

In Situ Humidification of Stretched Parchment Paintings *Two Effective Methods*

Anita Dey,¹ Soyeon Choi,¹ Mark Aronson,¹ Richard Hark² | ¹YALE CENTER FOR BRITISH ART | ²YALE INSTITUTE FOR THE PRESERVATION OF CULTURAL HERITAGE

Thomas Robins the Elder (1715–1770) is known for his paintings, in an ornamental rococo style, of English gardens and country estates scattered around Gloucestershire County, executed with gouache and watercolor on parchment. Working collaboratively, paper and painting conservators at the YCBA sought to address distracting planar distortions, edge tears, and discolored natural resin varnishes on a pair of stretched parchment paintings (ca. 1755) by Robins. Paper conservators typically handle condition issues such as planar distortions and edge tears in parchment, but in this case the apparatus, which resembles a stretched canvas painting, and the discolored natural resin varnish also required the expertise of a painting conservator. Different local humidification methods were used to relax the parchment while it was partially detached from the stretcher. Additionally, various techniques were used to maintain tension while the parchment dried. The materials and process of each treatment are described, along with a discussion of the most effective method.

Structure & Condition



Both paintings are executed on parchment supports from a bovine source, as verified by peptide mass fingerprinting analysis of tiny samples removed from the edge of each painting. Parchment has a smooth and dense surface that Robins used to its fullest potential. For both paintings, a softwood strainer is utilized, over which a coarsely woven, gauze-like linen is stretched to support the parchment. The gauze is attached to the back of the strainer with iron tacks. A piece of parchment is stretched over the gauze fabric and tacked to the side of the strainer. A thin fabric ribbon is set between the tack heads and the parchment, as seen in the cross-section diagram above.

Before treatment, the parchment was stiff and embrittled. The

woven fabric underneath was loose and did not hold any tension over the strainer. The thin fabric ribbon was brittle and had lost many fragments, and its edges had curled onto themselves. The edges of the parchment were scalloping and curling up around the areas where the rusted nails pierced through the support. There were tears with associated planar distortions around some of the nails, causing the parchment to lose its original tension. The parchment did not have a big enough margin to wrap around the wooden strainer and barely covered the strainer's sides.

Historically, both paintings were thought to have been executed in gouache. Efforts are underway to specifically identify the binding media using analytical techniques.

Humidification



For both treatments, a humidification package consisting of polyester film, thin blotter dampened lightly with deionized water or either 80% or 91% aqueous isopropanol, and Hollytex was assembled and placed between the gauze netting and the parchment for 40 minutes under light weight. Next, the humidification package was removed. The guard strips were pulled taut and were held against the wooden supports by two different methods (detailed below). The parchment was left to dry under tension for several weeks. The humidification and drying processes were performed multiple times until the desired reduction of planar distortions was achieved.

In Method A, the relatively small treatment area was successfully humidified using several applications of blotters lightly dampened with just deionized water.

In Method B, the first four rounds of humidification used blotters dampened with deionized water. The last two rounds used blotters dampened with 80% and then 91% isopropanol (Woods 2002). After each sequence of the humidification and drying processes, there was a reduction in the planar distortion; however, the most significant reduction was achieved using blotters lightly dampened with isopropanol.

Discussion & Conclusion

BULLDOG CLIPS BULKED WITH MAT BOARD This method is ideal for smaller areas of distortion, as in Method A. Additionally, the bulldog clips, mat board, and rubber bands are all reusable items, contributing to a more sustainable treatment practice. However, for larger treatment areas, as in Method B, the rubber bands were inadequate, as they allowed too much slack and failed to hold tension over the course of the drying period.

SELF-ADHESIVE WHITE LINEN TAPE (NESCHEN FILMOPLAST) Although an excellent choice for maintaining tension in larger areas of distortion, additional weights were necessary to prevent the tape from peeling and breaking tension during the extended drying periods. While effective, the tape is not reusable and is therefore a less environmentally friendly option.

USING WHEAT STARCH PASTE TO ADHERE GUARD STRIPS TO STRAINER Both treatments used wheat starch paste to adhere guard strips to the verso of the strainer. Method A is a reversible technique that effectively secured the guard strips and held tension in the parchment. Method B, however, caused new distortions to form, due to the larger treatment area and the inability to see the recto while adhering the guard strips to the strainer.

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CONTACT Questions or comments may be sent to ycba.conservation@yale.edu.

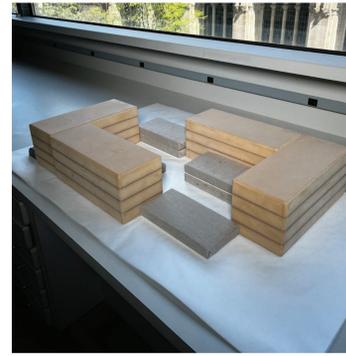
USING BEVA FILM TO ADHERE GUARD STRIPS TO STRAINER To mitigate unwanted distortions caused by the use of wheat starch paste in Method B, BEVA film was applied to the guard strip affixed to the strainer's verso. While the object was face-up and elevated, the guard strips were held taut and adhered in place. The use of BEVA and a tacking iron gave the opportunity to visualize how the guard strips held tension while applying them. The guard strips were not adhered to the edges of the strainer, allowing for natural expansion and contraction of the parchment as the result of slight seasonal changes in humidity.

Overall, these findings demonstrate that different humidification and flattening treatment methods for parchment must be carefully selected based on the size and specific needs of the object. Both methods (bulldog clips and self-adhesive linen tape) were successful at holding tension during the flattening treatment for different-sized treatment areas. The adhesive used to apply the guard strips to the strainer must be carefully selected to allow for proper tension during the drying process without causing new distortions. Wheat starch paste, while effective, had a slower drying time and impeded the visual alignment of the guard strips to the strainer. BEVA film effectively secured the guard strips and permitted the visual alignment needed to position and set the guard strips.

REFERENCES

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Woods, Christopher S. "From Skin to Parchment." *Papier Restaurierung* 3, no. 4 (2002).

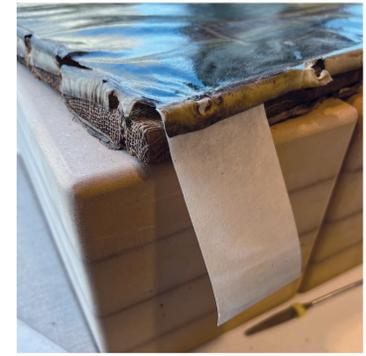
PREPARATION



A Wooden supports were assembled to elevate the object during treatment. Additional heavy weights were used to keep the wooden supports in place. This setup enabled access to the verso of the object and allowed ventilation during treatment.



B Pieces of double-layer 8% gelatin moistenable tissue made with Korean Hanji #1502 were used as guard strips to help create tension during treatment.



C The parchment was partially removed from the strainer in areas of major planar distortions by removing the tacking nails. The gauze-like linen fabric was left undisturbed. The edges of the guard strips were rehydrated with 8% gelatin and then applied to the verso of the tacking edges.

METHOD A (B2014.5.6)



D Before-treatment raking light image of Thomas Robins the Elder, *View of a Gloucestershire Country House: A Garden View, with Picnic Party in Center Foreground*, ca. 1755, inconclusive media on vellum, Yale Center for British Art, Paul Mellon Collection, B2014.5.6

METHOD B (B1993.30.112)



E Before-treatment raking light image of Thomas Robins the Elder, *View of a Gloucestershire Country House*, ca. 1755, inconclusive media on vellum, Yale Center for British Art, Paul Mellon Collection, B1993.30.112

BEFORE TREATMENT

HUMIDIFICATION



F The blotter in the humidification package was lightly dampened with deionized water. The humidification package was then placed between the parchment and the gauze-like linen fabric until the parchment felt slightly pliable.



G For Method B, the first four rounds of humidification used deionized water to lightly saturate the blotter in the humidification package. The last two rounds of humidification used 80% and 90% isopropanol respectively. Hollytex, polyester film, and light weights were sometimes used to encapsulate the humidification treatment slightly.

HOLDING TENSION



H Guard strips were pulled taut and clamped with bulldog clips bulked with mat board. A rubber band tied to the bulldog clip handles was used to increase the tension in the parchment. A metal awl was placed through the rubber band and tacked into the wooden support to hold the tension while the parchment dried for several weeks. Once the parchment had dried, the guard strips were adhered to the verso of the wooden strainer (not the tacking edge) using wheat starch paste.



I Guard strips were pulled taut and taped against the wooden support using self-adhesive linen tape. Blotter packages and weights were added on top of the treatment area to help flatten the undulations. More weights were added against the taped areas to prevent the tape from lifting during drying. Once the parchment had dried, BEVA film was applied to the guard strips. Guard strips were adhered to the verso of the wooden strainer while the object was face-up, using a tacking iron set to 65 °C.

AFTER TREATMENT



J After-treatment raking light image of Thomas Robins the Elder, *View of a Gloucestershire Country House: A Garden View, with Picnic Party in Center Foreground*, B2014.5.6



K After-treatment raking light image of Thomas Robins the Elder, *View of a Gloucestershire Country House*, B1993.30.112