I EXPERIENCIAS EN EL REUSO. CONGRESO REUSO 2015 VALENCIA

I UNIVERSITAT POLITÈCNICA DE VALENCIA I
PRESENTACIÓN


El éxito del mismo en cuanto al número de comunicaciones presentadas y al interés vivido los días del Congreso hacia el patrimonio arquitectónico, principalmente el construido, aunque sin dejar de lado otros como por ejemplo el paisajístico o urbanístico, hacía pensar en la conveniencia de buscar cierta continuidad que dejase constancia más si cabe del evento realizado.

Así pues, gracias a la ayuda recibida por parte de Conselleria, ya detallada en los agradecimientos, se barajó la idea de realizar una nueva publicación que recogiese una selección de los trabajos presentados y que seleccionados por el Comité Editorial, permitiesen dar una visión más detallada y ampliada sobre el tema presentado.

Es justo decir que la selección de los artículos ha sido la tarea más ardua, dada la alta calidad de todas las comunicaciones, pero en función del tema principal y mayoritario -la reutilización de edificios y construcciones- digamos el reuso puro, se llegó a elegir 15 comunicaciones, todas ellas recogidas con un hilo conductor en la presente edición. Éstas, que han sido presentadas en los idiomas oficiales del Congreso, dan una visión rotunda del cometido del mismo y nos permiten, de cara al nuevo congreso ReUSO 2016 Pavia, acortar los tiempos de espera y tener fresco en el pensamiento nuestro próximo encuentro, donde volveremos a tratar con pasión, al igual que en Valencia, la experiencia del Reuso.

The show must go on

Valencia, junio 2016

Luis Palmero

Director Congreso ReUSO 2015
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ETHICS OF RESTORATION AND CONSERVATION SCIENCE: THE COMPLETION AND REUSE OF THE FORMER MOTHER CHURCH IN SANTA MARGHERITA DI BELICE (SICILY)

ÉTICA DE LA RESTAURACIÓN Y CIENCIA DE LA CONSERVACIÓN: LA INTEGRACIÓN Y LA REUTILIZACIÓN DE LA ANTIGUA IGLESIA MATRIZ DE SANTA MARGHERITA DI BELICE (SICILIA)

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ABSTRACT

A Restoration has to preserve the authentic character of historic architecture and its meaningful stratifications; it must make the new structure distinguishable and suggest a compatible use. This cultural position sustained the intervention on the remains of the former mother church of Santa Margherita di Belice in Sicily, now reused as "Museum of Memory".

The philological reconstruction of the collapsed parts in 1968 was discarded since the restoration project was focused on the conservation of the authentic fragment and the redefinition of the architectural shapes with new structural components. A scientific campaign of diagnostic tests (performed by LIRBA, University of Palermo) supported the consolidation of the stucco plasters, and the reintegrated parts were made with modern materials and techniques, as the sign of our culture. The new roof allows light to enter the interior of the former church and crosses the screen of wooden slats that ideally proposes the shape of the collapsed vault.

The paper is intended to introduce a summary of the reflections and choices, and present the final result of the restoration and reuse.

Keywords
Santa Margherita di Belice (Agrigento, Sicilia), former mother church, diagnosis, conservation, restoration, reuse.
1. MONUMENTAL REMAINS AS A CULTURAL RESOURCE

Restoring the ancient buildings means respecting their authenticity, enhance the historical stratifications and, if necessary, change or update functions; nevertheless, still survives the illusory cognition that a good restoration should allow buildings of the past to regain their "former glory". It seems things are not going the right way in Santa Margherita, a town in the Valle del Belice in Sicily, and the desire to see again the monuments destroyed by a violent earthquake in 1968 has not been fulfilled. Once removed the scaffolds, the trust that the people had placed in the "restoration" has been betrayed: the longed reconstruction of the former Mother Church has not been done!

The restoration project was developed in 2004 by pursuing the goal of preservation of architectural remains; it was decided to build a sort of shrine to protect the precious authentic relic, returned to the community without the illusion that a restoration could heal wounds and erase the tragedy of the destruction caused by earthquakes. It was also necessary to imagine a new use of the building. The restoration of the seventeenth-century church – now reused as a museum – especially had to ensure the preservation of the original structural elements and preserve the late baroque stucco. After rejecting the idea of bringing the architecture to its initial form by resorting to philology, it was decided to implement a protocol of scientific investigations (prepared by LIRBA Laboratorio di Indagini e Restauro dei Beni Architettonici, University of Palermo) to support a strict conservative program.

Nearby, a wood and glass modern structure had been connected some year before to the remains of the Santa Maria delle Grazie church (Benfari, M. 1997). In the vast panorama of the reconstruction after tragic calamitous events, it emerges the intervention choices made in Santa Margherita di Belice on his monument destroyed by the earthquake, exemplary for giving a contemporary form to ethics of restoration and conservation science (Ventimiglia, G.M. 2014).

2. SANTA MARGHERITA DI BELICE AND ITS MOTHER CHURCH

The first settlement is traced back to the existence of the Manzili-Sindi Arab hamlet and the town will develop from 1572 at the behest of the Catalan Baron Antonio Corbera. In 1610 King Philip III of Spain authorizes the baron Girolamo Corbera, nephew of the founder, to give the country the name of Santa Margarita. The Filangeri princes, who succeeded the barons Corbera, gave further impetus to the growth of the town around the Filangeri-Cutò palace, seat of political power (Nania, G. 1995; Fiume, G. 2012).

Under Alessandro II Filangeri an intensive process of development of the town started and the original nucleus of the baronial building was
expanded in order to include an elegant theatre with frescoed ceilings. In those years, the Orphanage and the Collegio di Maria were founded, and the Palazzata (a long system of adjacent buildings) was erected to close one side of the square on which the Filangeri Palace overlooks. The hunting lodge called "Venaria" was built outside the town. The definitive urban structure consolidated during the eighteenth century, characterized by some prevalent building types, including single family and religious buildings (Giaccone, B. 1907; Giaccone, T. 1987).

The Mother Church - dedicated to Santa Rosalia - was built by Alexander I Filangeri in the second half of the seventeenth century, situated between the Filangeri Palace and the Oratory of the SS. Rosary (Fig. 1-3). The main facade was made of two overlapped orders and resulted tripartite by four pillars. The two bell towers, one of which with a clock, flanked the triangular tympanum surmounted by a statue of Saint Rosalia. A central portal, surmounted by a rectangular window, gave access to the nave (Antista, Sutera, 2009).

The interior, with a nave development, side chapels and barrel vault, was characterized by polychrome marbles and the complex decoration made by the plasterer Bernardo Sesta, Raimondo Sesta and Andrea Catania; the frescoes were painted by Giuseppe Meli. On the high altar was placed the wooden crucifix, dated back to the thirteenth century, enclosed in a niche surrounded by columns with entablature and triangular tympanum. The succession of chapels with floral stucco decorations is marked by pilasters and above the frame of the first order a series of windows corresponds to them. After the earthquake, the Church remains in ruins for about 36 years.

3. FROM THE HYPOTHETICAL RECONSTRUCTION TO THE CONSERVATION PROJECT

The Municipality of Santa Margherita in 2002 elaborates a preliminary project for the reconstruction of the building. The desire to intervene is also sustained by the need to provide new spaces to the Giuseppe Tomasi di Lampedusa Literary Park, allocated in some rooms in the Filangeri-Curtu palace after its reconstruction. At first, it comes the idea that through a philological restoration the administration could have given back to citizens their church, as it was and where it was before the earthquake of 1968, but the interior space would have been used with a different function. The idea of rebuilding the collapsed parts using walls, however, was rejected, preferring to elaborate a project of conservation and preservation of the original architectural elements, without mimetic implants. It was necessary to protect the surviving pieces of the church, yet qualified by the presence of stucco, with the creation of a structure that would have reconfigured the volume of the church and, at the
same time, preserved the finish from weathering (Fig. 4-8). The new casing would have wrapped and protected the remains of ecclesiastical building.

To comprehend the reasons that led to the final choices, it's necessary to consider some aspects. The restoration of the church completes the refurbishment work of the central Piazza Matteotti after the interventions already made on Palazzo Filangeri, the Palazzata and the surrounding areas. The preliminary project already outlined identifies as a priority action the reconfiguration of the church in order to reconstitute the system of spaces defined by the monumental emergencies and the empty urban spaces. Moreover, interpreting the will of the people, restoration was understood as a means for the complete reconstruction of the preexisting building, illusorily considered the final act to close a tragic phase in the history of the town.

Although the initial hypothesis was in general directed towards the complete reconstruction of the wall structure of the church, an effective dialectical interplay was able to guide the definition of the project to more advanced choices, well aligned to the modern culture of restoration. The careful evaluation of the persistent masonry pieces and the reformulation of the project goals, oriented the intervention towards the most intransient permanence and valorisation of the existing parts. It was now evident that a new structure, permeable to light, could be integrated to the remains of the church, redefining through a genuine sign the lost volumes of the ancient building. In order to use the regained interior space, it was necessary to imagine a strategic hypothesis of new functions.

The ruins of the church have been exposed to the atmospheric agents for more than thirty years; despite this, the wall structure and a large part of the decorations have stood the test of time. The remaining portions included an extended piece of the left lateral wall with the chapels, a large portion of the presbytery, the front wall with the altar, and a part of the canton of the right wall; the plan of the church was still readable. It was already carried out a structural reinforcing action of wall masses by consolidating injections, directed by the technical department, but extensive forms of degradation, identified and classified through the use of normalized lexicon, were still evident.

The restoration of the stucco plaster was based on meticulous fixing, cleaning and consolidating techniques. The treatment of the widespread gaps has required the execution of neutral hue and undercut reinstatements and—in case of largest lacks—the volumetric redefinition by simplified forms.
4. DIAGNOSTIC ANALYSIS

A campaign of nondestructive and minimally invasive tests was performed to support the elaboration of the project and the direction of the conservation site (Fig. 9-12). An innovative method designed to produce an effective diagnosis has been applied: its goal is to achieve a synergy between photogrammetric and diagnostic surveys. The unification of photogrammetric images, ultrasonic tomography, thermograms and radar maps produced the metric layer on which the thematic graphs were drawn (Ventimiglia, G.M. 2013).

Thermography was performed on the side and apsidal walls; the achievement of adequate thermal levels has been possible by using two convectors. Thermal investigation offered a model of interpretation of the degradation state based on the evaluation of the distributive geography of the superficial temperatures. The presence of lesions or adherence loss influenced the emissivity levels and determined anomalous thermal distributions. The computer processing has been subsequently developed in order to elaborate thematic maps directly on the thermal mosaic of images (Fig. 13-14); the goal of this iconographic elaboration is the integration of the additional diagnostic data to the maps of the project. The synergy between photogrammetric and thermographic survey and the fusion of their corresponding maps supported the clear demarcation of the detached superficial areas, where consolidation was to be carefully accomplished. The thermal images were assembled or completely collaged upon the metric visible image in order to get the thermal (and simultaneously metric) maps of the stucco façades. The final result of the computer processing phases is a system of overlapped images, perfectly corresponding and without distortions (Tomaselli, Ventimiglia, 2004).

Radar played a crucial role in early stage and while restoration work in progress; it made possible to highlight anomalies inside the investigated sections, under the stucco layer and verify the effectiveness of the consolidation techniques just applied. The investigation has been carried out on the plank of the site's scaffolding in order to explore the walls up to greater heights. To get more information about the status of plasters and masonry, and test the potential combination of both methods, the radar survey was applied to the internal facades, which had already been investigated before by IRT. A radar instrument with the two ranges of 600 and 1600 MHz frequency antennas was applied for the measurement. The complex system of final two and three dimensions' radar maps revealed different signal-reflexes in the form of parabolic curves; all the signals emerged in maps where put in relationship with some specific defects to intervene on (Ventimiglia, G.M. 2014).

The stucco was also analysed by using a controller unit with vibrational pulse probes in the field of ultrasonic frequencies. This test is based upon
the propagation of vibrations and was useful to indirectly appraise the homogeneity and compactness of the material. Tests were made using the superficial propagation mode, by placing the transducers on a regular plane. The finish layer’s inhomogeneities altered the propagation speed, reflecting and refracting waves, partially absorbing and attenuating in some directions. The probes had an important role to evaluate the re-establishment of the continuity and compactness in the areas where speed had been low because of the presence of discontinuities below the surface.

In addition, observations by using flexible endoscope have been effected in the walls in order to assess the continuity and compactness levels of internal structures. The blocks of yellow limestone appeared very compact, and only in rare situations the presence of microcracks emerged, but above all at superficial level due to the effects of drilling.

The monitoring of moisture levels coming up from the lower parts of walls was also useful for assessing the risk of degradation of plaster and stucco coatings. The probes with electrode needles were applied according to regular acquisition grids developed along the inner walls. The water percentage present in the surface layers has been recorded in a punctual manner but at various altitudes from the lower.

It is important to underline that the second phase of investigations was made when conservation works were still in progress. The diagnostic checks have been carried out at the points where the defects were diagnosed earlier, to verify the quality of the interventions and, therefore, raise the quality levels of preservation yard. The iconographic elaboration of the diagnosis resulted to be well target for the restoration project, with positive effects on the correlated site while works in progress, and a consequent positive economic outcome too. The case study demonstrates the application of preliminary studies by non-destructive investigation can offer some very interesting and utilizable results in the determination of the status and damage of finishing materials and architectural structures.

5. RESTORATION OF THE BAROQUE STUCCOES

The restoration of the stucco and frescoes has pursued the goal to return the potential unity to the artistic expressions. The reintegration is performed in order to make distinguishable the incorporated parts to a closer view. Besides preserving the authentic fragments, it was also necessary to ensure the correct reading of the artistic works that characterize the internal surfaces. The fundamental principles that guided the project and the execution of the restoration are “minimal intervention”, “compatibility” and “reversibility”; the chemical stability of materials was an essential requirement (Torsello, Musso, 2003).
The outcomes of the diagnostic tests have been essential in providing reliable information on the conservation status and oriented the actions of pre-consolidation, cleaning, consolidation and protection; the widespread presence of gaps suggested to intervene with pictorial and plastic reintegration techniques, with operational decisions case by case. The investigations supported the definition of the restoration techniques and it was not necessary to make the variants while work in progress, with positive effects on timing and general quality of the performed procedures.

The rich decorations were weakened by various forms of degradation and it was evident the presence of superficial cracks and deep fractures. Many of the decorative elements were marked by forms of detachment, sometimes so extensive as to determine the loss of large portions of stucco. The most serious gaps in the coating layers and the disintegration of the constituent material tended to undo the plastic effect of the decorations; the serious phenomenon was mainly caused by absorption and migration of meteoric water by capillarity inside the textural layers. The presence of moisture in the porous structure of stucco and plasters, and its evaporation, determined the crystallization cycles of soluble salts. This physical phenomenon was accompanied by efflorescence, powdery, swelling and detachment of the outer layers. Moreover, inorganic deposits coherent and incoherent were widely present on the surfaces.

The performed conservative interventions were above all velinatura, removal of biological patinas, consolidation with ethyl silicate, desulfation with the ion exchange resins, cleaning with poultices of ammonium carbonate and consolidation with injections of lime (Fig. 15-17).

6. COMPLETION OF THE BUILDING

Although excluding the possibility of a faithful reconstruction, while operating in the context of historic architecture the intervention can’t be considered as an unrestricted exercise of architectural reconfiguration.

The intervention of reintegation is among the most complex issues in the discipline of restoration, and requires a firm preliminary knowledge. In making pilot studies, it is important to consider that every analytic action becomes a gesture of planning effectiveness and supports conservation: historical research, surveying techniques and diagnostic checks define a preliminary cognitive platform.

The original matrix and geometric modules of the church guided the demarcation of the spatial boundaries of the new volume and its formal enunciation. The philological restoration of the church was the initial address of the project, which would have also included the
reconstruction of the facade with two bell towers; but the goal of the restoration project, however, could not be identified in such a hypothesis of anti-historical repetition. The reconstruction of the thick walls in simplified forms would be unworkable and even anastylosis on the basis of historical documentation was not the viable solution. Philological reconstruction prepared with the aid of photographs of the church would determine an unacceptable historical falsification.

The final project of restoration and reuse of the former Mother Church was thus defined in its essential elements: the conservation of the authentic walls, the construction of new structures to complete the building, without any imitative purposes. The integrated structure is mainly composed of steel and wood elements; the conjunctions between the remains of the church and the new volume are treated by defining neutral undecorated surfaces. The choice to respect the original volume size descends from the desire to give back to the urban environment one of its fundamental morphological pivots.

The new structure still wants to respect the volumetric proportions of the former mother church, reiterated in the completion of the building (Fig. 18-21). The side wall repeats the compositional scheme of the preexisting wall, but a large window allows you to observe the stuccoed surfaces from the outside; the alternation between fullness and emptiness, however, is reversed as the glass wall is now placed under the string course. The same considerations have led to the definition of the front on Piazza Matteotti with the entrance door and the new windows.

The coverage of the interior space is made up of trusses of steel covered by copper and glass panels. The underlying wooden slatted structure conforms to the shape of the intrados of the vault collapsed during the earthquake.

7. THE REUSE: A MUSEUM OF MEMORY

In the earthquake zone of the Belice Valley, many drastic consolidations, demolitions and reconstructions were carried out, but among the few restorations based on the shared canons of the discipline it must be signalled the operation performed in Santa Margherita di Belice on the Mother Church ruins, overcoming the inertia of things through a project based on the scientific conservation of non-replicable material substance and the casing redefinition, interpreted as the ultimate contemporary stratification (Tomaselli, F. 2007; Ventimiglia, G.M. 2004).

In the panorama of the most recent restorations made in Italy, it is not easy to observe interventions that combine the needs of conservation of material evidence of the past to the correct reuse, strategic and at the same time compatible. The cultural operation performed in Santa
Margherita di Belice emerges in a scene sadly marked by inconsistent recovery operations or radical conversion carried out under the aegis of “restoration”. It should be noted that although the preliminary draft, in general, suggested the resumption of full wall mass of the church, an effective debate has been successful in addressing the definitive development of the project to more mature choices, well aligned to the modern culture of restoration. It was first realized that the remains of the seventeenth-century church were an architectural heritage whose conservation did not respond exclusively to the needs of the local community. Moreover, the town had now been almost entirely rebuilt and new cultural demands had emerged, enough to determine tourists and revive the stagnant economy. The experience of the literary park proved that a concrete enhancement of the architectural heritage could not be separated from its strategic reuse. The preservation and enhancement of the architectural heritage in the town affected by the earthquake represent an occasion of urban regeneration and contribute to reactivate local economies.

The restoration project is simple and ingenious at the same time: a metal structure with large windows protects the remaining components and timidly complete the missing volume without prevarication. The atmosphere is that of a case containing a relic and daylight floods the interior of the building enhancing the decorative surfaces of the church, still protagonist of an authentic story that continues. The roof allows natural light to enter into the great hall, penetrating the screen of wooden slats that ideally repeats the shape of the destroyed vault. Large glass panels open up fascinating perspective views on the walls decorated with stucco, also visible from the outside urban areas.

What can be done to repair the damage of an earthquake? In Santa Margherita di Belice, Sicily, you may find some good answers. The ruins, in fact, has become a resource: the former Mother Church of Santa Margherita di Belice is now the Museum of Memory seat. An exemplary exhibition presents the photographic and television testimonies of the countries and the people of the Valle del Belice dazed by the 1968 earthquake. The restoration has given the community a place full of meaning with the advantage of representing an open structure to the needs of a changing social realities; a structure that aligns to the dynamics of cultural tourism related to the activities of the literary park. The former church is now a museum, but also a place where you can think about the sustainable development of our land.

NOTES

1. The project of restoration and reuse has been elaborated by Alfonzo Cimmino and supported by the City of Santa Margherita di Belice with funds from the European Community.
2. The diagnostic surveys are performed by the L.I.R.B.A. Laboratorio di indagini e Restauro dei Beni Architettonici “Salvatore Boscarno” (University of Palermo, Polytechnic School, Department of Architecture).

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