Abstract for the UKIC Consolidation Conference, Organised by the Gilding & Decorative Surfaces Section

Surface Consolidation of a Chinese Guardian God

The presentation highlights the use of *methyl cellulose* as an adhesive and consolidation material for the treatment of a decorative surface that has been applied to a paper and wood substrate. A series of simple practical tests were undertaken on sample boards using *methyl cellulose* to determine the most effective concentration, solvent carrier, and level of viscosity.

The consolidation treatment was undertaken on a seated figure of Guangong, dating from the Ming Dynasty (CE1368-1644). The sculpture comprises a series of carved and joined components that are manufactured from a species of Chinese softwood. The surface is covered with gilded and polychromatic decoration that is supported on a paper substrate. Paper is often encountered on traditional Chinese sculpture as an integral layer of the surface decoration.
The structural condition of the artefact was relatively stable, but the surface decoration had suffered considerable loss of pigment and gilding. The pigments are loosely bound and could be easily dislodged from the artefact's surface. There was also extensive evidence of surface deterioration of the paper lining, which was lifting and partly detached from the wooden ground in several areas. Efforts at cleaning and keeping the artefact intact were therefore extremely challenging.

Before commencement of the conservation treatment, several important factors related to the material composition of the artefact and their causes of deterioration were carefully considered and evaluated. One such factor was the condition and physical characteristics of the matte pigments. The dry fugitive pigment particles influenced the selection criteria of the adhesive and consolidant materials towards a treatment that did not adversely alter the visual appearance of the decorative surface. Other desirable properties included a sufficiently strong adhesive bond between the paper and wood interface, and long term chemical stability.

After a series of experiments, a diluted solution of methyl cellulose in ethanol was selected to consolidate areas of unstable surface pigment and loose sections of paper. If the paper was too dry and/or brittle, a small amount of deionised water was applied to soften and expand the fibres. This helped to prevent the paper from cracking before the application of the adhesive. The adhesive exhibited good bonding properties between paper and wood, without leaving a glossy residue. Each of the adhesive/consolidant solutions was tested on a wooden substrate lined with Japanese paper, before trials were undertaken on the artefact.

The properties of cellulose ethers will be briefly discussed and explained during the presentation, with a review and examination of the adhesive/consolidation trials.

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