

La colorimetria di riflettanza: un codice numerico per una memoria del colore ed un ausilio tecnico per il lavoro dei restauratori/conservatori

Reflecting colorimetry: a numerical code for memorising colours as a technical aid for restorers and conservators

Ernesto Borrelli

The aim of this paper is to provide some basic information on the concepts of colorimetry and its applications; the paper is intended for the widest possible number of conservation experts. It represents an overview of the use of colorimetry on various types of materials and artworks through the work carried out by the author in this field mainly at the the ISCR's Materials Testing Laboratory (Higher Institute for Conservation and Restoration). The artworks to which reference is made include: panel paintings, wall paintings, polychrome stone sculptures, polychrome carved wood, painted fabrics and polychrome embroidery. Among the materials mentioned: pigments and their characterisation, paints and natural resins, consolidants, synthetic protective agents, anti-graffiti and nano-structured materials. The phenomena examined mainly refer to the effects of light on colour variations and the effects of surface cleaning. The accompanying bibliography summarises the works published on these topics between 1985 and 2014, but also contains references on the science of colorimetry for consultation and some useful international reference standards. Finally, in the last part, some controversial applications or improper uses of colorimetry are mentioned and critically commented to promote discussion amongst conservators and scientists and to encourage new research opportunities.

Il restauro della *Cortigiana con parasole* di Kawanabe Kyōsai nelle collezioni del Castello di Agliè

Restoring the Courtesan with parasol by Kawanabe Kyōsai held in Castello di Agliè collection

Maria Vera Quattrini

In 2003 the higher Institute for Conservation and Restoration (ISCR) was commissioned by the Piemonte Superintendence to examine the state of conservation of oriental paper artefacts held in the Savoy royal palaces of Stupinigi, Govone and Agliè (the project was set up by the Superintendence for historical, artistic and ethno-anthropological assets in the Piemonte region). In particular the Ducal castle of Agliè holds a collection of artefacts acquired by duke Tommaso di Savoia (1854-1931) during his travels in the Far East, including nineteen paintings executed in ink and colours on paper, mounted as vertical rolls in the Japanese artistic tradition. On some of them, the author of this article was able to identify the signature of painter Kawanabe Kyōsai (1831-1889), one of the most popular in the 19th century. The recognition of the signature triggered close collaboration with Tim Clark, director of the Japanese section of the British Museum collections, and with Koto Sadamura, researcher at the Freer Gallery in Washington DC, who confirmed the attribution of the painting, completed together with Kawabata Gyokushō (1842-1913). The article describes the technical and scientific knowledge acquired during the restoration of the painting known as "Courtesan with parasol", one of the most deteriorated works, in order to create a restoration project to be applied later to the rest of the collection. It is a collection of high historical and artistic value, not yet studied, where scenes of various kinds are represented, all made with very quick brushstrokes, whose peculiarity consists of the assembly, in Japanese style, made by local workers using Western materials; this unusual mix has caused considerable damage.

Il restauro del ponte Jisr el-Majami' sul fiume Giordano

Restoration of Jisr el-Majami' Bridge on the Jordan River

Alessandro Bianchi, Fabio De Angelis, Pietro Gasparri, Giuseppe Morganti, Simona Pannuzi, Carlo Usai

The Italian Ministry for Cultural Heritage and Activities, with the support of the Jordanian Department of Antiquities and the Israel Antiquities Authority, accomplished on September 2014 the recovery of the Jisr el-Majami' / Gesher bridge on the Jordan River. The bridge is one of the most valuable and most significant historical and monumental sites of the Jordan Valley, along with similar testimonies of history of that territory such as the nearby Belvoir Crusader Castle. The bridge, which dates back to the Middle Ages, was enlarged and repaired several times over the centuries for damage caused both by earthquake and warfare as well as for consolidation and expansion. The bridge resulted severely damaged due to the events of the 1948 War. Important losses of materials occurred on the main arch spanning the river as well as on the ramp on the Israeli side. In particular, the damage to the arch, caused by the explosion of mines placed on the road-traffic bridge built in the 1920's by the British, resulted dangerous for the monument since it could finally threaten the static itself of the monument. Since then, as the bridge lied across the international border, it was not possible to put in place the necessary measures for the safety of the structure. In order to avoid the progress of decay the Italian Ministry for Cultural Heritage and Activities took the initiative of the rescue. In 2011, with the consensus of both sides, a complete technical documentation of the artefact was made. Then it called the concerned authorities to collaborate to the works and received generous replies. Following the agreements a trilateral technical seminar was held on the field in July 2012 to examine the situation and to establish a shared working plan. It was decided to undertake the works strictly necessary for the physical safeguard of the artefact, consisting in the consolidation of the masonry and in the reconstruction of bridge's main arch. It was also agreed to postpone for the moment the reconstruction of the Israeli ramp, as it was not deemed as indispensable for the safeguard of the monument. These works have been implemented with funds provided by the Italian Ministry, under the overall coordination and technical design of the Italian side, according to the following schedule: - April 2013: the scaffolding was purchased in Italy based on a design conceived by an Italian professional. It was assembled by an Italian team and donated to the Jordanian Department of Antiquities; - August 2013: the overall consolidation of the bridge masonry was undertaken by the Israel Antiquities Authority and completed in May 2014; - June 2014: the reconstruction of the main arch was undertaken by the Jordanian Department of Antiquities, with the support of an Italian team. The rescue intervention was completed in September 2014. Its successful implementation has been made possible by the commitment demonstrated by all concerned authorities, particularly by the Department of Antiquities of the Hashemite Kingdom of Jordan; the Israel Antiquities Authority; the Ministry of Foreign Affairs of the Hashemite Kingdom of Jordan; the Israeli Ministry of Foreign Affairs; the Army of the Hashemite Kingdom of Jordan; the Israeli Defense Force; the Old Gesher Museum.

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Le impronte di Scialoja: il restauro di *Ripetizione rossa*

Scialoja's imprints: restoring the "Ripetizione rossa" (Red repetition)

Grazia De Cesare, Marcella Ioele, Angelandireina Rorro, Fabiana Di Lorenzo, Alessia Fasciani, Micaela Storari, Teresa Masciolo

The triptych "Ripetizione rossa" by Toti Scialoja is an example of the imprinting technique devised by the artist which characterised a large part of his production. Set designer and professor at the Academy of Fine Arts in Rome, he taught many artists who used his advice on technique and materials throughout their careers. His contacts with Burri led to the use of polyvinyl acetate (PVAc) as a binder for his paintings and for preparing all his support material. Fascinated by action painting after direct contact with the artistic milieu in New York, he adapted these influences to create a new and highly personal technique. The idea of imprints arose at Procida during the summer of 1957 – by chance a scrap of paper coloured with pigment was swept up by the wind and imprinted traces of itself on a white canvas.

The triptych "Ripetizione rossa" forms part of the artist's personal collection which is held by the foundation named after him. Some of his works had been affected by water seepage in a storeroom, and showed an advanced state of biological degradation which had damaged the canvas and the frame of one of the items. Research was carried out on restoration materials for linings and localised reinforcements in a humidifying and dehumidifying chamber, and tests were conducted on paint samples containing PVAc binder, helping to define the restoration project now underway.
