Bugiardini Glossary

Cartoon- The term cartoon is derived from the Italian word *cartone,* which means a large sheet of paper. A cartoon is a full size and sometimes detailed preparatory drawing on paper which was often transferred to a painting support after application of the gesso or ground layers.

Cleaning- Cleaning is the process of removing dirt, discolored varnish and/or retouching from the surface of a painting. Varnish and/or retouching removal is usually accomplished using organic solvents or other cleaning agents, and it requires an understanding of artists' techniques and materials science.

Cradle - An additional support made of interlaced strips of wood which is attached to the back side of a wooden panel with the intent of inhibiting movement of the panel and preventing damage to the paint film. Over time, however, such cradles have proven to cause damage and are no longer an accepted method of treatment, as new, less invasive structural solutions have been developed.

Craquelure- The craquelure on a painting is the network, or pattern, of cracks that develops across the surface as the paint layers age and shrink.

Cross section- A cross-section is a slice through any object which shows its layer structure. In the context of the technical examination of paintings, it is a minute sample of paint layers, no larger than the size of a pinhead. The painting is sampled under the microscope, after the sample is mounted in a block of resin and ground and polished. When it is illuminated under a microscope, the paint, varnish and media stratigraphy can be seen. Pigments and media present can often be identified by their color and optical properties. Such analysis, together with other data, can be an important contribution toward dating a picture, and provides helpful information regarding an artist's use of materials and painting process.

Drying Cracks- Paint cracks which occur when paint contracts more on the upper surface than the under part of the paint film are classified as

drying cracks. They typically appear where lower lying paint or varnish layers have dried at a slower rate than the upper layers.

Fiber Optics Reflectance Spectroscopy- Fiber optics reflectance spectroscopy (FORS) is a non-invasive analytical technique used to measure the spectral reflectance of pigments and media. This analysis can help identify pigments and their color variations on paintings. See http://fors.ifac.cnr.it/info.php

Gesso –Gesso is the Italian word for the white mineral gypsum. It is traditionally a lean layer of animal glue and calcium sulphate applied to the support to form a smooth white ground on which to paint.

Ground- The ground is the layer used to prepare a support for painting; its color and tone can affect the chromatic and tonal values of the paint layers applied over it. When the support is a wood panel, the ground is usually made of gesso, but when the support is canvas the ground is more commonly made of drying oil and a variety of inert substances.

Imprimitura- The term *imprimitura* is derived from the Italian, literally meaning ¨first layer.¨ It is a thin layer of paint applied on top of the gesso layer, either locally or overall, to reduce the absorbency of the ground and often to impart a tonality to the painting itself.

Infrared Reflectography- Infrared reflectography (IRR) is a paintings examination technique used to look through the paint layers that are otherwise impenetrable to the human eye. Infrared radiation passes through paint at varying degrees, until it either reaches something that absorbs it, or it reflects back. The contrast of absorption of various artists' materials can be used to reveal layers of a painting, such as underdrawings, as well as changes in the paint layers and restorers' retouching. Carbon black, an element found in many artists' underdrawing materials (charcoal, graphite and black ink or paint,) is very absorbent of infrared radiation, whereas the penetrated paint layers often reflect the radiation.

As infrared radiation is too long in wavelength for the eye to see, infrared reflectography was designed to make it visible. A special infrared camera captures the light reflecting off the surface of the painting. The resulting image is digitized by a computer and appears as a black-and-white image on the computer monitor, with the absorbing

materials appearing dark and the reflecting materials appearing light.

Pentimento- The word *pentimento* is derived from the Italian *pentire*, which means to repent or change one's mind. *Pentimento* is a change made by an artist during the process of painting.

Retouching – Retouching describes the work done by a restorer to replace areas of loss or damage in a painting to provide visual continuity to the image. Contemporary conservation ethics dictate that retouching must be confined to the specific area of loss and materials used must be reversible.

Stereo microscope- A stereo microscope is a specialized form of optical microscope. It uses two separate eyepieces which provide slightly different viewing angles for the left and right eyes. In this way it produces a three-dimensional view of the area being examined, providing a magnification of up to about 80x. Stereo microscopes generally have a long working distance and a good depth of field, making them ideal for use in the scientific examination of paintings.

Sample- To learn about a painting's layer structure and its constituent parts, it is often necessary to take a miniscule sample for examination and analysis. Samples are generally taken from areas of pre-existing damage or at the very edge of the painting.

Scumble- A scumble is a thinly applied opaque or semi-opaque paint layer which is lighter in tone than the underlying color. This application creates an optical effect which makes this upper paint application appear cooler and more blue in hue than the same color painted over a lighter ground or underpaint.

Shadowgraph – A term used to describe an early form of x-radiography applied to the examination of paintings that was first developed in Europe in the late 1890s. This technique was applied to works in American museums as well as the Samuel H. Kress Collection in the 1920's and 30s through the efforts of conservation scientist Alan Burroughs of Harvard University's Fogg Art Museum.

Transfer- A transfer describes a structural treatment approach to stabilize extremely insecure panel paintings, whereby the wooden substrate is completely removed and the paint layers are subsequently

transferred to another support, panel or canvas. The development of the conservation profession has led in more recent decades to a greater sensitivity to the character of the substrate and the construction of the painting, which in turn has led to less invasive treatment of structural problems. Underdrawing – An underdrawing is a preparatory drawing made directly on ground or preparatory layer, which is subsequently covered with paint. Such drawings are often executed with charcoal, chalk, pencil, ink or paint.

Varnish – A varnish is a transparent coating applied to the surface of painting. It provides a protective layer as well as a uniform surface to reflect light and saturate the paint.

Vasari- Giorgio Vasari (1511 - 1574) was born in Arezzo. He was a painter, architect of the Uffizi in Florence (the offices of the Tuscan government), and author of the *'Vite de' piu eccellenti Pittori, Scultori ed Architettori'* (Lives of the most excellent Painters, Sculptors and Architects,) first published in 1550.The work begins with the life of Giotto, and ends with Michelangelo, the only living artist included. In the revised 1568 edition Vasari added the lives of other artists of his own day. It is strongly oriented to Tuscan artists. Despite errors, Vasari's work is still the primary source for our knowledge of Italian artists of the Renaissance and earlier.

X-radiography - X-rays are a part of the electromagnetic spectrum covering the range from 0.01 to 10 nanometers. X-rays can be used for analyzing aspects of a work of art not visible to the naked eye. X-rays can pass through most solid objects, but they are obstructed by certain materials. The heavier the atoms of a substance, the more resistant it is to x-rays. An x-radiograph records the areas of a painting where the x-rays have been impeded (these areas appear white on the x-ray film.) For example, pigments containing heavy metals such as lead and mercury appear white as well as any nails or hardware used in the construction and repair of panel paintings.

X-radiographs provide useful information about the painting, such as methods of paint application and changes that may have occurred at various stages in the painting process. As x-rays can penetrate the entire work of art, this technique also provides helpful information about the painting support, such as wood panel construction and canvas

fabrication. This examination technique also provides information about an objects condition that is sometimes not visible to the naked eye, for example revealing areas of paint loss covered by previous restoration or detecting worm tunneling of a wood panel support.