

# Techniques of Examination

## INFRA-RED REFLECTOGRAPHY

A technique used to observe the layers beneath the paint surface which can reveal underdrawing and changes to the initial design.

Fig. 1



416 Henry VII

The underdrawing evident here in infra-red reflectography shows the way the face was originally built up from a drawn pattern with some freehand additions. It is very likely the original drawing derives from a sitting from the life.

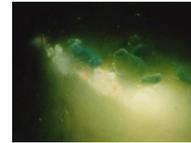
## PIGMENT AND MEDIA ANALYSIS

Investigation into microscopic pigment samples or samples of other media in order to help with dating, to reveal the order of the paint layers and help to understand the painting techniques used.

Fig. 2



In this portrait the pigment on Henry VI's tunic today appears green, but pigment analysis has shown it was originally dark blue, having changed chemically on ageing.



This confirms contemporary criticism of the king as a man who dressed like a 'farmer' (blue being a colour associated with working life).

2457 Henry VI

The type of binding medium used by artists influenced their ability to render the texture and surface. Analysis of the oil, egg resin and other media will use techniques including gas chromatography and Fourier transform infra-red spectroscopy.

## DENDROCHRONOLOGY & PANEL EXAMINATION

An examination of tree rings, which can help to provide the earliest possible felling dates for the wood used for the panel. The technique can also indicate the geographical origin of the wood.

Fig. 3



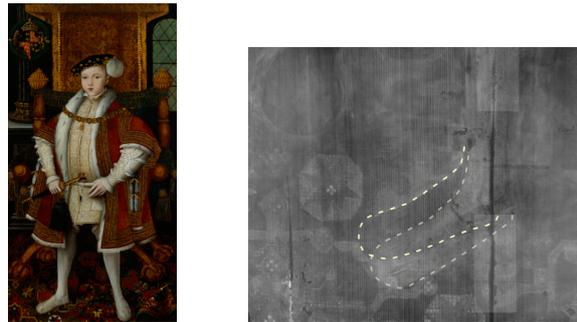
4451 Catherine Parr

Examination of the backs of the panel paintings has led to the identification of 'cargo' marks on the wooden boards, such as this one on the back of a portrait of Catherine Parr. They are probably trade marks placed on the oak planks for transport from the Baltic region, although further investigation is needed.

## X-RAY EXAMINATION

A technique used to identify changes in composition beneath the surface of the paint layers and to understand the physical structure of a panel or canvas.

Fig. 4



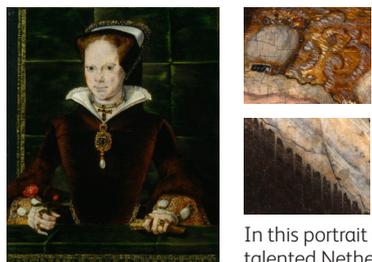
5511 Edward VI

The x-ray showing the foot of Edward VI indicates that his feet were originally further apart, showing that the artist had attempted to replicate the wide legged posture of Edward's father, Henry VIII in the earlier painting by Hans Holbein, to increase the prestige of a 9-year-old king.

## MICROSCOPIC EXAMINATION

An examination of the construction of paint layers, glazes and condition. This method also provides important evidence concerning an artist's technique and paint handling, revealing a specific painter's established methods for painting, for example, eyes, fabric, highlights or jewels.

Fig. 5



High magnification photography can show characteristic techniques and how artists built up shading with complex glazes and painted transitions in decorative surfaces.

In this portrait of Mary I by the highly talented Netherlandish émigré Hans Eworth, examination by microscope shows distinctive means of blending at a transition between two types of fabric.

4861 Mary I

## ULTRA VIOLET EXAMINATION

A method which helps to reveal past restoration and the extent of varnish layers.

Tudor paintings have often been significantly restored and deciphering original work from later additions is critical.

Fig. 6



442 Edward VI

This picture has suffered from small damages and UV light shows it has been restored (shown as dark areas across the face and costume).