

58. Looking at Dirt, Corrosion and Paint

We have started conserving the Boppard stained glass. Our first task is surface cleaning which is not straightforward because there are so many different layers of dirt, original paint and retouching. It is not that easy to tell what is there by intention (original or restoration) and what has simply accumulated on the surface of the glass over time.

The glass is covered with a layer of loose dirt which can easily be removed using a smoke sponge. With a gentle dabbing motion the cells in the sponge pick up and trap dirt from the surface of the glass. This can be a very effective method of cleaning, especially if one is trying to clean loose particle dirt.



REMOVING LOOSE PARTICLE DIRT WITH SMOKE SPONGES.



REMOVING THE BLACK SURFACE DIRT USING A COTTON WOOL BUD AND SALIVA

The Boppard glass also has a layer of black sooty dirt. In order to remove this, we tested a variety of solvents and found that saliva is the most effective. We don't much fancy cleaning 34 m² of glass using spit, so we are also using water (de-ionised) with a conservation grade detergent (Synperonic A7) and this works almost as well.

Apart from surface dirt there are other layers: In the 10 commandments window many of the glasses have a matt brownish-grey coating. We have considered if this could be a painted layer that was applied in order to tone down the colour and shine of the glass but we don't think it is.

There are no brush marks to be seen and it coats the glass surfaces very evenly without any emphasis on the drawing. It cannot be fired paint because in some areas it has been completely removed.

The layer is relatively hard and almost like a crust. It can be removed with mechanical means



The grey layer is absent in places and it looks almost as if someone applied a tape to the glass and then pulled it off, taking the grey surface layer away.

(scalpel) but not with solvents. Seen under the microscope it sits on top of the trace lines. Where the layer is absent the glass looks remarkably transparent and unblemished.

We think that this layer accumulated on the glass when dust, moisture and time worked together and formed a crust on the surface. In some places this crust has been removed by accident (pulling off sticky tapes, selective cleaning).

The microscopic image shows how vulnerable all these layers are and how little else is there. If you removed any of it, you would be left with very little definition apart from the trace lines. This leads us to conclude that there was a problem with the



MICROSCOPIC IMAGE OF THE LEFT EYE OF THE ANGEL



DETAIL OF 45.489.1.C



The original painted lines surrounded by weathering crust

Iridescence indicates that glass is undergoing a chemical change

Corrosion pits that follow the trace lines painted on the front.

original paint perhaps it was under-fired and not very stable. However it is astonishing (and slightly baffling) that the glass is generally so clear and un-corroded where the paint has flaked away. One explanation may be that the windows were removed from the church before the onset of serious industrial pollution.

On the back of the same window we also find a similar pattern of painted areas and accumulation of dirt and weathering. The glass was originally back-painted in order to emphasise the detailed drawing on the front. Again in most areas the original paint lines appear 'faded'. Along some of these lines as well as around the edges of each glass and along the top of the panel (underneath the tie bar) moisture accumulated and in combination with dust started to form a crust on the glass surface. In the middle of each glass piece this crust is not present and the glass is in good condition. However one can see some iridescence which indicates that a chemical change has occurred.

Most of these layers on the glass, both front and back will not be removed during conservation treatment. They are inorganic and very hard and although the glass underneath appears to have little corrosion it can easily be scratched and the gel layer can be damaged. The areas where the

weathering layer and paint have been removed will be carefully retouched and we hope that by a combination of cleaning and retouching the overall impact of the imagery will be much improved.

- Marie