

Digital Infilling on Japanese Prints

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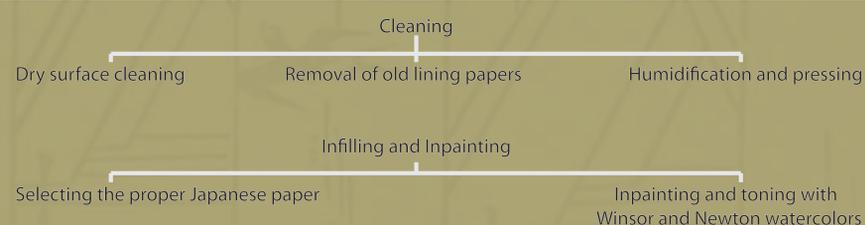
INTRODUCTION

When a paper infill is located in a minimally-designed area, infilling is a fairly routine procedure of selecting the proper paper, and color-toning. However, difficulties arise when the infill is located in a heavily-designed and/or heavily surface-textured area, and where a color-toned infill is insufficient for providing visual coherency. This poster describes the treatment of a Chobunsai Eishi pentptych, *The Hyogo Pleasure Boat and Others on the Sumida River Under Ryogoku Bridge*, of which there are two impressions in the Museum of Fine Arts, Boston's collection, one which was documented with high resolution digital photographs, and the other one which first required treatment to repair insect and handling damage, and had many large losses. Below is provided an example of how one can use a camera and digital modifications (such as Adobe Photoshop) to capture the texture, design, and color of the desired infill, thus eliminating the time-consuming steps of hand-drawn design compensation, and surface-texture recreation plus paper toning, the latter two of which are done through often tedious paper selection and modification.



TYPICAL JAPANESE PRINT TREATMENT

As with the conservation of typical Japanese prints, treatment of this pentptych consisted of surface cleaning with kneadable erasers, chamois cloths and minimal aqueous treatment as necessary, followed by removal of old lining papers, and lastly, humidification and drying under weights. Smaller losses, located in minimally-designed areas, were infilled using a Japanese paper of appropriate thickness and texture, adhered with minimal wheat starch paste, and toned with Winsor and Newton watercolors to match the surrounding area.



MAKING THE DIGITAL REPRODUCTION



Left and Top:
Color-corrected and resized
digital reproduction of print in
good condition



Right:
Transmitted light photograph
of the digitally altered
reproduction



Comparing colors of test prints before selecting the final
reproduction print to be used for infilling



Top:
Aligning the design of the digital reproduction to the
original print.



Right:
Chamfering the edge of the digital reproduction to
slightly larger than the size of the original loss

Because the support losses were in heavily-designed areas, a toned infill would not sufficiently visually cohere the image, thus the decision was made to use digitally-printed infills to compensate for the losses. First, several Japanese papers were selected and printed on an Epson 9900 printer with Epson's Ultrachrome HDR ink set. However, because these papers were uncoated and unsuitable for printing, the resulting images were fuzzy. After consultation with the MFA Boston's Digital Systems Manager, Department of Intellectual Property, Hahnemuehle's Digital FineArt Collection Rice Paper (Matt FineArt - smooth, 100 gsm, 100% α-Cellulose white laid-finished paper, matt) was printed on the same Epson printer, and adjusted for the proper tone, size, and color.

Because the image design of the two pentptychs were identical with the exception of minor discolorations and color differences, the image of the print in better condition only required slight color-adjustment, resizing, and other minor alterations using Adobe Photoshop. Because of the high-resolution imaging, the original surface texture of the print was captured through photography and could be reproduced onto the digital paper, thus reducing the need to use a similarly surface-textured infill paper.

INFILLING AND INPAINTING

The infill was placed on top of the original print with a mylar interleaf, and chamfered to fit the exact size of the loss.

An attempt was made to use a scalpel to carve the edges of the infill to match the loss, but found that there were slight gaps that did not produce an aesthetically acceptable infill.

The infill was adhered from the verso with a tengujo patch larger than the infill, thus "hinging" the infill to the print.

Inpainting was carried out using Winsor and Newton watercolors.



Infill minimally overlaps
the original print only by
chamfered edges, as seen
through transmitted light



Infill is adhered from verso
with minimal wheat starch
paste and a tengujo patch



Inpainting with Winsor and
Newton watercolors



Digital Infills -
Before Treatment



Digital Infills -
After Treatment

PAPER ANALYSIS

Oddy Test

The digitally printed paper passed the Oddy Test as carried out by MFA Boston's preventive conservation department.

Water Sensitivity

The digitally printed paper was placed in a bath of filtered water and no ink migration nor color change was noted over a thirty minute immersion.



Testing for water sensitivity

Spectral Color Matching

The infilled and inpainted prints were observed under both typical office fluorescent and artificial daylight - CIE D50 (5003 K) lighting for reflectance and metamerism. The color and appearance of the original print and digital infill were visually coherent under both lighting conditions.

CONCLUSION

This poster presents one example of how a high resolution photograph (capturing a print's surface texture, tone, and color), and digital manipulation programs such as Adobe Photoshop, combined with conservation-suitable digitally prepared printing papers and inks, can be utilized for recreating large and heavily-designed infills that may commonly be unachievable solely with the traditional techniques of selecting a compatible paper (with attention to surface texture, tone, image design, etc.) plus inpainting. However, this process precludes the unique skills of the conservator, including detailed considerations of paper and ink suitability for conservation use, inpainting, and exhibition conditions, all of which are just as important for ensuring a post-treatment visually coherent work of art.



¹ For complete details on 'Hahnemuehle Rice Paper,' please refer to http://www.hahnemuehle.com/media/ricepaper_rev00.pdf

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