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The Re-treatment of an Inuit Beaded Skin Parka

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This paper describes the treatment of a badly damaged Inuit parka made of caribou skin and decorated with heavy, beaded fabric panels. The parka was originally repaired in 1967 when most of the panels were restored by re-beading and lining with new fabric, and the skin was repaired with sewn leather patches. This earlier restoration distorted the shape of the parka and did not stabilize the skin, resulting in further tears. The re-treatment of the parka involved removing all of the previous skin repairs as well as the beaded panels. Tears and losses in the skin were patched using BEVA 371 sprayed onto a spun-bonded nylon fabric (Cerex). The parka was then lined with Cerex to provide additional support for the beaded panels, which were stitched back into place. One of the panels, which had not been previously restored, was stabilized and lined onto new fabric prior to reattachment.

Cet article décrit le traitement d'un parka inuit très endommagé, fait en peau de caribou et orné de panneaux en tissu sur lesquels se trouvent de lourdes broderies en perles de verre. Un traitement datant de 1967 avait occasionné la pose de nouvelles perles sur presque tous les panneaux de broderies ainsi que de tissus de soutien sous les panneaux, et la réparation de la peau à l'aide de pièces de cuir cousus aux endroits endommagés. Ce traitement provoqua des distortions à la conformation du parka et ne réussit pas à stabiliser la peau; au contraire de nouvelles déchirures apparurent. Le re-traitement de ce parka consista à retirer les anciens rapiéçages ainsi que les panneaux perlés. Un non-tissé en nylon (Cerex) sur lequel fut pulvérisé du BEVA 371 servit à réparer les peaux déchirées et à combler les lacunes. Ensuite, le parka dans son ensemble fut aussi renforcé au moyen d'un doublage, à l'aide de Cerex et de BEVA 371, afin de mieux soutenir le poids des panneaux perlés, qui furent ensuite recousus en place. Un des panneaux, qui n'avait pas fait l'objet d'une restauration antérieure, fut stabilisé et doublé sur un tissu neuf avant d'être recousu en place.

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Introduction

The traditional, tailored skin parkas of the Inuit of Arctic North America are well adapted to life in the northern environment. For extra warmth, parkas would be worn in two layers, the inner layer with the fur facing inwards and the outer layer with the fur outwards. Women's parkas are designed to allow a mother to carry her baby in a pouch in the back, just below the hood. A strap ties around the bottom of the pouch and under the mother's arms to the front of the parka to secure the baby in place. Oversized shoulders allow the mother to bring the baby around to the front for breast feeding, and a large hood helps air to circulate to the child in the pouch.^{1,2} In parts of the central Canadian Arctic, women's inner parkas are sometimes decorated with beaded panels. This beadwork became very elaborate by the early 20th century as glass beads became readily available. The beads would be sewn onto dehaired skin or fabric panels which were then sewn onto the skin of the parka.^{3,4}

In 1961, an elaborately beaded woman's skin parka was acquired by the Glenbow Museum. The style of the parka and its beaded panels suggests that it is from the Iglulingmiut or the Caribou Inuit in the central Canadian Arctic.^{5,6} The parka was in very poor condition when it was acquired by the museum. Repairs undertaken in the 1960s were unsuccessful in stabilizing the parka and it came into the conservation lab at the museum for further treatment in 2001. As well as outlining the work carried out on the parka,⁷ this article discusses some of the decisions regarding the necessity and extent of treatment, and describes the rationale for particular treatment options.

History of the Parka

The history of the parka prior to its acquisition by the Glenbow Museum is unclear. The museum catalogue record states that it was purchased from a private owner in 1961 and that the parka may be from Naujaat (Repulse Bay) in the central Canadian Arctic. The record also notes that the file for this artifact is missing. The only other written information is from a photographic caption for the parka in a book, which says that it was collected from the mouth of the Mackenzie delta (in the western Canadian Arctic) in 1899.⁸ The missing file may have contained information which could have shed further light on the age of the parka and explain how it came to be collected so far from its likely origin.

The poor condition of the parka can be seen in photographs taken of it soon after it was acquired in 1961 (Figure 1). Tears in the skin and losses of beadwork are evident, and it seems that many of the beaded panels were detached from the parka. Several of the panels appear to have been laid in place for some of the photographs (Figure 2). According to the catalogue record, the parka was repaired at the Glenbow Museum in 1967 by a local First Nations woman who was skilled in beadwork. This was prior to the establishment of a conservation department at the museum, and records of work carried out on artifacts at that time are spotty or non-existent. No other record of the work done on the parka has been found except for a set of after treatment photographs taken in 1967. Although not mentioned in the catalogue record, it is possible that the textile repair work on the fabric component of the beaded panels was done by a textile

Figure 1. Condition of parka when acquired in 1961. Some of the panels are removed in this photograph. Photograph by Joe Rosettis, courtesy of the Glenbow Museum, Calgary, Alberta.

restorer who also worked at the museum in the 1960s.

When the author first saw the parka in the late 1980s, new tears had appeared in the skin and it was stored partially folded in a wooden cupboard. In 1990, the parka was chosen for inclusion in a book about the Glenbow Museum collections. With no time for treatment, there was concern that further damage would occur if the parka were to be photographed on a mannequin. However, in spite of suggestions to the contrary made by the conservation department, the parka was temporarily placed on a mannequin torso. Efforts to display the parka on the mannequin were not totally successful as the final photographs reveal a rather odd looking garment with one shoulder higher than the other, and the back flap twisted around to the side (Figure 3). Fortunately, even after all the manipulation required for the photograph, no new tears appeared. Time constraints did not allow for a close examination of the parka after the photography, and it went immediately back into storage.



Figure 2. Condition of parka when acquired in 1961, with all of the panels laid in place. Photograph by Joe Rosettis, courtesy of the Glenbow Museum, Calgary, Alberta.

Description of the Parka

The parka is made from caribou skin which was prepared using the traditional techniques of manipulation without any added oils or tannages.⁹ The skin has been dehaired, although there are scattered areas where the hair has not been completely removed. The flesh side of the skin is on the outside of the parka. The parka is sewn together from a large number of skin pieces, cut to create a highly tailored garment (**Figure 4**). The hood alone is made up of 11 pieces. Five small pieces of skin, along with extensions from two of the hood pieces, form the small pouch on the back. A skin fringe is sewn around the edges of the rounded front and back flaps that form the bottom of the parka. All of the original seams are stitched together with sinew using an overcast stitch from the outside of the parka.

Beaded fabric panels are stitched to the hood, chest, shoulders, wrists, pouch sides and the hem of the parka. Glass seed beads in a variety of colours were used, and the original



Figure 3. Parka displayed on a mannequin after being restored in 1967. The hem panel was not restored at this time. The tapering wrist panels have been attached so that they flare outwards from the sleeves. Compare the wrist panel with the orientation of the same panel in Figure 1: the top edge of the panel in Figure 1 is at the bottom of the sleeve in Figure 3. Photograph by Glenbow photographer, courtesy of the Glenbow Museum, Calgary, Alberta.

fabric consisted of a heavyweight red or blue wool. Some of the panels are further decorated with beaded "fringes" along one of the edges. Many of these strands terminate in a caribou incisor.

Condition

The thickness and condition of the skin varies somewhat depending on the piece, but it is generally very thin and does not have a lot of strength. The skin is quite flexible except for the fringe along the hem that may have suffered some water damage as it is discoloured and brittle in some areas. A small sample of skin fibres from a tear in one of the shoulders was sent to the Canadian Conservation Institute for shrinkage temperature measurements. The results indicated an onset shrinkage temperature of 30°C which is much lower than normal for mammalian collagen and suggests that the skin has deteriorated.¹⁰



Figure 4. Diagram showing the skin pieces making up the parka front (left) and back (right). Drawing by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.

When first examined, damage to the parka was evident from tears visible in the back of the hood, shoulders and neck (Figure 5), and skin patches in the shoulder area and inside the hood. The full extent of the damage was difficult to see because the beaded panels covered a large portion of the chest and shoulders. When the panels were removed, the numerous tears on the chest, shoulders and hood were found to have been whip-stitched together with a white cotton-blend thread. Smaller tears had no backing, but larger tears and holes were also stitched down onto pieces of oil-tanned or brain-tanned leather. These patches were much thicker than the original caribou skin, which is almost paper thin in some areas. New tears were being caused from the stitching technique as well as from the weight of the patches and the beaded panels. The chest had a network of tears with losses at both shoulders and had been stitched down to a very large leather patch that extended from the neck to the top of the flap. One large, detached piece of skin below the front of the neck had been incorrectly placed during the restoration, spreading apart the upper chest. The neck edge on the front section of the parka had also been displaced downwards (Figure 6). As well as increasing the width of the chest, the repair had caused the pouched shoulders to lie flat instead of angling forward as is typical with this style of parka.¹¹ This likely also caused the uneven shoulders and twisting of the parka as seen in the photograph on the mannequin. The restorer who carried out this earlier repair probably would have been more familiar with skin clothing typical of the northern plains which is less tailored and simply drapes across the shoulders.¹²

While the 1961 photographs do show some of the tears to the skin, the more visually striking damage is to the beadwork, especially on the chest and hood panels. These panels were evidently restored in 1967 since all but the hem panel are in good



Figure 5. Tear in the back of the left shoulder of the parka (detail, BT). Photograph by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.

condition and complete. The removal of these panels revealed that they had been lined with new fabric over the original fabric. Extensive re-beading had obviously taken place as indicated by comparison with the original photographs of the parka. Old stitching holes on the skin also indicated that not all of them had been replaced in their original positions after they had been repaired. This was probably partly due to the changes in the shape of the parka after it was patched and because of the many holes along some of the original stitching lines. The hem panel around the bottom of the parka did not appear to have been as extensively treated as the other panels and still had problems with loose strands and beads.

Decision to Re-treat the Parka

Even though the parka continued to be in poor condition after the earlier repair work, it was still considered to be one of the treasures of the Museum, being the only beaded woman's parka in the collection. Over the years, there had been interest by the curators in having the parka put into a more stable and exhibitable condition, but other priorities and a hectic exhibit schedule



Figure 6. The chest area stitched onto a large piece of lighter coloured leather (detail, BT). The torn skin edges (1) were spread apart in the 1967 restoration. The upper edge of the skin on the chest (2) was also displaced downwards from the neck seam (3). Photograph by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.

precluded any further work. The difficulty in stabilizing the deteriorated skin garment so that it could safely carry the very heavy beaded panels meant that any treatment was likely to be quite lengthy and highly interventive.

The impetus to re-examine the parka for possible treatment arose when a temporary Inuit exhibit was being planned at the Glenbow Museum. At approximately the same time, the author was able to attend a workshop on adhesive techniques for leather and textiles presented by the Canadian Conservation Institute.¹³ The workshop demonstrated various techniques for repairing skin and leather, and this experience was helpful in eventually deciding on the treatment method for the skin component of the parka.

Preliminary examination of the parka indicated that at least some of the beaded panels would need to be detached to allow access to the tears. At first, it was hoped that not all of these panels would need to be removed, and that much of the earlier



Figure 7. Cerex patch on the right shoulder (exterior view). Photograph by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.

repair work could be retained. The initial treatment proposal therefore focussed mainly on work on the new tears. Some partial lining was also thought to be needed in order to reinforce the skin where it carries the weight of the beaded panels. As treatment progressed, however, it became impossible to work safely on the skin with the panels in place; the heavy weight of the panels pulled against the thin skin risking further tears. Once the panels were removed, the full extent of original damage and lack of stability afforded by the earlier repair work became visible and led to a reassessment of the original treatment proposal.

The discovery of the poorly reconstructed chest meant that the retention of the old repairs to the skin became a less tenable option. Portell notes a number of different factors that should be considered before deciding to remove or retain old repairs; these include issues of stability, aesthetics, historical significance and cultural appropriateness, among others.¹⁴ In regards to the parka, the earlier skin repairs were not adding to the stability of the object, and were even contributing to its instability. The repairs also appear to have interfered with the aesthetics of the parka, altering the original shape. The fact that the repair work was done



Figure 8. Insect frass found under the damaged beaded hem panel. Photograph by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.



Figure 9. The Cerex lining is slit and overlapped to fit the contours of the hood. Photograph by Heather Dumka, courtesy of the Glenbow Museum, Calgary, Alberta.

at the museum and by a person who was probably unfamiliar with the original significance and construction of the artifact also means that there is little historical significance or cultural appropriateness to the repair work.

The restored beaded panels, on the other hand, are quite stable. The re-beading appears to have been faithful to the remaining original work and does not detract from the aesthetics of the artifact. The panel along the hem of the parka did need some work but was left in place for the first part of the treatment as it was not heavy and did not interfere with the repairs.

Materials Used for the Repair of the Skin

While traditional methods of skin clothing repair (including the original museum repair) often used sewing to secure tears and patches, this re-treatment focussed on adhesive methods of repair which would provide support to the back of the tears and losses. Leather and skin were rejected as a patch material due to the extreme thinness of the parka skin and the difficulty and cost of obtaining a skin with a similar thinness and drape. Japanese tissue



Figure 10. The front of the parka after treatment; the lining on the back flap does not obscure the underlying skin. Photograph by Owen Melenka, courtesy of the Glenbow Museum, Calgary, Alberta.

was used for the repair of a parka hood by White and Sully,¹⁵ but was not felt to be strong enough for this parka with the added beaded panels. Fabrics were another choice. The spun-bonded nylon Cerex has a similar drape to the skin of the parka and a sufficient supply was already available at the museum. Reemay and Hollytex are spun-bonded polyesters that were also considered, but they are much stiffer than the Cerex and were deemed to be too heavy for the thin skin. Woven fabrics may also have been appropriate, but they were felt to be slightly more difficult to work with as well as not being as visually compatible as a non-woven fabric.

A number of different adhesives were tested using a sample of traditionally prepared caribou skin and the Cerex fabric. Jade 403 and a mixture of Lascaux 360 HV and 498 HV were both found to work well for the test samples but were eventually rejected when the test result for the shrinkage temperature of the skin was established. With the low shrinkage temperature found in at least one area of the parka, an aqueous-based adhesive was considered to be inappropriate as it could cause denaturation of



Figure 11. The back of the parka after treatment. Photograph by Owen Melenka, courtesy of the Glenbow Museum, Calgary, Alberta.

the skin.¹⁶ BEVA 371 was also tested as it has been used in various forms for some time in leather and skin treatments.¹⁷ The BEVA film was found to leave a very shiny surface on the Cerex, even using the thinner 1 mil form, and there was a concern that it might stain through the skin of the parka. Tests using BEVA 371 solution sprayed onto the fabric, however, indicated that it could provide enough strength to secure a patch without bleeding through or causing a shiny surface. The BEVA 371 stock solution was diluted 1:1 with toluene and sprayed onto the Cerex stretched over a frame in a spray booth. This provided a very light coating which could be built up to the desired thickness by the number of spray adhesive passes over the fabric. A similar technique was used by Dignard and Gordon for the repair of a badly torn fur cape.¹⁸

Treatment of the Skin

Repairs were started on the back of the hood where the new tears were visible. Initially, only the beaded panels on the hood were detached, but as the original damage became apparent, all of the other panels, except for the hem panel, were removed. This facilitated turning the parka to the inside to work on the back of the tears. The tears were repaired by cutting a patch out of the prepared BEVA-coated Cerex and laying it over the tear. A layer of silicone-coated polyester film was placed over the patch, which was then bonded to the skin using a heated spatula, monitored for a temperature of about 65-70°C. Earlier stitches and patches were removed and re-patched one at a time. Long and complex tears were often difficult to align for patching as the skin usually had stretched around the tear, and the edges were puckered where they had been whip-stitched together. Insect pins were useful for aligning the edges; the pins were pushed through the old stitching holes into a piece of polyethylene foam on the other side of the skin. After the tear was pinned in place, the patch would then be gradually adhered along the length of the tear as the pins were removed. For the new tears, which had no previous stitching holes, small rare earth magnets were used to hold the patches in place before they were heat-set. Multiple patches were also often used for the larger tears.

Once the hood was patched, the work then progressed to the chest and shoulders. The patching of the tears was quite straightforward, although time-consuming given the large number, especially on the chest. The detached piece on the chest, which had been incorrectly placed in the previous repair, was easily rejoined once the large, underlying leather patch was removed. This earlier patch was also bridging a gap that existed between the top of the chest and the hood. While some of the gap was due to actual losses in the upper chest and shoulders, a few of the torn stitches from the neck seam still existed on the chest and could, in fact, be matched up to the seam on the hood. This remaining neck edge was attached to the hood edge with several narrow, overlapping patches. A large patch would have been very difficult to adhere across the gathered seam of the hood.

After reconstructing the remaining neck seam, the true extent of the losses in the upper chest and shoulder areas could be assessed. These had been repaired with several patches, some of which had failed, causing further tears. The relatively small loss on the left shoulder was patched with the Cerex without too much difficulty. The loss on the right side, however, was quite large and extended from near the centre of the chest up to the shoulder and includes all of the neck on that side. Because the loss included the neck seam, it was very difficult to determine the width of the loss from chest to shoulder. The reconstruction of this loss was the most challenging part of the treatment. Many measurements were taken, and after much trial and error, a pattern was made of the left side of the parka that was used to piece together the right side and estimate the size and shape of the loss. A patch was then cut to fit over the loss and adhered on the reverse (Figure 7). After initially positioning the patch, it became obvious that the reconstructed area was too large and part of the patch had to be lifted and repositioned. This was done using a heated spatula while gently pulling up the edges of the patch.

Pattern Making

The pattern produced while reconstructing the right chest and shoulder also proved useful for documentation of both the

condition of the parka and of the details of its construction. During the course of the treatment, patterns were eventually made for each of the 22 skin pieces that make up the parka. These patterns were made from lightweight Mylar (polyester film) laid directly over the parka while tracing the outline and any details of the piece. During tracing, the Mylar was held in place with small rare earth magnets placed on either side of the skin. While this system worked, the magnets are so strong that it was not possible to place them very close together. This made it difficult to lay out the Mylar over the undulating surface of the skin and around tailored sections such as the shoulder area. Other types of magnets were too weak to hold the Mylar in place and the original seams were too tightly sewn with sinew to allow the use of even fine pins. At the end of the project, the patterns were reproduced on paper at one-half and one-quarter scale for ease of handling and reference for researchers. The full-scale Mylar patterns have also been retained but they need careful handling as they tear easily. Dorothy Burnham has published detailed patterns of parkas from the Canadian Museum of Civilization collections which were helpful in drafting the patterns for this treatment and serve as a valuable comparison to the parka.19

Treatment of the Beaded Hem Panel

A decision regarding the treatment of the long, narrow beaded hem panel had been deferred while working on the repairs to the skin. As with the other panels, the beads were originally couched onto the fabric panel, which was then stitched along the edges to the skin of the parka. The fabric on this panel had been badly damaged from insects and was totally missing in some areas along with the couching stitches. Unlike the other panels, however, this one had not been removed and lined with new fabric during the previous repair work. Instead, the repairs consisted only of stitching the loose strands of beads directly through to the skin of the parka. The numerous small stitches from this repair were visible on the inside of the parka, as well as scattered remnants of earlier stitching that would have held the panel in place. It is uncertain why this panel was treated in this way, although it may have been to save time, especially since the panel was still attached to the parka when it arrived at the museum. Also, the partial loss of the underlying fabric is not critical to the appearance of this panel, which is beaded over its entire surface.

This earlier repair was not totally successful as some of the strands were still loose, and beads would occasionally fall off when the parka was handled. Some form of stabilization was required, but the nature and extent of the treatment was only determined after further examination and discussion with the curator.²⁰ A continuation of the repair using couching stitches onto the skin was possible and would be the quickest method to secure the beaded strands. However, there were already scattered holes in the underlying skin and there was the concern that further stitching would cause more damage. Patching or lining the skin in this area was somewhat problematic with the uneven surface from the stitching on the reverse. A smooth surface is needed for a good bond using the BEVA and Cerex technique. Removing the panel for repair was preferable, but with all of the couching stitches holding it in place, the treatment would be very time-consuming. It would also mean removing any of the remaining original threads

from the panel that were still attaching it to the skin. Because the fabric was in such poor condition, and since it would allow for the easier repair of the underlying skin, it was finally decided to remove the panel and line it onto new fabric.

The initial treatment of the panel involved removing all of the couching stitches attaching it to the parka. During removal, loose strands of beads were temporarily tied to adjacent strands with red cotton thread in order to keep them from becoming tangled once they were detached from the skin. Most of the threads used to string the beads were intact, but the few broken ones were knotted where possible or temporarily secured with a dot of Acryloid B72 adhesive. As the panel was being removed, insect frass was found under sections of the beading and around remnants of the fabric (**Figure 8**). In a few areas, loose beads were found stitched under the most recent repair work. Unlike the other panels, the earlier repair work on this panel seems to have been hurried and rather careless.

Using the original panel and the stitching lines on the skin parka as a guide, a Mylar pattern was made of the hem panel. A dark blue wool fabric was used for lining. Following the advice of a textile conservator,²¹ the pattern was cut into two pieces and laid onto the lining fabric so that the curved portions were on the bias. Cutting the curved sections on the bias would make it easier to manipulate the lined panel around the curves of the hem when it was later sewn in place. The two lining pieces were stitched together and then laid under the panel; rare earth magnets and temporary basting stitches were used to position the panel onto the lining.

The beading was couched onto the lining using black cotton thread. Broken strands of thread were reinforced by threading with new black cotton thread, but areas of loss were not re-beaded and loose beads that had no provenience were not reintegrated. As the re-beading proceeded, the red threads, used to temporarily hold the strands together, were removed. At one of the side seams, two of the outer rows of beads were found to be twisted, probably from previous repair work. Because of major losses in this area, and the uncertainty of when this occurred, no attempt was made to change this misalignment.

Lining

As the repairs proceeded, it became obvious that athough the patches provided stability to previously torn areas, the skin supporting the beaded panels was still at risk of tearing in the future. To deal with this risk, two options were considered. The first option was to undertake a complete lining of the skin. Even with a full lining, however, the parka would still be somewhat fragile and unsuitable for extensive handling or display on a mannequin. A lining also has the disadvantage of being a highly interventive treatment. Since it was hoped that the parka could be exhibited to show the beaded panels on both the front and the back, a second option was discussed with the curator responsible for the parka. It was suggested that a replica of the parka could be fabricated from either skin or fabric, to which the beaded panels would be sewn. The replica would be sturdy enough for exhibit, while the repaired original could be kept for study purposes. The

patterns that were produced would make it fairly easy to reproduce the original in fabric, which has been commonly used in recent years to make parkas.²² Sewing the panels to a new parka would also be continuing a tradition of reusing beadwork panels on a new parka when the old one has worn out.²³ Reproducing the parka in skin would be more difficult and costly, especially if it were made using traditionally prepared caribou skin. The curator did not want to use fabric or an inappropriate skin substitute, and also preferred to rejoin the beaded panels onto the original parka.²⁰ The lining option was therefore chosen rather than having the parka components separated.

Once all of the holes and tears were patched, lining was carried out using the same materials and methods as for patching, but on a larger scale. Large flat areas on the front and back flaps were lined with one large piece of fabric. Contoured areas such as the hood, shoulders and pouch needed several small pieces. Even where larger pieces were used, it was necessary to slit the fabric and either spread or overlap it to conform to the undulating surface of the skin (**Figure 9**). The entire parka was lined except for the lower parts of the sleeves, which are still in very good condition and do not support much weight. The seam lines for the beaded cuff panels were lined to provide extra support for their reattachment. Although the lightweight Cerex and a light coating of the adhesive were used, the lining did impart a shape to areas of the parka which were limp and crumpled before, especially the shoulders and the pouch.

Reattachment of the Panels and Inpainting

After completing the lining, the parka had to be turned right side out. Manipulation of the now slightly stiffer parka was more difficult than at the start of the treatment, and was a test of the strength of the repairs and lining. All of the repairs and seams did successfully hold, and no new tears occurred. The panels were next stitched onto the parka, with cotton thread (through all the layers of skin and Cerex), using the original stitching holes as a guide for placement. The wrist panels are slightly tapered and the earlier repair work had attached them so that they flared outwards from the sleeves (**Figure 3**). The orientation of these panels was discussed with the curator and the decision was made to turn them around so that they instead match the downwards taper of the sleeves. This is similar to other known examples of beaded parkas.

A few of the patched losses were visible after the panels were replaced, especially the one on the right shoulder. These were toned to match the colour of the surrounding skin using Liquitex acrylic paints. The paint was applied over the BEVA that was on the surface of the Cerex patch. While visible, the patches are not obtrusive and do not detract from the overall appearance of the parka. A benefit of using the Cerex is that the fabric is thin enough that it does not obscure the underlying skin; without close inspection, the visible portions of the back flap do not appear to be lined, although the white colour of the fabric makes the skin look slightly lighter in colour than the unlined skin (**Figure 10**).

Conclusion

The re-treatment of the parka was successful in restoring the original shape of the garment where it had been distorted from damage and an earlier repair. The project also resulted in a large amount of documentation on the construction of the parka, including patterns of the skin pieces, which may be of benefit to future researchers. While the parka is sturdier than it was previously, it remains a fragile artifact due to the weight of the beaded panels on the thin skin and lining substrate. A large Coroplast box and tray have been built for storage which makes the parka much more accessible to visitors and researchers. Exhibiting the parka on a mannequin, however, is still not recommended as this would put a great deal of strain on the repairs around the neck and on the chest. The parka can be displayed flat or on a low angle, which would still highlight the beauty of the beadwork, although the back pouch and the pouch panels would not be visible. Photographs could be used to show these details as well as to illustrate how it would have been worn (Figure 11).

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Materials

Acryloid B72 (methyl acrylate / ethyl methacrylate copolymer): Carr McLean, 461 Horner Avenue, Toronto, ON M8W 4X2, Canada, 1-800-268-2123, www.carrmclean.ca.

BEVA 371 Original Formula (ethylene vinyl acetate copolymer): Conservators' Products Company (Canada) Ltd., 23 Morrow Avenue, Toronto, ON M6R 2H9, Canada, (416) 539-8069.

Cerex (spun-bonded nylon fabric, 0.4 oz per square yard):

CEREX Advanced Fabrics, 610 Chemstrand Road, Cantonment, Florida 32533, USA, 1-850-937-3321.

Coroplast (polypropylene / polyethylene corrugated sheet): Carr McLean (see Acryloid B72).

Ethafoam (polyethylene foam): Carr McLean (see Acryloid B72).

Hollytex (spun-bonded polyester fabric): Carr McLean (see Acryloid B72).

Jade 403 adhesive (polyvinyl acetate emulsion): Carr McLean (see Acryloid B72).

Lascaux 360 HV and Lascaux 498 HV adhesive dispersions (butyl acrylate / methyl methacrylate copolymer): Talas, 20 West 20th Street, 5th Floor, New York, NY 10011, USA, 1-212-219-0770; www.talasonline.com.

Mylar (polyester film): Carr McLean (see Acryloid B72).

Rare earth magnets: Lee Valley Tools Ltd., P.O. Box 6295, Stn. J, Ottawa, ON K2A 1T4, Canada, 1-800-267-8767, www.leevalley.com.

Reemay (spun-bonded polyester fabric): Carr McLean (see Acryloid B72).

Silicone coated polyester film: Carr McLean (see Acryloid B72).

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