

Burnt But Not Lost: The Conservation of Works of Art on Paper Damaged by Fire

ABSTRACT

A fire in a Santa Fe restaurant led to the destruction and damage of numerous works of art on paper by Native American artists. Despite the severe discoloration of the charred paper and the solubility of the media, the pieces were able to be recovered, aesthetically improved, and stabilized. Using an assortment of consolidants the media were fixed, then the pieces were light-bleached for long periods of time until the majority of the charred paper was reverted back to its original tone. One large, exceedingly damaged piece was leafcast and missing figures were inpainted.

On April 13, 1996, an arsonist set fire to the La Casa Sena Restaurant in Santa Fe, New Mexico. In addition to the destruction of the interior of this upscale restaurant and bar, original works of art hanging on the walls suffered severe burning.

It was reported that an intruder entered the restaurant by breaking a window on the front door, reaching in, and unlocking it. Gasoline is believed to have been the accelerant. When the fire department arrived and entered the building, they discovered seven different blazes. Corks were popping off wine bottles and a big blue flame was engulfing the bar.

The art works belonged to the Gerald Peters Gallery and the loss was estimated to be in the millions of dollars. The works were predominantly by twentieth-century Native American artists (fig. 1). Some of the art survived the ordeal with only smoke damage, but nearly half of the Indian art collection was destroyed. Of these works on paper, most date from the 1920s to 1940s and are by the

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Indians of the Rio Grande corridor. The significance of the loss is made that much worse because some of these artists had short careers or produced a limited number of pieces.

Among the many observations, it was interesting to note that works of art on paper which had been framed under Den-glass sustained less damage than other items framed under regular glass.

Much of the damage occurred where the glass broke: heat and soot penetrated and charred the paper substrate, and water damage resulted from the fire suppression system (fig. 2).

I received a call from the Gerald Peters Gallery asking if I would consider looking at pieces of art damaged during a fire. It appears that they had tried several other conservators, and all had said that there was nothing that could be done to restore the damage done. I am one who rarely throws up my hands and I thought it would be a challenge. I had never worked on a burnt piece of paper and was



Fig. 1. J. Concha, *Deer Dance*, before treatment



Fig. 2. Julian Martinez, *Dance*, showing where the broken glass let the heat affect the paper



Fig. 3. Plastic photo corners, charred and melted

intrigued to see if the charred paper was forever lost. So I saw it as a chance to experiment.

Any attempt to improve and stabilize the items would be considered a success. I experimented with some of the less severe items, attempting to see if any of the charred, blackened paper could be lightened.

In most cases, the media was casein paint, with watercolor and some gouache. I dry-cleaned the items first with a chemical sponge and then with a Staedtler Mars Plastic eraser.

Almost always there was old pressure-sensitive tape on the verso and masking tape, which, for the most part, had dried and crystallized. This tape was removed mechanically. There were further mounting problems. When pressure-sensitive tape was not used, items were frequently mounted with plastic mounting corners (fig. 3), which obviously melted and burned. Again, removal was best done mechanically, although I did try, with some success, using solvents to soften the plastic.

Although the media survived the water damage without bleeding, in most of the works the heat caused some paint to craze and become very friable. As a result, I knew I want-



Fig. 4. Light bleaching

ed to treat them aqueously. I consolidated the pigments before starting. My first choice was to use B72 in toluene. This seemed to work at first, but I found that during the long aqueous treatments and subsequent drying, the B72 wanted to cup and lift the pigment. It was difficult to remove on the suction table due to the thickness of some of the supports.

I also experimented with microcrystalline wax, dissolved in hexane, as a fixative. This was before the discovery of cyclododecane. If I was confronted with the same situation today, clearly, I would use cyclododecane because it is a superb fixative and sublimates on its own. I applied a thin film of dissolved microcrystalline wax over the pigmented areas. For removal, a combination of heat, absorbent paper, and hexane seemed to work best on the suction table.

Stain reduction was accomplished by light bleaching for very long periods of time—sometimes for days—stopping and starting again, often with addition of hydrogen peroxide to the water to enhance the bleaching (figs. 4–5). Remarkably, this seemed to be very effective. I tried sodium borohydride, with little effect. I also tried Helen Burgess's five-step chemical bleaching process: washing first, then bleaching with a dilute calcium hypochlorite solution, followed by a thorough washing, followed by an anti-chlor bath of sodium thiosulfate, again followed by a thorough washing, and, lastly, by deacidification with magnesium bicarbonate. Some of the worst items received both light and chemical bleaching. In the end, they all came out vastly improved, allowing for framing and display.

The most damaged piece was a work of art by Harrison Begay, *Haskay yahne ya (Squaw Dance)*, painted with casein colors on a light blue paper support (dimensions 22 in. x 32 in.). This piece was more than half consumed by the fire (fig. 6). It had been adhered to an acidic red board. The upper half of the paper substrate was completely gone. The lower half was stained and charred with numerous breaks and tears due to the extreme embrittlement of the paper.



Fig. 5. Detail of the water being repelled by the microcrystalline wax consolidation



Fig. 7. Detail of the carbonized “ghost” figures surviving on the cardboard backing



Fig. 6. Harrison Begay's *Squaw Dance* largely destroyed and consumed by the fire



Fig. 8. After stain reduction

Only the charred backing of the upper half remained, with a strange phenomenon: where there had been a painted figure, the carbonized backing appeared darker (fig. 7).

The item was carefully dry-cleaned as were the others. A record of the ghost images was made onto Mylar before delamination. The item was then delaminated from the backing. The remaining figures were fixed with the microcrystalline wax. The painting was then washed and light-bleached for days and days, repeating the process numerous times, until no further benefit was evident (fig. 8).

The pieces that had separated were repositioned and affixed with small Japanese paper bridges prior to infilling the loss with paper pulp by leafcasting.

Our leafcaster was too small to fit the piece, so I had to fabricate a makeshift leafcaster (fig. 9). I made a “sink” out of twelve-inch wide boards, nailed together and lined with heavy-weight polypropylene plastic. I filled this up with water. The casting sink was made a bit smaller, with a plas-



Fig. 9. Homemade leafcaster



Fig. 10. After treatment and inpainting

tic light diffuser screen mounted inside, onto which several layers of Reemay were placed to create the sieve and surface on which the piece was laid face down.

Then I had to create a lifting mechanism strong enough to lift the massive amounts of water needed for the suction process. This was done by attaching two uprights with a notch at the top into which a thick pole and crank was laid, and rope was used to connect the top corners of the casting sink. This system worked out amazingly well. But when I practiced, I realized that when I lifted the item, and it was cast, I had to hold the sink in the air and remove the cast sheet. I had not calculated into my plan a way to hold the crank in position. So, I drilled a hole in the one upright and stuck a pencil in the hole which held the crank from unwinding. Unfortunately, the vibration of drilling the hole created enough of a wave action that the nails holding the water sink pulled out and sent hundreds of gallons of water all over the floor. After cleaning up, I replaced the nails with screws and started all over. Lo and behold it worked!



Fig. 12. Concha's Deer Dance after treatment



Fig. 11. Detail of inpainting

I made a paper pulp with a light blue/green cast and in-filled the losses. I actually added extra pulp in order to create a pulp lining at the same time which facilitated the reinforcement of the cracks in the paper. The piece was dried and resized on the suction table.

Then I proceeded to remove the microcrystalline wax from the surface with heat and hexane. Finally, using the Mylar template my colleague Julie Biggs transferred the ghost figures onto the piece and inpainted with a light gray gouache, so as to hint at what was once there (figs. 10–11).

I was amazed at the success in recovering charred pages and realized that what looks like a lost cause may not always be the case. I think that sometimes we need to be experimental because it is in the risk that we learn what is possible and what is not. And we need to be willing to work outside of the box (figs. 1 and 12).

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