

Restoration of the decoration in the Atrio Quadrato

Doge's Palace

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Historical and artistic details

The Atrio Quadrato (Square Atrium) is the area between the Scala d'Oro and the Sala delle Quattro Porte, and thus represents the vestibule for the public state rooms on the second floor of the Doge's Palace. In 1561, work was finished not only on the stairs but also on the ceiling decorations of the Atrio Quadrato and of the Sala delle Quattro Porte. No trace remains of these wooden ceilings and the paintings decorating them because of the severe fire of 1574.

Restoration work began immediately and in September of the same year, columns and marbles stored at the Procuratoria de Supra were put in place, as Wolters writes, and these are still present.

The decoration of the Atrio quadrato consists of a composite order of fluted pilasters and entablatures of stone, framing on one side the upper portals of the Scala d'Oro, designed by Alessandro Vittoria, on the opposite side the large rectangular windows, and on the remaining sides simple backgrounds of plaster occupied by framed paintings. The new decorative layout was by Tintoretto, who painted the wonderful central octagon depicting Doge Gerolamo Priuli, to whom Peace and Justice offer a sword and scales in the presence of the patron saint and the lion, symbol of Venice. The four little scenes in chiaroscuro with Solomon, Esther and Ahasuerus, Samson and the Queen of Sheba, are apparently workshop paintings, and the same is true of the four Seasons at the outer corners.

In 1578, Tintoretto completed the decoration of the room, placing the four paintings of Mythologies on the walls; these were subsequently moved to the Anticollegio.

Currently the paintings displayed on the walls are a *St. John the Evangelist* and an *Annunciation to the Shepherds* by Francesco Bassano, an *Adam and Eve* by Paolo Fiammingo and a *Christ in the Garden* in the manner of Veronese.



Doge's Palace, façade towards the Piazzetta



Atrio Quadrato, south side



Atrio Quadrato, north side

Information concerning the state of conservation

The conservation issues affecting the decoration in stone, painted canvas and wood can be attributed to deposits of dirt adhering more or less firmly, resulting from stratified sedimentation of atmospheric dust and different products used over the years for the maintenance of the surfaces.

The stone surfaces have a dark, thin and rather compact layer that blurs them: these are the result of the combination of incoherent surface deposits and old and now altered treatments, and they create an effect of widespread greying that flattens the high reliefs. There are also some localised fractures, particularly in the lower zone, resulting from blows. The wooden surface of the ceiling has a blurring caused mostly by badly adhering deposits. There are some areas of missing paint and localised lifting of gilding in the form of flakes that are near to falling. The painted canvases are overall in a good state of conservation and require a careful and close inspection to plan a more detailed intervention if required.

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 61,000.00 (inc. taxes)

The intervention will include the following types of operation, distinguishable by type of deco-rated surface.

Stone surfaces: checking of the surfaces for presence of any loose parts; removal of loose deposits to be effected dry using soft bristle brushes and vacuum cleaners; passivation of the pins or clamps present with a subsequent addition of protective resin; removal of firmly-adhered surface deposits by washing with deionised water and soft sponges; checking of any stucco work with removal and rebuilding of those detached or unsafe as required.

Gilt wooden surfaces: checking of the surfaces and consolidation of any loose parts with appropriate methods to be defined; removal of loose dust deposits done dry, with soft bristle brushes and vacuum cleaners; treatment of metal parts such as clamps or pins; checking for the presence of xylophagous attacks and woodworm treatment if required.

Paintings on canvas: control and application of protective film in the case of damage such as tears or cuts; removal of incoherent surface deposits such as atmospheric dust, with the use of soft bristle brushes and vacuum cleaners; removal of partially adhering surface deposits with use of Whishab soft sponges; checking for the presence of fungal attack and treatment per-formed by nebulisation if required.

Flooring in Venetian manner: washing and dewaxing; patching; localised and/or diffuse grou-ting; oiling.



Photostraightening of the decorated ceiling



Detail of the morphological degeneration of the gilt wooden surfaces



Detail of the morphological degeneration of the stone surfaces



Detail of the morphological degeneration of the gilt wooden surfaces

Restoration of the Historical Staircase

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Historical and artistic details

The Natural History Museum is located at the Fondaco dei Turchi, a building dating from the thirteenth century and completely restored with a major reconfiguration in the second half of the nineteenth century by the Municipality of Venice to a design by Federico Berchet with the aim of using it as the museum of civic collections. Since 1923, most of the collections were mo-ved to the current Correr Museum and the building became the site of the Natural History Museum of Venice.

With the nineteenth-century restoration, the palazzo was reconfigured in the thirteenth-century Venetian-Byzantine style. Berchet's restoration was strongly criticised for the historicist approach taken by the architect who, with this project, intended to restore the building to its original appearance. The building was restored on the basis of a hypothetical philological reconstruction of the original since neither today nor in the nineteenth century were there any documentary sources describing the original appearance of the building. Berchet's report, in which the architect describes the restoration, shows how the architect actually scrupulously respected all that was old, restoring the ground floor and the first floor in accordance with what was left that was original. While for the full reconstruction of the turrets and battlements, Berchet said he based himself on De Barbari's birdseye view of Venice of 1500, where, however, the building is seen from the back and the battlements are not shown. As for the construction materials, Berchet claims to have used the abundant deposit of material found in the attic, adding only other old material found around the city, often left over from the sites of historic buildings such as the simultaneous restoration of St. Mark's Basilica.

The fine staircase that is the subject of this restoration project overlooks the portico on the Grand Canal. It was rebuilt by Berchet in the place where there used to be an old roofed staircase; its well shape is intentional so that the central void in the shape of a truncated pyramid could spread the light coming from above more widely. To maintain this layout, the highest ramps are longer and



View of the façade of the Fondaco dei Turchi, location of the Natural History Museum



Overall view of the main staircase



Detail of an ancient crystal marble patera with advanced degradation

narrower and the steps less high. Berchet tried to maintain as much of the old masonry as possible but, being weakened, it obliged him to include a system of supports for the ramps comprising iron girders like those used at the time on the construction of railways.

The stairs today are made of a variety of different materials: the steps and door frames are made of Istrian stone, while the balustrade and the plinth of the ground floor are ammonitic limestone.

On the ground floor, the base walls of the staircase are decorated with panels of polychrome marble in which are embedded 15 paterae. The marble is for the most part Proconnesian and Lunense, followed by Breccia Medicea, green Cipollino and Bardiglio. The paterae are all carved from crystalline marble with the exception of one. According to Rizzi, these are nineteenth-century imitations except for two of them, which are allegedly original, albeit very deteriorated; it is suggested that these originals are two of the paterae on the east wall, but this hypothesis will need to be checked by a more thorough investigation.

Information concerning the state of conservation

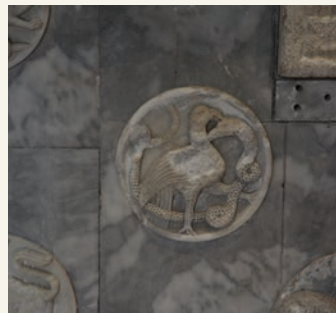
The state of conservation of the staircase is strongly affected by damp from two sources: from capillary ascent and from condensation, which occur mainly on the stone cladding of the base walls and on the first flight of stairs. In line with the well-known mechanisms of decay triggered by the crystallisation of salts, the surfaces of polychrome marble presents the entire gamut of morphologies of deterioration (exfoliation, descaling, pulverisation, detachment) which has already given caused the partial loss of the original modelling especially on the pateras in basrelief. Moreover, there are also signs of cracking of the slabs and detachment and gaps in the plasterwork on the first flight of stairs. The Istrian stone steps not only reveal the normal depressions due to wear from the passage of many feet, but also a pronounced differential alteration caused by the stone's clay veins being hollowed out, and this sometimes poses a danger to the safety of visitors in transit.

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 57,000.00 (inc. taxes)

The plan of action includes: dismantling the decorations in polychrome marble to effect a desalinisation and consolidation off site; cleaning and consolidation of the wall supporting the staircase; subsequent reassembly of the restored marble decoration with a system which provides for the isolation from the masonry behind in such a way as to reduce or eliminate the intake of water from the support wall. The planned project does not require the use of temporary structures and only the first flight of the staircase will be closed during part of the work. The project will also include the consolidation and checking of the marmorino plasterwork of the side wall on the first flight.



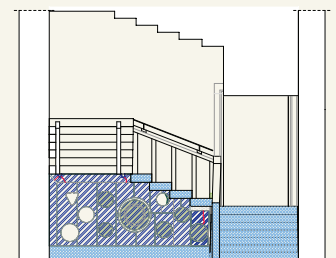
Detail of an ancient crystal marble patera with advanced degradation



Detail of a degraded limestone "rosso Verona"



Detail of a degraded limestone "rosso Verona"



Map of the morphological degradation of the manufacture

Restoration of the wooden doors on the banks of the canal

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Historical and artistic details

The Renaissance wing of the Doge's Palace, overlooking the Rio della Canonica, faces the three canal banks that used to be differently arranged for the reception of goods and people.

Each of the three banks is served by two large wooden doors; all six of the fine structures were removed and stored at a secure warehouse in 2008, on the occasion of the construction of temporary works to be used for the restoration of the large façade, completed in 2011.

To date, the Fondazione Musei Civici di Venezia has completed the conservation work on four of the six doors, which have been replaced in their original location; two doors still await restoration today. Having analysed some marked stylistic similarities with other wooden works in the San Marco area of Venice, we can assume that these two gates were made in the nineteenth century. Each gate has two doors decorated with rows of diamonds and two posterns with friezes carved in low relief, and cover a total area of about 3.40 x 3.80 m.

Information concerning the state of conservation

The conservation problems characterising the Doge's Palace's water gates are those common to all wooden structures in the lagoon that live immersed in water or which are subject to the rise and fall of the tides. In particular, an experimental study undertaken on these gates in collaboration with the Centro di Ricerca Nazionale ISMAR and IVALSA revealed the strong presence of biological erosion concentrated along the base, where an X-ray examination showed a massive attack by crustaceans and molluscs as high as the lower hinge. The extension of the decay over a height of about 60 cm, which affects the structural parts supporting the hinges, has caused the stability of the entire door to be compromised, making it impossible to conserve it on-site for reasons of safety.

The wooden surfaces presents cracking on the successive painted surfaces of the front and rear, and localised rot, principally on the decorated reliefs.



Doge's Palace, façade towards the Piazzetta



Wooden nineteenth century doors before the dismantle for the restoration in 2007



Bottom View of the doors, the degradation of the wood is visible due to the attack of micro - marine organisms

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 87,000.00 euro (inc. taxes)

On the basis of the scientific studies conducted that show how the rise of wood-eating marine organisms is favoured by the wood absorbing water and hampered by a reduced presence of water in the fibres, a plan was developed around the notion of inserting a simple break, a slit, between the parts most immersed and subject to tidal fluctuations, and the upper parts. A priori, a reasoning was conducted on the changing tide levels and on the decoration of the two types of door, to identify the admissible position for the proposed slit.

A height was identified, for the slit and it was planned to cut the portion of the doors at front and rear at this level to restore the eroded and rotting parts. The missing portions will be reconstructed following the manner of the original work but using different wood: in particular, the tropical species Azobè will be used for the inner core and seasoned oak for the added reliefs and decorated parts.

The lower portion as reconstructed will be maintained separate from the upper via a small interruption and will have its own hinges for opening and closing independently. In this way, the capillary rise of water will be prevented, together with the establishment of micro-organisms on the upper parts. Moreover, ordinary maintenance of the lower parts will be far simpler as these will be easily removable.

All the exterior surfaces will be treated by removal of earlier layers of paint, treatment of disin-festation, local consolidation of deteriorated wooden parts by impregnation with acrylic solutions, pinning of rotting portions, integration of missing parts decorated in low and high relief, preventive treatments and final painting.

The metal parts will be treated and recovered, and missing bolts and parts will be replaced by polished AISI 316 stainless steel bolts. The lower hinges inserted in the stone jambs will be extracted and replaced with AISI 316 stainless steel ones and a new hinge will be inserted where the greatest size of the lower parts requires it because of the weight of the part that needs to open and close.

On the lower part of the doors, to cover the gap enabling the opening of the doors on the uneven bank, the plan is to affix a small micro-perforated shutter that will serve to block the entry of any animals and foreign bodies from the canal.

The overall intervention also includes the completion of the reconfiguration of the Palace's water gates with the placement of new pali da casada (mooring posts) and the construction of two wooden pontoons for berthing.



Front view of a door with an indication of the cut to be made for rehabilitation



View of one of Posterne finely decorated in bas-relief, with evidence of existing degradation



One of the processing steps during the restoration that has already been done to the twin doors to those object of future intervention



View of the twin gates already restored during their reassemble in place. The new selective opening mechanism of the various parts, resulting from the cut of the lower portions and the insertion of new independent portions, is visible

The Sala delle Quattro Porte

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Historical and artistic details

The Sala delle Quattro Porte ('Four doors room') is on the second floor of the Doge's Palace, and is one of the most famous and artistically fine features of the entire building.

Built on the floor of the great public rooms, it had the dual function of antechamber and passage and takes its name from four beautiful doors framed by precious oriental marbles, each surmounted by a sculptural group referring to the room to which it provides access.

The current appearance dates back to a massive restructuring carried out after the disastrous fire of 1574 by Antonio da Ponte to a design by Andrea Palladio. The vaulted ceiling, whose stucco decoration was done by Giovanni Battista Cambi, known as Bombarda, contains mythological frescoes and depictions of cities and regions under Venetian rule, painted by Jacopo Tintoretto from 1578.

The decoration is intended to show a closely interlinked set of scenes describing the foundation of Venice, its independence since its earliest days and the historical mission of the Venetian aristocracy, in line with the celebratory programme already illustrated in the decoration of the Scala d'ora (Golden Staircase).

The greatest sculptors of the late Cinquecento – Alessandro Vittoria in primis – were responsible for the marble groups over the famous four doors.

The conditions of the room, especially as concerns the ceiling, soon proved unsatisfactory: water seepage above and probably from the outside walls too caused a significant amount of damage.

Before 1648, two of the ovals showing towns, Altino and Vicenza, were already already "*consumati dal tempo*" ('worn by time') (Ridolfi), and had been renewed by a seventeenth-century artist of some quality, Francesco Ruschi.

The decay afflicting the room continued, however, until in 1713 it was decided to effect a major restoration of the paintings by Tintoretto, entrusting this work to Nicolò Bambini. With work in progress, in March of the following year, it became clear out that conditions were worse than anticipated, so much so that the entire intervention had to be refinanced. At the same time, the gilding and the grotesques were



Doge's Palace, façade towards the Piazzetta



General View of the Sala delle quattro porte



Detail of one of the lunettes decorated with polychrome stucco

also restored, with Francesco Grandi fact undertaking the “*doratura di oro d’ongaro e depentura a tutti li rabeschi*” (‘re-gilding and painting of all the arabesques’).

That the restoration should include the scenes by Tintoretto as well as the grotesques – in other words, in essence the whole ceiling – is the most obvious clue that this damage was caused by widespread infiltration over the whole area of the ceiling.

Events took a turn for the worse immediately after. In a survey of 173, the proto Giovanni Pastori noted that the stuccos by Bombarda were in a dreadful state: the statues were “*corose e disfate*” (‘corroded and crumbling’) and threatened to come down in an “*imminente caduta*” (‘imminent fall’); indeed, some parts had already fallen over a wide area.

It is on this occasion that extensive work was done both on the ceiling’s structure, to strengthen and consolidate the system of suspensions and braces of the vault to the trusses, and by placing wooden elements from above, with pins and metal rods with screws and plates directly on the sculptures and the stucco elements of greatest weight and overhang. This intervention involved, of course, removing the old wooden attic and replacing it with mortar and tiles.

Information concerning the state of conservation

The Sala delle Quattro Porte presents a complex decorative programme consisting of different materials that are all highly deteriorated: stone surfaces, wall paintings, three-dimensional and two-dimensional stucco, polychrome wood and oil paintings.

A diagnostic survey has been effected by taking micro samples of material from all the surfaces, and a close observation has revealed a poor state of repair, with evidence of reworking and prior treatments that need checking.

The wall paintings have been much altered by heavy repainting done with tempera and oils, which make it impossible to read the original painting and its technical execution. Large areas of the paint are lifting and peeling, which may link also to the detachment of the preparatory plaster from its supporting layers. Many losses in the existing paint are already visible.

As with the wall paintings, so the stucco is also greatly altered in terms of legibility, as result of overpainting in white. In numerous areas, the modelling has been reworked. In view of the overhangs and weight of the decorations, a timely control of the entire surface is to be recommended, taking into account the problematic conservation history of the ceiling.

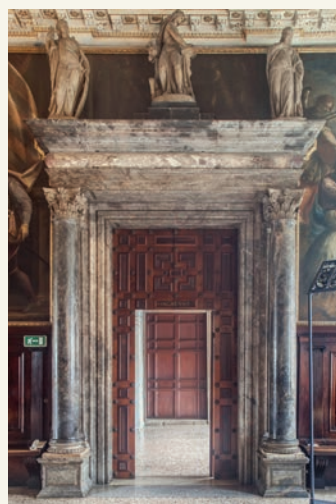
The stone surfaces of the doorways and of the sculptural groups are blurred by extensive poorly adhering deposits that have stratified over time; beyond the surface appearance, there are no obvious phenomena of material decay of any other nature.

The canvas paintings that decorate the walls of the room are in fairly good condition. The canvases appear well-stretched and reveals a general yellowing caused by the presence of successive layers of varnish, with a shiny appearance as well as many discontinuities.

There are wide-spread areas affected by retouching and/or repainting.



Detail of one of the murals with evidence of the present degradation morphologies



View of one of the four monumental portals in polychrome marble

Decorated ceiling in the Sala Papadopoli

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Historical and artistic details

The Sala Papadopoli is on the first floor of the Correr Museum within the building of the Procuratie Nuove on the south side of Saint Mark's Square. The sixteenth-century building, designed by Vincenzo Scamozzi, was finished in 1640 by Baldassarre Longhena and in the first half of the nineteenth century became a natural continuation of the new Ala Napoleonica (Napoleonic Wing) built as part of the general reorganisation of the square after the fall of the Venetian Republic. The new complex, called Palazzo Reale (Royal Palace) should have been the Venetian residence of the new French kings, but was in fact only completed in the mid-nineteenth century under Austrian domination. The present layout of the Correr Museum dates back to 1922 when the corpus of the artistic collections of Teodoro Correr was moved from Fondaco dei Turchi to the Piazza, in the Palazzo delle Procuratie and the Napoleonic Wing. The interior decoration of the rooms reflects the taste and needs of nineteenth-century patronage, which no longer required mansions that were ever larger and with boundless rooms, but small and more contained, with simple and symmetrical façades adorned with the typical patterns of the Renaissance and of the sites of Herculaneum and Pompeii. At Palazzo Reale, the Venetian painter Giuseppe Borsato worked on the decoration of the rooms in line with a personal and careful reading of the Empire style, under the influence of French architects and interior designers Percier and Fontaine, and of the Biedermeier style that then prevailed in the main European courts. Besides Borsato, there were other artists, like Giovanni Carlo Bevilacqua and Giambattista Canal, S. Santi, O. Politi, P. Moro, Giambattista Mengardi etc... When in 1814 the city returned to Habsburg rule, not only were some major changes made to the layout of the Procuratie, but the construction site of the Palazzo Reale remained open: Giuseppe Borsato was still directing the plasterers, decorators, furniture manufacturers to prepare the palace for the arrival of the new king, Francis I of Austria, who would sojourn in Venice in 1815, while some changes were made to the works already terminated in order to erase the signs of French rule.



View of the Royal Palace from St. Mark's Square, location of the Museo Correr



Photomosaic of the decorated ceiling at the end of the first campaign of interventions that affected the paint surface



Detail of the central area during the functional supervision of operations to ensure the temporary suspension of the ceiling, which presented subsidence phenomena

The Sala Papadopoli takes its name from the numismatic collection of Count Nicolò Papadopoli Aldobrandini, which he donated on his death to the City, and which was kept within specially built wooden safes. The rectangular room has a ceiling of flat wattle decorated with geometric and floral panels that frame six ovals with figural two-tone scenes and a central polychrome tondo.

Information concerning the state of conservation

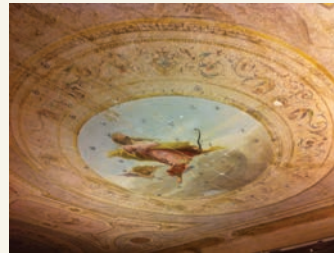
The conservation problems of the decorated ceiling in the Sala Papadopoli concern a pronounced detachment of the wattle support from the wooden beams supporting the attic above, a phenomenon which became evident in the aftermath of a major structural intervention to replace a certain number of rotting wooden beams with new ones. At the end of a first campaign of investigation and restoration of just the painted surface, a temporary restraining system was put in place consisting of Plexiglas panels and steel screws that assure retention by lumps to the central band of the ceiling (an area of about 3 * 5 meters); this is an area that the investigation showed to be the most affected by the sagging. The restoration of the painted surface except for the central tondo has been completed.

Intended use of charitable donations

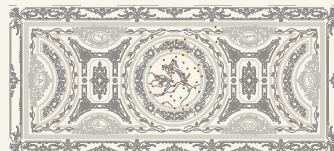
Extraordinary maintenance.

COST: euros 42,000.00 (inc. taxes)

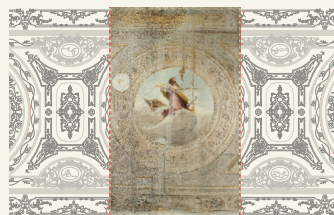
The maintenance work includes the consolidation of the extrados of the decorated ceiling from the room above the Sala Papadopoli after removing a portion of the existing flooring. On the basis of endoscopic investigations conducted during the first campaign of intrados restorations, it was possible to narrow the area of the decorated ceiling subject to sagging, which was caused by the rupture of the original rope ties suspending the wattle from the overlying wooden beams. The project will consist, therefore, in the progressive removal of the flooring of the room above and the consolidation of the extrados by reworking the tresses supporting the wattle and a subsequent transverse support in bands of basalt fibre laid on mortar. At the end of the extrados consolidation, the intrados will be completed by terminating the restoration of the paintings in the central decorated portion and removing some of the panels placed as a precautionary measure.



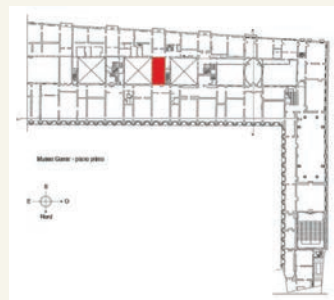
Detail of the central zone, object of future intervention



Graphic table with mappings of the temporary support principals of the decorated ceiling



Graphic table localizing the central band, which is the focus of the restoration



Localization of the Sala Papadopoli, at the first floor of the Correr Museum

Restoration of the west façade of the internal courtyard

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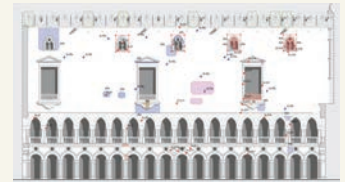
www.palazzoducale.visitmuve.it/en

Historical and artistic details

The construction of the west façade of the inner courtyard dates back to the first half of the fifteenth century: during the years that saw the completion of the southern block of the palazzo with the new Sala del Maggior Consiglio, the need began to be felt to render the two façades of the building more uniform, intervening on the portion in front of the Piazzetta. Even though this need was already commonly felt, it had not been publicly expressed during the meetings of the Great Council or the Senate. Because of the high costs incurred for the construction of the palazzo towards the Saint Mark's Basin, the Great Council had in fact decided that it could not put forward any other proposals for structural work other than routine maintenance. The penalty for anyone who merely proposed such an undertaking at the Council was the payment of a thousand ducats before even speaking. So even though most of the patricians were aware of the urgent need to intervene on the west side of the palace, no one was willing to pay such a fine. It was the doge Tommaso Mocenigo himself who eventually submitted the proposal for the complete reconstruction of the palace and who paid the fine imposed for his initiative, shortly before his death on 4 April, 1423. The rebuilding desired by Mocenigo was done under the dogado of his adversary, Foscari, who was his successor. Nevertheless, the main outline of the project had already been drawn up by Mocenigo before his death, in a written document that gives the first mention of the project and which provided that the new building would reproduce the stylistic architectural principles of the nearby fourteenth-century Palazzo. The new building was to house a large room on the same floor as the Maggior Consiglio and communicate with it, to be used for the ballots and the arrangement of the library before Sansovino built the Marciana Library on the opposite side of the Piazzetta. The two façades of the new building were thus constructed as a continuation, with the two façades of the southern structure representing the double significance of continuity of the architectural design and overall unified vision: the façade facing the Piazzetta has a portico on the ground floor and an upper gallery that together make up the ethereal appearance of a very thin wall



View of the west façade overlooking the internal court



Mapping of the critical conservation points elaborated with qualified restorers at work in rope



View of the façade during the inspection and safety measures carried out with qualified restorers at work in rope

panelled with two-coloured marble with rhomboid motifs; the inner façade of the courtyard, the subject of the hoped-for future restoration work, however, was at the time made up of a solid masonry on the ground floor, a portico with bundled columns and figured capitals and masonry open to view. The redefinition of the façade of the inner courtyard dates from the beginning of the seventeenth century and gave it its present appearance. The first intervention was the replacement on the ground floor of the solid masonry with octagonal pillars and semicircular arches similar to those of the Renaissance façade. Already in the mid-sixteenth century, new large Renaissance windows were opened in the walls of the large rooms that overlooked the courtyard. Shortly after, around 1612, windows with semicircular arches were opened in the inner walls of the porticos.

Information concerning the state of conservation

The west façade of the inner courtyard is in a poor state of repair and was recently the subject of localised precautionary operations undertaken with the help of restorers working from suspended ropes. The huge wall constituting the upper register presents numerous critical points due to the poor condition of the mortar and bricks that have in previous years caused the infiltration of water at the points supporting the wooden truss systems of the portico. Moreover, making considerations in analogy to what has already been observed during the restoration of the adjoining façade (Maggior Consiglio), we may assume that in the floor of the Sala dello Scrutinio there are the same metal bolts of metal trusses which, as a result of corrosion, cause tensions on brick panelling. Another critical element is the upper stone mullioned windows enclosed by metal frames with leaded glass. These have been the subject of temporary precautionary work, consisting of the positioning of steel nets to hold back any detachment of disintegrated stone material or portions of frame. Much more widespread is the considerable dirt and organic deposits that affect all the materials making up the façade, which require selective and controlled cleaning.

Intended use of charitable donations

Extraordinary maintenance.

COST: euro 1,500,000.00 (inc. taxes)

The project involves the total restoration of the façade, including the following categories of work: preliminary investigations, cleaning, structural consolidation, surface consolidation, any replacements with new supplies, final protection. The intervention involves the use of large-scale temporary structures whose cost would make it uneconomical to divide the work into separate lots.



Detail of the precautionary operations on the large windows, carried out with qualified restorers at work in rope



Detailed study of conservative critical issues on the façade



Detailed study of conservative critical issues on the façade

Restoration of the façade facing the canal

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Historical and artistic details

Built at the behest of Benedetto Pesaro from the middle of the fifteenth century, the building, has been enlarged and transformed over the centuries, and is now an impressive presence with one façade overlooking the Rio di Ca' Michiel and another, larger one that is among the most complex examples of the Venetian Gothic style on Campo di San Beneto. The palazzo has some architectural solutions of significant value, such as the two sets of seven windows on the first and second main floors, and an unusual depth of the full-length rooms between the two sides: over 43 metres in length.

Its structure is traditional Venetian architecture and lies over an earlier building, constructed as a commercial warehouse along an axis that connects the entrance from the canal with that on land; a series of rooms and services branch off from the portego.

The Pesaro family gathered a notable series of works of art in the building, which could be seen within.

The male line of Pesaro S. Beneto died out towards the end of the seventeenth century and the building was divided into two properties, one part going to Elena Pesaro, the last direct heir, and the remainder to the Pesaro di S. Stae. In the second half of the nineteenth century, the building was further divided into numerous apartments with the consequent creation of new stairs and doorways to host about 350 people in humble circumstances. It was thus in a state of decay and decadence when Mariano Fortuny Madrazo, attracted to this architectural beauty, entered it for the first time in 1898, occupying a huge room located in the attic of the building and establishing his studio there. Over the years, he acquired the other parts of the property, and Fortuny patiently but surely began the work of restoring the building: as the other resi-dents moved out, he freed the apartments, rearranged the rooms, pulled down partitions and superstructures, restoring a sense of balance and proportion. After initial use dedicated to his artistic, scenographic and technical experiments, Fortuny chose palazzo Pesaro-Orfei as his home. A few years after installing a small studio in 1907, along with his partner and muse Henriette Nigrin whom he married in 1924, they



Glimpse View of the façade on the rio of Palazzo Fortuny



Glimpse View of the façade on the rio of Palazzo Fortuny

occupied two entire floors of the building for the extraordinary atelier for the creation and printing of silk and velvet clothes and fabrics. While Mariano perfected his studies and his inventions, Henriette dedicated herself with exceptional dedication to running the workshop, taking care of the hardest part, that of the colouring. Fortuny died in 1949 and the building was donated in 1956 to the municipality of Venice to be “used perpetually as a cultural centre linked with art”, as was expressly indicated in the notarial deed; the city government actually had full possession only in 1965, following the death of Fortuny’s widow, Henriette. The original museum opened in 1975, despite a series of criminal thefts of furniture in the preceding years; it was more of a home-museum than a real museum, and over the years has stood out as a centre of exhibitions dedicated to the visual arts, while retaining intact the characteristics of Mariano Fortuny’s favourite studio on the first floor. The precious library, itself richly endowed with furniture, objects and precious art and technical books has also remained intact. From the collection of paintings to the precious fabrics that completely cover the walls and the famous lamps, everything bears witness to the brilliant inspiration of the artist who worked with experimentation and innovation; everything bears witness to his presence on the intellectual and international art scene at the turn of the twentieth century.

Information concerning the state of conservation

The imposing façade overlooking the canal of Ca' Michiel is in poor condition mainly because of the natural deterioration of the Istrian stone elements that make up much of the façade. This type of stone, widely used on the façades of the city’s buildings can, depending on the degree of homogeneity resulting from the original sedimentation processes, develop types of decay including the hollowing out of clay veins within the stone and thus a differential alteration, generating sudden detachment of even large portions of material. This phenomenon constitutes a serious risk not only for the preservation of the monument but also for public safety.

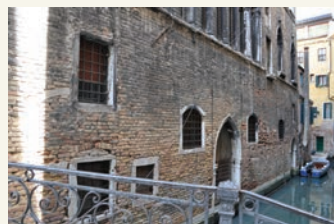
Another form of decay is that to be found on the glazed window frames of the openings, many of which have typical leaded glass windows which require disassembly and unbinding for a full recovery of the original glass.

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 500,000.00 (inc. taxes)

The project involves the total restoration of the façade, including the following categories of work: preliminary investigations, cleaning, structural consolidation, surface consolidation, any replacement with new supplies, final protection. The intervention presupposes the use of temporary large-scale structures hanging over the canal, whose cost and logistical complexity would make it uneconomical to effect the work in separate lots.



Glimpse View of the façade on the rio of Palazzo Fortuny



Detail of the mullioned window made of Istrian stone



Detail of one of the balconies made of Istrian stone

Modernisation of the lighting in the exhibition rooms of Ca' Rezzonico

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Historical and artistic details

The building was designed by Baldassare Longhena as of 1649, commissioned by the noble Bon family. Due to the financial difficulties of the clients and Longhena's death in 1682, construction was halted, with only the main façade overlooking the Grand Canal remaining, together with a first floor roofed with wooden beams.

In 1751 Giambattista Rezzonico, from the original family of the village of Rezzonico on Lake Como, bought the palace and entrusted the completion of work to Giorgio Massari, who in 1752 completed the second floor and was able to terminate the work in 1758; in 1756, some work was done at the rear of the palazzo to complete and beautify it: the magnificent grand staircase was built at this time, as well as the canal steps, the monumental hall, the impressive ballroom (built by removing the attic) and the decoration of the façade on the Grand Canal, which was completed. Massari did not intervene on the design, which therefore remained unchanged. The only major modification made by the new architect concerned the ballroom, whose dimensions were increased. The paintings are by Giambattista Crosato, Pietro Visconti, Giambattista Tiepolo, the young Jacopo Guarana and Gaspare Diziani.

The palazzo was finished just two years before the election as Pope of Carlo Rezzonico, Giambattista's brother, with the name of Clement XIII. The family died out in 1810. The palazzo went through various sales, during which it was stripped of its furniture. In 1935, the building was transferred to the City of Venice which used it to house the Museo del Settecento veneziano and opened it to the public in 1936. The curators of the layout, Nino Barbantini and Giulio Lorenzetti, wanted to give it a lived-in look, arranging the works as though they were part of the furnishings of the palazzo. To achieve this, the many eighteenth-century works owned by the Civic Museums of Venice were concentrated at Ca' Rezzonico, to which were added paintings, furniture and frescos from other Venetian buildings owned by the city and many other works purchased for the occasion on the antiques market. The final effect of the operation was certainly grand and impressive; despite some forcing and critical approximation, the value



First floor of Ca' Rezzonico, interior view of the Sala del Trono



First floor of Ca' Rezzonico, interior view of the Sala dell'Allegoria Nuziale



First floor of Ca' Rezzonico, interior view of the Sala del Brustolon

of many of the works on show have, thanks also to the extraordinary quality of the architecture and rooms, made Ca' Rezzonico a famous and much-visited temple of the eighteenth-century in Venice, an age of splendour, profligacy and misery, but which undoubtedly also constituted an artistic season that was among the most beautiful and splendid in Europe.

After the recent renovation (completed in 2001), the museum appears as a large, multifaceted and varied site: the ground floor, which extends along hallways, courtyards and porticos boasts a baroque play of solid and void; Massari's staircase has been perfectly restored; the ballroom, is one the most beautiful, airy and fantastic of Venice; the two main floors, reassembled in line with their original Barbantini-Lorenzetti design, from the monumental halls to the alcove and boudoir; the top floors have also been completely refurbished as a new exhibition space. All the works have been cleaned, maintained and repaired as necessary; the frescoes and furnishings have been restored; the walls repainted, the marbles clean, the subtle colours of the stone features restored. In some cases, such as the ceiling of the hall, restoration was a huge undertaking and required the invention of unusual and bold technological solutions, while radical action has restored the splendour of the fresco by Crosato and Visconti, in the silvery light of the columns, arches, shelves and fake loggias. The recent, remarkable donations of Egidio Martini and Ferruccio Mestrovich have enriched the museum with a further three hundred works by artists that include Cima da Conegliano, Alvise Vivarini, Bonifacio de' Pitati, Tintoretto, Sebastiano and Marco Ricci, Tiepolo, the Longhi, Rosalba and Francesco Guardi.

The palazzo-museum now has additional services for the public, educational spaces, a wheelchair accessible lift, cafeteria and bookshop, in addition to the garden, a place and opportunity entertainment, small shows and meetings.

Information concerning the state of conservation

FIRST FLOOR

The current lighting of the first floor is composed of: spotlights with 70W metal halide bulbs for lighting the room and the works; old generation fluorescent lamps for lighting the frescoed ceilings; 28/42W halogen bulbs for the chandeliers. Analysing the light emitted by these systems, it is possible to make some considerations.

Compact 70W metal halide lamps: the metal halide lamps belong to the large family of lamps with gas discharge technology.

Inside the glass bulb, in which there is a quartz discharge tube, there is mercury or sodium vapour under high pressure, and a mixture of metal halides. They are small in size, similar to halogen, but with an efficiency and a service life comparable to those of fluorescent lamps. They have a high colour temperature and good colour rendering.

They are very expensive and when the set ages their life shortens significantly, increasing maintenance costs.

Linear fluorescent lamps of 9 - 11 - 13W output: in common parlance, these are called neon lamps or tubes. In actual fact, the lamps contain a noble gas, mercury vapour and a fluorescent material with which



Third floor of Ca' Rezzonico, interior view of an exhibition hall



Third floor of Ca' Rezzonico, interior view of an exhibition hall



Third floor of Ca' Rezzonico, interior view of an exhibition hall

the glass is coated. Electricity excites the gas particles that strike the fluorescent material and the latter lights up. Such systems offer long life and economy but have a poor colour rendering.

THIRD FLOOR

The current lighting of the exhibition rooms on the third floor consists of approximately 520 lighting fixtures with halogen lamps that illuminate the works of art for a power consumption of about 45 KW. From a campaign of light measurements it was learned that the average illuminance of 150 lux recommended by the regulations of Ministerial Decree of 10 May 2001 for relatively sensitive materials such as oil paintings, temperas and fresco, are far exceeded as the average illuminance recorded on the paintings varies from 200 to 500 lux. These data have also been backed by a measurement campaign with infrared cameras that clearly and unambiguously offered a photographic mapping of the temperatures reached by the surface of the art works at normal lighting levels for the rooms.

The current lighting system consists of halogen lights placed at about 50-70 cm from the works of art. The excessive proximity means that the works become warm and absorb too much infrared and ultraviolet radiation. In some cases, this has already led to a decay of the decorated surface, due to excessive dryness of the wooden supports and their finishes.

Intended use of charitable donations

Modernisation of the lighting systems in the exhibition rooms

COST: euro 200,000.00 (inc. taxes)

The Fondazione has for a number of years also been committed to the issue of energy sustainability, considering it an important issue for each institution, with three objectives:

- to eliminate the waste of energy in the running of the museums,
- to preserve the valuable historical / artistic objects,
- to contribute to the preservation of the environment.

The activities carried out in this area have concerned: the analysis of energy consumption, rendering the systems more efficient, the heat loss of the building, the optimisation of water resources, the recycling and disposal of waste, the participatory implementation of energy policies.

From an analysis of the energy sources used in the museums, it has emerged that 80% comes from electricity and 20% from methane gas (boilers, which are more polluting for the environment than electricity, are present in only 4 sites).

Of the electricity consumption, about 60% is attributable to lighting and 40% to air conditioning / heating. The light sources – approximately 10,600 – were then analysed, divided by characteristics, consumption, the presence of infrared and ultraviolet rays. The parameters of maximum illuminance to which the works could be exposed, given their different sensitivity, were then analysed.

Many problematic situations have been resolved through the replacement of lights with others making use of LED technology, specifically designed to enhance the works and lower consumption. To date, about 7,600 light sources have been replaced with LED and low energy light bulbs, accounting for 72% of the total. The result of these recent years of energy policy by the Fondazione in the lighting sector has led to an overall reduction in consumption of 735,000 kilowatts, equivalent to 1,400,000 kg of pollutant emissions into the atmosphere of carbon dioxide, and to a lowering of electricity supply costs equivalent to 15% of the total.

The lighting on the first and third floors of Ca' Rezzonico fits into this overall work programme aiming at energy sustainability and constitutes one of the future actions that most affects the balance of the sustainable management of the sites.

The lighting project foresees the replacement of the old lighting (metal halide, fluorescent and halogen lightbulbs) with new LED lighting fixtures.

The use of new-generation LED spotlights will ensure the highest quality in terms of museum lighting, translatable into: uniformity of emitted light, with regard to the technical parameters for the preservation of works of art, high efficiency and, therefore, energy saving.

Specifically, the projectors will have to be easy to install thanks to their small size, flexible in positioning with the ability to shape and dim the light beam, be without noise and offer a passive heat dissipation.

Modernisation of plant in the ballroom of the Ala Napoleonica

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Historical and artistic details

The ballroom is located on the first floor of the Correr Correr in the Ala Napoleonica (Napoleonic Wing) on the south side of Saint Mark's Square, a building constructed as part of the general reorganisation of the square after the fall of the Venetian Republic.

The new complex, called Palazzo Reale (Royal Palace) should have been the Venetian residence of the new French kings, but was in fact only completed in the mid-nineteenth century under Austrian domination. The present layout of the Correr Museum dates back to 1922 when the corpus of the artistic collections of Teodoro Correr was moved from Fondaco dei Turchi to the Piazza, in the Palazzo delle Procuratie and the Napoleonic Wing. The interior decoration of the rooms reflects the taste and needs of nineteenth-century patronage, which no longer required mansions that were ever larger and with boundless rooms, but small and more contained, with simple and symmetrical façades adorned with the typical patterns of the Renaissance and of the sites of Herculaneum and Pompeii.

At Palazzo Reale, the Venetian painter Giuseppe Borsato worked on the decoration of the rooms in line with a personal and careful reading of the Empire style, under the influence of French architects and interior designers Percier and Fontaine, and of the Biedermeier style that then prevailed in the main European courts. Besides Borsato, there were other artists, like Giovanni Carlo Bevilacqua and Giambattista Canal, S. Santi, O. Politi, P. Moro, Giambattista Mengardi etc... When in 1814 the city returned to Habsburg rule, not only were some major changes made to the layout of the Procuratie, but the construction site of the Palazzo Reale remained open: Giuseppe Borsato was still directing the plasterers, decorators, furniture manufacturers to prepare the palace for the arrival of the new king, Francis I of Austria, who would sojourn in Venice in 1815, while some changes were made to the works already terminated in order to erase the signs of French rule.

The ballroom is a sumptuous and rich, almost fairytale-like space, unique for its size and the so-phistication of the decor in the Empire style. It was designed by Lorenzo Santi from 1822 and decorated by



View of the Royal Palace from St. Mark's Square, location of the Museo Correr



Monumental staircase, entrance to the museum



Ballroom

Giuseppe Borsato between 1837 and 1838. The short sides of the room are concluded by loggias designed to accommodate the orchestra, and which stand on Corinthian columns. Along with two small apses, they transform the upper part of the ballroom into an oval.

At the centre of the ceiling, there is a fresco depicting *Peace surrounded by Virtue and the Genii of Olympus* by Odorico Politi, alluding to the restoration of Habsburg rule after the Napoleonic wars.

Information concerning the state of conservation

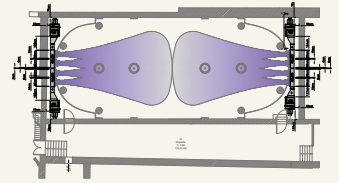
The air conditioning and heating system consists of four air processing units, each of a capacity of 3,000 cubic metres per hour, installed on raised platforms at the corners of the room, connected to the central heating and cooling plant of the museum located on an open terrace at the height of the building's roof. Each unit is equipped with a plenum in galvanised sheet metal to which are connected five Ø150 nozzles; air intake is provided by an "open intake" system generating a background noise which disturbs the activities for which the room has a natural vocation (conferences, concerts, presentations etc. ...). Moreover, the plant does not have enough power to ensure effective air conditioning in the summer (whilst the national standard establishes a temperature of 26° C, the plant can assure a minimum temperature of only approximately 28° C). Inside the room, at floor level, there are four electric fan coil units, each with a capacity of 5,000 W to assure heating in winter; this equipment not only consumes a high amount of energy but is insufficient to arrive at the levels of environmental comfort established by national standards (ideal temperature of 20° in winter).

Intended use of charitable donations

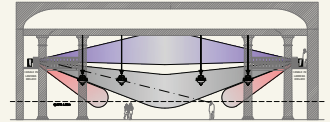
Modernisation of plant.

COST: euro 150,000.00 (inc. taxes)

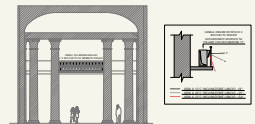
The project involves the complete replacement of the current plant with a new heat pump of adequate heating and cooling power, located on a different outdoor terrace, at roof height but much closer to the ballroom. This generator will be connected in parallel to the lines coming from the central plant serving the museum's activities; switching valves (normally closed) positioned on the existing line will make it possible to have a dual power supply to be used in case of emergency. Inside the room, fan coil units and existing ventilation units will be replaced with modules equipped with brushless fans operated by inverters in order to offer the possibility of modulating the air flow rate during summer and winter settings. The inclusion of noise buffers in the supply and return air ducts and the eventual enclosure of the machines will ensure a significant reduction in background noise levels in the room. Moreover, the modification of the plenum and the air intake systems will make it possible to control the emission of air into the room to assure the objective of maintaining the air velocity at the height of persons to below 0.2m per second and, as far as possible, to avoid oscillations of the light fixtures hanging from the centre of the room. The new plant will be able to guarantee the summer and winter comfort standards set out in the regulations for the functional purpose of the room.



Mezzanine floor plan with indicated the air conditioning system



Longitudinal section



Cross section

Modernisation of the lighting within the Institutional Rooms

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Historical and artistic details

A masterpiece of Gothic art, the Doge's Palace in Venice comprises a magnificent layering of constructions and ornamental elements: from the original foundations to the fourteenth and fifteenth-century structure, sizeable Renaissance additions and opulent Mannerist decoration. It consists of three large blocks that incorporate and unify earlier constructions to accommodate not only the Doge's Apartment, the Office of the Government and the Courts, but also the prison until the construction of the Prigioni Nuove ('New prisons') in the sixteenth century. The distinguishable buildings are: the wing towards Saint Mark's Basin (which contains the Sala del Maggior Consiglio), which is the oldest, rebuilt in 1340; the wing towards the Piazza (former Palazzo di Giustizia, or 'Palace of Justice') with the Sala dello Scrutinio, built in its present form from 1424 onwards; on the opposite side, the Renaissance wing, with the Doge's residence and many government offices, rebuilt between 1483 and 1565.

The public entrance to the Doge's Palace is via the Porta del Frumento which opens under the portico of the fourteenth-century façade overlooking Saint Mark's Basin. The project targets some of the most representative institutional halls of the Palazzo, located on three different levels of the building and all incorporated within the museum tour route: the floor of the porticos; the first and second piani nobili (main floors). Each room contains complex and layered fixed and movable decorations, consisting of frescos, painted canvases, polychrome stone elements, stucco decorations, decorated and polychrome woodwork, furnishing fabrics, furniture and other works that together constitute a valuable art historical corpus that visitors must be able to enjoy fully during their visit.

Each of the rooms falling within the proposed projects its own history and identity. These rooms are the following: sala del Maggior Consiglio, sala dello Scrutinio, Liagò, Senato, Collegio, Anticollegio, Sala delle quattro porte, Consiglio dei dieci, sala della Bussola, sala dei Censori, Avogaria, sala del Libro d'oro, sala della Milizia da Mar.



Doge's Palace, façade towards the Piazzetta



View of the Great Council Hall with the current lighting system consisting of uprights basket



View of the Great Council Hall with the old lighting system consisting of uprights model "Fortuny"

Information concerning the state of conservation

At present, the rooms of the Doge's Palace are illuminated by steel floor lamps with directional 75W AR111 halogen lamps. Unfortunately, this does not provide sufficient lighting within the large halls to ensure the correct lighting of the works of art that lie not just on the walls but also on the ceilings. Moreover, the existing lamps provide patches of light, creating unsightly shading over the works of art.

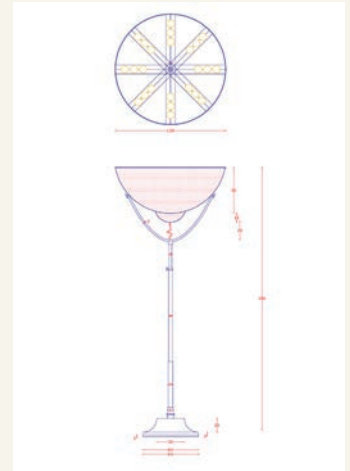
Over past years, to try to effect an improvement in the lighting, some metal 150W halide lamps with a colour rendering index of CRI<80 were added to the floor lamps but this does not allow a correct view of the paintings, as it alters or obscures the original colours.

Intended use of charitable donations

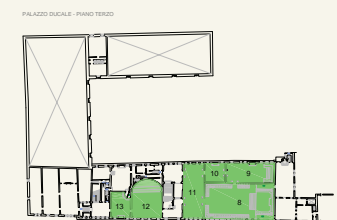
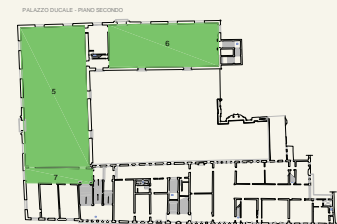
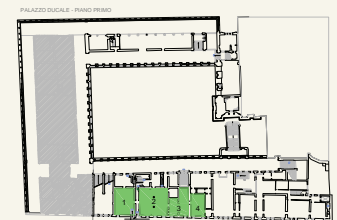
Modernisation of the lighting systems

COST: euros 366,000.00 (inc. taxes)

The project involves replacing the existing floor lamps with a "Fortuny" floor model, similar to those that were already present in the past in the institutional rooms. The new floor lamp, designed ad hoc, will be of Corten steel with wax finish. Inside the upper cup of the floor lamp, a series of directional spotlights with LED technology will be housed: the lights will be 3000° K and CRI>95, in such a way as to ensure both a uniform underlying illumination and accent lighting, aimed only at selected parts of the paintings, achievable using the different magnetic optics in each individual lamp (lens from 9° to 36°). The project aims to enhance the works of art displayed in the museum: the new lighting will form a sort of intangible guide to the reading of the works, rounding off the traditional written guide presented on the totems laid out within the rooms.



Layout of the new stand designed to hold a new generation of LED headlights with selective optical



Location of rooms that will be the subject of lighting redevelopment, located on different floors of Doge's Palace

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 474,000.00 (inc. taxes)

The intervention will include tasks adopting different methods depending on the specific material concerned. Overall, the categories of intervention to be carried out will be as follows: a timely inspection of the areas and safety measures as required, with precautionary consolidation; extensive and/or localised cleaning; superficial and deep consolidation aimed at fixing each small portion that is flaking and secure adhesion to the underlying layer; removal or simple checking of past interventions not considered appropriate or congruous; colour checking of the painted surfaces; the reduction of visual interference in the case of prior surface treatments that are still in good condition and therefore can be maintained; chemical protection of surfaces.

The intervention can be undertaken in different lots by evaluating the provision of temporary, small-scale structures.

Restoration of the Alcove

Mocenigo Palace

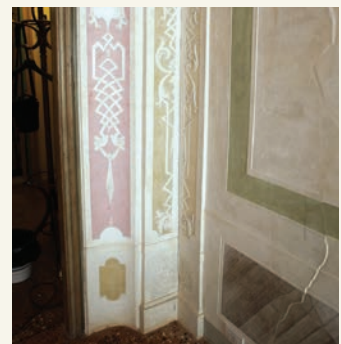
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Historical and artistic details

In palaces worthy of the name, splendour is intended to represent and emphasise the socio-economic and political role of its noble residents, but all is transformed into elegant, discreet discretion when one crosses the threshold of the alcova (alcove). This is a place in which rules and social constraint can be cast aside. In Venice, all the Palazzi have an alcove, which does not show in their plans because, like secret passages, they were known only to those who had to know. The word, which derives from the Spanish word *alcoba*, originates from the Arabic *al-qubbah* 'vaulted room', indicating that part of the room enclosing the bed. According to Forcellini, it seems that the ancients gave the name *zothäca* (ζῳά 'alive', θήκη, *repositorium*, 'store-room') to what we call 'alcove'. He cites a passage in Pliny the Younger (Epist., II, 17, 21), "contra parietem medium zotheca perquam eleganter recedit, quae, specularibus et velis obductis reductivse, modo adicitur cubiculo, modo affertur" ('towards the middle of the wall is practised with great elegance a background, which can be added or removed from the main room by means of a wooden partition that opens or closes at will and is adorned with windows and curtains').

According to Winckelmann, alcoves made in the form of niches can be seen in the Villa Adriana in Tivoli and in the houses of Pompeii. But these findings are uncertain and vague at best: able to suggest the identity of a place, but not to define it in detail. More certain testimonials come down to us from antique bas-reliefs and paintings, such as, for example, the famous *Nozze Aldobrandine* painting in which one can see beds surrounded by a sort of balustrade or railing, sometimes high enough to lean on, so-metimes higher, almost forming a protected place within a larger room. Naturally, it also provides a setting for decoration with drapes and curtains. The use of the alcove was widespread in the aristocratic homes of the Renaissance onwards, taking on different forms in response to the sumptuousness of the principal room. Almost always, it was adorned with mirrors, circumscribed by columns, sumptuous draperies or balustrades, usually of wood, more rarely of marble, and often



The Alcove of Mocenigo Palace

elaborately decorated. In the *État du Mobilier de la Couronne* (Paris 1684) we can see a balustrade for an alcove, made of precious chased silver. In the seventeenth century and the first half of the eighteenth century above all, the alcove was much broader than the short, narrow and poorly ventilated area it used to be, and much more varied in layout, in conformity with the taste and originality of the architect. Since the rise of the fashion to receive visits from friends and closest relatives in intimacy, which arose more in France than elsewhere, the alcove had become like a small private and exclusive salon, and it therefore had to be large enough to contain chairs and small sofas left and right of the bed (Marot and de Lepantre, *Estampes*). In the second half of the eighteenth century, the alcove became smaller, because it ceased to be a place in which to receive visitors and instead once again became a venue for amorous and secret encounters. It was still decorated with artistic mirrors, protected from daylight by elegantly draped curtains, and contained a bed and a small sofa (Moreau le Jeune, *Estampes d'alcove*).

All this is but a tiny part of the decorations, the stucco, the wonderful opulence that has made all the Venetian palaces unforgettable and amazing, and which in this case will become a single setting with the the famous Venetian furniture.

Information concerning the state of conservation

The Alcove of Palazzo Mocenigo is in good condition, and therefore does not require substantial conservation work, but it does need to be brought to its original splendour through an essential recovery and addition to the furniture. The stuccos adorning the walls and ceiling are undamaged and show no losses whatsoever, and so only require cleaning where necessary.

Intended use of charitable donations

Extraordinary maintenance.

COST: euros 61,000.00 (inc. taxes)

The intervention will consist in the reproposal of a typical alcove of a Venetian palace with the inclusion furnishings such as movable mirrors and fabrics evoking not only the specific features of the room but above all the history of the Mocenigo family, which on this occasion too is not only an important family in its own right but also closely intertwined with the history of Venice.

Restoration of two reliefs by Giovanni Maria Morlaiter

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www.carezzonico.visitmuve.it/en

Historical and artistic details

The two works in question are part of an extraordinary collection of sculptural sketches preserved today at Ca' Rezzonico, Museo del Settecento veneziano. The provenance of the entire group is as significant as the inherent value of the various pieces. This is not a group of works gathered by a collector or which arrived at the museum through the fortuitous channels of the art market, but constitutes the entire 'studio stock' of the sculptor Giovanni Maria Morlaiter (Venice, 1699-1781), one of the leading figures of the Venetian art scene of the eighteenth century. The nucleus remained intact after his death, was sold in bulk by the heirs to the patrician Marcantonio Michiel, and then passed down through inheritance to the Donà delle Rose collection, which was bought by the city of Venice in 1935. It consists of 102 pieces in terracruda (unfired clay) and terracotta which, precisely because of their uniform and single character, offer the opportunity of entering the studio of a sculptor and, step by step, to follow his creative processes. It is thus possible to trace all the circumstances that a successful artist faced throughout his career. It is a unique sample in terms of variety too: preparatory sketches for works to be placed on the altars of churches, allegorical figures for garden statues, portraits and models for processional purposes. There is also an elaborate study for a complete altar relief, while some delicious cherubs in terracruda were evidently intended to be translated into porcelain. An extraordinary mask depicting a bearded man is instead the model for the keystone of the ground-floor portego of Ca' Rezzonico, visible near the canal-side door. Together, these works document an important exponent of Rococo sculpture who more than others knew how to translate the vibrant lighting effects of contemporary painting into three-dimensional shape, to the point that the executive freshness of his works were often compared to the painting of Sebastiano Ricci who was, incidentally, a close friend. Thanks to the ductility of the material, Morlaiter's hand expresses itself best in the extravagant, quivering treatment of the surfaces, especially in the reliefs, which infuses a swirling motion to the figures. The real masterpieces of this corpus are the two large terracotta reliefs depicting the *Dispute of Christ in the Temple* (118 x 98 cm, Inv. Cl. XXVII, no. 494) and the *Rest on the Flight into Egypt* (116 x 99 cm, 5, Inv. Cl. XXVII, no. 495). These are models on a scale of 1:1 for the cycle of



Giovanni Maria Morlaiter
Dispute of Christ in the Temple
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Giovanni Maria Morlaiter
Rest on the Flight into Egypt
—

marble reliefs in the Cappella del Rosario in the Venetian church of Santi Giovanni e Paolo. These were made between 1734 and 1736 and severely damaged by the fire that swept through the chapel in 1867. Despite their remarkable quality of execution, the reliefs have not yet been the subject of a proper restoration which, instead, has been done for most of the sculptures that make up the Morlaiter fund. The reason for this is actually very simple. Their size – exceptional for terracotta models – and the complexity required have suggested that this operation be postponed, but it now appears more urgent than ever in order to ensure the enjoyment of one of the important works for an understanding of Venetian eighteenth-century sculpture.

Information concerning the state of conservation

The surfaces are greatly deteriorated and covered by a thick layer of powder. They have undergone various conservation works, the most invasive of which probably dates from the first decades of the twentieth century. The two large reliefs are now in numerous fragments reassembled with different techniques with the aid of animal glues, synthetic resins and adhesives of various kinds.

At the moment, it is impossible to estimate the exact number of fragments as the cracks have been masked with pigmented plaster and coloured earth. Coarse traces of filling are clearly visible at some joins; it is likely that during the recomposition some fragments did not fit perfectly and that the surface was then levelled to hide this drawback. Abundant traces of casein, applied as a protective layer during previous maintenance work, are visible everywhere with very evident discolourations. In addition, several layers of plaster and glue, laid in close proximity to fractures and losses, cover the original surface. During an emergency intervention undertaken around the 1980s, the attacks by biodeteriogens were removed, but it is possible that residual colonies may have formed, given the abundance of plaster and the moisture levels that used to prevail in the terracotta storage rooms. The reliefs were fixed with abundant plaster to wooden crates – probably for display purposes – of which only the back remains. The upper left corner of the *Rest on the Flight into Egypt* relief has been pre-consolidated with acrylic resin as it is in particularly bad condition and crumbling due to the combined presence of the plaster and water infiltration. At the top of the relief depicting the *Rest on the Flight into Egypt*, there are some very visible fractures; here, the seams have not been repaired, as they are quite deep at this point, and nor has a superficial repainting been effected in as heavy a manner as in the rest of the work. What is also evident here are some localised losses of a characteristic circular shape of the original surface, possibly caused by the presence of soluble salts conveyed within the ceramic by the massive presence of plaster. The main losses are concentrated at the ends of the limbs and in the tiniest details and in the modelling that projects the most.

Intended use of charitable donations

Restoration.

COST: euros 63,500.00 euro (inc. taxes)

Based on the results obtained by the diagnostic survey, a series of tests will be carried out to identify the materials and the most suitable methods for cleaning the surfaces.

The following actions are planned in any case: dusting with soft brushes and dust extraction with micro-aspirator. Washing with deionised water to which a nonionic surfactant (Tween 20 or Neodes) has been added. After removal of the screws and the rear planking, the relief will be placed in a horizontal position. The surfaces will be disinfected with quaternary ammonium salts.

Then the surfaces will be cleaned with the removal of non-original materials (repainting, plaster coatings, filling of losses, etc.) in accordance with the methodology chosen on the basis of the tests carried out.

The consolidation will be effected with low concentration acrylic resin in the most deteriorated areas with crumbling, flaking or superficial losses. The detached fragments will be reassembled with epoxy resin, after the application of a layer of intervention with protective acrylic resin and cleaning of the fracture edges. Losses will be made good using dental plaster pigmented with ventilated coloured earth or with natural hydraulic lime loaded with brick dust and coloured earth. The small losses will instead be filled with Japanese paper and acrylic resin; this kind of intervention does not foresee the use of materials containing salts and is easily reversible, but is not suitable for large losses.

Finally, a surface protection will be applied in the form of acrylic resin in a low concentration or microcrystalline wax, depending on the state of conservation of the material. The two works will finally be mounted on a supporting frame specially designed for their display.

Restoration of the painting of *Doge Priuli and the Scuola dei Calegheri* by a Veneto painter

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Historical and artistic details

Formerly attributed to Paris Bordone and today attributed to a painter of the Veneto, this picture records one of the sumptuous ceremonies involving the doge in the heart of the city, within the courtyard of the Doge's Palace.

The painting of the *Doge Lorenzo Priuli meeting the steward of the Scuola dei Calegheri* or shoemakers (inv. Cl. I no. S.N. 2; oil on canvas; 182 x 168 cm), shows a moment during the festivities taking place in accordance with an "ancient custom", which saw the consignment of gifts and the creation of rich and splendid decorations in honour of the dogaressa. The reconstruction of the architectural background is ample and enlivened by the presence of small figures and fluttering decorations. In the foreground, we see the solemn moment of the handshake between the doge and the gastaldo or steward, Battista di Cipriano, surrounded by numerous members of his association.

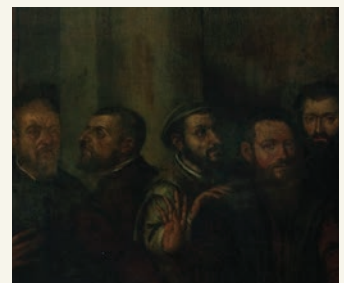
State of conservation

The painted surface has been greatly modified and darkened by sedimentation of dirt, from yellowing and oxidation of the protective varnish and by widespread whitish deposits of a crystalline structure that appear to be traces of materials poorly removed during earlier cleanings. In addition, and despite this thick layer, there are large dark patches that are old painted restorations that have changed in shade, together with a widespread condition of leaching and abrasion of the original pigment. The lower left corner is spotted by a whitish deposit of a material that was apparently splashed accidentally.

The paint itself reveals a generally good level of cohesion and adhesion to the support. The painting is supported by a stretcher constructed with expanding corners reinforced by a central cross; It appears in good condition and is still effective. There are a few woodworm holes and two wedges are missing.



Doge Priuli and the Scuola dei Calegheri
by a Veneto painter



Details of the work

The original canvas comprises two pieces of thin fabric with diagonal weave joined by a seam that can just be seen from the recto of the work, running vertically; it is reinforced with a large lining canvas applied with paste glue. The tensioning of the canvas to the stretcher is slightly loose but there are no distortions or structural failures.

Intended use of charitable donations

Conservative restoration.

COST: €10,400.00 euro (including taxes)

Intervention:

- Dusting of the verso of the painting with a soft brush and vacuum cleaner, taking care to remove any deposits of foreign material between the canvas and the stretcher;
 - Correction of the tensioning of the canvas through gentle pressure of the wedges without creating excessive tension at the corners;
 - Checking of the state of cohesion and adhesion of the paint to the surface (film of paint and preparatory layers) and any local fixing using tiny infiltrations of natural or synthetic adhesives at a suitable concentration, according to the sensitivity of the original materials.
- Sealing under weights and/or with use of heated spatulas at a regulated temperature to facilitate the diffusion of the materials and their drying;
- Cleaning of the painted surface: removal of deposits of dirt, of the yellowed varnish, modified reworkings and any non-original material. Execution of sampling for the identification of the correct and appropriate methodology using the usual tests. Observation with enlarged views and with the aid of ultraviolet light. A selective cleaning will be carried out, during which it is expected to use solvents of low and medium polarity, and of low retention applied with supporting media and with the use of aqueous methods and innovative materials tested in the cleaning of painted surfaces;
 - Removal of old stucco and of any overlaps with the neighbouring original surface. The removal will be carried out gradually, by mechanical means under magnifying lens;
 - Filling of losses with Bologna plaster and rabbit glue at an appropriate concentration and with the addition of biocide with the tip of a brush, structuring the surface according to material;
 - Painted coverage of losses and abrasions of the paint film with varnish colours (Maimeri) and watercolour (Maimeri) for restoration, creating a correct balance using glazes and neutral tones;
 - Protective coating in synthetic varnish (Retoucher-Lefranc Bourgeois) applied by brush and lightly sprayed;
 - Disinfection of the stretcher using a brush with permethrin insecticide (Permetar®-Phase) and insertion of the missing wedges.

Also planned is a photographic record: three series before, during and after the intervention in b/w, 6x7

Restoration of the *Madonna and Child* by Jacopo Sansovino

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Historical and artistic details

The Museo Correr houses a remarkable work by the Florentine architect and sculptor, Jacopo Tatti, known as Sansovino (1486-1570), a *Madonna and Child* in polychrome papier-mâché, dated between 1540 and 1550 (inv. Cl. XXI no. 178; bas-relief in polychrome papier-mâché; H 120 x 90 cm). The work is one of the papier-mâché reliefs produced as a series by Sansovino – of which a dozen are known today – belonging to the “Vittorio Veneto type”, in reference to the relief in relatively good condition preserved today at the Museo del Cenedese.

The bas-relief was made with a mixture of vegetable fibres and a binder compressed into the modelled concave mould made from the cast of an original model. The papier-mâché relief was reinforced inside with the addition of canvas. The mould was then applied to a support, which in the specific case of the Museo Correr model comprised four wooden planks arranged horizontally. As noted in the version in Vittorio Veneto, the work was probably prepared with plaster and glue and painted in tempera grassa. The relief is derived from the same model, but the surface finishes differ both in the modelling and in the treatment of the surface (polychrome or imitation marble) and in some details.

The Virgin is shown seated, the figure cut off at the knees, her face turned to the Child. Her red robe is covered by a blue cloak with a golden clasp, and is characterised by a dense pattern of folds. The background is painted blue with golden stars; the flesh tones are of a pale pink with brighter shades on the cheeks.

State of conservation

The state of conservation of the polychrome surface is dramatic. The fragility resulting from the materials of which the work is made has led to repeated more or less invasive interventions aiming to restore integrity to the surface and polychromy. In particular, the surface reveals fillings of various kinds, attributable to maintenance interventions at various times. A final drastic intervention, traces of which remain on the surface, went so far as to remodel the relief completely with a layer of stucco that is in some areas a few



Jacopo Sansovino,
Madonna con Bambino

millimetres thick.

The modelling has lost some of its expressiveness because of the decay of the original material and of the repeated applications of stucco. The repeated interventions of total or partial repainting are all still distinguishable and identifiable on the surface. A clumsy restoration has partially and unevenly removed the added materials. The surface now appears patchy and dulled by inconsistent applications of colour. As far as the relief material and its wooden support are concerned, the state of conservation appears discreet: there are no visible problems of adhesion between the layers that make up the relief, and nor problems in the wooden support to which the relief is fixed. Some woodworm holes indicate a xylophagous attack that is probably no longer under way.

Intended use of charitable donations

Conservative restoration.

COST: €26,800.00 euro (including taxes)

The aim of the intervention is to restore consistency to the polychromy, eliminating where possible any stains and superficial differences that affect the reading of the work. As far as possible, the disfiguring and excessive stucco will be removed in order to highlight the original material.

The plan therefore involves:

- Removal of the relief from the wall and preparation of a room in which to work in the museum;
- Thorough dusting of the surface with soft bristle brushes;
- Sampling of material to effect stratigraphic investigations to highlight the presence and state of conservation of the original layers and constituent materials;
- Disinfection of the wooden support to ensure complete disinfestation and adequate protection/resistance to xylophagous attacks. In two phases:
 1. definitive elimination of eggs, larvae and insects present in the wood by means of the construction of an anoxic chamber in which to place the work, sealed in a bag, for approximately two months in a practically oxygen-free environment (0.1 -0.2%). An appropriate number of oxygen absorbers will be placed within the chamber, and the moisture present will be constantly controlled at the same time as monitoring the minimum level of oxygen.
 2. Subsequently, the support will be entirely soaked in a solvent-based woodworm solution (Permetar® in oil) to ensure the resistance of the wood from further attack by xylophagous insects for about two years;
- Implementation of removal of layers of later paint on different sampling areas of paint to choose appropriate materials and solvents for cleaning and removing substances added in later restorations;
- Gradual removal of repainted layers, seeking to preserve the original and best preserved polychromy (after careful analysis of the stratigraphic examinations and too he painted surface and in accordance with the Client and Project Managers);
- Control, improvement or removal of excessive stucco or stucco inconsistent with the original;
- Filling the largest losses with cellulose pulp and binder (Tylose);
- Retouching with watercolour washes of abrasions over the whole stuccoed area using an intervention that is recognisable, in the form of stripes or dots;
- Application of final protective coating on the surfaces according to the level of glossiness sought after with regard to the nature of the article;
- Repositioning of the relief.

All the operations will be documented with digital photos during the different stages of intervention. Explanatory graphs will be produced concerning the state of conservation and the intervention undertaken.

Restoration of a group of 18 Renaissance historiated tiles

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Historical and artistic details

The Museo Correr has a valuable group of Renaissance majolica of great historical and artistic interest.

Among them is a group of works comprising 18 pieces of high-quality historiated majolica tiles (made of painted and glazed terracotta), but unfortunately not in a good state of preservation (inv. Cl. IV nos. 20; 35; 36; 54; 55; 100; 103; 104; 109; 110; 111; 112; 114; 116; 118; 126; 135; 137). The illustrations are of dishes, cups, bowls (simple and trefoil) and of a pourer; they all come from the best Italian manufacturers of the time in Urbino, Pesaro and Faenza.

State of conservation

The conservation problems affecting the tiles in question range from fragmentation (into two and more pieces) to more or less extensive losses, scratches, chipping and loosening of the enamel.

In the past, some of the pieces suffered from clumsy interventions of assembly and restoration, with partial integrations that have compromised a clear reading of the item.

Intended use of charitable donations

Conservative restoration.

COST: €13,500.00 euro (including taxes)

The intervention, adapted specifically to each piece, has been planned by the Restoration Laboratory of the MIC, *Museo Internazionale delle Ceramiche* in Faenza.

The operations present a wide range of complexities and consist mainly of:

- Removal of previous restorations;
- Cleaning;
- Reconstruction as needed (the additions to be of terracotta);
- Assembling of the fragments;
- Filling of cracks and any holes;
- Fixing of cracks;
- Painted restoration as required in neutral tones;
- Repairs, if necessary, to the rims;
- Fixing of the enamel.



Renaissance historiated tiles

Restoration of a wooden cabinet with decoration of marble inlay, glass and metal

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Historical and artistic details

Wooden cabinet with ebonised wood veneering, of an architectural form with a tympanum and central exedra and lateral niches separated by twisted glass columns, the surfaces adorned with coloured stones and glass paste. The decoration of the cabinet includes some gilded metal adornments. Inv. Cl. XXII no. 2 (provenance Teodoro Correr bequest, 1830); 59 x 90 x 37 cm.



State of conservation

The terrible state of conservation of the cabinet is mainly the result of a serious xylophagous attack that has affected the whole structural part and the ebonised wood additions.

Many of the wooden parts glued to the structure have become detached and some are irretrievably lost. Part of the glass, marble and metal inserts are uneven because of the loss of the original adhesive qualities, and some of these decorations are now lost. The glass spiral columns are broken in several places and those missing, which are no longer intact, are kept in a drawer. The capitals and the bases of the columns are of gilt metal and some are missing. The artefact has already undergone restoration in the past, as a result of which many of its wooden and decorative parts have been reconstructed



The temperature and humidity conditions of the premises in which it was stored for a time have led to a slight swelling of the wood, making it impossible to slide the drawers open. A layer of dust and random dirt completely covers the surfaces.



Intended use of charitable donations

Conservative restoration.

COST: €9,800.00 euro (including taxes)

Planned intervention:

- Dusting using soft brushes;
- Anti-woodworm treatment by impregnation, applied by brush in all wooden parts not covered by paint and with a syringe in the woodworm holes.

Wooden cabinet with decoration of marble inlay, glass and metal

The woodworm solution to be used is Permetar, a product containing permethrin diluted in solvent;

- Preventive anti-mould intervention using Algophase;
- Consolidation of degraded wooden parts with 5% Paraloid in solvent;
- Cleaning samples and removal of dust and dirt of the surface will be effected to identify the most appropriate materials and cleaning methods to respect the original finishes;
- Cleaning of wooden surfaces and all inserts of different materials;
- Cleaning and removal of oxidation of all metal parts and anti-rust treatment, effected using tannic acid in an alcohol solution at 5%;
- Checking and fixing of all the loose and detached parts from their support by means of suitable adhesives chosen according to the material;
- In agreement with the Client and the Project Managers, the missing wooden parts will be reconstructed;
- In agreement with the Client and the Project Managers, the lost glass paste and polychrome stone decorations may be reconstructed using similar or synthetic materials, similar to the original ones in appearance;
- In agreement with the Client and the Project Managers, any parts reconstructed in past restorations may be replaced if these are decayed or aesthetically not acceptable;
- Inspection and repair of the drawers' operation;
- Inspection, structural restoration and carpentry work;
- Filling of small holes and gaps in the wooden support with synthetic wood filler and chromatic adaptation of the same;
- Retouching of abraded areas will be effected using watercolours and paints for restoration;
- All surfaces will be given a protective coating.