



## ARTS & CULTURE

# Dutch Art Experts Enlarge Famous Painting Using Artificial Intelligence

June 28, 2021

A marriage of art and **artificial intelligence**, or AI, has made it possible to recreate missing parts from a famous painting in the national **museum** of the Netherlands in Amsterdam.

The painting is known as *Night Watch* by Rembrandt van Rijn. Parts of the painting were cut off 70 years after Rembrandt finished it in 1642. Rembrandt is considered one of the greatest artists of the “Golden Age” period in Dutch art and history.

The recreated pieces have been put directly against the painting. The museum’s addition brings back the off-center **focal point** Rembrandt first created.

Museum director Taco Dibbits told The Associated Press, “It can breathe now.”

The two main subjects of the painting are Captain Frans Banninck Cocq and Lieutenant Willem van Ruytenburch who were members of a civil militia. They are at the center of the painting after it was cut. The new computer-created additions move the two to the right.

“It really gives the painting a different **dynamic**,” Dibbits said. “And what it taught us is that Rembrandt never does what you expect.”

The museum always knew the uncut painting was bigger because there is a smaller copy painted by Gerrit Lundens.

Researchers and art repair experts used the Lundens copy, computer technology and detailed images of the painting to recreate the missing parts. The project took two years.

Dibbits said they made a detailed photograph of the *Night Watch* by combining 528 **digital** pictures. Then, they taught a computer, using AI technology, what colors Rembrandt would have used and how he would have painted.

The machine learning also permitted the museum to correct **distortion** from the painting's smaller copy. Lundens was sitting to one side of the painting when he made the copy.

There is a simple reason why Rembrandt's 1642 painting of an Amsterdam civil militia was cut. It was moved to the town hall and did not fit on a wall between two doors. It is a mystery what happened to the missing piece.

The digital recreation that will be shown in the coming months is part of the research and repair project called "Operation Night Watch." It began two years ago, before the coronavirus health crisis caused museums to close for months.

The museum is expected to welcome visitors but will accept only half the normal number as the Netherlands eases COVID-19 restrictions.

The painting last underwent major repairs more than 40 years ago after a man cut it with a knife. The painting also is starting to lose its color in some areas.

Dibbits said the reproduced additions are not meant to trick visitors into thinking the painting is bigger. It is to give them a clear idea of what it was supposed to look like.

He said, "Rembrandt would have definitely done it more beautifully, but this comes very close."

I'm Gregory Stachel.

*Mike Corder reported this story for The Associated Press. Gregory Stachel adapted it for VOA Learning English. Mario Ritter, Jr. was the editor.*

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## Words in This Story

**artificial intelligence** – *n.* an area of computer science that deals with giving machines the ability to seem like they have human intelligence

**museum** – *n.* a building in which interesting and valuable things (such as paintings and sculptures or scientific or historical objects) are collected and shown to the public

**focal point** – *n.* a center of activity, interest, or attention

**dynamic** – *n.* the way that two or more people behave with each other because of a particular situation

**digital** – *adj.* using or characterized by computer technology

**distortion** – *n.* changes to the normal appearance of an image caused by the process of copying it

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