

Detecting recent forged Impressionist paintings with high-precision radiocarbon dating

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As reported by InterPol, a rapid increase in the number of fake historical artifacts has been observed in recent years. The problem is extremely complex, and disrupting the networks involved in it requires a high level of expertise. Along with police investigations, scientific techniques and forensics are tools that help fight against art forgeries. The prevalent scientific methodology to determine the authenticity of paintings is based on imaging techniques such as X-ray radiography, multispectral imaging and chemical analysis of pigments in order to look for anachronisms or contentious materials. This methodology can provide useful evidence for authenticity and attribution studies, but does not provide an absolute date of creation. Long considered too invasive or not precise enough, the radiocarbon dating method was not included in the authentication toolkit for paintings. However, recent publications have pointed out the potential role of this absolute method to uncover forgeries since accelerator mass spectrometry (AMS) radiocarbon (¹⁴C) dating is the only technique that gives access to an absolute time scale.

Here, we present a study undertaken as part of a current police investigation in collaboration with the French Central Office for the Fight against Illicit Trafficking in Cultural Property (OCBC). AMS 14C dating was applied to alleged Impressionist paintings of the beginning of 20th century, demonstrating that the paintings are recent forgeries. This example shows that radiocarbon dating can play a crucial role in the fight against art counterfeiting.