

Reverse Paintings on Glass

by Mary McGinn, Anne Verplanck, Noel Fahden Briceño, Amanda Rosner, and Ron Fuchs



Fig. 1: Unknown artist, *Liberty*, after 1796. Probably Canton, China. Reverse painting on glass; oil paint, gilding, crown glass. Bequest of Henry Francis du Pont (1957.0817 a,b,c). Photography courtesy Winterthur Museum.

Winterthur Museum's collection of Chinese reverse paintings on glass made for the American market received new scrutiny in the fall of 2007, when Amanda Rosner and Noel Fahden Briceño, students in Winterthur's Program in American Material Culture, undertook, with curators Anne Verplanck and Ron Fuchs and conservator Mary McGinn, a detailed study of examples in the collection. The visual and technical data gleaned provides a better understanding of the materials and techniques used to create these works.

Today, reverse paintings on glass are among the most sought-after objects from the China trade, the name given to the commerce between the Qing Empire and the West from the end of the American Revolutionary War in 1783 to the Treaty of Wanghsia in 1844. During this period, images of the months of the year, the figure of Liberty, George Washington, and other popular figures and events were produced in China for foreign markets. By the late 1700s, Chinese artists often copied British, Continental, and American prints. The paintings we examined suggest, at least for the finer surviving works, that the prints were copied with great exactitude (Figs. 1 and 2).

To create a reverse painting on glass the Western artist used oil paints and worked backwards, painting the image in reverse, and laying down the



Fig. 2: Engraved by Edward Savage, after a painting by Edward Savage, *Liberty*. Published in Philadelphia, Pennsylvania, 1796. Stipple engraving, etching, wove paper. Bequest of Henry Francis du Pont (2004.0068.007). Photography by Jim Schneck, conservation photographer, Winterthur Museum.

Fig. 3: Unknown artist, after a drawing by Elkanah Tisdale, *Battle of Lexington* (front), probably Canton, China, 1798–1805. Reverse painting on glass; oil paint, crown glass. Bequest of Henry Francis du Pont (1957.0818 a, b). Photography by Jim Schneck, conservation photographer, Winterthur Museum.



highlights and foreground features first. In many examples of reverse glass paintings made in the West, particularly those made for clock doors and mirror insets, the paint was applied methodically, from foreground to background,

and highlight to shadow, in thick layers. Viewed from the back, or painted side, the image often bears little resemblance to what the viewer sees on the front. By contrast, the Chinese reverse glass paintings we examined were created with thin, translucent paint layers. Highlights and shadows are painted in the same plane. As a result, the images appear equally detailed when viewed from the front or the back (Figs. 3 and 4).



Fig. 4: *Battle of Lexington*, reverse. Photography by Jim Schneck, conservation photographer, Winterthur Museum.

Most of the Chinese reverse paintings in Winterthur's collection have a dark blue border painted around the image, with an inscription in gold leaf. This border appears to emulate the reverse painted glass mats often used to frame English and American prints at the

time. Paint flakes from the blue borders on two of the glass paintings were analyzed and found to consist of Prussian blue and lead white in a drying oil binder, confirming that the Chinese used oil paint and some pigments imported from the West.¹

The Chinese frames closely resemble Western ones from the period in terms of style but not construction. The Chinese frames were made using an exposed, through-tenon construction that is visible on the sides (Fig. 5). In Western frames of a similar classical style, the corners are typically mitered and joined with nails or back splines.

All of the Chinese frames examined have double rabbets (recessed grooves); one for the glass panel and another, slightly higher and wider, to accommodate a backing panel made of thin boards joined with wood pegs. The backing boards are held in place by flat, wood pins that slide within dovetailed channels on the back of the boards and into grooves cut into the inner frame edges (fig 5). In all cases, the side of the backing board facing the glass

Fig. 5: Reverse detail of frame. Unknown artist, after an engraving by Samuel Harris, *Emblem of the United States of America*. Probably Canton, China, 1804-1810. Gift of Mr. & Mrs. Robert L. Raley (1979.0225 a ,b). Photography courtesy Winterthur Museum.



panel was stained black.² This prevents light from reflecting back through the translucent painted image and makes the image appear richer and more three dimensional. The exterior of the backing board and the back of the



Fig 6: *Battle of Lexington*, detail of glue blocks. Photography courtesy Winterthur Museum.

frame often had Chinese characters or other markings (note the sets of dots in figure 5), which likely helped match the backing board to the frame. No known Western examples have the unique features of the double rabbit and black backing board.

Many of the glass panels examined are still secured in the frames with original glue blocks (Fig. 6). The blocks were split from small branches or stems and secured with an adhesive composed primarily of beeswax.³ A wax adhesive would set more quickly and be easier to reverse than the animal-hide glue typically used to adhere glue blocks on Western pieces. In fact, each block has a small notch, apparently made by the tip of a knife blade used to hold the block as it was dipped in the hot wax and set in place. The presence of pigment on the glue blocks confirms scholar Carl Crossman's assertion that reverse paintings on glass were painted at least in part after they were fitted in frames.⁴

Winterthur's period rooms contain many stellar examples of Chinese trade reverse paintings on glass. As more of these objects are closely examined and analysis is expanded to identify wood species, adhesive composition, and binding media, our understanding of their production will continue to grow.⁵ 

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1. Prussian blue, one of the first synthesized pigments, was invented in circa 1706 in Germany. Analysis of Winterthur's works were through the Fourier Transform Infrared Spectroscopy (FTIR) at Winterthur's Scientific Research and Analysis Laboratory. The authors thank Catherine Matsen, associate scientist, and Marc Vermeulen, student intern, Université d'Artois, for all of the analysis done for this project.
2. The black stain is water soluble but no binding media was detected by FTIR. Since neither ivory nor bone black was detected, the pigment is probably carbon black. The stain is likely watercolor (bound with plant gum) or ink (bound with animal-hide glue). In such a thin coating, the binder would be difficult to detect.
3. Analysis by FTIR revealed beeswax, with a possible admixture of resin. Further analysis with gas chromatography-mass spectrometry (GC-MS) would be needed to confirm and identify the resin component.
4. Carl Crossman, *The Decorative Arts of the China Trade*, (Woodbridge, Suffolk, England: Antique Collectors' Club, 1991), 208. Based on her examination of *The Battle of Lexington* (Fig. 3), Mary McGinn has tentatively posited that the gilded inscription and first layer of the painted surround was painted first and then fit into the frame while the paint was still soft. The artist(s) then completed painting the image.
5. For further reading, see Frieder Ryser, *Reverse Paintings on Glass: The Ryser Collection* (Corning, N.Y.: Corning Museum of Glass, 1992).