Scientists dissect Van Gogh

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Art history research company better with physicists, chemists and computer scientists than just with art historians. Evidence that the scientists and art experts who together examined the works of Van Gogh and other masters of the past eight years.

The art experts and scientists presented their results recently at the symposium Van Gogh: Studie in Practice at the Stedelijk Museum in Amsterdam. The advanced Van Gogh museum presents a selection of their work on display in the new exhibition Van Gogh at work.

Researchers from different corners of the exact sciences were discussed at the symposium. Physicists had paintings placed under the electron microscope, the composition of paint chemicals and computer scientists investigated the smallest temperatures in the paintings digitally recorded. With their help could museum curators past better planning together of artists and paintings safe for future generations. Such collaborations have led the past eight years to groundbreaking insights into materials, painting techniques and even the loss of the paintings.

Bedroom

Chemists have already made indispensable in finding out faded colors in paintings. The colors in the Bedroom, a famous work of Van Gogh, were particularly poor resistance to light. In Van Gogh's use the walls of the bedroom were violet, art historians know from letters of the painter. For a contemporary observer, however, they are light blue. "That is partly due to the unstable dyes that were popular in impressionism," says curator Ela Hendrik of the Van Gogh museum.

Hendrik called the help of chemists that the composition of the pigments, first in the painting. Along with color scientist Roy Ball of the Rochester Institute of Technology in the US. They then changed back how the colors dropped out on the pigment was not faded. So they could reconstruct how Van Gogh had the painting probably intended. The scientists kept their progress on blog.

Well-meaning

Lights are not the only cause of faded colors. Restaurators with good intentions are sometimes just as guilty, according to research by Gert van der Stokk chemist at the University of Amsterdam. The work explains why Van Gogh's "Flowers in a Blue Vase" are now brown decaying yellow flowers. "Under the influence of light yellow cadmium nodule reacted with oxygen, making the color changed. When restorators use it a coat of varnish applied to counter. Further discolouration the varnish has however led. Cadmium and sulfur compounds from the yellow pigment moved into the varnish and reacted to form bad sulfides and cadmiumsulfides, both opaque substances." According to Van der Stokk these reactions led to brown discolouration.

Wires count

For more history behind a famous painting you sometimes literally brush the paint. When states Rick Johnson, computer engineering professor at Cornell University in the US. He examined the wire pattern in the cloth used to protect Van Gogh.

"Small variations in the pattern of a wire cloth works as a fingerprint. Computer software can recognize fingerprint and identify which paintings are cut from the same cloth. " With its software Johnson could confirm the authenticity of various works. Experts doubted example years or below real painting by Joannis Vermeer. Johnson showed that the cloths came from the same role as other paintings by Vermeer and took so that any doubts. "Some felt awful," says Johnson. "They found the painting too ugly for a Vermeer."

For more scientific insights into the works of Van Gogh you until January 12, 2014 with the exhibition Van Gogh at work.