

Il restauro dei dipinti murali nella prima metà del XIX secolo a Bologna

The restoration of mural paintings in Bologna in the first half of the 19th century

The conservation history of some of the most important mural paintings in Bologna in the first half of the 19th century is related to a specific programme of urban renewal for the city, which began in the Napoleonic period and continued after the successive restoration of the Papacy. The treatments involved, amongst others, works in San Michele in Bosco, the Oratory of Santa Cecilia and San Petronio, monuments of such artistic importance they deserve greater recognition in our national heritage. The reconstruction of these treatments brought to light several technical principles applied to conservation work such as fixing and consolidating, the restoration of paintings, and early experiments on the strappo technique. However, apart from mere descriptions of practical aspects of the techniques, which, in any case, were mostly left to the oral tradition of the workshops, the study draws out the cultural assumptions which provided the impetus for the restorations, by placing this town planning work within the wider context of the history of conservation as a whole.

Sistematica della documentazione e progetto di restauro

Categorization of documentation data and the restoration project

In conservation and restoration no methodology has yet been defined which furnishes consistent criteria and guidelines for the planning of treatments. To rectify this situation we outline here the general layout and functioning of a system for classifying historical, conservation and diagnostic data aimed at compiling a documentation which can provide real support for a conservation treatment. The proposed system is made up of a series of levels and relational nodes, devised to provide information about the nature and causes of deterioration in the artwork in question, through the formulation of standardised queries. The ordering and classifying of the data is managed through a specially designed graphical system which is capable of carrying out in a consistent and consequential fashion, not only basic documentation work but also the development of the restoration project.

Pino Pascali. Studio della tecnica e restauro delle opere: problemi teorici e metodologici

Pino Pascali. Study of technique and restoration of works: theoretical and methodological problems

This paper deals with the works of Pino Pascali, presenting an informative summary of various aspects regarding conservation and restoration. The extension of the analysis to the artist's whole career makes it possible to obtain an overview of the materials and techniques employed, the artist's intentions, the meaning of his works, as well as an evaluation of the various approaches to conservation. The case of Pascali is emblematic and gives an idea of the complexity inherent in the task of restoring contemporary art. He was one of the protagonists of a period that was characterised by radical experimentalism. Highly eclectic and innovative in his work, he produced in a short space of time a series of works that were very different one from the other, imbued with poetic consistency rather than technical, stylistic or morphological coherence, using a wide range of materials. The study that this paper presents is based on research for dates in literature, the impressions obtained from visual analysis of quite a large number of his works, as well as several interviews with art historians, artists, gallery owners and restorers. The paper illustrates the methodological approach to recognition, citing the most significant cases, within the context of the wide-ranging debate on theoretical and ethical problems linked to the conservation and restoration of contemporary art.

ABSTRACT

Tensionamento controllato per dipinti su cuoio: dati sperimentali

An elastic tensioning system for paintings on leather: experimental data

The paper reports the results of a joint project of ICR (Istituto Centrale per il Restauro) and DMA (Department of Mechanics and Aeronautics of Rome University 'La Sapienza') aimed to the study of reliable systems for stretching and mounting ancient decorated leather panels. The main targets of the project are:

- to obtain data on the mechanical behaviour of ancient leather, in order to evaluate the correct stress to be applied when mounting ancient decorated leather panels on a support frame;
- to design and actually construct prototypes of support frames that maintain the required stress in time without risk of inducing mechanical damage in aged leather;
- to design equipment for the continuous monitoring of the dimensional variations of the mounted leather as a function of environmental changes.

The project was developed in connection with the restoration of the painted and gilded leather frontals, named the *Crucifixion* and the *Pentecost*, of two altars in the monastery of Saint Francis in Assisi. The design of the supporting structure is closely connected to that of a stretcher that had been previously developed by ICR for canvas paintings and proved to be quite efficient in maintaining their flatness and even in correcting some existing defects. In the case of the *Crucifixion* frontal the stretcher is an aluminium frame, assembled from rectangular tube elements, that carries on the outer edge a series of Teflon half-cylinders fixed by stainless steel screws. The Teflon rounded edge is meant to minimise friction when environmental changes cause a movement of the leather with respect to the frame. In the case of the *Pentecost* frontal, the reduction of friction is achieved instead by mounting on the edges of the frame a series of aluminium tubes on ball bearings that allow them to rotate. The connection of the leather to the stretching mechanism is made through textile bands attached to the edges of the leather (on the *verso*); the edges of the bands are in turn clamped between two aluminium strips with stainless steel screws. The textile bands are bent around the frame and the metal strips are connected to steel springs (protected by plating) and stainless steel tension controlling devices. The stretching mechanism is either attached to a central element of the frame structure (in the short sides) or directly to the metal strips clamped on the textile of the opposite side (in the long sides). The measurement of the tensile strength and modulus of several samples of ancient leather allowed to define a safety limit for the stress to be applied, in order to avoid inducing a permanent deformation in the leather. Horizontally, a 45 N/m force was applied (with a safety factor around 30) while vertically the stress could be lower as the ancient leather showed only minor deformations in this direction (15 N/m force). The whole elastic system is adjusted to produce a maximum variation of ± 5 N/m force as a consequence of the dimensional change in the leather produced by the maximum foreseeable variation of the environmental conditions (the active factor being mainly the relative humidity of the air). The textile/leather junction was designed on the basis of a series of tests, involving the measurement of tensile and peeling strength of ancient leather samples bonded to two types of textile fibre (polyester and polyamide) by means of five types of synthetic adhesives (water dispersions). The final choice was a polyester woven fabric with a polyethylene-vinyl acetate copolymer adhesive. In order to monitor the performance of the system, each frame is equipped with one humidity sensor, one temperature sensor and three differential transducers that record leather movement on both the horizontal and vertical directions. Data recorded in the first six months of operation show that the *Pentecost* frontal (with the revolving edges) follows any climatic change rapidly and allows the fast recovery of even very small deformations (less than 0.1 mm) of the leather. The *Crucifixion* frontal (with the fixed Teflon edges) allows only the recovery of deformations that are at least 20 times larger. The experiment will be continued in order to detect the possible insurgence of creep, and its extent in relation to the stress level applied.