

Green pigment in old masters a myth

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Old masters never used the green pigment copper resinate supposed to be present in their paintings. Dutch art historian Margriet van Eikema Hommes reached this conclusion on the basis of old paint recipes, investigations of paintings and experiments to reproduce the green paint. The scientist recently published her results in a richly-illustrated book.

Green copper-containing glazed paint on oil paintings by artists such as Frans Hals, Raphael and Titian was not made by dissolving the pigment verdigris - a green copper salt - in warm varnish to produce copper resinate. A careful study of dozens of previously ignored old paint recipes demonstrates that the paint was in fact made from finely-powdered verdigris mixed with a cold oil or varnish.

Van Eikema Hommes discovered that the copper resinate myth arose in about 1914. The chemist Laurie found two recipes for green paint in which verdigris was dissolved in warm varnish; a method which results in copper resinate. Laurie and many after him failed to see that these two recipes were intended for glass, furniture and metal foil and that there were dozens of other recipes for paintings on panels or canvas.

The researcher was the first to thoroughly compare old texts and modern analysis results. She studied recipes and techniques from various countries and periods. From this she could deduce which techniques were representative and which not. She also reproduced paints using old recipes in order to compare their composition with the analysis results from paintings.

Up until now the old sources were mainly used to illustrate the data obtained from scientific research. Scientists sought a recipe that supported the data and ignored sources which deviated from the analysis results. That was also the case for copper resinate. However a further problem was that chemists repeatedly failed to analyse the paint samples from old paintings in sufficient detail. This led to the false belief that copper resinate was involved.

Van Eikema Hommes' book is based on her doctoral research (completed with distinction) which was part of Molart, a programme from NWO that examined the molecular aspects of aging in paintings. The NWO programme De Mayerne is the sequel to the Molart programme. Van Eikema Hommes previously discovered that the characteristic dark shadows in Raphael's last painting, The Transfiguration of Christ, were never intended by the artist.

Source: Netherlands Organization for Scientific Research

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