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Article: The treatment of a 19<sup>th</sup> century buckskin jacket

Author(s): Deborah Long

Source: *Objects Specialty Group Postprints, Volume Eight, 2001*

Pages: 150-154

Compilers: Virginia Greene and Lisa Bruno

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## THE TREATMENT OF A 19<sup>th</sup> CENTURY BUCKSKIN JACKET

Deborah Long

As a regional conservation laboratory, the Ford Center conservators treat objects from nearby museums. A recent project involves a beaded leather jacket owned by the Joslyn Art Museum in Omaha, Nebraska. The treatment of the jacket was requested as part of a permanent gallery reinstallation. The treatment was challenging and interesting on a number of levels.

The jacket was thought to have been originally owned by Logan Fontenelle, a prominent figure in the Omaha tribe. In 1854, he was a member of the Omaha delegation that signed the treaty establishing the Omaha reservation in Nebraska. Fontenelle's father was a prominent French trader and his mother was the daughter of Black Elk, an important Omaha tribal chief and elder. This gave him access to both native American and European cultural traditions. Fontenelle was killed in 1855 at the age of thirty while on a hunting expedition, when his group was attacked by a Sioux raiding party. After his death, the jacket stayed in the Fontenelle family until 1913. Just prior to her death, Fontenelle's widow gave the coat to Howard Schulenberger, a local twenty-year old bank clerk with an interest in Native American objects.

Mr. Schulenberger kept the coat for more than seventy years as a prized part of his collection of Native American materials. He displayed it with other items from various tribal groups in his home in southern California.

In 1985, at the age of ninety-one, Mr. Schulenberger wrote to the senior curator at the Joslyn Art Museum, offering the jacket for acquisition. His letter mentioned a desire for the jacket to be returned to Nebraska.

The curator, in her correspondence with Mr. Schulenberger, learned that at the suggestion of someone in a local museum, he had repaired some holes with deerskin patches. He also mentioned that the museum staff suggested that he "dress the coat inside with neat's-foot oil". Unfortunately, he didn't apply just a little, he saturated the coat with it. He further noted in his letter that "the coat will lighten up in color as in the future years it loses its softness created by the oil".

Once she received the coat, the curator hired a local objects conservator to examine and treat it prior to initial exhibition. In addition to the oil, the conservator found the coat to be covered with surface grime and to have many crude leather patches and stitched repairs. She vacuumed the object, replaced the leather patches, stitched loose seams, and cleaned the beads. Because of a concern with possible red dye transfer of some stains on the coat, as well as concerns over stiffening or damaging the leather, she decided not to remove any of the oil. The jacket was placed on a body mount and kept on nearly permanent display for the next fourteen years. On the few occasions when the jacket was in storage, it was stuffed with acid free tissue and periodically turned over. Over the years, the replacement patches darkened as they absorbed oil from the surrounding leather of the jacket.

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When the jacket arrived at the Ford Center, in 2000, the acid free tissue stuffing the arms and chest was immediately replaced, as it was once again soaked with oil. The most immediate impression that one got upon initial examination was of the great weight of the coat. The fringe was especially heavy. The style of the jacket, sometimes known as a scout jacket, was constructed with six body sections stitched together by machine with heavy cotton thread. The two-piece gusseted sleeves, and all of the fringe sections were hand stitched with sinew. The seed bead design elements were also applied with sinew. The jacket closed with six bone buttons fastened through simple slits in the leather.

Overall, the structural condition of the jacket was fair. Although there were loose threads and sinew, the pieces were structurally intact. The replacement patches were readily visible throughout the interior, although some were partially detached because the sheer volume of oil in the leather inhibited the poly vinyl acetate emulsion adhesive from adhering to the surface. The coat was sticky to the touch and smelled somewhat rancid. The surface was soiled overall and exhibited many stains. The fringe was detached from the coat in several places. There were tiny remnants of red silk ribbon that had originally lined the center front edges, and the sleeve ends had shreds of light green silk fabric caught in some hand stitching. A few small discrete areas of the body interior had red stains.

The shoulders had suffered multiple tears and holes, most of which were patched with leather. The leather on the proper left upper chest was much thinner than some of the other leather used to create the jacket. This leather seemed to be separating slowly under the constant weight of the saturated lower section. There were a few spots that were almost torn through. The sleeves were constructed from thicker leather than the body, making them very heavy and causing stress to the shoulder seams while on long term exhibit. The rows of short fringe around the sleeve ends were curled and blackened with soil.

Although the body was decorated with small seed beads, the shoulder seams were enhanced with less commonly found drawn, or cane, beads. These appeared at first to be red glass. However, upon closer inspection, the beads were found to be transparent glass with a deep red resinous coating lining the interior. This coating, which was found to be soluble in non-polar solvents, stained the long fringes over which the beads were threaded.

It appeared that the large volume of neat's-foot oil was the greatest long term threat to the stability of the jacket. If it were scheduled to go into long term storage, loose parts could simply have been tacked down and the staff could have been instructed to replace the tissue stuffing on a regular basis for the rest of the objects life. However, because the curator wanted to exhibit the jacket in the round on a body mount, on a long-term basis, it was important to reduce the overall weight somewhat more quickly and provide enough support to keep the jacket in one piece. Solvent testing showed that the oil levels could be safely reduced with Stoddard Solvent or petroleum benzine without harming the silk remnants or affecting the use/wear stains on the body interior. Some conservation literature mentioned immersion in solvent baths as an oil removal method. Because of the solubility of the resin in the beads along the shoulder fringe,

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this technique was not a suitable option for the jacket.

Many calls were made to objects conservators specializing in the treatment of ethnographic objects. Advice was sought particularly from conservators with experience in the treatment of oil soaked leather objects. While all of them were extremely sympathetic, most had removed only spots of oil. Between calls, solvent delivery methods were tested in hopes of finding the perfect solution. Tests included rolling solvent-dampened swabs across the surface, wetting the surface with non-polar solvents and applying blotters weighted down to wick them out, as well as the application of poultices. All worked somewhat, but were slow, produced uneven results, and tended to leave faint tide lines.

Tests on the Ford Center's vacuum suction table, however, did yield promising results. The table is a 40 x 60 inch Museum Services unit that can attain a maximum working vacuum of 80 PSI. Several inner pieces of fringe from the back of the coat were used to test differing numbers and types of solvent applications. The goal was to reduce the oil volume, but not to remove so much that the leather was affected. Tests revealed that, following the initial application of solvent, a point of diminishing return was quickly reached. A single application was often enough to produce significant improvement in both weight and appearance. After discussing the test results with the curator, the actual treatment began.

With a method in place, the cleaning process itself was relatively straightforward. The jacket was first vacuumed overall to remove loose soil and dust. The suction table was prepared by masking all but a small segment with Mylar. A piece of lightweight blotter paper was placed over the unmasked area. The portion of the jacket to be treated was placed over the blotter and the vacuum was adjusted to approximately 60 PSI, depending on the thickness of the leather. The section of jacket was wetted with solvent and then immediately pressed against the blotter to draw the solvent out of the leather. This process proceeded section by section until most of the body had been rinsed once. The fringe, seams, and patched areas held more oil due to their greater thickness, and so were treated twice. The beaded areas also needed extra attention. The aim throughout was simply to reduce the volume of oil, not to remove all of it. It was encouraging to see that visible progress was being made, even though the work was very tiring! During the process, many trays full of dirty, oil stained blotter and tissue were collected.

Because it was important to see how the exterior surface appearance was changing during treatment, all of the work was done from the front. Although working from the front necessitated drawing surface materials into the leather, it appeared that most of the fine sooty surface dirt was mobilized by the solvent and pulled right through the leather into the blotter.

The treatment of the sleeves was not as successful as that of the body. An extra layer of blotter was placed in the center of the sleeves and the vacuum was turned up to maximum, but the results were uneven. An attempt was made to use a small suction disk, but the tiny pore diameter and the extra thickness of the leather in the sleeves prevented adequate suction. Ultimately, the sleeves were stuffed with absorbent material, wetted with solvents overall, and placed on the

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suction table to dry. Cotton gauze was placed over the surface of each sleeve during drying to reduce the formation of tide lines in much the same way that textiles are dried.

After all of the cleaning was finished, structural repairs were completed. Old patches that had loosened over the years were re-adhered. The proper left upper chest area was so thin and weak that small patches would have been inappropriate. Instead, a large piece of very thin chamois was cut to fit between the neckline and armhole seams, the edges were skived down, and it was adhered with a small amount of a 1:1 mixture of Jade 403 poly vinyl acetate emulsion and very dry Aytex P wheat starch paste.

After treatment, the coat weighed approximately one third less than it had before treatment. Even though the appearance remained somewhat uneven, the color was improved and the leather retained plenty of oil. Perspiration and other use/wear staining also remained readily visible. The leather was more flexible and there was an improvement in the loft. While there was some remaining concern over loss of some of the original tanning materials, the treatment seemed to strike the balance between structural stability and retention of original materials. The curator was very pleased with the improvement in appearance and the possibility of long term survival were improved. There was no bleeding of the red colorant from the beads or the red silk remnants. The interior of the coat still retains a certain amount of excess oil in the seams and fringe, but this preferable to excessive removal of oil. To minimize exhibit stress, a mount was designed that would spread the weight as much as possible.

Overall, the treatment was both successful and quite satisfying. It met the curator's goal for prolonged display and the my objective to stabilize the jacket and reduce its weight so that it could withstand long-term exhibit without tearing itself apart. The suction table worked very well and has great potential for increased use in objects conservation. The development of additional shapes of hand held suction devices would most certainly increase the use of this tool by objects conservators.

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**Author's Address**

Deborah Long, Gerald R. Ford Conservation Center, 1326 South 32nd Street, Omaha, NE 68105.

**Editor's note:** This paper, with illustrations and a full set of references, is being submitted to JAIC.