

## Preserving the Spirit Within: Bringing Twenty-Five Tibetan Initiation Cards into the 21st Century

### ABSTRACT

This paper discusses the history and rarity of twenty-five fifteenth-century Tibetan Initiation cards; their methods of manufacture as supported by an in-depth examination and analysis; the development and implementation of a complex conservation treatment plan designed to incorporate sensitivities towards the objects' sacred function, select specific materials used in the conservation treatment, address former inappropriate restoration campaigns, achieve aesthetic coherence between three conservators treating twenty-five cards; and identify the advantages and disadvantages of using a web-based forum to convey a multifaceted decision-making process to the public.

### INTRODUCTION

In 2000, The Metropolitan Museum of Art acquired a complete set of twenty-five early fifteenth-century Tibetan Initiation cards in various states of disrepair. The form and function of the cards is complex and multifarious. Individually, the cards invoke their respective deities; together, they form a mandala, a spiritual and ritual symbol representing the Universe (Fig. 1). Comprised of the four directional guardian deities along with major divinities and Bodhisattvas, the comprehensive set reflects a multidimensional Buddhist pantheon. Well-worn, undoubtedly used and handled throughout numerous rituals, and housed in environmental conditions of high humidity, the pieces exhibited overall surface abrasion, unstable paint layers, and evidence of both mold and insect damage upon acquisition. In addition, several but not all, of the pieces had undergone previous campaigns of substantial restoration before entering the museum's collection. The authors and a third conservator<sup>1</sup> collaborated in the treatment of the twenty-five cards in discussion with each other along with the curator. All aspects of

<sup>1</sup>Presented at the Book and Paper Group Session, AIC's 43rd Annual Meeting, May 13–16, 2015, Miami, Florida



Fig. 1. The complete set of tsakli forming a mandala. Image copyright The Metropolitan Museum of Art (2000.282.1–25)

the treatment had to be thoroughly explored, discussed, and practically applied with similar principles and methodologies to ensure visual consistency for the debut exhibition of all twenty-five cards within The Metropolitan Museum of Art. In preparation for treatment, the cards underwent thorough examination and documentation, utilizing multi-spectral imaging equipment, some of which was specifically modified for the project. Throughout the course of treatment and after treatment had been completed, all three conservators and the curator created web-based material to convey specific aspects

of the project to the public via the Met's website. These short online articles, web videos, and social media posts provided opportunities to engage with the public and develop audience-appropriate material that gave the public insight into these twenty-five complex treatments.

#### HISTORIC BACKGROUND AND FUNCTION

Tsakli or tsakalis is a Sanskrit term used to describe a small ritual painting, generally the size of a playing card, created in sets, and used in Buddhist and Bon rituals and initiations. The paintings are most often illustrations of Buddha, Bodhisattvas, gurus, animals, sacred symbols, ritual implements, and abstract images. Each card would have been used by a Tibetan Buddhist practitioner—a monk, a nun, or initiate—to invoke a specific Vajrayana Buddhist deity.

Used by itinerant teachers (lamas) moving from one monastery to another, the tsakli cards incite the imagination and aid the process of visualization during study and in ritual practice. The cards' function in rituals and religious education continues to this day. Lamas display tsakli on an altar at the end of a stick or show them to initiates or disciples by holding the card at arm's length. The cards displayed on the altar are changed over the course of many days as the teachings progress. During long journeys or pilgrimages the cards will be placed singularly within a portable altar called a Gau to be carried along. Because of their readily procurable material constituents, tsakli often serve as substitutes for esoteric ritual items, which are difficult to acquire, such as precious stones or flayed skins of demons.

Tsakli also serve a protective function. For example, cards depicting the guardians of the four quarters or directions are often set up facing their corresponding zones during the construction of a new monastery building as talisman or protectorates. Additionally, their protective role in Tibetan funeral ceremonies is central and continues to this day. The cards are thought to guide the deceased as they travel through the intermediate worldly and onto metaphysical realms. These funerary rituals may last for as long as forty-nine days. An effigy of the deceased in the form of a monochrome woodblock-printed tsakli is created either in their home or at the home of the local lama priest, accompanied by a large set of full spectrum cards representing the individual deities and spirits encountered in the transitional stages along the death path. A funeral set of tsakli may consist of only a few cards or it may have the complete mandala of the death deities and their attributes individually depicted, amounting to eighty cards or more.

The Met's set of tsakli was likely a funeral set and is remarkable and rare in its wholeness. It is noteworthy that these early fifteenth century initiation cards, perhaps the oldest set that survives intact, form a mandala suitable for initiation. Forming a fixed sacred space like that of a temple, the order in which the cards were placed to form the mandala is

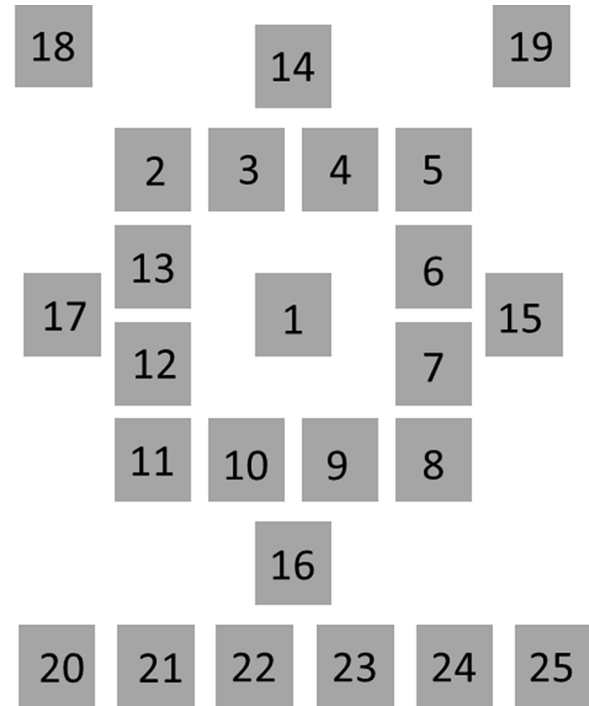


Fig. 2. Numbered mandala.



Fig. 3. Recto and verso. Image copyright The Metropolitan Museum of Art (2000.282.1)

important (Fig. 2). Each card is inscribed with a Tibetan letter on its verso, designating its specific placement within the mandala. The deities shown on these initiation cards include the Tathagata Buddhas, various bodhisattvas, fierce protectors, and the six possible realms of rebirth seen across the bottom. The cards form a mandala if the first one is placed in the middle and the following cards are arranged clockwise, as is auspicious. The bodhisattvas, both male and female, appear in the upper corners of the mandala and attend the central and most important figure, Vajrasattva, venerated for purifying the mind prior to undertaking advanced tantric techniques. This understanding is in accord with the inscriptions on the back of each card (Fig. 3), which associate mental states with each

deity, and delusions, such as pride, jealousy and hatred, with each of the possible rebirths.<sup>2</sup> This historical background and ritual function of the cards informed the treatment process and provided insight into the technical analysis of the objects.

#### CONSTRUCTION AND ANALYSIS

##### THE SUBSTRATE: COMPLEX TO THE CORE

One of the most fascinating components of the cards is the core substrate. The cards were created by laminating five to six sheets of recycled Tibetan writing paper. Each sheet was pasted to another by coating the page with a carbohydrate in the form of a polysaccharide adhesive, probably a starch. The papers were aligned in a cross-grain orientation; creating a cardboard of tremendous dimensional stability. Access to the inner core was limited to only a few cards and it was difficult to observe unambiguously this evidence throughout the set, but in the few instances where the layers were weak and delaminating, the Tibetan script was discovered to be oriented in alternative directions, layer after layer (Fig. 4). Despite their exposure to moisture along the top edge, areas of the initiation cards that were free from moisture exposure were unaffected and remained relatively stable and strong, laminated together and rigid, free of air pockets with only minor to moderate undulations and delamination overall.

The individual leaves of paper possess a very coarse finish, unrefined in nature with long unbeaten fiber clumps and bits of rope and twine making for a particularly topographical surface (Fig. 5). Burnishing marks can be seen in strong raking light evidencing vigorous strokes from a polishing stone or tool (Fig. 6). Fibers were sampled from nine of the twenty-five objects in areas of unambiguously original primary support. The initiation cards are composed of ~90% jute fibers that stained grayish green and interspersed with ~10% bamboo (or other straw fiber that has naturally associated cellular elements, such as large vessels), which stained blue (Fig. 7). Comparisons were made against a freshly stained fiber reference slide of jute.<sup>3</sup>

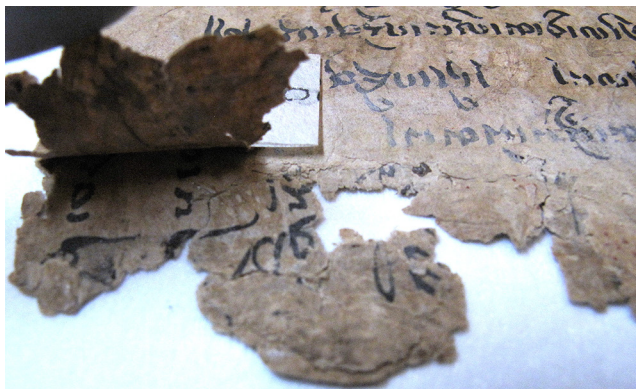


Fig. 4. Detail of delamination and calligraphy of the inner core. Image copyright The Metropolitan Museum of Art (2000.282.21)



Fig. 5. Photomicrograph through stereo binocular magnification. (100X) Image copyright The Metropolitan Museum of Art (2000.282.15)

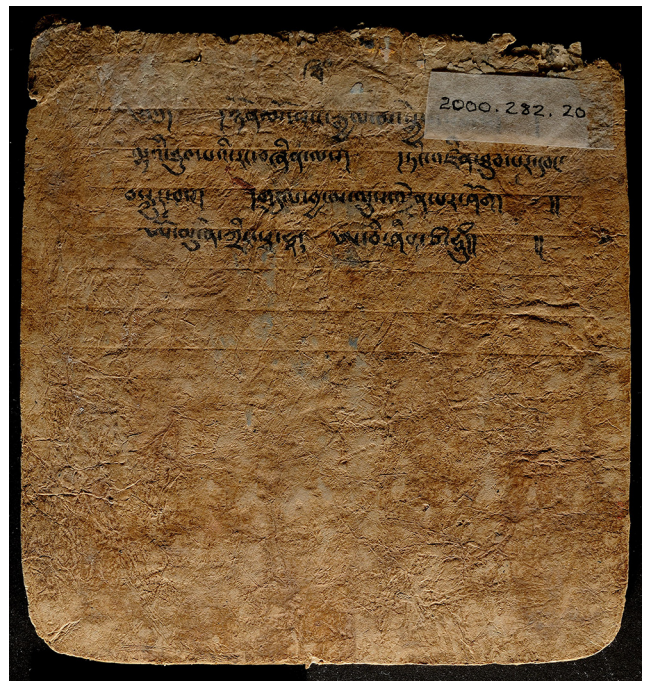


Fig. 6. Verso, raking illumination. Image copyright The Metropolitan Museum of Art (2000.282.20)

##### DESIGN LAYER

On the surface of this complex core, dynamic figural compositions are framed by painted borders in an almost perfect square format pigmented with subtle variations of oranges (red lead) melting into reds (vermillion), followed by a yellow (orpiment) ruled line outlined in carbon black. Some of the paintings contain triangular upper corner pieces of azurite

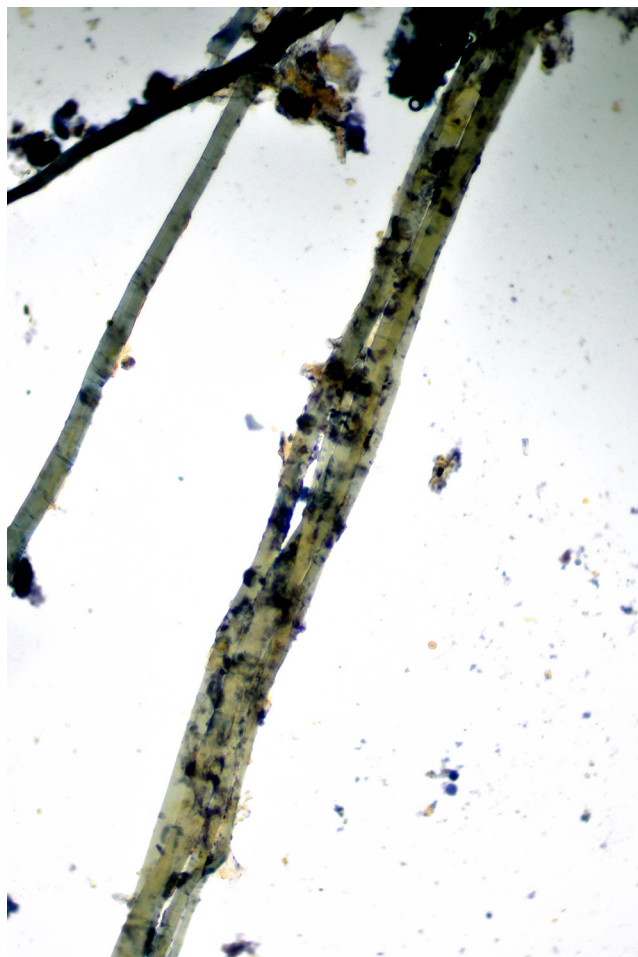


Fig. 7. Polarizing light microscopic image (200X) of jute fibers.

embellished with stylized leaf and flower forms. Most figural creatures are arranged within an arched framework, some of them haloed by a rainbow, some set against a flaming background of red and orange overlaid with spiraling arabesque patterns created with a red organic glaze, others with blue background with white rich swirling patterns. In general, the palette is limited yet pure and vivacious with mainly opaque and thick layers of brush-applied mineral pigments. Very few mixed pigments are present, excepting the greens which are created by a mix of indigo and orpiment and dilute solutions of indigo used to indicate volumetric form. There is a ubiquitous organic red glaze that is difficult to identify but fluoresces brightly under ultra-violet light with a fine crizzled and crazed otherwise known as a craquelure pattern. Although no non-destructive Raman analysis was pursued, false color infrared coupled with observation under long and short wave ultra-violet radiation reveal traditional colors known to be used in South Asia during this period. Whites are not lead white, but instead are estimated to be calcium carbonate (Fig. 8).



Fig. 8. Reflected ultra-violet radiation photo-micrographic image. (150X) Image copyright The Metropolitan Museum of Art (2000.282.10)



Fig. 9. Infrared reflectogram (with 1000nm long-pass filter). Image copyright The Metropolitan Museum of Art (2000.282.10 & .11)

As part of the initial examination, infrared reflectography was used in an effort to determine whether or not the remarkably similar designs had been stenciled or printed onto the cards as underdrawings and then painted over as this would help with determining later in-painting needs. The infrared images revealed that the carbon-ink underdrawings are close, but not identical to one another, indicating that they were not stenciled or printed and, instead, were individually drawn by a hand quite familiar with the repeated design (Fig. 9).<sup>4</sup>

#### VERSO INSCRIPTIONS

Along with a letter ordering the set, the reverse of each tsakli card has a Tibetan inscription on the back written upon an incised ruled line.<sup>5</sup> The inscriptions each relate one of the five senses to a mental condition and to the specific deity shown on the front. The inscriptions were presumably read as the cards were laid down, in this way purifying and focusing the practitioner's mind.

The carbon-based penned inscriptions on the versos of the cards were written on incised lines as previously mentioned. Despite the thickness and strength of the cards, the incisions were applied with a force creating deep cuts clearly perceptible to the naked eye on the versos of all cards and, in many cases penetrating through to the rectos as well. The peaks of the incised lines are prone to abrasion, contact damage, and subsequent loss of the paint layer which had been aggravated by frequent handling and stacking of the cards on top of one another (Fig. 10).

#### PRINCIPLED CONSIDERATIONS

Knowing and understanding the construction, composition, and properties of all the materials used in the creation of the initiation cards was essential in assessing their physical condition and necessary in devising a thoughtful and considered

treatment approach. Respect of their form and structure along with observations of the stresses caused by uninformed choices in former restoration campaigns helped predict how the objects would respond to our tailored treatment procedures as well as their new home within the museum's stable environment. In addition to our material concerns sensitivity to the object's historic and cultural context was equally important in our assessment of the objects in order to acknowledge the intangible properties with which the cards may have been invested, as well as to recognize alterations that may have taken place through its use and function.

Ethical considerations of conserving these particular sacred objects involved shared conversations amongst the curators and conservators, each expressing attitudes in regards to loss compensation. Considering the whole set, the losses suffered were not that egregious, but it was determined by unanimous consensus among conservators and curators that the voids, jagged edges, and overall ragged forms distracted the viewer when the cards were displayed in the intended mandala formation. We decided that we would best serve the set of Tibetan initiation cards by addressing their losses (from a physical integrity point of view) and exhibiting and treating the cards as a visually whole puzzle. The wounds and damages incurred from neglect needed to be attended to while also respecting the cards for their age and natural wear.

Considerations also included their end use and how frequently these objects will be handled or originals requested for study. To facilitate study without compromising the original pieces, all of the initiation cards have been captured both front and back, digitized in high-resolution image files, accessible online through the museum's website.

From monastic creation to museum display, these cards are one of the only known sets from this time and place to survive. They are not only appreciated singularly but are impactful as a group and must be displayed together to achieve their complete power. Ultimately, the purpose of treatment was to create a harmonious flow and to quiet their injurious states so that the viewer can concentrate with focused mindfulness on the all-important deities, central to each composition. In a sense, our goals were not only to impart strength and physical integrity to each individual object, but aesthetically to enable each card to shine as brightly as possible within the figurative constellation of the mandala (Fig. 11).

#### TREATMENT AND DISPLAY

##### CONSOLIDATION

The most pressing concern from a conservation perspective was the unstable paint layer. In examining the cards, it was immediately apparent that the paint layers of all twenty-five were fragile. Some of the cards had already been consolidated, heavily, and some appeared to have barely been touched.



Fig. 10. Recto and verso, raking illumination. Image copyright The Metropolitan Museum of Art (2000.282.25)



Fig. 11. Before and after treatment. Image copyright The Metropolitan Museum of Art (2000.282.10)

In the magnified image, the fibrous paper support can be seen beneath the cracked and lifting paint layer (Fig. 12).

Most often, flaking paint is due to the dehydration of the binding vehicle used in the original mixing of the paint. This causes friability, flaking and tenting, resulting in a considerable loss of integrity and permanence in the paint layer. In all of the objects in the set, the paint layer appears to have been generally applied rather thickly, causing it to become brittle and inflexible with age with a tendency to crack if there is movement of the support. Once a crack or loss in the paint layer occurs, the area surrounding it becomes extremely vulnerable and susceptible to further damage. The previously described areas of incised lines were particularly vulnerable to this type of damage. The cards exhibited all forms of the most common injuries found in a paint layer, including: stress cracking, delamination, separation of the paint layer from the paper, friable media, desiccated binders, and the tenting or cupping of paint. Additionally, six of the twenty-five cards were invasively filled during a prior restoration campaign (Fig. 13). The earlier fill material was thick, substantially stiffer and much stronger than the jute-fibered layers of the original primary support paper. In all six cases, these fills resulted in substantial structural distortions and increased risk for future damage.

Before any in-depth treatment could be carried out in order to facilitate exhibition display, the paint layers of all twenty-five cards required stabilization. In an effort to do this, several organic consolidants were considered for adhering the paint layer to the paper surface, including natural gelatin, JunFunori,<sup>6</sup> and isinglass. Empirical testing found that the best consolidant for the media was isinglass. It met all of the criteria necessary for consolidating media, proving effective at stabilizing paint flakes and islands without changing the color or surface character of the paintings (Fig. 14).<sup>7</sup>

In small, controlled amounts, this pre-prepared adhesive material was reconstituted into solution at appropriate percentages, determined by the strength requirements of the damaged media. In this case, the conservators generally used a 1.0–1.5% solution. The isinglass was applied under the lifting paint surface, often assisted by an immediately-preceding application of ethanol used to facilitate the flow of the consolidant, and the unstable areas of the paint layer were secured to the surface of the paper support. Once the paint layers were consolidated and stable, the objects were considered safe for further treatment.

#### MOLD REMEDIATION

The next step was to address the mold. Mold mitigation falls into a category where treatment intervention is not debated. Mold must be addressed and treated. Deterioration by fungi depends on the nature of the materials upon which they grow. The evidence of fungi left behind on the cards was the same in all cases, a white powdery substance found on both the recto

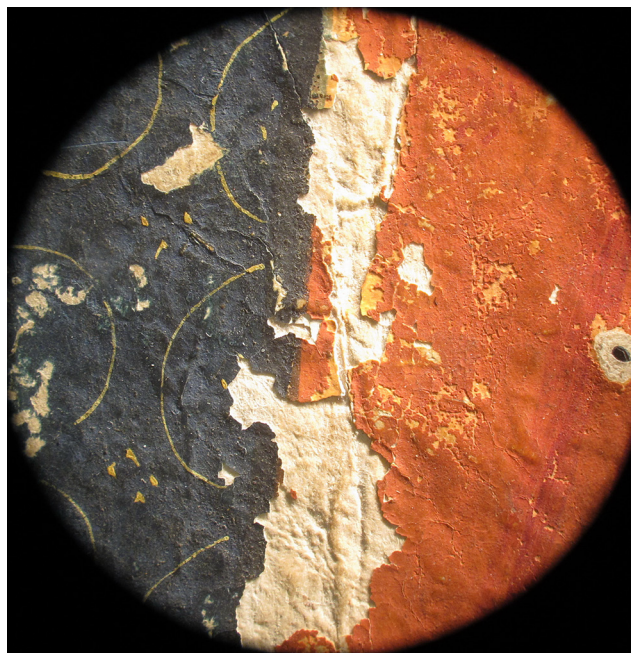


Fig. 12. Stereo binocular microscopic detail of paint layer showing losses. Image copyright The Metropolitan Museum of Art (2000.282.23)



Fig. 13. Detail of former loss compensation and planar distortion. Image copyright The Metropolitan Museum of Art (2000.282.4)



Fig. 14. Isinglass disks, detail.



Fig. 15. Mold damage along top. Image copyright The Metropolitan Museum of Art (2000.282.20)



Fig. 16. Facing and salvaging off-set paint layer from verso. Image copyright The Metropolitan Museum of Art (2000.282.22)

and the verso (Fig. 15). Isolated along the top edges where a water event had occurred at some point in the objects' history. The evidence of injuries and damages from this water event make it obvious that the cards were stacked on top of each other. In some instances, attachments and accretions covering over images along the top edge were actually substantial fragments of offset paintings in direct contact with the verso above. These singular layers of paint with one layer of paper support as substrate were delicately removed and reused as possible in the reintegration of design phase (Fig. 16).

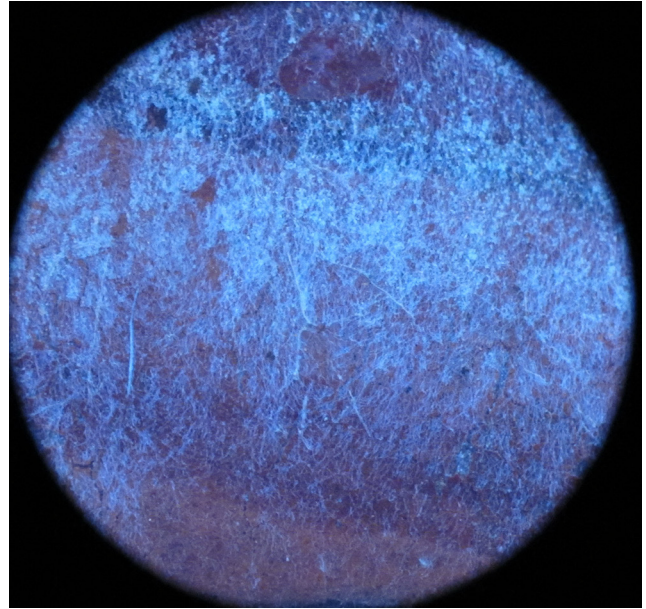


Fig. 17. Stereo binocular microscopic detail of hyphae (150X). Image copyright The Metropolitan Museum of Art (2000.282.20)

Damages at the bottom half of the stack of twenty-five cards were considerably worse than the top half, following their numbering system. In addition to rodent and insect damage, the water damage appears to have caused some of the stack to fuse together along the top edge. Subsequent mold growth following the water event was not surprising as pasteboards and the presence of substantial amounts of starch provided a feast of nutrients upon which the mold could feed. Richly bound paint layers also lent themselves as hosts to dense hyphae (Fig. 17).

Ultimately the mold areas were decontaminated<sup>8</sup> with a 70% alcohol 30% deionized water solution (after testing) and then gently cleaned locally<sup>9</sup>. It should be noted that though the areas of mold damage were relatively straightforward to identify and could be treated accordingly, other apparently dirty or discolored areas were more complex: surface accretions of smoke, dirt, and oil were deposited and absorbed onto the paint surface of most of the cards from use and handling. The main purpose of the cards' creation was to educate and inspire the initiate: to be held in the hand, studied, and turned over to read the inscription, which was intoned, chanted, and recited repeatedly. As a result, most surface accretions were left in place and respected as evidence of the use and history of the cards. In very few cases where surface accretions were particularly disturbing to the overall reading of a deity or the foreign matter was identified as insect deposits, the accretions were removed mechanically, in a dry manner, under binocular magnification with especially fine surgical tools.

## LOSS COMPENSATION AND FORMER REPAIRS

Once the paint layer had been stabilized and cleaned, the damage along the top edges of all the cards could be addressed. The losses were both structurally and aesthetically problematic. The damaged top edges were weakened, frayed, and vulnerable to further injury; and visual focus was drawn away from the illustrations, toward the damage. The areas needed physical stabilization and design reintegration. From an aesthetic perspective, any disruption of the border pulls focus away from the central image, whereas a completed border allows the viewer to appreciate centralized and framed individual images as well as the full mandala as they and it were intended to be seen. Thus, the six cards that had been previously repaired and poorly filled, were visually disruptive when displayed as a set. Additionally, these six cards were heavily over-painted (both in the fill areas as well as copiously across the original surface in pinpoint losses) with ill-matched paints. It was not a difficult decision to remove these unsightly and structurally problematic fills. Using a combination of localized Gore-Tex humidification and gentle mechanical manipulation, these fills were gently removed from the original supports. It was imperative to use as minimal intervention as possible while salvaging and keeping the primary support along with its original paint layer intact.

After the old fills and their adhesive residues had been removed, the twenty five cards were ready for structurally-appropriate loss compensation and design reintegration through in-painting. Though each of the three conservators treating the cards inevitably used slightly different treatment techniques, the delaminating layers of the support were consistently stabilized with wheat starch paste and soft-sized, flexible papers were selected for the new multi-layered fills, which brought the primary substrate into plane through minor overlapping and chamfering (Fig. 18). The inpainting techniques employed by all three conservators also differed slightly, but were uniform in the application of Winsor & Newton watercolors which reflected and complimented the evidence of surface damage from centuries of handling, visible across the surfaces of the cards. Ultimately, the fills returned regularity to cards' designs and allowed the margins to fulfil their original function as frames for the images while returning structural soundness to the cards and protecting them from further damage.

## HUMIDIFICATION AND FLATTENING

Since a number of the cards exhibited moderate warping and buckling, a Gore-Tex humidification package was employed to relax the cards, as needed. Testing was first carried out on several small corners of a few cards to determine if the multi-layered support, delicate paint layer, and recently applied inpainting and fills could withstand prolonged moisture vapor without offsetting paint or delaminating attachments.



Fig. 18. During treatment (loss compensation) inserting chamfered-edged fill. Image copyright The Metropolitan Museum of Art (2000.282.24)

Once it was determined that this form of humidification was possible, the selected cards were placed in individual Gore-Tex packages and allowed to relax fully. They were then removed from the packages and flattened in a blotter press, under a weight, for several days. One tremendous advantage of this slow, gentle, and effective vapor humidification procedure is the significant reduction of the risk of causing stains and tidelines direct applications of water or mist.<sup>10</sup>

After the pieces flattened in the press for several days, they were removed, returned to the set, and the entire mandala was reassessed by all three conservators. The cards were thoroughly examined and it was determined that the consolidation of the media, the removal of mold, the newly applied and inpainted fills, and the overall flattening of several of the cards returned a visual uniformity to the set as well as much-needed structural soundness: the *tsakli* were ready for exhibition.

## DISPLAY

The cards were simply and dramatically displayed in their mandala format, placed directly on the deck of their exhibition case and covered with a Plexiglas vitrine. The exhibition, *Sacred Traditions of the Himalayas*, was on view in the changing exhibition galleries for South Asian Art from December 20th, 2014 through June 14th, 2015. Other works included in the exhibition were elaborate mandalas, embroidered *tangkas*, devotional sculpture, and jewelry for the gods. All the objects on display served as visually pleasing tools or vehicles that allowed individuals/initiates to reach toward the elusive idea of transcendence (Fig. 19).





Fig. 19. *Sacred Traditions of the Himalayas* exhibition installation, Gallery 251. Asian Art, The Metropolitan Museum of Art

#### DISSEMINATION OF INFORMATION

Though presenting a paper at the American Institute for Conservation (AIC) Annual Meeting as well as publishing in the Book and Paper Group (BPG) Annual has traditionally been an effective and well-supported method for sharing information with colleagues in the field, it was determined early on in the course of this project that each of the three conservators and the curator involved with the exhibition would also submit blogs to the Met's website and share details of the treatment on three of the social media platforms supported by the Met: Twitter, Instagram, and Facebook. This broader array of distribution approaches had advantages as well as disadvantages and required both more time and greater flexibility from the conservators. While curators are generally expected to produce both scholarly research for their fields and object labels with simplified, but informative, material for visitors, conservators are less-frequently expected to interact directly with the public. Producing blogs and posting information to social media sites necessitates an appreciation for and understanding of what might interest viewers, both online and

offline. For conservators, this can complicate what and how information is shared. With that said, allowing conservators the opportunity to interact directly with the public in any form available is universally beneficial to the field. Without public appreciation, particularly at a time when media presence (social or otherwise) is so highly valued, conservation risks obfuscation.

The Met has spent the past several years restructuring their website to better represent the depth and breadth of its encyclopedic collection as well as the scholarship that accompanies it. Embedded into the main website are a variety of resources that support conservation research and documentation, including the *The Heilbrunn Timeline of Art History*; *Now at the Met*; a *Conservation and Scientific Research* site; and several specific departmental and exhibition sites, some of which are meant to exist in perpetuity. The blog posts created in conjunction with the *Sacred Traditions of the Himalayas* exhibition, for example, can be accessed permanently at the following address: <http://www.metmuseum.org/exhibitions/listings/2014/sacred-traditions/blog-series>. These posts, which covered curatorial as well as conservation topics, were published and made available to the general public through the main Met website and were promoted through various social media platforms (Twitter, Instagram, and Facebook) by both the Met itself as well as by the individual authors. One of the increasingly difficult areas to deal with in the dissemination of information is the different levels of understanding among the Met's readership. This applies to the original text, but also applies to public-inquiry responses. As a case in point, one reader asked:

Just wanted to know why the isinglass was dried in sheets. It looked like these sheets were set on the surface and then reconstituted on top but the video looks like the liquid form of isinglass was just applied to the under the cracks after ethanol was used to wet the surface.

I just ask as I am a student looking at potentially using the same sort of idea on another treatment.

Thanks

In publicly responding to the posted inquiry, the author of the blog must weigh several factors with only the information provided in the text of the question. Is the student an undergraduate student? Graduate student? Conservation student? Does s/he have a basic understanding of the materials (both artists' and conservation) discussed? Regardless, since whatever reply the author gives will be seen by the general public, it can be assumed that the majority of readers are neither conservation students nor conservators and they do not have a firm grasp of artists' materials and/or adhesive

science. A blog occupies a difficult middle ground between presenting research at a conference, where clarifying questions may be asked of both the speaker and, in return, of the person inquiring, and publishing the research in a printed journal, where there is no forum for questions. Publicly responding to blog inquiries requires that conservator reveal some information, but not too much, to prevent a misunderstanding. In this particular instance, the response was:

The isinglass is taken from a relatively impure form and then it is soaked, cleaned, and strained. Once the solution has been strained and as many inclusions as possible have been removed, the resulting collagen-infused liquid is distributed onto a non-stick surface in small droplets and allowed to dry for several days. The resulting disks allow for easier long-term storage of the material in its purer form and they are also helpful when calculating weight/volume measurements. In this instance, a specific concentration of isinglass solution was chosen for consolidation, the materials were measured, and a solution was mixed for the project. Ethanol was used to reduce the surface tension of the isinglass solution.

Good luck with your treatment!

By leaving out specific measurements and calculations, the intent was to give the inquirer basic and accessible information about why and how the adhesive material was selected and applied.

In addition to blogs, social media platforms provide another opportunity for conservators to share information directly with the public. As it relates to this exhibition, various aspects of the treatment of the cards were tweeted and posted about on personal Twitter, Instagram, and Facebook accounts, and promoted further by official Met accounts, allowing the material to reach a broader audience (Fig. 20). The distinct advantage of sharing information via social media is the tweets and posts are succinct and instantaneous, even more so than blogs. Readers expect posts to be short (in the case of Twitter, only 140 characters are permitted, inclusive of hashtags) and superficial—a snapshot of the object during treatment, for example, and a 140-character explanation of what it is and why/how it is being treated is sufficient. The disadvantage, of course, is the same: the information is succinct and instantaneous, and in a field where complex decisions and ethical considerations are paramount, there is little opportunity to thoroughly explain how and why specific courses of treatment are chosen.

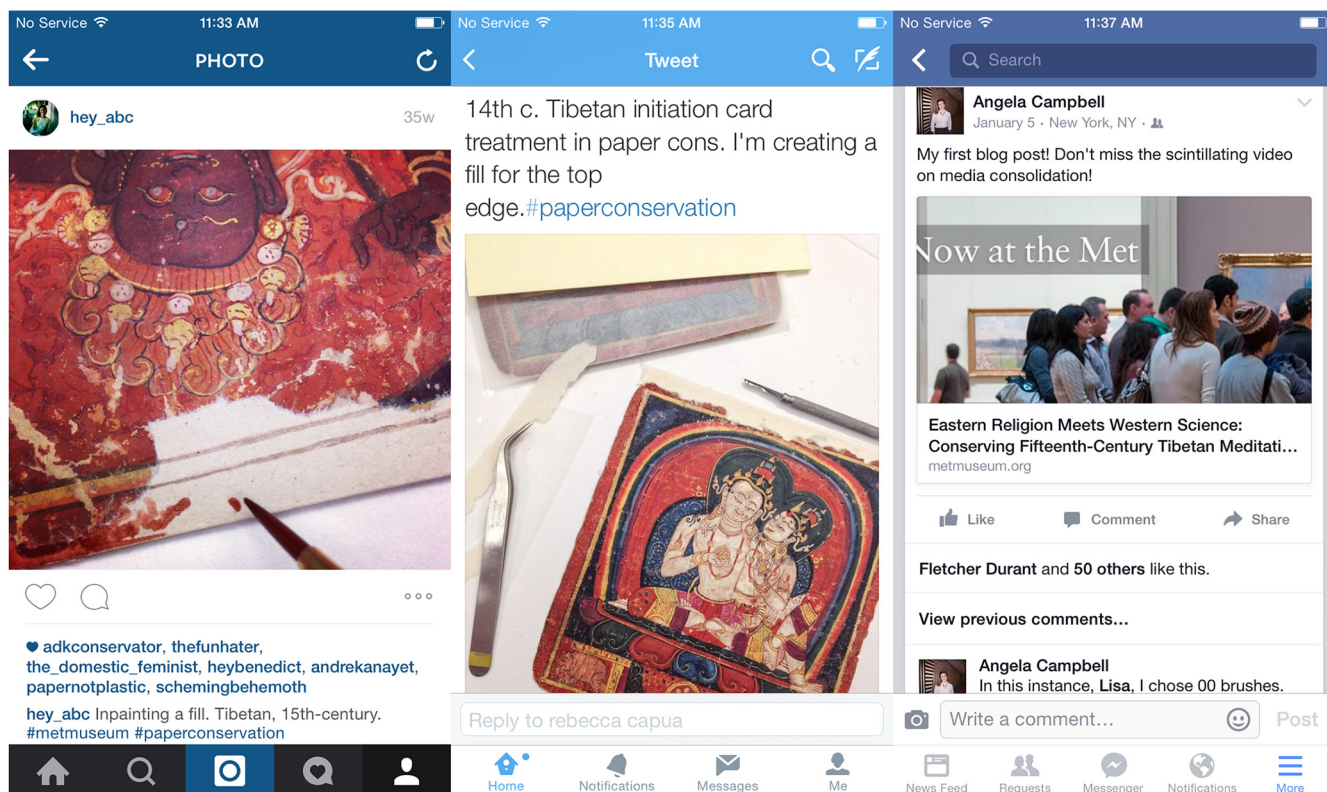


Fig. 20. Screen shots of social media presence.

## CONCLUSION

Overall, a relatively conservative, yet time-consuming conservation strategy addressed the essential and fundamental physical stabilization needs of the cards, making the objects safe to handle and display while respecting them for their age and signs of use. Considerations included how the treatments would ultimately affect the structural, chemical and mechanical characteristics and long-term stability of the object and natural products with good aging properties were utilized whenever possible. The disrupted overall aesthetic appearance of the mandala was treated in a manner sympathetic to the history of its handling and its religious significance, which effectively returned an evenness to the visual flow of the cards. Sharing information about the history and conservation treatment of the cards through various blog and web-based publications encouraged public interaction. Although these online forums in no way can or should replace scholarly research and publication, it provided a platform for both conservators and curators to stimulate public and scholarly interest in the complexities of these fascinating objects. The project was an extraordinary opportunity to examine and treat a rare set of powerful works of art while closely collaborating with colleagues regarding concerns as specific as residual smoke removal and as broad as public perception of the ethical considerations of conservators. Even though the treatment of the cards is completed, this enduring, celestial group of inspirational *tsakli* will no doubt continue to inspire and enthrall experts and the public alike.

## ACKNOWLEDGMENTS

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## NOTES

1. Rebecca Capua, Associate Conservator in The Sherman Fairchild Center for the Conservation of Works of Art on Paper, The Metropolitan Museum of Art.
2. Behrendt, Kurt. Evoking the Divine: Mental Purification Using a Tibetan *Tsakali* Mandala. Blog post, March 13, 2015 (<http://www.metmuseum.org/about-the-museum/now-at-the-met/2015/tsakali-mandala>)

3. Areas around losses and fills were avoided to alleviate doubts as to which paper the fibers were coming from as well as avoid sampling adhesives that were not original from inception/creation. Samples were always taken from the verso, in areas that did not contain any media and selection was given preference to areas of the sheet that appeared to be the healthiest, least affected by contaminants, stains, accretions, etc. The objects were dampened with deionized water and while under binocular magnification, fibers were teased from the object with a pair of surgical tweezers and placed onto a microscope slide. There, the fibers were separated with two tungsten needles and examined with a stereo binocular microscope to evaluate the general composition of the fiber. Examined while dampened, dry, and stained with Graff C-stain the samples were analyzed under a range of 100–400 times magnification in an Olympus polarizing light microscope.

Graff C stain is an all-purpose stain commonly used in paper fiber microscopy. A dispersed fiber sample is stained and the color reaction is observed with transmitted light through the polarizing light microscope at varying degrees of magnification (10X; 20X 40X oculars which translates to 100–400X magnification).

4. KTS640 Infrared camera, blank filter used for imaging.

5. The creation of the Tibetan alphabet is attributed to a minister of Songsten Gampo, Thonmi Sambhota (569–649 AD). It is said that he was sent to India to study the art of writing, and upon his return introduced the alphabet. The form of the letters are based on an Indic alphabet, marked by heavy horizontal lines and tapering vertical lines; it is the most common script for writing in the Tibetan language. As in other parts of East Asia, nobles, high lamas, and persons of high rank were expected to be proficient calligraphy. Unlike Chinese, Japanese, and Korean techniques, Tibetan calligraphy was carried out using a reed pen as opposed to a brush. Nevertheless, East Asian influence is apparent visually, as Tibetan calligraphy is at times more free-flowing than calligraphy involving the descendants of other Brahmi scripts. Given the overriding religious nature of Tibetan culture, many of the traditions in calligraphy come from religious texts, and most Tibetan scribes have a monastic background.

6. <http://talasonline.com/photos/msds/junfunori.pdf>

7. van Dyke, Yana. "Sacred Leaves: The Conservation and Exhibition of Early Buddhist Manuscripts on Palm Leaves" in *The Book and Paper Group Annual*, AIC, Vol 28 pp.83–99, Washington, D.C., 2009.

8. Information on the air cleaner unit: [www.airsystems-inc.com: Extract-All™ Model S-984-1](http://www.airsystems-inc.com: Extract-All™ Model S-984-1)

9. Hygienic mold decontamination and dry cleaning was performed in an enclosed mold decontamination unit equipped with a HEPA filter air cleaner, a fume trunk, a stereomicroscope, and cleanable Plexiglas partitions. Conservators wore appropriate personal protective equipment, such as gloves, N-95 or P-100 particulate masks, disposable smocks, and/or ear plugs, and goggles, to protect dermal, respiratory, ear and eye systems. Removal of fungal structures and associated accretions were carried out using a Nilfisk GM 80i HEPA-filtered vacuum cleaner under low suction and employing soft brushes and small tools.

The objects were then placed on a clean paper surface and the procedure was repeated. A seventy percent alcohol to thirty percent deionized water mixture was first tested on all the colors in the palette.

Customized micro swabs saturated with the cleaning solution noted above were gently rolled across top third of each painting while working under binocular stereo magnification. Minor areas of painting were irreversibly damaged from mold in the form of embedded amorphous circular clusters altering the paint layer's saturation, in the worst cases. 10. The Gore-Tex™ barrier is a micro-porous membrane of polytetrafluoroethylene laminated to non-woven polyester or polyester felt. The membrane transmits water in the form of vapor while preventing the passage of liquid water, thus giving extra protection and control in introducing moisture to sensitive objects. When Gore-Tex™ is used in the blotter sandwich, two sheets of Gore-Tex are placed dry, one on either side of the object. The smooth membrane side of the Gore-Tex sheets is thus in contact with the object's recto and verso. Moist sheets of blotting paper dampen the felted side of the Gore-Tex, and Mylar sheets are placed on top of the blotters to retain moisture levels. Humidification times varied between twenty to forty minutes for complete relaxation of the cards after which they were placed into a blotter drying pack between lens tissues and shuffled over several weeks while drying and reaching a moisture content equilibrium.

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