



La lettre du Collège de France

9 | 2015
Collège de France Newsletter n°9

Art and Chemistry

Philippe Walter



Electronic version

URL: <https://journals.openedition.org/lettre-cdf/2191>

DOI: 10.4000/lettre-cdf.2191

ISSN: 2109-9219

This article is a translation of:

Art et chimie - URL : <https://journals.openedition.org/lettre-cdf/1963> [fr]

Publisher

Collège de France

Electronic reference

Philippe Walter, "Art and Chemistry", *La lettre du Collège de France* [Online], 9 | 2015, Online since 28 September 2015, connection on 17 August 2022. URL: <http://journals.openedition.org/lettre-cdf/2191> ; DOI: <https://doi.org/10.4000/lettre-cdf.2191>

This text was automatically generated on 17 August 2022.

All rights reserved

Art and Chemistry

Philippe Walter

EDITOR'S NOTE

Source: La lettre, no. 39, March 2015

- 1 Philippe Walter's teaching, which he delivered as holder of the Liliane Bettencourt Annual Chair of Technological Innovation, was completed with two lectures on "practical work" to deal with a real case. The conditions and challenges of interdisciplinary research combining analytical chemistry, art history and archaeology were thus discussed in relation to specific works.**



The Holy Family, Constantin Abraham (1785-1855) by Raphaël (aka), Sanzio Raffaello (1483-1520), hard porcelain, Sèvres, Cité de la Céramique

© RMN-Grand Palais (Sèvres, Cité de la céramique) / Martine Beck-Coppola

- 2 A few weeks earlier a detailed analysis had been carried out on the objects presented in the large Marguerite de Navarre lecture theatre, using portable analysis instruments developed by Philippe Walter's laboratory (Laboratory of Molecular and Structural Archaeology, UPMC-CNRS). These chemical characterization methods led to a discussion on the complexity of the materials used by artists, and on their specific practices, followed by reflection on the conservation of artwork.
- 3 The first lecture, "Ceramics and the Memory of Raphael's Colours", put the spotlight on a painting on porcelain plaque from the national collections of the Cité de la Céramique-Musée National de la Céramique de Sèvres: the 1818 copy of Raphael's *Holy Family*, by the Swiss artist Abraham Constantin. Through a discussion with Véronique Milande, head of the preventive conservation and restoration service of the museum, the lecture cross-compared different perspectives and disciplines. The copying of paintings on porcelain plaque developed in the early nineteenth century as a way of guaranteeing heritage conservation. Masterpieces of European art were reproduced on ceramics to keep a memory of the colours in a material that was then considered to be inalterable. Many old paintings were deteriorating and required conservation treatments. Raphael was one of the most copied painters, to the extent that Stendhal wrote in *Mémoire d'un touriste* (1837): "in two hundred years, we will know Raphael's frescos only through Mister Constantin". This practice was particularly demanding, as copyists had to combine great artistic talent with the qualities of a chemist who ensured that the colours, once fired, would be faithful to those of the model. The rendering of these works painted on porcelain is particularly striking and the colours of this *Holy Family* offer a magnificent example of it. Their chemical analysis through X-ray fluorescence spectrometry and X-ray diffraction shed light on the mix of metallic

oxides produced and allowed for a comparison with the recipe books still currently in use at the Manufacture.

- 4 “Revealing the Know-How of Medieval Goldsmiths” was the theme of the second lecture delivered with Isabelle Bardiès-Fronty, head curator at the Musée de Cluny - National Museum of the Middle Ages, to understand better the history of remarkable Merovingian finery preserved in this museum, as well as the wealth of technical knowledge and the circulation of peoples and materials in the early Middle Ages. The objects studied were brought to light in 1862, in a gravel pit near Valence d’Agen (Tarn-et-Garonne, France). These are two aquiliform fibulas and a belt buckle plate, some of the most beautiful sets of Visigothic art in Europe. These objects, probably taken from the same sixth century grave, attest to the artists’ refinement. The animal theme of the two eagles with stylized forms, the geometric elegance of the buckle plate and the bright colours of the three objects are all characteristic of the gold- and silversmith work of the Visigoths, who settled in south-western Europe in the fifth century and successively had Toulouse and Tolède as kingdom capitals. The gilding techniques and the glass and garnet inlays, better understood through scientific analyses, illustrate the craftsmen’s know-how and tell us about the circulation, sometimes over long distances, of the materials used to decorate their finery.

The videos of the lectures delivered on 10 and 24 June 2014 are available at www.college-de-france.fr, on the professor’s page.

AUTHOR

PHILIPPE WALTER

CNRS Senior Researcher, Head of the Laboratory of Molecular and Structural Archaeology at Pierre and Marie Curie University