

LIBBY SHELDON
PAINTING ANALYSIS

History of Art Department, University College London, 43 Gordon Square, London WC1H 0PD
Telephone: 020-7383 2090 Fax: 020-7916 5939
e-mail L.Sheldon @ ucl.ac.uk



Libby Sheldon
Painting Analysis Unit
Department of History of Art
University College London

Gower Street, London WC1E 6BT
Tel: 020 7679 4598 Fax: 020 7916 5939
Email: l.sheldon@ucl.ac.uk

0207 383 2090.

Report F1676
L.Sheldon
December 2002

Queen Catherine of Cyprus
Studio of Titian (?)
Oil on canvas

TECHNICAL REPORT:

Brief: to make an examination of the painting and to take microscopic samples for further examination and analysis; to ascertain the layer structure, and identify the painting materials as evidence of its date and attribution.

Examination procedure: The surface was viewed under strong magnification. Microscopic samples from the painting were set as cross-sections and dispersions were taken from approximately the same areas: cross-sections were cut, polished and were viewed at up to x1000 in reflected and transmitted light, and at x250 in ultra-violet light. Dispersions were analysed by Polarising Light Microscopy [PLM] at x1000. Photographs were taken. Energy Dispersive X-ray [EDX] analysis on a scanning electron microscope was used to identify two of the pigments.

FINDINGS

The support

The painting is on an old lining, which is now in itself in a fragile state. The stretcher is an elaborate one, with two horizontal, and two vertical cross-bars, with wedge holes in each corner, and in each cross-bar edge. It has been carefully made, but is probably not original to the painting, and the painting may have been stretched on this when it was lined. Wedges began to come into use in the last part of the 18th century, replacing the old joined stretchers, with reinforced corners.

The original canvas, is rather stiff now, perhaps with the glue of the old lining. Its weave is not readily visible on the surface, since the paint (or ground) has been thickly applied in most parts. It can be seen at the upper left edge, where it is exposed for 3 to 4 millimetres; and it can also be seen in a raking light at the upper right edge,

Catherine/Studio of Titian. Report F1676

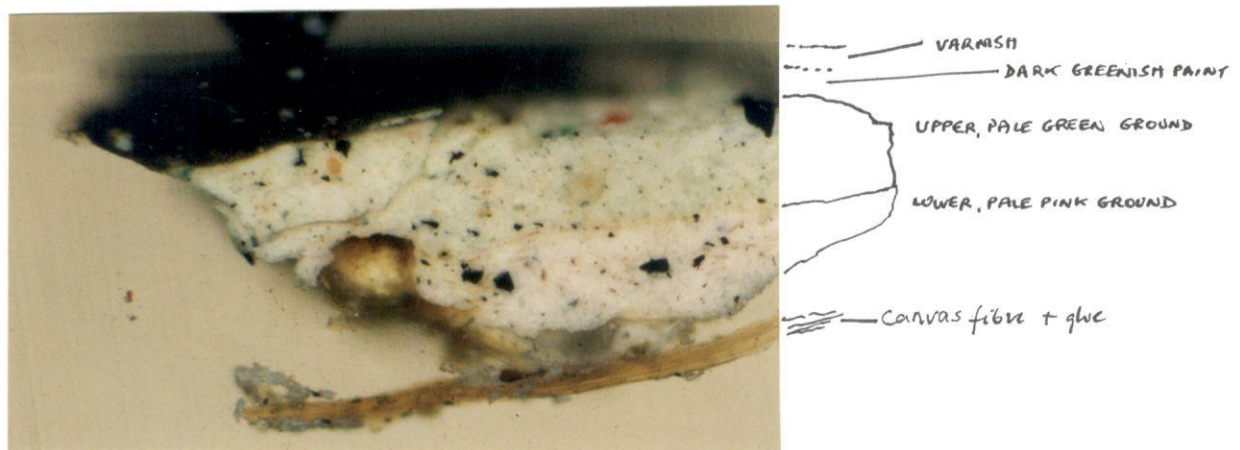
where slight cusping is visible, showing that the original tacking edges were not much further out than the present top edge. A weave count of the exposed fibres showed that the horizontal fibres were approximately 14 to the centimetre, and the vertical slightly less, so that it was a coarser weave than that of the lining canvas. Thus, the original is of a medium weave with some irregularities, and it is stretched rather unevenly at one point. It has the appearance of a hand-woven fabric rather than machine woven, but it is rather difficult to be sure.

The preparation layers

These were a double layer of pale colours, the lowest one having a rather pinkish tone, since it had more red ochre in the mixture, whilst the upper one had a greenish tint, in at least two samples. The pink could be seen, in the cross-section from the upper edge, to lie directly over the sized canvas fibres.

Cross-section of paint from the upper edge

E688. Photographed in reflected light, at x200 and x400 below.



Catherine/Studio of Titian. Report F1676

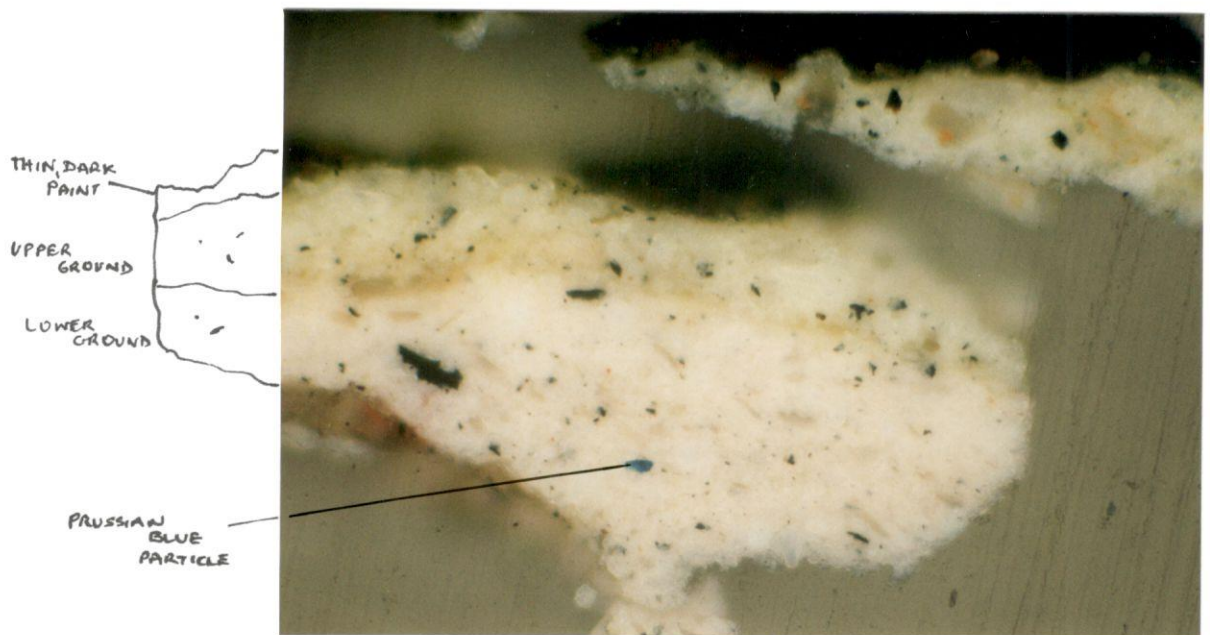
The paint

As can be seen from the cross-sections, the thickness of paint on the surface, and its smoothness in some areas such as the face, where no weave shows, is mostly due to the build up of ground layers [see E686]. However, sometimes the paint also has been laid on in several layers, as in the sample from the lower edge.

Cross-section of dark green at edge (lower)

E686, Photographed in reflected light at x200

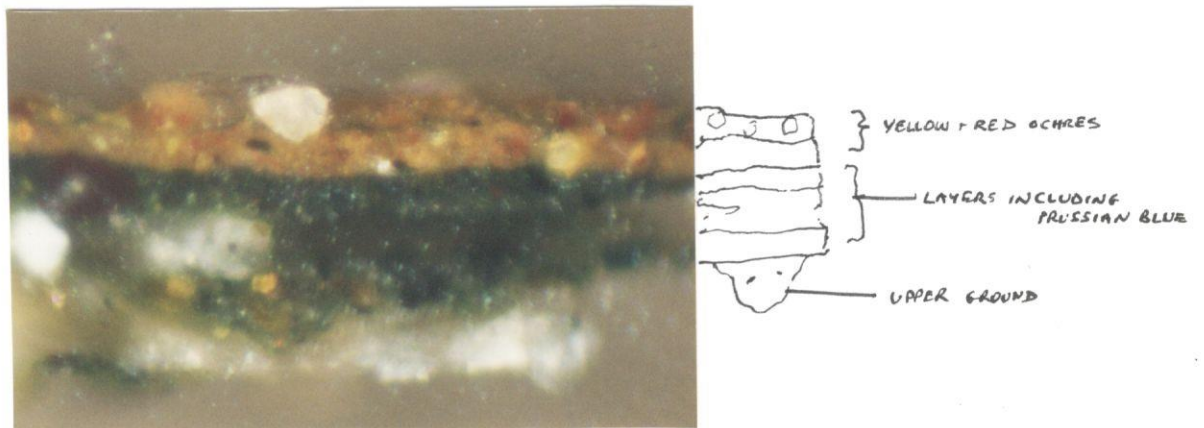
Showing the thick layers of ground, with a trace of Prussian blue in the lower, pink ground. Only a thin layer of dark green lies at the top.



Cross-section of yellow over green (BROCADE OVER GREEN, ON LEFT)

E689 Photographed in reflected light at x400

Showing two layers of ochres and white over two layers of dark green. Traces of the upper, pale ground can be seen at the lower edge of the sample.



Catherine/Studio of Titian. Report F1676

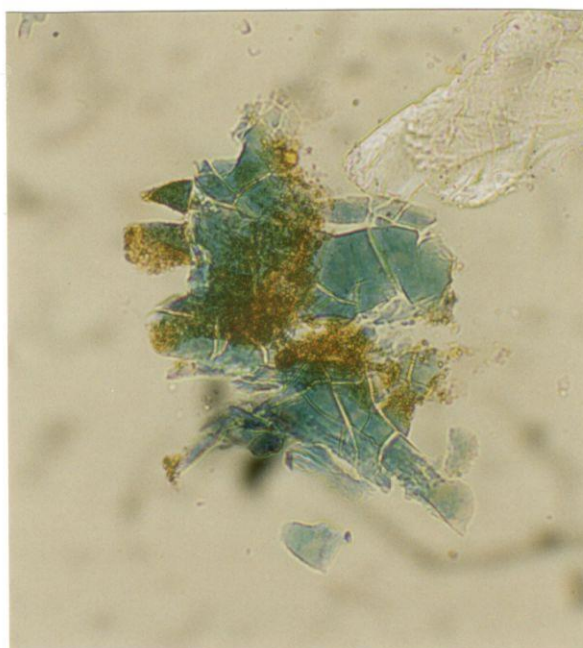
The colours are in a good state of preservation, their original bright hues being mostly intact. In ultra-violet some yellow patchiness in parts of the painting shows that past varnishes have been partly cleaned off, but left in other areas, perhaps allowing for the possibility of vulnerable glazes. The right hand arm is clear of varnish for instance, whilst there are still patches of varnish over the left hand arm.

The paint was once more heavily impastoed than it now appears. It was probably rather flattened during the process of lining, and the highlights of the crown, for example, hardly rise from the surrounding paint: indeed, the traditional lining process of heat and pressure has impressed the white highlights of the pearls into themselves. However, the flow of the brushwork still has a fresh appearance on the woman's dress, and there are very few actual losses of paint on the figure.

The pigments were identified, and found to contain an interesting mixture. The most important find, from the point of view of dating, was **Prussian blue**, found in the mixture for the intense green of the woman's costume. Particles were also found in the lowest layer of one cross-section of paint, (that is, in the lower preparation layer), which precludes the possibility of the whole of the green having been repainted over an older layer. The presence of this pigment means that the painting could not have been produced before 1704. Although Prussian blue has been in use continuously from a few years after its invention, the particular characteristics of the Prussian blue found in this painting is a type normally found in the 18th century rather than at a later date. [See photograph below] This is angular in shape, in dispersion, with good definition, and a rather greenish colour, whereas that normally found during the 19th century and later has a stainer, darker appearance.

Dispersion of the blue pigment in the green costume

Photographed in plane polars at x400.



Catherine/Studio of Titian. Report F1676

The tiny particles of blue observed in the cooler tones of the woman's flesh, however, were not Prussian blue, but **natural ultramarine**, a blue found in earlier paintings. Other pigments identified were **lead white**, of a stack process variety; **Naples yellow**, for the lights on the dress and hair, and mixed with a good quality **yellow ochre** for different tones on the costume. The red dress was a strong **crimson lake**, which was not madder, but probably a lac or insect product. There were other **earths** present also, and **charcoal black** in the grounds.

There are disruptions to the surface of the paint, which can be seen under high magnification, which are evidence of lead soaps forming, and migrating from the ground to the surface. This phenomenon is typical of 17th and 18th century paintings.

CONCLUSION

The presence of Prussian blue in the original paint shows that the painting was executed after 1704, or a few years later when it was manufactured for artists to use. The type found here is characteristic of that found in 18th rather than 19th century paintings. The use of natural ultramarine in the flesh, shows the artist achieved the cool tones in a traditional manner by adding this expensive but pure blue to the pale pink. In the 19th century, French ultramarine could have been used, which was considerably cheaper.

The fact that both the grounds are pale ones is slightly surprising, since cheaper earth pigments were often used for the lower ground, but paler coloured grounds were increasingly being employed during the 18th century, and, in this case, may have been in imitation of Titian. The lead soaps are typical of the period. Therefore, although these materials were still available at a later date, it would seem most likely that this painting is a product of the middle period of the 18th century.