

Techniques for restoring works of art and protecting heritage from the attacks of ageing and various forms of pollution

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It is not customary for the parliamentary Bureau for evaluating scientific and technological choices to venture into the art field, as this is not its choice domain of investigation. Considering, however, that there were no off-bounds zones, the Commission for cultural, family and social affairs requested the Bureau, on the 30 April 2003, to carry out a study on restoring works of art and protecting heritage. In so doing, it was addressing multiple concerns about the conditions in which restoration in France was exercised and on its new -and sometimes worrying- links with research and science. In this respect, the parliamentary Bureau was treading on familiar ground.

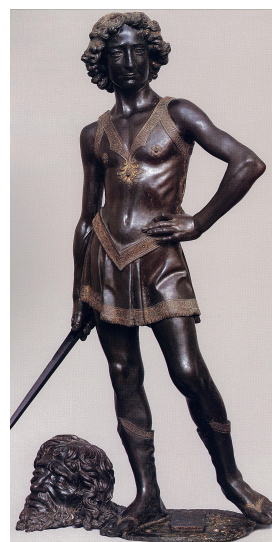
Summary

"Let's imagine that Titian or Leonardo da Vinci were today to visit one of our leading art galleries. How would they react? (...) They would accept the effects of time on paintings and canvases philosophically, but they would be horrified when confronted with the ravages inflicted on their works by man."

Such is the harsh conclusion of an eminent British conservator, Sarah Walden, which gives a particular tonality to the concern she expresses.

And it is true that, when preparing the 2002 act on French Museums, following meetings with heads of associations such as ARIPA ([Association for the respect and integrity of artistic heritage) or Momus (Monuments, museums & historical sites), several parliamentarians expressed concern with what they were being led to think. Namely that in departments for restoring works of art, abusive operations of restoration were being carried out in silence and, even worse, against a backdrop of indifference on the part of certain conservators. Such an approach scorned the original work in favour of an "updating to meet contemporary taste" when it came to varnishes, colours and forms.

Even if, since the translation of her book published in 2003, *"The Ravished Image"* Sarah Walden has watered down her outspokenness, it



The David of Verrocchio
Source : Giunti—Florence Museum

May future rapporteurs be aware of the satisfactions afforded by this issue of works of art and heritage and the emotions to which it can give rise. In Florence, at the Bargello Museum, a young restorer "fell in love" with her bronze David which she had taken two years to restore and whose golden hair had been revealed by laser under a layer of centuries-old dirt.

cannot be denied that for years, and sometimes for important operations, "free rein" was given to restorers who were driven by a sense of freedom that is incompatible with the concepts of intelligent restoration: reversibility and seamlessness.

Investigating such an issue is not simply a question of drawing up a report but of carrying out a real investigation in the full sense of the term, actually walking down the stairs to go into these analysis and restoration laboratories where science entered in force at the end of the 20th century, leading us to think -often mistakenly- that technology had taken over from man's talented mind and hand.

In fact, these perils, the reality of which has perhaps been a little exaggerated, bring us face to face with a few self-evident aspects that science has doubtless upset: each time that the hand of man produces a work of creation, the question of the perpetuation of such work is posed. When a work is threatened, must it be conserved as it is, with the risk of seeing it disappear, thereby granting it a "right

to euthanasia" that is generally refused when it comes to people, or should it be restored, should the archaeological site be reconstituted or the castle walls straightened out, with the consequent fear that the restored work might only be remotely akin to the original work?

These are major questions, and by set-

ting himself the assignment of drawing up a catalogue of these new technologies in the artistic domain, the rapporteur attempts to provide an answer, always supposing that a precise answer can be given for issues as fundamental as:

- does science lead to overrestoring?
- or : is science in the process of taking over from art?

- and finally: can these sciences serve not just

restoration but, on a wider scale, preventive conservation, a modern, contemporary notion of a way of "better appreciating" collections and reserves?

At the outset of the 21st century, restorers now have a real "toolkit", of which the report draws up a detailed if not exhaustive list, that clearly illustrates the chain of knowledge and expertise leading all those involved in the life of a work - art historians, conservators, collectors,

members of scientific councils and restorers- to make major choices when it comes to restoration.

From the preliminary study of its origins to the moment when it leaves the restoration workshop, the life of a work is studied, photographed, filmed and analysed.

Science has placed itself within the reach



Oceanus (A dual look at the Palais Bourbon)
Source: Assemblée Nationale – Communications Department

Restoration can provide surprises or even raise mysteries.

Such is the case of Oceanus, a wall painting by Delacroix in the Assemblée Nationale's throne room, where, during restoration, the character of Ocean revealed an underlying part of his face.

The discovered extract raises the question of whether this change in composition only concerns part or the whole of the painting. And, above all, it poses the question of the identity of the author of the surface painting.

What happened over the years? No one is yet in a position to say since we are for the moment unable to X-ray wall paintings. But, for the time being, and for the time being only...

and at the service of art. It must not take its place, however tempting this may be.

The diversity of techniques, the multiplicity of experiments carried out on a worldwide basis, some of which can be reproduced in France, the quality of those involved, both from the point of view of training professionals and integrating them into multi-disciplinary restoration teams, the economic impact of specialised businesses on local economies, and the search for new modes of funding, of which patronage is the primary form, have led the rapporteur to draw up a set of 25 proposals which focus on 4 major areas.

↳ Techniques

Non-intrusive studies and examinations in the field of restoration must be fostered and favoured, which implies enhancing the links between restoration and university research.

Examination techniques without sampling, such as X-ray microfluorescence and spectrophotometry, investigation techniques, particularly in the field of wall paintings where it is today impossible to carry out radiographic tests, solutions for dealing with deficiencies which do not compromise the future of the work of art or risk debasing its essence must have priority for development.

Techniques for analysing and examining wall paintings must be optimised; non-destructive measurements of their state of conservation can be carried out either by laser or infra-red thermography. Application of laser-induced plasma spectroscopy techniques to heritage materials must be developed, just as it is necessary to develop and use portable Raman spectroscopy methods for non-destructive identification of materials *in situ*.

Product testing must be developed with regards to water-repellents, smoothing products, adhesives, materials used for moulding sculptures, pigments and varnishes.

↳ The profession and occupational training

Where art galleries and museums are concerned, it is preferable to strengthen a common

core between training programmes for conservators and heritage restorers, particularly with regards to preventive conservation. For conservators already appointed, continuing training should enable them to acquire additional skills.

The profession needs recognition, which means that a title -"heritage restorer"- and a status must be adopted. Similarly, setting up a Council for Heritage Restoration as an ideal focusing point for those involved in the restoration sector is essential.

A rethinking of human means is also



Theatrical mask, currently being restored, central section of the façade of the Villa Medici gardens in Rome.
Final cleaning phase. Ph. SEI.

Source: *Monumental* – Number 19 – December 1997

called for, mainly in three areas – stained glass windows, caves featuring rock art and the conservation of stone and mortars.

↳ Preventive conservation, an old idea for tomorrow

- Restoring on site, enhancing the expertise of restorers in the field of preventive conservation, anticipating conservation through preservation. In order to bring the act of restoring closer to the different types of public who will be appreciating it, art galleries and museums should favour *in situ* restoration. The dangerous nature of certain products, solvents in

particular, for the health of those using them, must, however, be taken into account, together with the requirements of the profession.

- Ensuring, within the art gallery and museum, a real preventive conservation policy, so as to minimise recourse to fundamental restoration operations. With this end in view, the art gallery and museum team must include a restorer, whose task could be mutually shared by several geographically or culturally close counterparts.

- Devise a general conservation and restoration programme, such as the Dutch Delta plan and the U.S. *Heritage Health*.

Such a project would ensure enhanced management and conservation of French cultural items and should involve the Musées de France, historical monuments, archives and the archaeological sector. It would also make it possible to improve the registration of objects and their conservation -particularly their conditions of storage- and envisage restoration for objects or collections of significant cultural value.

Thought must also be given as a matter of urgency to the durability of operations, in particular where the future of monuments and façades are concerned that have been cleaned at great cost only to be immediately exposed once more to the atmosphere of urban pollution.

↳ The sector economy

The decrease in credits over the past few years must be halted, since what is involved is saving a certain number of works or monuments, some of which constitute the pride of several regions of France. This is vital to the survival of businesses which are specialised in the sector and the safeguarding of precious expertise by journeymen. At the same time, major restoration operations can no longer be envisaged without patronage. Consequently, corporate patronage must be extended in close partnership with those in charge of heritage affairs, while the State continues to play its role in controlling competences and supervising.



The Gallery of Mirrors - Château of Versailles
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