



**Object:** COAT (PARKA)  
**Country:** RUSSIA  
**Locale:** SIBERIA, KAMENSKOYE  
**Culture:** KORYAK ?  
**Accession No:** 1901-70 **Field No:**  
**Donor:** JOCHELSON, WALDEMAR

**Pre-2007 Lab Records:** No  
**Destination - Exhibit Hall:** SIBERIAN  
 CONSERVATION GRANT 2014  
**Storage Room:** 4MS8 **Location:** L4FT4

**Dimensions [cm]**

**H (vertical):**  
**L (horizontal):** 115  
**W (depth):** 162  
**Diameter:**

**Material:** hide, sinew, fur, dye (natural)

**Description:** The coat is made from multiple sections of hide sewn together with sinew thread. The coat is designed with a wide body that pulls over the head, where it has a hood attachment. The bottom of the coat is trimmed with a contrasting dark band of fur with the hair side on the interior. The exterior of the coat is decorated with symmetrical columns of symbols, which were created by stamping with red dye. The arms are decorated with rows of stamped symbols from the shoulder to the wrist.

**Historical/Research Info:** The coat is part of the Siberian collection from the Jesup North Pacific Expedition, organized by Franz Boas from 1897-1902. The coat is associated with Koryak culture of the Kamchatka region (Fitzhugh and Crowell 1988, 222). The region supported a maritime economy of fishing and hunting, as well as reindeer breeding in interior land (Fitzhugh and Crowell 1988, 31). Coats were commonly made from reindeer fur for harsh winters, while shaved skins provided moderate warmth (Fitzhugh and Crowell 1988, 209). The object is described and illustrated in Waldemar Jochelson's "The Koryak," where he refers to the material as soft-dressed white reindeer skin with symmetrical arrangements of symbols (1905, 698). Symbols include rings, crosses, stars, and flowers. These designs, known as ka'li or ke'le, were created with a series of wooden stamps and red alder bark dye. The wooden stamps are illustrated in Fig. 201 to accompany a discussion of decorative techniques (Jochelson 1905, 683). Jochelson notes that the Koryak tend to use figurative and representational elements on everyday clothing, while using geometric patterns for funeral wear (1905, 685). Koryak coats also typically included a separate strip of contrasting trim around the bottom edge. The stamps and the coat are also featured in Crossroads of Continents, where it is described as a bleached, dehaired reindeer skin upper coat (Fitzhugh and Crowell 1988, 222).

The coat was previously treated in 1988 at the Smithsonian. The brief report notes a generally soiled appearance, distorted shoulders, and several holes. The treatment procedure included surface cleaning by low-pressure vacuuming and reshaping by stuffing with acid-free tissue. Eight total before and after photographs (Kodacolor, Asa1000) were taken, and prints are included with the report.

**References:**

Fitzhugh, W. W., and Aaron Crowell, eds. 1988. Crossroads of Continents: Cultures of Siberia and Alaska. Smithsonian Institution Press.  
 Jochelson, W. 1905. The Koryak. In Memoir of the American Museum of Natural History, vol. 6, ed. Franz Boas. New York: G. E. Stechert and Co.

PHOTOGRAPHY	Before Treatment	During Treatment	After Treatment
Digital Set #1 (Total for each category)	6		4

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**Manufacturing Techniques:** The coat is composed of multiple sections of buff-colored hide sewn together with sinew thread. The hide is tanned and flexible, likely with the hair side on the exterior. Under magnification, the exterior has a regular pattern of indentations that may indicate hair follicles. The body of the coat consists of two large hide sections, front and back, sewn at the sides. The front and back have a central, vertical strip of spots and circular areas of thinned hide that were likely caused by warble flies during the animal's life. Multiple areas of the main body are stitched with single rows of sinew thread. These stitches may be a method of original repair or closing holes and tears original to the material. Each arm is made from a single section of hide sewn into a tube with a small, triangular panel inserted at the seams, which adds to the circumference of the opening. The hide of the sleeves is thicker and less flexible than the body. The hood is composed of ten asymmetrically cut sections pieced together into a rounded head covering that extends up from the neck. The opening of the hood is a full circle with the bottom section shaped to accommodate the wearer's chin. The opening of the hood and both arms are bordered by a thin, rolled band of slightly darker hide, attached by sinew thread. The bottom of the front and back sections have half-oval shaped panels sewn in the center, which fill in the natural shape of the animal hide.

The edge of the coat is trimmed with a band of dark dyed brown fur with the hair side on the interior. The fur is mottled light and dark brown with areas of white. The flexible, hollow hairs resemble reindeer, which was commonly used in the region (Fitzhugh and Crowell 1988, 209). The band is composed of two long, wide sections and four short, thinner ones, which are paired to create a uniform width around the coat. The exterior skin side of the band shows a number of holes, four in the front and six in the back, which appear to be a result of manufacture. Other holes are patched with circular scraps of hide, likely sewn on before the width of the band was cut. Three circular patches are on the proper right side of the front, and four are spread in the center of the back.

The exterior of the coat is decorated with vertical columns of stamped designs, which repeat in a pattern. The sleeves have stamped designs arranged in rows from the shoulder to the wrist. The designs are a reddish brown color, likely created with a red alder bark dye used frequently in the area (Fitzhugh and Crowell 1988, 247). There are four different stamp types used in the pattern, including three star-like shapes and a ring with a cross shape in the center. A fifth type, likely representing a flower, is only used on the row at the wrist opening of the sleeves. The columns are arranged symmetrically out from the center column on both the front and back of the coat. The columns on the back extend up onto the hood where the pattern continues. Stamps frequently cross seams which indicates that the surface was decorated after the body of the coat was constructed. Stamped designs vary in application, and some appear darker than others. Splatter marks of dye are visible and appear to be original to manufacture.

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**Condition: Summary:**

The coat is generally stable and appears to be complete. Minor losses associated with small holes, which appear to be original, are present in the bottom trim. The fur trim is secured and stable, although some shedding occurs. The stamped surface decorations are in good condition. The surface has a layer of dirt and grime overall, with particularly visible dirt around the arms and sides. Residual marks from pressure sensitive tape are present, notably on the front chest area and the back of the hood.

**Structure:**

**Hide:**

The coat is in good condition with all major components secure. The hide feels flexible and supple overall, with some areas of moderate stiffness including the proper right shoulder. The thicker hide of the arms is generally less flexible than the body, and the back of the body is less flexible compared to the front. Small, round holes (1-2 mm) are present throughout the body of the coat, with ten visible on the front and one on the back. These holes are associated with the thinned, circular spots and appear to be a result of warble flies prior to manufacture. The opening of the hood is moderately wrinkled and folded, particularly around the chin. On the back of the coat, the half-oval panel above the trim is also wrinkled.

The rolled band around the hood is well secured to the edge, although loose ends of sinew thread are visible on the upper proper right and lower proper left edges.

**Hem trim:**

The brown fur trim at the hem is well secured to the main body of the coat. Minor areas of loose sinew thread

are visible, notably on the bottom proper left. Some areas of the trim are moderately wrinkled and stiffened, including the center of the back and the lower proper right side. Additionally, the bottom edge of the proper right side is folded upward. Minor losses of hide are associated with approximately 17 small tears and holes (less than 2 cm) that appear to be a result of hide processing tools. The fur on the hair side of the trim also has minor losses associated with the holes. The fur is fairly stable overall, although minor shedding was observed during examination.

**Surface:**

**Decoration:**

The stamped patterns are in good condition overall. Application of dye varies, and some designs appear darker than others. Some red dye appears in splatter marks that appear to be original to manufacture. Dye appears stable and does not readily powder or transfer.

**Surface dirt:**

The coat has a layer of dirt and grime overall with some areas of accretions. Particularly visible areas of surface dirt include prior deep creases and the underarms and side seams, which appear to show wear. The back of the proper right underarm has a round spot stain that appears greasy.

The surface has dark stains resulting from prior use of pressure sensitive tapes. These dark stripes are approximately 2 cm wide and vary in length from approximately 5 cm to 13 cm. Prominent stains include three stripes on the upper front chest region, two on the front of the proper left arm, one on the back of the hood, and two on the back of the proper right shoulder. Faint tape stains are also visible on the lower back proper right side and the back of the proper left arm. On the upper front under the chin, a small area of tape residue is surrounded by a 2.5 cm spot that appears lightened. The location and the tide lines at the edges suggest that a previous treatment involved testing wet cleaning methods for residue reduction. Other areas of dark stains include an 14 cm linear stain along the top of the proper right shoulder crease and a 3 cm area on the proper right side of the trim in the back.

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**Analysis: Fiber ID:**

Fiber identification was conducted to better understand materials and manufacture. A sample of white hair was taken from the interior fur trim on the back proper left. Macroscopically, the hair is 10 mm long and solid white in color. Fiber was examined under 100x and 400x total magnification and compared to known samples (Nikon Optiphot-pol, 10x eyepiece, 10x and 40x objectives. Sample temporarily mounted in glycerin: deionized water 1:1). Distinctive features include bubble-like shapes in the wide medulla and a flattened scale pattern. Sample resembles reindeer hair, which was employed as a decorative element in the region (Jochelson 1910, 169).

**pXRF:**

See attached report for full methodology and interpretation. Portable XRF analysis (Bruker Tracer III) was conducted to identify the presence of heavy metal pesticides. Parameters were 40 kV, 20uA, no vacuum, red filter, and 90 seconds for pesticides. Spectra were examined using ARTAX software with a standard Bayesian deconvolution method. Results suggest that the object was treated with inorganic pesticides at some point, potentially arsenic and lead (lead arsenate) or mercury (mercuric chloride). Bromine peaks suggest the use of halogenated hydrocarbon pesticides, such as methyl or ethyl bromide (fumigation). Proper personal protective equipment is recommended for handling the object.

**Solvent tests:**

A small amount of tape residue was removed mechanically from the front of the coat underneath the chin. Sample showed little to no change with the application of xylene.

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**Proposed Treatment:**

**Purpose:**

Treatment aims to reduce surface dirt and reshape distorted areas in addition to creating a supportive insert.

To clean the surface, vacuum using low pressure through a protective screen. Interior and exterior should be vacuumed.

Test dry surface cleaning methods, such as cosmetic sponges, soot sponges, and Dust Wizard wipes, to reduce surface dirt where possible. Vacuum again following surface cleaning.

To reshape distorted areas, locally humidify using damp blotter and membrane material such as Goretex or Sympatex. Try to reduce the deep creasing at the shoulders.

Test methods for removal of tape residue. Apply a very small amount of xylene in an inconspicuous area, potentially under the chin where previous attempts were made. Be cautious of rapid absorption.

Create an insert to support the shape of the coat and hood using non-abrasive, stable materials. Consider using foam tubing to pad folds.

**Estimated Time:** **Authorization for Conservation:** Judith Levinson **Date:** July 9, 2015

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**Treatment:**

Interior and exterior were vacuumed using low pressure through a protective screen.

Exterior was surface cleaned with soot sponges, Dust Wizard wipes, and cosmetic sponges. Interior fur was surface cleaned with Dust Wizard wipes.

Exterior and interior were vacuumed again following surface cleaning.

Distorted and creased areas were locally humidified using damp blotter and Sympatex. Humidified areas were dried under weights with stiff blotter.

A sample of tape residue was mechanically removed and tested for solubility. Xylene had little to no effect on the sample.

A supportive board and insert were created using archival materials including ethafoam and soft Tyvek.

**Actual Time:** 23 hours **Conservator:** Julia Commander **Date Complete:** August 14, 2015

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**Monitoring Recommendations:**

**Exhibition Recommendations:**

**Storage Recommendations:**

**Handling Recommendations:**

**Mount Requirements:**

**Packing/Unpacking Requirements:**

**Environment:** RH:% Temp: °F