographs. These images were miraculously salvaged following a catastrophic fire on Christmas Day near Columbus, Ohio, that tragically killed a loving grandmother, Terry Harris, and her three beautiful grandsons—9, 11, and 14 years old. These silver gelatin developing-out, chromogenic, and dye diffusion photographs capturing generations of the Harris family; all suffered from fire and water damage, and many were in poor condition, badly burned, or melted. Accumulated layers of grime, debris, soot, and other particulates combined with flaking or blistered gelatin binder layers required careful treatment strategies, including the use of dry and wet methods of surface cleaning. During and after treatment, photographs were housed with natural zeolites, blotters, and other absorbent materials to minimize odor. Photographs were distorted; humidification and flattening were challenging, especially given our 16-day time frame and the need to complete the entire Photograph Conservation Block curriculum simultaneously. While clearly still burned, distorted, and dirty, these photographs were preserved; the Harris’s gratitude for our work was heartfelt and profound. This recovery educated, transformed, and inspired all who contributed their time, talent, and expertise. And it motivated us to complete another recovery project in January 2016 focused on a large collection of water-damaged photographs, salvaged following catastrophic flooding in Wimberley, Texas. This paper outlines both recoveries, the types of materials and their damages, treatment protocols, and lessons learned from project management to conservation advocacy.

Introduction

The Art Conservation Department at the University of Delaware has undergraduate- and Master’s-level programs in art conservation, the latter in collaboration with Winterthur Museum, Library & Gardens, and a newer interdisciplinary PhD Program in Preservation Studies that began in 2005 and received permanent status in 2012. The Master of Science program has a curriculum designed to educate and prepare graduate students to be conservators of cultural property through a 3-year, 68-credit course of study that focuses on essential professional competencies as identified by the American Institute for Conservation of Historic and Artistic Works.

The first-year coursework is composed of nine specialty-specific course blocks conducted by rotating instructors. Through examination, and cultural and scientific analysis, our students strive
to understand the physical and chemical characteristics of many classes of objects in order to gain an understanding of deterioration processes, determine appropriate conservation treatments, and better understand the objects and their creators. Preventive care strategies are an important focus throughout the year.

The first-year Photograph Conservation Block covers a 2.5 (sometimes you have 2 and sometimes 2.5) week curriculum focused on mastering an understanding of the range of photographic processes (prints and negatives) and their preservation. Process identification, scientific exploration, surface cleaning practice and protocols (often developed in consultation with Richard Wolbers), fundamental readings, risk assessment, advocacy, and fundraising continue to be the hallmarks of this course of study. In January 2015 and 2016, an additional emergency response activity of immense proportion— the methodical recovery of nearly 500 severely damaged fire- and water-damaged photographs—was incorporated into the curriculum.

These somewhat unanticipated and perhaps overly ambitious assignments enabled our students, faculty, and staff to work in collaboration. Developing a safe protocol that would allow this work to be completed successfully within 2.5 weeks and on top of an already packed curriculum kept me up at night—thank goodness for coffee and exceptional cohorts of students — graduate, undergraduate, and pre-program — and many others deeply committed to this work and our profession. Together we observed differences in the vulnerability of silver gelatin, chromogenic color, and digital materials, honed our on-the-spot condition assessment skills, deployed traditional and new treatment methodologies, worked with masses of materials expediently and with precision and passion, and advocated for our field and its relevance on social media and to the local and global press. These projects allowed each of us to connect powerfully with communities and individuals, from Columbus, Ohio, to Wimberley, Texas, who had suffered unthinkable tragedies.

Two Recovery Operations: January 2015 and 2016

With the start of our 2-week January 2015 Winterthur/University of Delaware Program in Art Conservation Photograph Conservation Block, the ten first-year fellows began the intense recovery of a collection of 260 family photographs. These images were miraculously salvaged following a catastrophic fire on Christmas Day in Columbus, Ohio, that tragically killed a loving grandmother, Terry Harris, and her three beautiful grandchildren—all boys—9, 11, and 14 years old.
The children’s father, Ricky Harris, was a close high-school friend of our Preservation Studies doctoral student, Michael Emmons. Michael sought advice on how to salvage the photographs after discovering them laid out to dry in Ricky’s garage. Given the Photograph Block timing, it seemed perfect to offer our assistance to clean, flatten, and rehouse the heavily damaged images, preparing them for scanning at a later date. Michael worked with us closely, providing valued context and a close and still treasured connection to the Harris family.

These silver gelatin developing-out, chromogenic, and dye diffusion photographs, capturing generations of the Harris family, ranged in size and formats, including school portraits, formal portraits, photo booth strips, and Polaroids.

It is difficult to describe our sadness in dealing with this collection, but working together, we found the emotional strength to proceed. This was simultaneously one of the most challenging and rewarding projects of my professional career.

Having suffered from both fire and water damage, the photographs were in very poor condition and smelled intensely of smoke. During treatment and after, photographs were routinely housed with natural zeolites, blotters, and other absorbent materials, which were refreshed regularly to absorb the odor.

Initial examination revealed that the type, location, and extent of damage differed greatly from photograph to photograph. Many displayed moderate or severe planar distortion, including cockling and curling. Most were brittle, especially around the charred edges where the photographs were badly melted and burned. Many of these edges had large losses to the support and/or image material. In many cases, the image materials were delaminating from the support(s). The gelatin binder layers were brittle and discolored, and subsequent water damage
caused extensive bleeding of inks and dyes, and serious staining on the recto and verso. Many of the photographs displayed an uneven surface sheen and mottled surfaces. Large accretions, such as pieces of paper from original protective enclosures and segments of other photographs, were firmly adhered to each other. All of the photographs accumulated heavy layers of grime, debris, soot, and other particulates on the recto and verso. In many instances this grime, frequently irreversibly embedded in the photographic surface, obscured the image.

In May 2015, a flash flood swept down the Blanco River valley in Central Texas. Over a thousand homes in Hays County were damaged or destroyed, with the town of Wimberley (population 2,639) hit especially hard—flood waters there surged 33 feet in just 3 hours. Many homes were filled with water, while others were completely swept off their foundations and miles down the river. More than 30 lives were lost. In the aftermath, the Wimberley Valley Library offered to serve as a central gathering place for photographs found along the river, and people (mostly rescue workers) immediately began bringing in found photographs and other items. On-site recovery efforts were impressive. Given the magnitude of the recovery and the severity of the damage, we were asked to stabilize some of the most seriously damaged materials. We agreed immediately and scheduled the work for the January 2016 Photograph Conservation Block.

(See http://www.kvue.com/story/news/local/hays-county/2015/05/27/library-becomes-focal-point-for-items-scattered-by-floodwaters/28051443/)


Our flood-damaged materials included 240 photographs, ranging from 19th-century tintypes, albumen prints, and matte collodion prints, to silver gelatin (some sepia-toned), chromogenic, dye diffusion transfer, and digital materials. In addition, there were several negatives and slides and entire pages from magnetic photograph albums with their plastic cover sheets intact. The photographs ranged in size from 2” x 3” to studio portraits 11” x 14”; most were unmounted. The vast majority of silver gelatin prints were fiber-based, while the chromogenic materials were predominantly on resin-coated supports.

Table 1 below describes the nature and size of the prints as documented on day one of the project. These data allowed us to understand the range of material to be treated and to order polyester sleeves and boxes at the start of the project, given our all-too-brief time frame.
Like the 2015 materials, these photographs were in very poor and fragile condition. Water damage was extensive. Many of the photographs exhibited serious damage to the image and binder layers. Dyes were solubilized (especially at the outer edges) and gelatin binder layers badly compromised. Some materials (especially some of the silver gelatin prints) were flaking, requiring consolidation. These gelatin layers were often readily soluble in water as a result of prolonged wetting or mold growth.

Nearly all photographs exhibited extensive dirt, mud, and other caked-on debris. In many cases, this dirt was deeply embedded in the gelatin surfaces. Many photographs exhibited extensive structural damage: planar distortion, deep creases and cracks, image loss, image transfer, surface grime, dirt embedded in the photo emulsion. Some exhibited edge tears, but this damage was generally minor. Resin-coated supports were often delaminated at their outer edges. Dye diffusion transfer prints (Polaroid) were severely delaminated. In many cases, mud and dirt collected between the delaminated layers and required excavation. Localized stains were present on many of the photographs, in most cases attributed to immersion in flood waters and contact with enclosure materials, other photographs, etc. Many of the silver gelatin prints exhibited silver mirroring in their dense images areas. (This was most likely earlier damage. For the most part, their filamentary silver images were in good condition.)

Past mold damage was visible in some materials, but thankfully, active mold growth was not present, with the exception being those few images still housed in plastic enclosures. Those materials that had not been separated from their original plastic housings as part of the initial recovery were very damaged and often irrecoverable.

**Treatment Protocols**

Both disaster recovery projects offered valuable treatment applications from traditional to the more innovative or unconventional. In our 2.5-week time frame, each student examined, documented, and treated 25 or more prints, honing their hand skills and familiarity with the stabilization of often highly compromised photographic print materials.

While surface cleaning protocols varied from process to process, a careful progression from dry to wet techniques characterized many treatments. Accumulated layers of grime, debris, soot, and other particulates combined with flaking or blistered gelatin binder layers required careful
treatment strategies, including the use of dry and wet methods such as polyurethane cosmetic, polyvinyl alcohol (PVOH), and vulcanized rubber soot sponges; erasers; and aqueous solutions.

Innovations in treatment were introduced, and all procedures were carefully charted on flip-chart pads. Dry and wet techniques are summarized in Table 2.

<table>
<thead>
<tr>
<th>Dry Techniques</th>
<th>Wet Techniques</th>
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</thead>
<tbody>
<tr>
<td>Soft brushes of all sizes and types</td>
<td>Pre-moistened cosmetic sponge</td>
</tr>
<tr>
<td>Cosmetic sponges in various shapes tailored to areas of damage</td>
<td>PVOH sponge with 50/50 water and ethanol (wring out prior to use)</td>
</tr>
<tr>
<td>Tools fabricated from bamboo skewers or G-10 (fiber glass/epoxy laminate) for precision</td>
<td>Mixtures of water or water and ethanol or saliva applied with cotton swabs or balls</td>
</tr>
<tr>
<td>Block and tailored or pencil vinyl erasers</td>
<td>D4 silicone solvent applied locally in advance of water or water and ethanol solutions (D5 for longer working time)</td>
</tr>
</tbody>
</table>

Table 2: Dry and wet techniques used judiciously in the treatment of damaged photographs

Figure 5: Surface cleaning water-damaged photograph. (Courtesy Evan Krape)

The photographs recovered from both disasters were distorted and blocked; humidification and flattening of resin-coated papers were challenging, especially given our 17-day time frame and the need to complete the entire Photograph Conservation Block curriculum simultaneously. Flattening techniques varied and are summarized in Table 3.
Norris, D. H. and B. Lemmen

Salvaging Memories

<table>
<thead>
<tr>
<th>Humidification</th>
<th>Fiber-based Supports</th>
<th>Resin-coated Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich between damp blotters and Gore-Tex</td>
<td>Humidification with moisture generally not effective</td>
<td></td>
</tr>
<tr>
<td>Traditional humidity chamber with multiple images</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Flattening</th>
<th>Fiber-based Supports</th>
<th>Resin-coated Supports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flatten between polyester web and blotters or mat board, under weight</td>
<td>Dry mount press at 160°F in silicone release paper. Turn off press.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sit for 30 minutes and then flatten between blotters and under weight</td>
<td></td>
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</table>

Table 3. Humidification and Flattening Techniques for Photographic Prints

Once stabilized, the photographs from both disasters were placed in polyester sleeves and boxed. Zeolite-containing papers were cut to fit the sleeves for the fire-damaged materials to further absorb odors. These may need to be replaced in the years ahead.

In both cases, it was our hope that the sleeved photographs could be safely handled for scanning, ideally by a new team of volunteers. It was heartwarming to learn that following articles on our work, many reached out to the Harris family offering their Photoshop skills free of charge.

Final Thoughts

Benevolence and goodwill characterized these projects. We benefited immensely.

Our fire-recovery story was picked up by the Associated Press, featured in The Readers Digest and over 100 press outlets. Coverage was global, and I was approached often by those who appreciated our efforts.

Indeed, this project offered many lessons in advocacy and public communications as our students answered questions from reporters and shared their skills with camera crews. We used social media to update the public on our progress. Many followed with great interest and enthusiasm.
While clearly burned, distorted, and dirty, these photographs were preserved; the Harris family’s gratitude for our work was heartfelt and profound. I understand from our colleagues in Austin and from Facebook posts that the owners of the flood-damaged materials were grateful.

Both projects required an infusion of time, talent, equipment, and supplies. Approximately $1500 were spent on treatment and housing supplies. This cost was minimal given the more than 450 hours invested by our students, volunteers, and faculty into each project.

During these projects, we learned to set realistic and shared goals, develop systematic inventories and consistent approaches surrounding the extent of treatment (cleaning for example), and constantly reassess progress via regular class meetings and multicolored flip charts galore that documented observations daily.

Time and time again, our work in the recovery of these critically fire- and water-damaged photographic materials reminded each of us of our central responsibility to use our skills and knowledge in the examination, analysis, treatment, and care of cultural heritage to help others, and the pleasure and privilege in doing so. Although these photograph were often still singed and scarred, we understood that they and their associated memories would be cherished by many now and well into the future.

Figure 7: Kelsey Wingel and Ersang Ma examine water-damaged photographs. (Courtesy Evan Krape)
This recovery educated, transformed, and inspired all who contributed their time, talent, and expertise. In many ways, it exemplified the skill and humanity of art conservation. As a profession, we must find ways to share our skills and knowledge broadly, to be a visible presence following unthinkable tragedy, and to be a known resource for families facing the potential loss of their treasured photographs.

We are most grateful to all members of the Winterthur/University of Delaware Program in Art Conservation Classes of 2017 and 2018, faculty, staff, UD undergraduates, visiting conservators, and pre-program candidates who assisted and often led this work with exceptional determination, passion, and kindness.

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