

New Methods of Cleaning Painted Surfaces- International Academic Projects 13-17 July 2015

Attending one of Richard Wolbers' 'New Methods of Cleaning Painted Surfaces' courses is something I have long wanted to do, and I was very grateful to receive funding from the Icon Tru Vue Professional Development Fund to enable me to do this. Organised by International Academic Projects, the 5-day course is a very intense, but informative and practical approach to the topic, covering everything from the chemistry of cleaning, right through to suitable preservatives for natural gels and where to purchase materials and tools for making specific preparations. My main concern, and that of several fellow participants I spoke to, was that my level of understanding of chemistry might not be adequate to fully follow the course. However, Richard is one of a rare breed: an inspirational practitioner and excellent teacher, with time and patience for every level of question. The course goes far beyond Wolbers' 'solvent gels', in fact centering on six basic aqueous recipes, generally free of both solvent and surfactant (but with the addition of a chelating agent in most cases, and triethanolamine in some), that can be utilised and adapted for a very wide range of aqueous and minimally-aqueous ('dry-cleaning') applications. By changing the gelling agent, pH, conductivity and concentration, Richard showed us how a few simple ingredients could serve multiple purposes within an gel system to provide considered, safe and controlled cleaning methodologies for a variety of materials, including aged oil films, under-bound matte paints and acrylics. The addition of solvents, surfactants and enzymes within these systems under specific circumstances, and the production of 'macro' and 'micro' emulsions, was also practically explored, and the benefits/downsides of these approaches discussed. With the main principles firmly embedded in our notes, if not yet fully in our heads, Richard went on to discuss in some detail his more recent research on acrylic paint films, and how aqueous gel systems might be utilised even on this highly sensitive, problematic surface. The importance of corrosion inhibitors was also briefly touched upon, in the context of aqueous cleaning (and undertaking other treatments such as consolidation) on metal substrates.

There was a good balance of lecture-based teaching and hands-on practice, my only criticism being the slightly chaotic practical afternoons where 20 keen participants simultaneously rushed to use the limited equipment in a small laboratory. By the end of the week I felt positive and more informed, albeit somewhat saturated with information, and have since had time to reflect on the lessons learnt. Whilst gels are certainly not the answer to every cleaning problem (and Richard would be the first to suggest there are more efficient ways to remove a modern resin coating, for example), the course has provided me with some extremely useful tools to assist with specific situations, also introducing me to new materials and techniques, and clarifying a bit of 'Wolbers folklore' that I have incorrectly assimilated over the years. Specifically, the course reiterated the centrality of pH and conductivity to any responsible aqueous cleaning methodology, and introduced me to the wonderful world of xanthan gum, velvesil plus and 'D4'. Xanthan gum is a unique gelling agent that can work within a wide range of conditions. Whilst a polar gel, it is simultaneously able to hold a limited amount of non-polar material, i.e. a solvent, within 'pockets' in its structure. Velvesil Plus, a cross polymer silicone gel, is what might be described as its opposite, being a non-polar gel able to hold up to 20% water, thus enabling water-sensitive materials to also benefit from aqueous cleaning in a limited, controlled way. Perhaps the real star of the show, however, was cyclomethicone, or D4, a silicone solvent able to clear Velvesil Plus gel residue from a surface but also, due to its extreme low polarity and ability to repel water, used as a barrier on and within a surface to prevent ingress of the

gel systems without mobilising dirt or leaving tide lines (and, equally impressively, behaving in an opposite way on an acrylic film to reach embedded dirt particles). I would highly recommend this course to any conservator who would like to significantly develop their knowledge-base, and add to their current tool-kit for approaching potentially complex cleaning problems. You might even walk away with a free IAP mug!

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