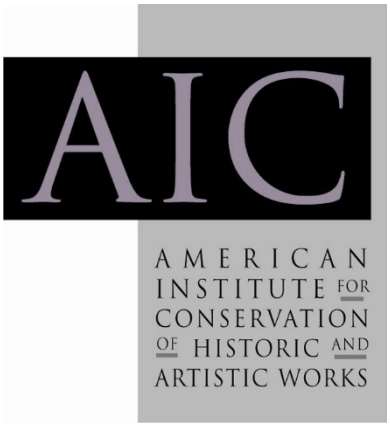

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THE AFTERMATH OF MENDS: REMOVING HISTORIC FABRIC TAPE FROM TLINGIT BASKETRY

CAITLIN MAHONY AND TERI ROFKAR

Disasters strike items of cultural heritage in many forms. Though natural and human disasters cause large-scale destruction in a matter of minutes, the slow deterioration of our collections by misguided interventions can also bring damage of notable impact to institutions. A campaign of undocumented museum mending in the early 20th century left in its wake widespread instability for 130 Tlingit baskets in the collection of the National Museum of the American Indian. The repairs are oversized strips of linen fabric tape attached with excessive amounts of hide glue or cellulose nitrate, covered with imprecisely applied and chromatically unmatched lead-based paints. These well-intended but unsuitable interventions took the existing damage of minor rips, tears, and losses and escalated it in magnitude to include warped structures, areas of embrittlement, and visually distracting repair material that obscures the structure and inhibits exhibition and scholarship.

Guided by modern conservation and the expertise of Dr. Teri Rofkar, a Tlingit master weaver, we undertook a two-year project to reconcile the damage. We investigated the optimal method of removing these mends and designed an appropriate treatment for the baskets that reinstates their integrity, function, and potential for use for the Tlingit community and the museum.

KEYWORDS: Tlingit, Spruce root, Basket, Twined, Treatment, Collaboration, Hide glue, Agarose gel

1. OVERVIEW OF TLINGIT BASKETRY OF SOUTHEAST ALASKA

The origin story of Tlingit basketry is documented in the beginning of Frances Paul's 1944 book on Tlingit basketry.[1] According to legend, the first basket was woven by a woman who was married to the sun. The basket was so great in size that the sun could lower his wife and their eight children back to earth in it. The term "mother basket" now refers to oversized, undecorated baskets that were treasured heirlooms and are rare today. According to the archaeological record, the earliest known twined basket attributed to the Tlingit dates back 4,500 years. It is twined of hemlock branches and roots (museum label text, permanent exhibit, Andrew P. Kashevaroff State Library, Archives and Museum in Juneau, Alaska, June 10, 2016).

Prior to contact, baskets were integral to everyday Tlingit life. They were used to gather, collect, and store food and other items, to strain oils or berries, and to hold water for drinking or cooking. In many cases, the basket's form or weaving technique indicates its primary use. For example, baskets used as strainers are woven with an eye hole technique to allow liquids through.

1.1 PROCESSING OF MATERIAL

All work associated with baskets, from gathering and processing the material to the weaving itself, is done by women. Baskets are almost exclusively woven in spruce root (*Picea sitchensis*). The gathering of these roots usually takes place in early spring. The aim is to gather the root before it is actively moving sap along the pitch line, because the more active the flow of pitch, the more tannin-rich the roots will be, which will have negative effects on the longevity of the roots. A spruce tree that is 1–2 feet in diameter is an ideal source, because its roots have more uniformity of texture and greater lengths free of shoots. Roots are gathered in a sustainable manner to ensure that the weaver can return to the same location and collect year after year.

Once gathered, the roots are roasted in a fire to remove their outer bark and to kill off mold and fungus. The roots are coiled prior to roasting and are flipped repeatedly so that they are evenly heated. They are removed from the fire when the steam leaving the root creates a high-pitched hissing sound. Immediately after removal, they are run through a pronged wooden stake in the ground called an *ena* to remove the bark. Then, they are placed in water to cool them and arrest further cooking. The roots must be split within a four-day period or they may grow moldy. They are split along their length following the

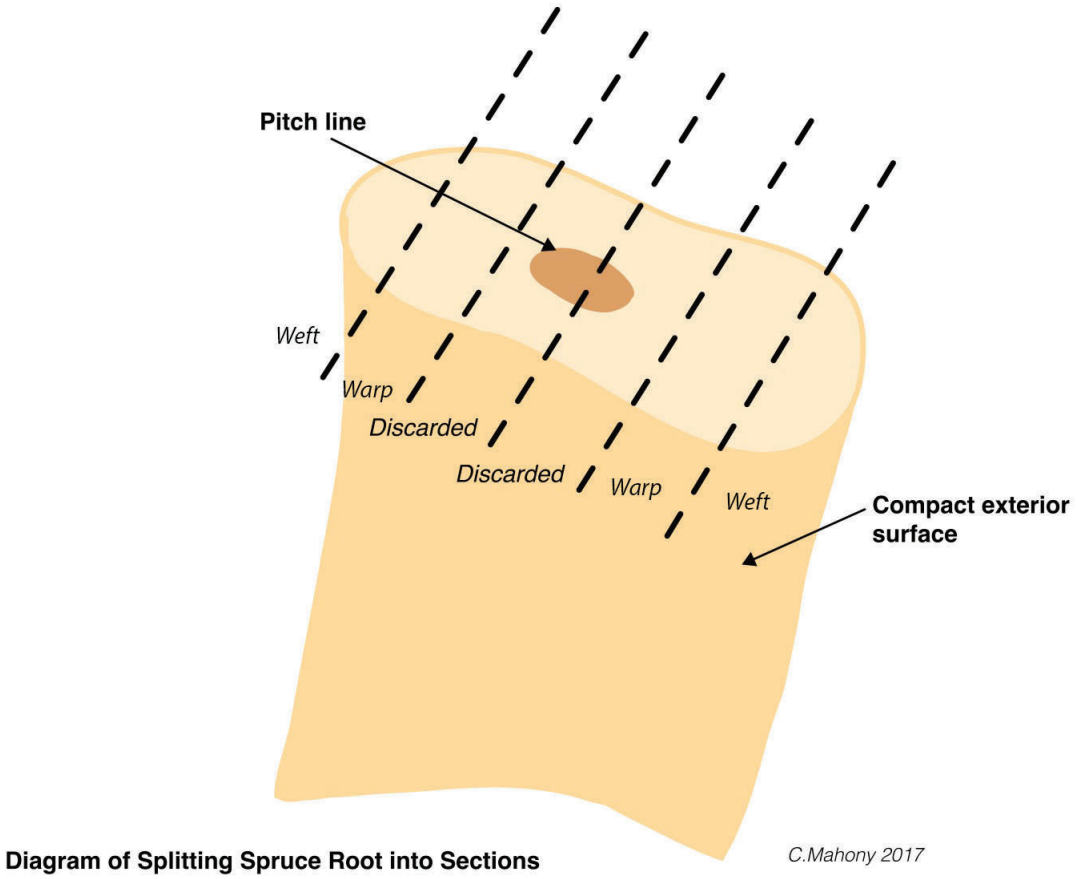

Fig. 1. Diagram of splitting spruce root into sections (Courtesy of Caitlin Mahony)

cellular structure (fig. 1). The first split is along the visible pitch line down the center. The innermost section on either side of the split is discarded because it contains the pitch line. From there, each piece is divided again, creating a weft element with a compact and rounded surface, and a warp element with two flat sides. The split roots are dried in bundles and can be stored for years and later remoistened when ready to use.

Most the roots are left undyed for twining in the basket unless they are part of a design or pattern. Early dyes were vegetal- or mineral-based and the color pallet was limited to blacks, greens, and various shades of red and orange. In the latter half of the 19th century, aniline dyes were introduced by traders and become instantly popular. These dyes were brighter and provided more color variety including blue, purple, yellow, and stronger greens.

1.2 WEAVING

The principle technique in Tlingit basketry is a simple two-strand twining. In twining, the passive elements, or warps, are vertical and the active elements, or wefts, are horizontal. Other techniques such as in-between or chase weaving, skip stitch, and openwork or eye hole twining are used in combination with two-strand twining. Tlingit baskets are woven right side up with the courses progressing counterclockwise from left to right. This weaving direction produces an effect where the next stitch is slightly below the one before it and at the terminus of the basket it will "jog-down" at finished rim. This is an easy method for distinguishing between Tlingit and Haida baskets, because Haida baskets are woven inverted and each stitch "jogs up" (Busby 2003, 47). When the basket weaving is complete, the interior and exterior is burnished with a bone tool to even out the weave and create a lustrous surface.

The baskets are typically decorated on the exterior by introducing a third element of either maidenhair fern (*Adiantum pedatum*), spruce root, or a grass stem, dyed or undyed, during the twining process that wraps over and under a weft strand but never reaches the inner basket surface. This technique is often referred to as "false embroidery," which is imprecise and unclear because it does not reach the interior or because it is added during weaving. "Wrapped weft" is the preferred term. There are several species of grasses traditionally used, including blue joint (*Calamagrosti canadensis*), dunegrass (*Elymus mollis*) and wood reedgrass (*Cinna latifolia*) (Pojar and Mackinnon 1994). Reed canary grass (*Phalaris arundinacea*) is used by contemporary weavers. It is important to note that bear grass, rye grass, Timothy grass, and squaw grass were not used on Tlingit baskets though they are often cited in catalog information.

Aside from its aesthetic qualities, the wrapped weft decoration also is also functional. When the grass wraps around the weft, it forms two additional layers, which add structural integrity. When the basket is filled with water, the roots soften, causing the basket to lose some of its shape. However, the cuticle layer on the grasses and ferns wrapped around them prevents them from swelling, which provides stability and strength. This characteristic explains why baskets used for cooking or drinking are heavily decorated along the walls.

Designs made from wrapped weft are typically created within the rows of dyed rather than undyed roots, creating visually complex layers of patterning. They often consist of two thick bands separated by a thinner band in the center. This thin band allows the weaver to accomplish symmetry in the design. Additionally, there are sometimes series of triangles and rhomboids created above and below the banded designs that are referred to as ascenders and descenders. These are more typically seen in older baskets. Standard designs are described at length in Paul 1991 (44–79). In addition to their aesthetic beauty, the designs reference cultural metaphor, features in nature, and stories. There are no familial or clan restrictions on the use of designs.

1.3 TOURIST MARKET

By the turn of the 20th century, non-native traders brought significant changes to the production of spruce root baskets. They introduced weavers to aniline dyes, which were favored due to their bright colors and thus began to replace natural dyes. They also brought with them items such as metal pots, pans, and kettles, which replaced the baskets themselves, causing some forms of basketry to die out. Finally, and perhaps most notably, traders and other non-native travelers began purchasing baskets and encouraging weavers to make baskets for sale. This created a significant shift in the size, form, and designs of baskets produced.

The so-called "berry baskets"[2] and rattle lid forms became the mainstay of trade, but other novelty forms such as basketry-covered bottles or flat basket trays were also popular. These forms flourished because they appealed to the buyer and were faster to produce. New designs were generated that were pictorial and sometimes mimicked patterns on dishware or Chinese porcelain. The buying public preferred a finer weave, which often came at the expense of strength and integrity (Busby 2003, 94).

2. TLINGIT BASKETRY AT THE NATIONAL MUSEUM OF THE AMERICAN INDIAN

There are over 700 Tlingit spruce root baskets in the collection of the National Museum of the American Indian (NMAI). The majority of the baskets entered the collection in the early 20th century from various private collectors who either sold or donated them to the museum. There is a variety of forms and designs, ranging from large undecorated baskets to ornately decorated tourist market creations; however, the most common is a cylindrical basket with slightly flared walls and no lid, often referred to as a "berry basket."

Irrespective of form or collector, there is extensive ripping, tearing, and loss throughout our Tlingit basketry concentrated on the rims, at the joining of the base and walls, along fold lines, and along rows of dyed spruce root. The damage exhibited is notable compared to those from other cultural groups.

2.1 UNDOCUMENTED MENDING CAMPAIGN

In response to the structural damage exhibited on the baskets, there appears to have been a historic in-house mending campaign. A recent survey conducted of the Tlingit baskets revealed that 130 of the 580 examined had oversized strips of fabric with excessive amounts of adhesive applied to rips, tears, and losses in the structure. Twenty-four baskets had "major repairs," which was defined as having more than 20 pieces of adhered fabric, or a repair that obscured a sizable area of the walls or base (fig. 2a). In each instance, the adhered fabric strips were painted with imprecisely applied and chromatically unmatched paints (fig. 2b).

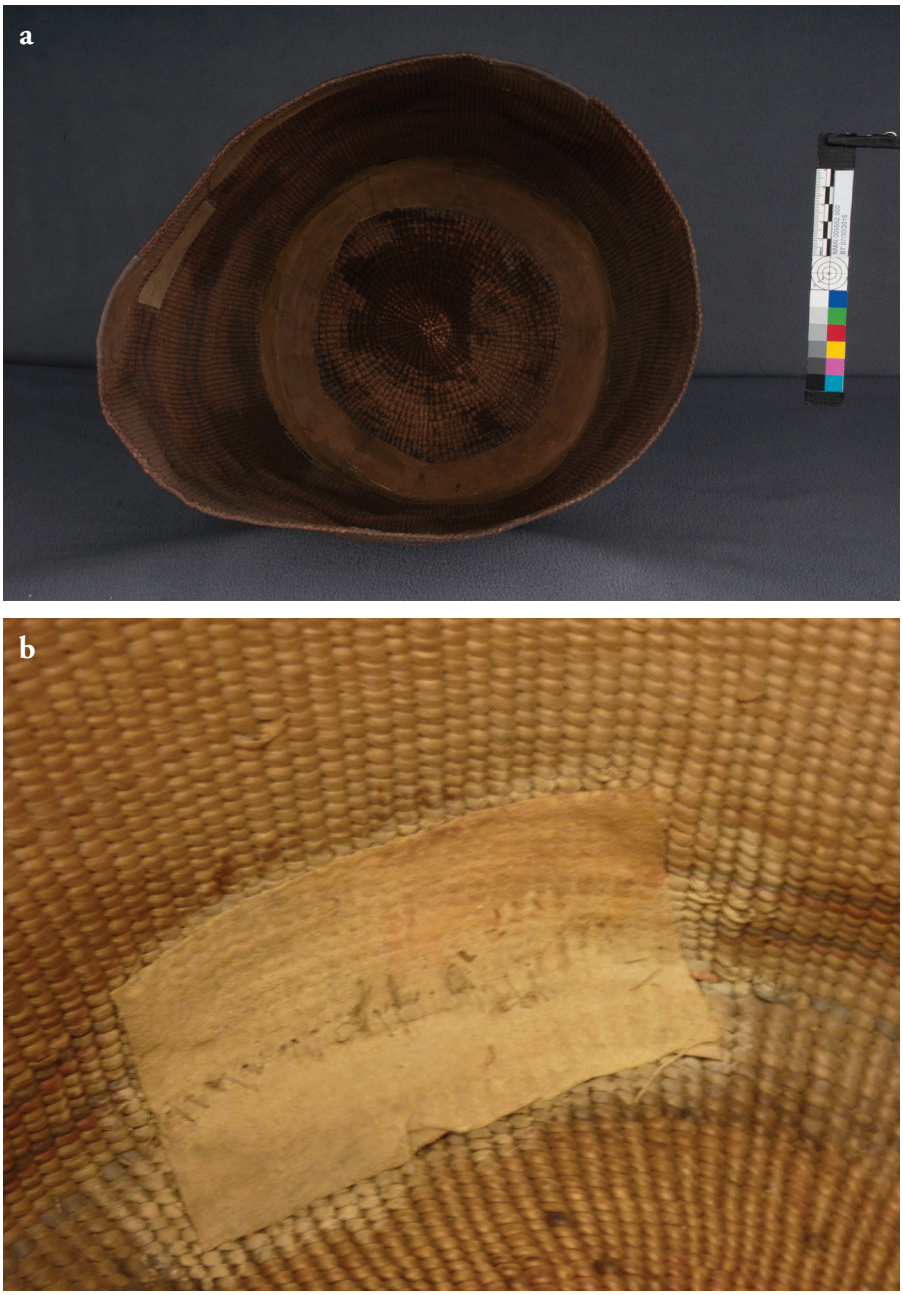

Fig. 2a. Interior view of basket showing mends around the entire base. Tlingit, *Basket*, 1906, spruce root and grass, 28.5 x 29 cm, National Museum of the American Indian, 009552.000 (Courtesy of Caitlin Mahony); 2b. Detail image of fabric mend showing oil paint on adjacent wefts. Tlingit, *Basket*, 1923, spruce root and grass, 27.5 x 25 cm, National Museum of the American Indian, 116656.000 (Courtesy of Caitlin Mahony)

Though the mending activity was undocumented, the repairs are very standardized in their application and are present on baskets from different collectors. Therefore, it seems likely that they were carried out within the museum and by a very limited group of people. The NMAI, formerly the Museum of the American Indian in New York City, has a history of "menders" and restorers on staff in the early 20th century who worked with the collections and made undocumented repairs.

During the basketry survey, observations on the appearance of mends were noted. In most cases, the adhesive was characterized as yellow and slightly opaque, but there was obvious variation. Further testing with ultraviolet-induced visible fluorescence spectroscopy (UV-Vis) and Fourier transform infrared spectroscopy (FTIR) revealed that hide glue was present on 10 out of 11 baskets analyzed, as well as cellulose nitrate.

The fabric was painted in various shades of brown and about 37% of the baskets surveyed exhibit excess paint on adjacent wefts. FTIR was conducted on a paint sample from the fabric and the results identified it as a lead white oil paint.

These well-intended but misguided mends escalated the damage and instability. In some cases, the greater strength of the adhesive as compared to the substrate created tears directly adjacent. In many instances, the break areas show misaligned warps likely caused by distortion from the shrinkage of the adhesive as the solvent evaporated. In every instance, the water from the hide glue embrittled the spruce root through the movement of tannins, dirt, and other residues.

Additionally, the mends are visually dis uring. Due to their size, the mends obscure substantial areas. The "disturbed" state of the baskets keeps them from exhibition, study, and handling. They have become inactive objects—no longer performing their original function within the museum.

3. CURRENT PROJECT

This project aims to establish an integrated protocol for the future care and treatment of Tlingit baskets within museum collections and expand on research that has been done on these baskets by a previous NMAI Mellon Fellow, Luba Dogvan-Nurse. Like the previous phase, this project is being done in partnership with Dr. Teri Rofkar, a renowned Tlingit weaver. To broaden the conversation around the care of Tlingit basketry within museums, a three-day workshop was organized in April 2017 at the NMAI Cultural Resources Center, to which conservators from institutions with significant Tlingit baskets collections were invited. Conservators from the Winterthur/University of Delaware Program in Art Conservation, the University of Pennsylvania Museum of Archaeology and Anthropology, the American Museum of Natural History, and the NMAI participated. The outcomes of this workshop contributed greatly to the outlined protocol.

3.1 WORKSHOP ON THE CARE AND TREATMENT OF TLINGIT BASKETRY

The workshop began in a round-table format with approximately 30 baskets selected for discussion placed around a table. The baskets included those that had been historically mended, those that had been treated more recently, and historic and contemporary baskets that were unrepaired. This showed a range of conditions and treatments to provide inspiration for the discussions.

The morning of the first day began with introductions and a discussion of the Tlingit baskets in each institution's collection. Each participant contributed institutional knowledge on the treatment and condition of Tlingit baskets, and from this a list of treatments was compiled and divided into native repairs, historic museum treatments, and current or contemporary treatments. It was acknowledged that many of the historic and native repairs aimed to reestablish function, whereas the goal of current conservation practice, and specifically for these damaged baskets, was different. Many of the repairs were found to be overly invasive or damaging in some way, though it was acknowledged that each repair was

Fig. 3a. Detail image showing adjacent rip and tear caused by the strength and shrinkage of the hide glue. Tlingit, *Basket*, undated, spruce root, dyes, and grass, National Museum of the American Indian, 208585.000 (Courtesy of Caitlin Mahony); 3b. Detail of mend that is painted to resemble the weave pattern of the basket. Tlingit, *Tray*, undated, spruce root and dyes, National Museum of the American Indian, 156630.000 (Courtesy of Caitlin Mahony)

likely done with the best intentions, and participants reflected on how they would be judged in the future for their actions.

Goals were established for the workshop: to set a new paradigm for the care and treatment of Tlingit baskets, to activate the broken baskets that have been static in collections, to collect and diffuse information for the Tlingit and conservation communities, and to establish relationships between all parties rather than merely use each other as resources.

The afternoon was spent learning about the harvesting and processing of spruce roots with a hands-on basket twining session. This highlighted scientific and mechanical aspects and allowed the participants to comprehend the skill and time investment of the weavers. It helped them improve their understanding of the basket's structure, the choices the weaver made, and why certain elements looked the way they did.

The second day was dedicated to science. At the outset, the focus was on a technical review of the baskets to investigate what these damaged baskets offer that complete baskets do not. Areas of interest for the conservator and community were discussed. It is of special interest for the Tlingit weavers to know the age of the baskets and where they came from. Samples of archaeological or very old ethnographic spruce root baskets can be carbon dated. Conducting dye analysis on baskets may also be of interest to document the change from natural to synthetic dyes. While sampling is often restricted within museums due to historic oversampling, Teri's perspective was that the fragments from these baskets may be "volunteers" for sampling. The most important question to ask when sampling is what information the analysis is going to give back to the community. The importance and benefit of integrating the native and museum knowledge systems became apparent throughout all the discussions.

The topic then shifted into investigating how technology can be used to document, collect, and disseminate information. After learning from Teri that raw materials for basketry were not traded, the question arose as to whether the spruce roots can be sourced if their elemental profile is compared to those that were collected from a known site. An honest conversation ensued about whether a reliable elemental profile could be achieved with a portable x-ray fluorescence spectrometer (pXRF), an instrument available to Teri in her home community. Foreseen issues with using this instrument in this way were discussed, including: the inherent variability in organic material; the effects that age, dirt, residues, and preparation of the materials would have on the resultant spectra; the skepticism around quantification; and the strict protocols required to create reproducibility. However, it was acknowledged that the question was valid and there was value in creating a comparative database that could be combined with other analytical techniques such as scanning electron microscopy-energy dispersive spectroscopy (SEM-EDS).

Additionally, spectrophotometry and colorimetry were discussed as possible methods of measurement of the darkness of the roots. This would effectively record the extent of tannin oxidation and the preservation or loss of dye vibrancy. In conjunction with this data, there is the possibility of using photogrammetry techniques to document the shape and surface texture of the basket and then possibly 3D-print baskets or digitally reconstruct them to appear as they would have originally.

Finally, the aspect of dissemination or diffusion of knowledge came to the forefront of the science discussion. Workshop participants came up with the idea of gathering the information about the baskets (i.e., the scans, the reconstructions, the images, and the technical information) and loading them onto tablets so they can be accessible to communities that are far removed from them.

4. ESTABLISHING THE PROTOCOL

The final day of the workshop brought together all the concepts produced over the three days. A path forward was set, creating a protocol for the care of these baskets that also established access to these

Fig. 4a. Image of a basket in its current condition with darkened spruce root, painted fabric mends, and faded dyes. Tlingit *Basket* (NMAI 208585.000) (Courtesy of Caitlin Mahony); 4b. Digital reconstruction of the basket in figure 4a as it may have originally appeared before the roots darkened, the historic mends were applied, and the dyes faded (Courtesy of Laurie Stepp)

baskets for the Tlingit weaving community. A select group of baskets has already been used to test and demonstrate the protocol of care, which is described in the following sections.

4.1 DOCUMENTATION

As with every conservation treatment, the treatment of these baskets begins with extensive documentation. The materials, manufacturing techniques, and condition are documented. If necessary, the condition is annotated in images to show locations of rips, tears, and historic fabric mends.

4.2 ANALYSIS

As part of the overall investigation, analysis is being used to identify the historic repair materials and supplement catalog information. UV-Vis was successful in identifying the historic adhesive on the baskets (fig. 5). Thus far, 10 out of 11 analyzed baskets were found to have hide glue. FTIR has been conducted to confirm these identifications. It also identified the paint on one basket as a mixture of linseed oil and lead white.

4.3 CONSULTATION

The treatment undertaken for each of these baskets aims to establish structural stability and to remove inappropriate repairs to prevent further damage. It is tailored on a case-by-case basis taking into consideration what will be gained vs. what will be lost. Prior to treatment, a member of the community is consulted to provide information that will guide the treatment approach and enhance object interpretation. This information will confirm or correct documentation for each object. For example, the catalog information for these baskets lists bear grass as the material used for the wrapped wefts. However,

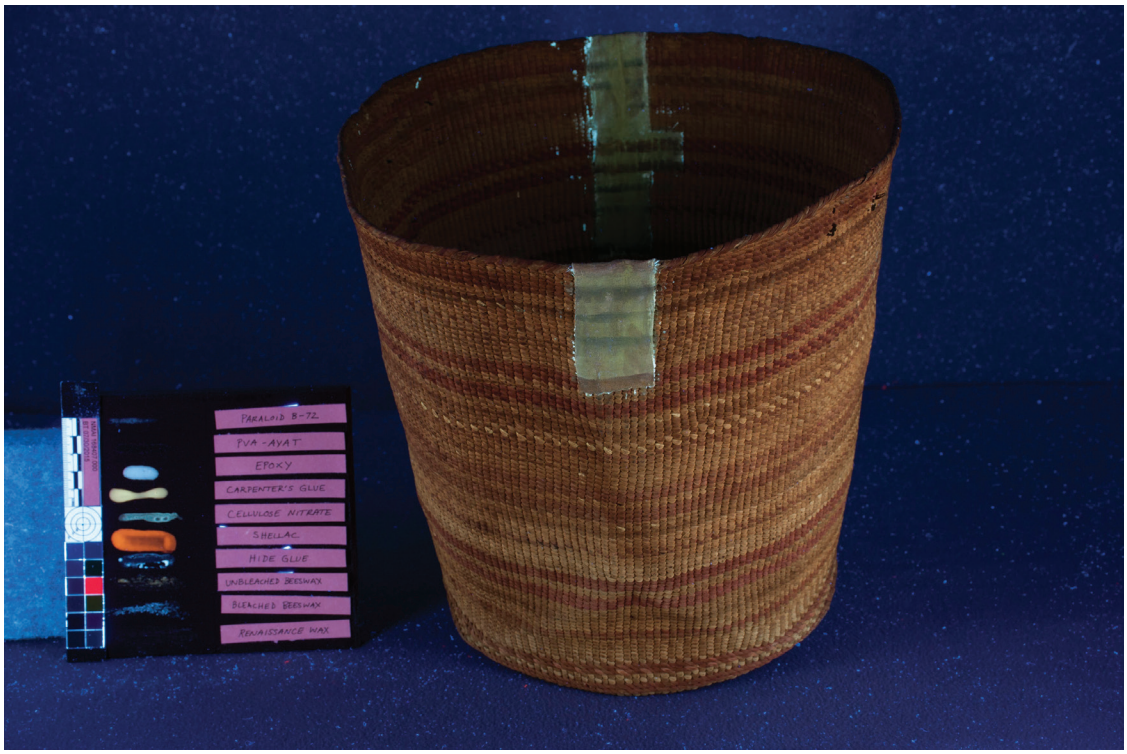

Fig. 5. Image of basket under longwave ultraviolet radiation showing visible fluorescence of the hide glue under the fabric. Tlingit, *Basket*, undated, spruce root, embroidery thread, and dyes, 28.5 x 34.1 x 24.1 cm, National Museum of the American Indian, 168407.000 (Courtesy of Caitlin Mahony)

bear grass is not available in that part of Alaska and would not have been used for any of these baskets. Consultation has altered the proposed course of treatment for one of the selected baskets thus far. This basket had a hole in the structure due to lost warps and weft. In consultation, it was suggested that the damage was providing a portal into the structure that would be otherwise concealed; thus, information about the weaving process was revealed. This information could be used by Native weavers viewing the basket. With this insight in mind, the area was stabilized through a treatment that addressed the adjacent warps and wefts without filling the area, which would have been a likely treatment. In this project, it is recognized that cultural values may be more important than physical integrity in some cases.

4.4 EXPERIMENTATION

Each stage of these treatments is designed and tested prior to application. For the taking down of the hide glue mends, there has already been success. Thanks to the UCLA/Getty Conservation Program that donated deaccessioned fragments from their study collection to this project, hide glue mends were recreated on aged Tlingit basketry.

Over the years, individual baskets have been treated at the NMAI with varied success. Water is the clear choice to solubilize the hide glue, but in each instance, brush application caused tide lines or blanching. The idea came about to use a gel to slowly introduce water to a specific location to soften the hide glue instead of solubilizing the glue and driving it into the structure.

Agarose gel was already available in the lab, having been used in stain removal treatments on textiles. Agarose is the nonionic, natural polymer component of agar, which is extracted from red sea algae. It is non-proprietary and is readily available in powder form from chemical suppliers (Warda et al. 2007). The gel is formed by adding to boiling water or by adding the powder to water and then heating, making sure the solution exceeds 85°C, the temperature required to achieve gelation. The water-based solution can have calcium or sodium hydroxide added to adjust the pH. Other solvents such as acetone or ethanol can be added, as can surfactants, bleaching agents, and enzymes. Agarose gel, or the less pure agar (also known as agar-agar), has gained recent popularity in multiple aspects of conservation as a way to slowly introduce solvents for cleaning, bleaching, removing old repair material and stains, and for humidification (Warda et al. 2007; Scott 2012).

During initial testing, the agarose gel achieved the qualities required; i.e., it effectively softened the adhesive enough for mechanical removal without creating tidelines. Furthermore, it did not have negative effects on the dyes, and it was easy to apply and control. With these encouraging results, it was selected for the treatment.

4.5 TREATMENT

The treatment that has been most successful on the baskets thus far is as follows: after dry-cleaning the surface with polyurethane cosmetic sponges, soft-bristle brushes, and low-suction HEPA vacuuming, agarose gel is applied to the mends that are approved to be taken down. A 2 % (w/v) solution of agarose gel is made in small batches to avoid molding. Each week a new batch is made by adding the powder to room-temperature deionized water and heating it on a hot plate until it reaches a temperature just above 85°C. It has been found that too high a temperature dries the gel out significantly and too low a temperature creates problems with cohesion. A rigid plastic tray is used as a gel mold; it is wiped with ethanol immediately before the gel is added to inhibit mold growth. Once the solution is heated to proper temperature, it is poured into a tray until it is about 3 mm thick, because at this thickness, the gel was flexible yet sturdy enough for handling and adjusting. The tray with the gel is kept in a polyethylene bag to help the gel keep its moisture content. When placed in the refrigerator at the end of the day, the gel tends to last through the week before it shows signs of mold.

Once set and cooled, the gel is placed directly on the fabric strip of the historic mend, or when it has been removed, directly on the adhesive residues. The area is covered with plastic and weighted enough

for the gel to achieve even contact with the surface. The setup is left in place for approximately 45 minutes. The cohesive quality of the gel allows the setup to be repeatedly lifted to access the area and monitor the wetting process.

The gels require no special disposal procedures and can be reused if they are moist and free of adhesive residues. After the glue has softened, the adhesive residues are mechanically removed using wooden skewers, cotton swabs, and Japanese tissue. These are all soft tools so as not to damage the spruce root, which was also softened during the treatment. When using the tools, the direction of the stitches is followed to minimize the risk of damage.

Thus far in the project, five baskets have been cleaned and the fabric mends have been removed. The treatment has been time-intensive and it has proved difficult to reach the inner mends placed around the base. However, as there have been no adverse effects observed, it has been deemed successful.

4.6 ASSESS AESTHETIC REINTEGRATION

Aesthetic reintegration is being highlighted as a separate aspect of the treatment because for each basket, it will be determined through further consultation whether aesthetic reintegration is a necessary or appropriate step. For this group of baskets, the goal is not to prepare them for exhibit; therefore, it is being discussed on an individual basis whether reintegrating the basket visually compromises information about the technology, its use, or another aspect valuable to the community. This decision will consider what will be gained versus lost. For example, upon the removal of a fabric mend on the basket in figure 6a, a dramatic color difference was revealed between the area under the mend that was protected from light and the roots elsewhere on the basket, because the tannins did not oxidize in the protected area to the extent that they did on other areas of the basket. While this is visually distracting, it is valuable information. Likewise in figure 6b, the removal of the mend showed the intense colors of the dyes in the break edges, especially the green and purple. The treatments applied will be tailored so that this revealed information is on view rather than concealed.

4.7 HOUSING AND PREVENTIVE CARE

Preventive care is being addressed through different mounting solutions and evaluations of housing for the long term. Housing and mounts should allow visual access to areas that may contribute technical or decorative information, facilitate safe handling, and utilize areas that are inherently the strongest on the basket. Special considerations are being made for exceptionally flared baskets and baskets with weaker bases. They may benefit from storage upside down so that pressure is relocated from the weakened areas to the side walls where bands of wrapped weft decoration reinforce the structure of the basket due to the added layers and the rigidity of the grass and fern material.

4.8 MENTORSHIP

Providing access to these baskets for the Tlingit community is one of the main concerns of the project. To address this goal, the idea was generated during the workshop to start a pilot mentorship program that will use tablets to disseminate information to the community. The idea arose to seek external funding or crowdsourcing for tablets to be loaded with information gathered through this project and left in the community for continued use. The tablets would feature information that would be useful for weavers, including comprehensive images of the baskets and details about size, gauge, scale, materials, and any catalog information.

Taking the aspects of mentorship one step further, Teri has suggested pairing a member of the community with one of these damaged baskets, not to replicate the basket but to draw inspiration from it to create something new. There is precedence for this type of mentorship already. Teri was mentored by a basket in the collection of the University of Pennsylvania Museum of Archaeology and Anthropology that

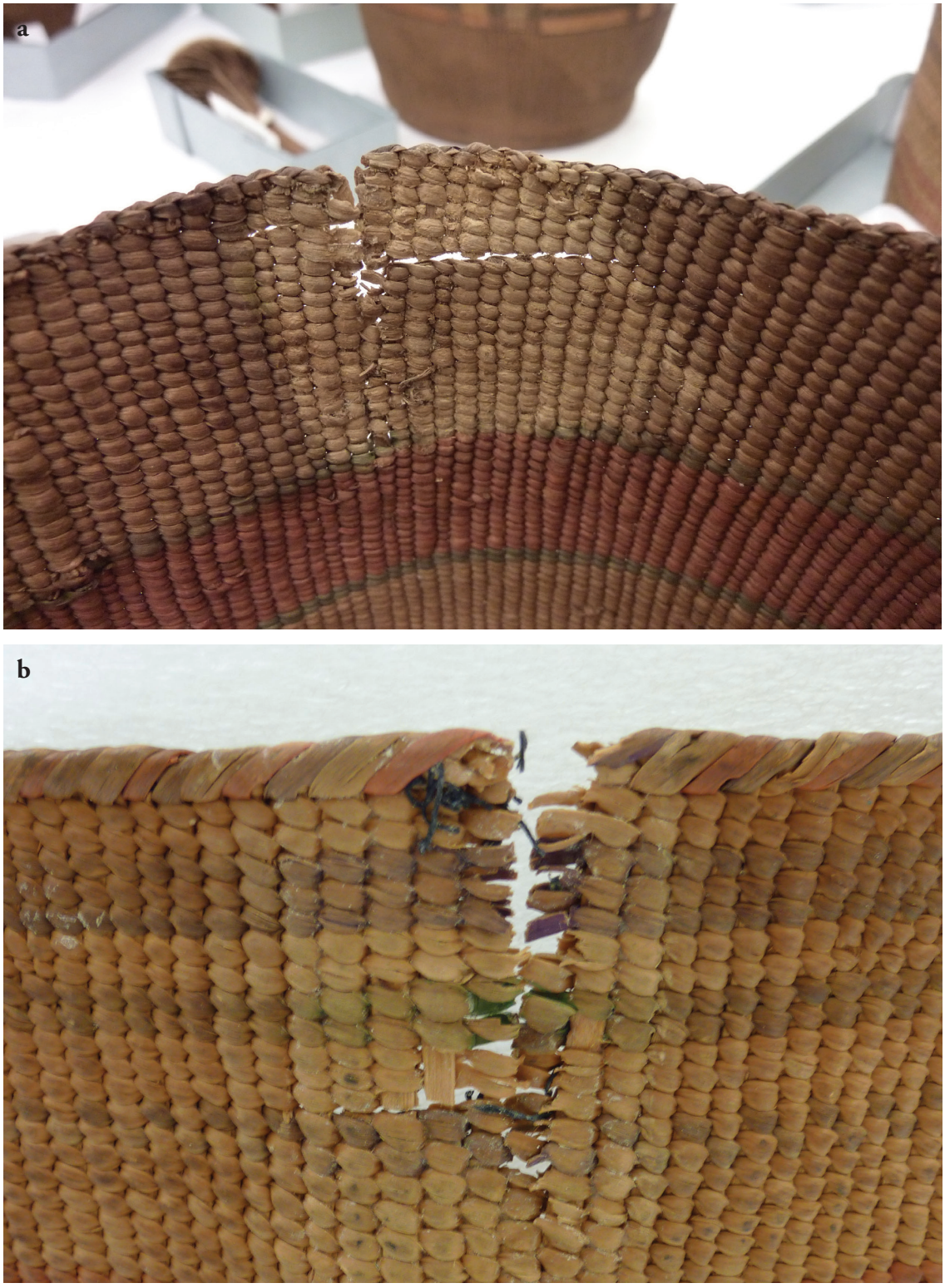

Fig. 6a. Detail of basket where removal of fabric mend showed the extent of tannin oxidation on the basket. Tlingit, *Basket*, undated, spruce root, dyes, and grass, 22.7 x 22.0 x 17.2 cm, National Museum of the American Indian, 218838.000 (Courtesy of Caitlin Mahony); 6b. Detail of basket where intense dyes were preserved within the break edge. Tlingit, *Basket*, undated, spruce root, embroidery thread, and dyes, 28.5 x 34.1 x 24.1 cm, National Museum of the American Indian, 168407.000 (Courtesy of Caitlin Mahony)

was collected in 1905. She made a similar replica based on the technique and patterning. While this aspect has not yet been implemented, it is a priority for the future of this project.

5. FUTURE ASPECTS

This project is part of a two-year Mellon Fellowship research project. Due to time constraints, one of the goals was to outline actions that participants in the workshop and the next NMAI Andrew W. Mellon fellow may take up this project can take in the future. These include:

- Continued collaboration between participants of the workshop and opening it to other institutions
- Shared database and information
- Dye analysis by students at Winterthur/University of Delaware Program in Art Conservation
- Mentorship possibilities at University of Pennsylvania Museum of Archaeology and Anthropology and American Museum of Natural History
- Connecting communities with baskets in these institutions and supporting weavers through commissions

6. CONCLUSION

There are several distinct aspects of this project to highlight.

- **Resource vs. relationship**

This project has made a conscious effort to acknowledge the relationships built during the process. Relationships have formed between conservators, between conservator and basket, between the museum and the native community, and between the baskets and the community. At the base of this acknowledgement comes the distinction between resources and relationship that needs to be considered in interactions with communities.

- **Reactivating collections**

Due to their poor condition, these baskets have been passively sitting on the shelves in storage. The collection of Tlingit baskets is large enough that these damaged baskets would not typically be selected for exhibition over those that are more stable. Through this collaboration, the role of these baskets has been redefined. Their damaged state has been viewed as an opportunity to discover aspects about the structure, material, and technique that would not be available in whole baskets. By connecting the baskets to the Tlingit community, they become active again as mentors. This idea can be applied to material in a variety of institutions.

- **Integrating knowledge systems**

The success of this project was due to the seamless integration of knowledge systems between native and non-native expertise. As a Tlingit weaver, Teri's knowledge of the science and art embodied by these baskets provides vital insights into the function and aesthetic of many of the basket features. When this information is combined with the contributions of a conservator on analysis, condition, and acute observation, the full picture of the basket—the tangible and non-tangible aspects—are fully developed and acknowledged.

- **Support continuance of culture through commissions**

One aim of this project is to stabilize and preserve the baskets for the future; however, an equally important aspect is to contribute to the preservation of the weaving tradition in the Tlingit community.

In addition to connecting the community to the baskets, institutions can also support weavers through the commission of new baskets inspired by damaged baskets that are their mentors.

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NOTES

1. Frances Paul wrote Spruce Root Basketry of the Alaska Tlingit in 1944. She was the wife of a Tlingit man, William Paul, a lawyer from Tongass who fought for the voting rights of the Tlingit people. She wrote a few books on Tlingit culture and cultural material. According to Paul (1991), the Legend of the Origin of Basketry is as follows:

   > "In those days a certain woman who lived in a cloud village had a beautiful daughter of marriageable age. She was greatly desired by all mortals and many came seeking to mate with her. But their wooing was in vain. At last it chanced that the eyes of the Sun rested with desire upon the maiden and at the end of his day's travel across the sky he took upon himself the form of a man and sought her for his wife.
   >
   > "Long years they lived together in the Sky-land and many children came to them. But these children were of the Earth-world like their mother and not of the Spirit-world of their father, Ga-gahn. One day as the mother sat watching her children frolicking in the fields of the Sun-land, her mind filled with anxiety over their future, she plucked some roots and began idly to plait them together in the shape of a basket. Her husband, the Sun, had divined her fears and perplexities. So he took the basket which she had unknowingly made and increased its size until it was large enough to hold the mother and her eight children. In it they were lowered to their homeland, the Earth. Their great basket settled near Yakutat on the Alsek River, and that is the reason that the first baskets in southeastern Alaska were made by Yakutat women. (9)"

2. There is not one type of basket that is solely for berries. When the berries were ripe, all baskets were berry baskets.

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TERI ROFKAR was a Tlingit daughter of Raven from the Snail House (T'akdeintaan), a clan originating in Lituya Bay (Ltu.a`a), related closely to the Coho (L'uknax.a`di) clan. She was the daughter of an Englishman from California and granddaughter of the Kaagwaantaan Wolf of Ground Hogs Bay, Alaska. She was introduced to Tlingit weaving by her grandmother when she was a child. During her art career she received numerous awards—the NEA Heritage Fellowship, the highest honor for Traditional arts; recognized as a "Living Cultural Treasure" in 2009; membership in the United States Artists Fellowship Inaugural class in 2006; the Buffet Indigenous Leadership award in 2004; the Alaska Governors Award for Alaska Native Art in 2004; and the Rasmuson Distinguished Artist Award for 2013. Teri passed away in late 2016. In 2017, her legacy was honored through the Special Recognition for Allied Professionals Award given posthumously by the American Institute for Conservation of Historic and Artistic Works.