

## Treatment of a Terrestrial Cary Globe

Over a two year period ending in 2013, the Canadian Conservation Institute (CCI) treated a pair of globes made in 1835 by John and William Cary who manufactured globes in London UK in the late 18th and early 19th centuries. The globes were constructed from a papier mâché and plaster, supported internally at both poles by a wooden pillar. Each globe was suspended within a brass meridian ring with the ring mounted in a wooden floor stand with a horizon ring. This presentation focuses on treatment of the terrestrial globe that sustained damage during a fall from a window. Impact upon landing had forced the central pillar of the globe to move, pushing the sphere out at the North Pole and pulling it in at the South Pole. Extensive cracking, with losses of paper and plaster at both poles, had been repaired prior to the mid 1970's with a generous application of polyvinyl acetate adhesive. An area of plaster loss, where the papier mâché foundation was indented, had been filled with thick plaster. Some varnish removal had been attempted with unknown solvents, resulting in loss of color where cleaned and discoloration at each side, below the varnish. Following the mechanical and solvent removal of the discolored varnish (colophony) and old PVA adhesive, the large plaster fill was removed, allowed for the insertion of a small video camera to inspect the central wooden pillar and the interior surface of the globe. It was decided not to remove the paper gores, but to locally reduce staining and discoloration via poulticing. Conservator tested and used Gellan gum as a controlled means of cleaning specific areas.

In order to access and treat the cracks and losses to the plaster sphere, sections of the paper gores were lifted and rolled back. Distortions to the sphere were re-shaped as much as possible at the poles to create space between the sphere and meridian ring so the globe could move freely. Gore fragments were salvaged, treated and re-adhered to the globe. Losses to the paper gores were infilled with toned paper and digitally printed paper, inpainted, and then sized with multiple coats

of gelatin. Six varnish resins were tested and the selected varnish of B-72 was applied via sprayer. Finally, reproduction hour dials, made from digital images of those from the celestial globe, were added to the terrestrial globe. The globe was re-assembled with the south point of the meridian ring placed at the North Pole in order to allow the still slightly distorted sphere to fit within it. A brass disc was placed at the base of the recess in the meridian ring that holds the south pivot to keep it as high as possible and create needed space between the globe and the meridian ring.

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