Art Conservation *and innovative cleaning techniques*

When asked to treat a 19th-century Scottish sampler at the Philadelphia Museum of Art, summer intern and Winterthur/University of Delaware Program in Art Conservation Fellow Elizabeth Shaeffer quickly determined that what it needed most was a safe but effective cleaning. The beige, linen sampler support was brown and dingy, and the brightly colored images and text that had been so carefully stitched to it in 1839 by 13-year-old Robina Suttie were difficult to see and appreciate.

Wet cleaning would help reduce the overall discoloration and areas of dark staining, remove acidic degradation products from the fabric and make it less stiff. It also would soften remnants of paper and adhesive left over from previous mountings so they could be removed. A dye test, however, revealed a problem. The multi-colored silk and wool threads that young Robina had used to embroider images of a house, figures, animals, and a verse onto the sampler would bleed if immersed in water. The sampler's beauty was in danger of remaining hidden forever behind a wall of grime.

Fortunately, a new cleaning method offered an answer. This innovative process, used only once before, was developed by Mellon Fellows in Conservation Kate Sahmel and Laura Mina specifically to treat textiles that cannot be bathed in the traditional manner. It involves combining a cleaning solution with an agarose gel, which can be easily applied to small areas of fabric. Once applied, the gel allows the cleaning solution to diffuse out and bind to particles of dirt and soil in the fibers. As the gel dries, it acts like a sponge and pulls the solution back in. The gel can then be readily peeled off, taking solution, dirt, and soil with it.

Elizabeth began by making a grid on a photograph of the sampler, which measured 19 5/8 x 22 1/8 inches, and dividing it into 86 small sections. With this as a guide, she cleaned the sampler tiny section by tiny section. She first applied a protective barrier around each section, both front and back, by using a Ukrainian Easter egg decorating tool called a *kistka* to apply cyclododcane onto the embroidery threads. She then applied the gel and waited about an hour before removing it. Finally, Elizabeth placed the sampler on a special table where suction was used to absorb rinse water and dry the cleaned section. The cyclododeecane sublimed on its own after a few days. After about 180 hours of intensive work, Robina Suttie's handiwork was bright and clean, ready to be put on view as part of an exhibition called "Scottish Samplers."

ARTC Spotlight/September 2012

The University of Delaware's Art Conservation Department educates and trains professional conservators in the treatment, analysis, documentation, and preventive conservation of individual artifacts and entire collections. Our students are powerful public spokespersons for cultural heritage and its preservation. For more news about our students and other department activities, visit our web site at http://www.artcons.udel.edu

Top: WUDPAC Fellow Elizabeth Shaeffer demonstrates applying cyclododecane to a sampler using an electric kistka *(photo: Emily Schuetz), and a section of the Suttie sampler before and after treatment. Above: Elizabeth showing the agarose gel (photo: William Donnelly), the gel after use, and the Suttie sampler after treatment.*