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Editorial

Conservation Tools, Protocols, and Treatments on Painted Surfaces, Metal Leaves, and Finishes in Cultural Heritage

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The conservation of painted surfaces, metal leaves, and finishes requires a deep knowledge of both the materials themselves and the supports, in addition to the interaction phenomena occurring among them. Superficial treatments, operations, and materials adopted during the conservation intervention can modify the complex system of existing interactions. Therefore, it is fundamental to predict possible induced changes in the chemical–physical properties of the systems.

Diagnostic techniques can make a huge contribution to conservation treatments of works of art. Rather than focusing on a single analysis or pure analytical data related to materials characterisation, we think it is interesting to focus on decay processes and reciprocal interactions involving the analysed materials. From a conservative point of view, the study of the interactions of the materials with each other and with the environment is, in fact, often more important than the characterisation of the materials themselves.

Defining a study methodology aimed at providing the correct technical–scientific support to conservation treatments therefore becomes essential. Another fundamental theme is also linked to this: how can I evaluate the effectiveness of a conservation treatment and the recognisability of the treatments themselves? The definition of protocols for the evaluation and validation of these treatments also in this case requires a further step with respect to the mere characterisation of the materials.

Therefore, there is then the complex theme of new materials and their use in treatments on works of art. I know the chemical–physical characteristics of these materials, but do I also know their aging mechanisms over time? What will be the interaction mechanisms between ancient and modern materials when the latter have aged?

This Special Issue aims at contributing to the definition of the state of the art in the approach to conservation problems of painted surfaces, metal leaves, and finishes.

Some of the papers in this Special Issue show how, through a complex diagnostic campaign, it is possible to provide useful elements for choosing the best and most suitable surface treatment methods. Others, always starting from analytical investigations, highlight the possible evolutions that the materials may have over time and the decay processes that they may undergo. The evaluation of the effectiveness of the treatments is another of the topics addressed, in particular in regard to the use of lasers in cultural heritage.

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