

quaderni di assorestauro



YEAR10NR01  
SEPTEMBER 2021

# Historic and Restoration site tour

Complexity | Value | Ethics

30 AUG - 3 SEPT 2021

# Restoration week®

LIVE STREAM

DIGITAL EDITION



30 AUGUST  
NAPOLI



31 AUGUST  
POMPEI



01  
02 SEPTEMBER  
BARI



03 SEPTEMBER  
MATERA



In collaboration with:



SCUOLA DI SPECIALIZZAZIONE  
IN BENI ARCHITETTONICI E DEL PAESAGGIO



Scuola di Specializzazione  
in Beni Architettonici  
e del Paesaggio di Napoli



Quaderni di Assorestauro



YEARS 10 | NUMBER 01  
SEPTEMBER 2021

Edited by:  
Sonia Vallese  
Maria Marinò  
Andrea Griletto

Authors:  
Marco Cataldi  
Maria Maio  
Elisa Ardito

Graphic Project



Blumorgana | Viviana Maria Lucia Volpini  
info@blumorgana.it

© copyright 2015 - Assorestauro Servizi Srl

ISSN 2499-1864 (Print) - ISSN 2499-1503 (Online)

■ SPONSOR PRESENTATION	
— PRESENTATION OF “ITA - ITALIAN TRADE AGENCY”	4
— PRESENTATION OF “ASSORESTAURO”	5
— PRESENTATION OF “RESTAURO MADE IN ITALY”	6
— PRESENTATION OF “RESTORATION WEEK”	8

■ RESTORATION WEEK 2021

**30 AUGUST | NAPOLI**

#COMPLEXITY. NAPLES, THE COMPLEXITY OF CONSERVATION	10
— THE CHURCH OF SANTA MARIA DONNA REGINA VECCHIA: THE COMPLEXITY OF THE RESTORATION PROJECT	12
— THE MONUMENTAL COMPLEX OF THE GIROLAMINI	18
— SURFACE RESTORATION: THE CASE OF THE CHURCH OF SAN GIOVANNI A CARONARA	22
— THE REBIRTH OF VILLA GALDI IN MARIGLIANO AFTER THE 1980 EARTHQUAKE	28

**31 AUGUST | POMPEI ( NAPOLI )**

#VALUE. POMPEII ARCHAEOLOGICAL PARK: ARCHAEOLOGY AND VALORISATION	32
— THE RESTORATION OF DIOMEDES’ VILLA: A WORK WHICH HANDS DOWN A THOUSAND-YEAR HISTORY	34
— THE RESTORATION PROJECT OF INSULA OF CHASTE LOVERS IN POMPEII	40

**01 SEPTEMBER | BARI**

LIVE STREAMING FROM THE SALONE DEL RESTAURO	
— HERITAGE AND SUSTAINABILITY. THE RESTORATION OF THE ITALIAN CULTURAL HISTORIC BUILDING HERITAGE, AN INSPIRATION FOR THE WORLD	46

**02 SEPTEMBER | BARI**

LIVE STREAMING FROM THE SALONE DEL RESTAURO	
— FROM KNOWLEDGE TO RESTORATION. THE APULIAN EXPERIENCE WITHIN THE NATIONAL TERRITORY	47

**03 SEPTEMBER | MATERA**

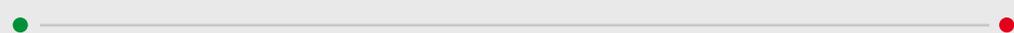
#ETHICS. THE “RESILIENCE” OF MATERA	52
— PARK OF HUMAN HISTORY - ROCK CIVILISATION	54
— PARK OF HUMAN HISTORY	60



**ITALIAN TRADE AGENCY**

**ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane**

ITA - Italian Trade Agency is the Governmental agency that supports the business development of our companies abroad and promotes the attraction of foreign investment in Italy. With a motivated and modern organization and a widespread network of overseas offices, ITA provides information, assistance, consulting, promotion and training to Italian small and medium-sized businesses. Using the most modern multi-channel promotion and communication tools, it acts to assert the excellence of Made in Italy in the world.



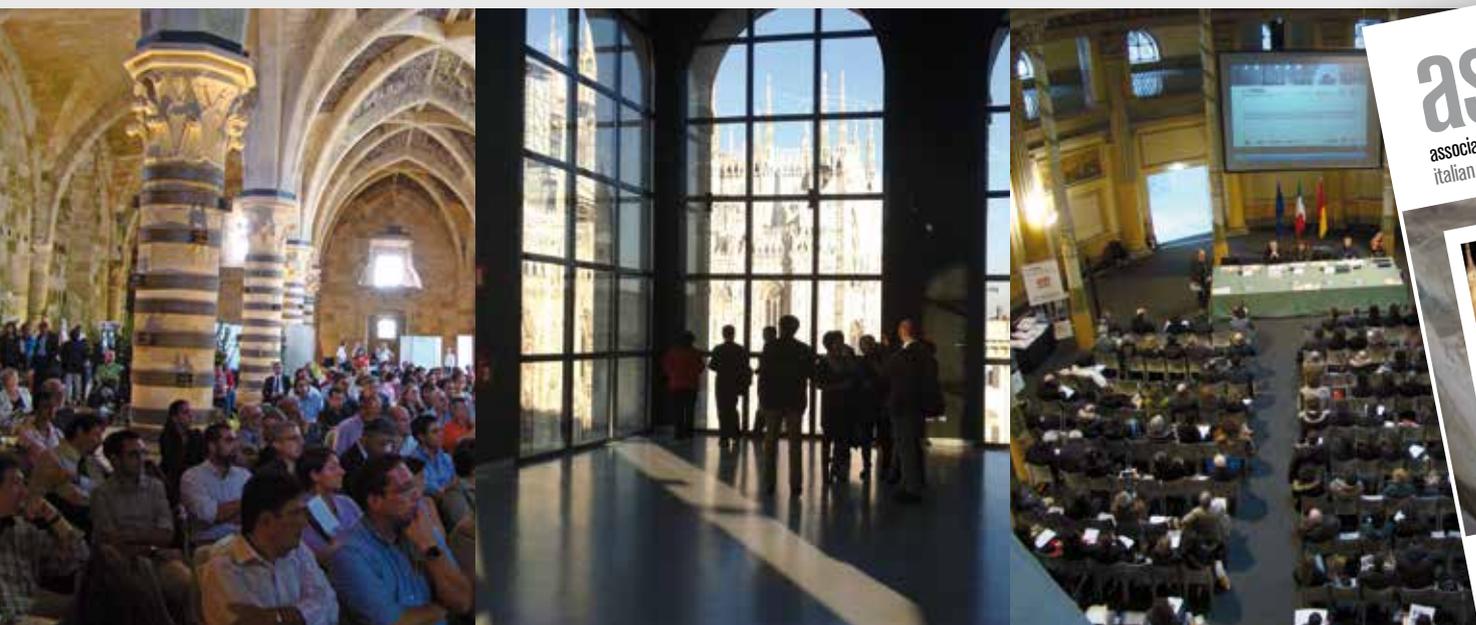
Italian Trade Agency

@ITAtradeagency

[www.ice.it](http://www.ice.it)

ITA - Italian Trade Agency

@itatradeagency



# assorestauro®

associazione italiana per il restauro architettonico, artistico, urbano  
italian association for architecture, art and urban restoration

Project coordinator:  
Andrea Griletto

## WHO IS ASSORESTAURO ?

Established in 2005 as the first Italian association of manufacturers of materials, equipment and technology, suppliers of services and specialized companies, Assorestauro represents the Italian sector of restoration and conservation of material heritage. To date, it is the sole association and a reference in the national and international market for anyone willing to start working in the conservation sector in Italy. This field is a synthesis of the various disciplines involved, of the professional specialists, of the available technology and of the growing business community. If examined as a whole, the sector accounts for a large market share and has a meaningful impact on tourism, industry and bioconstruction.

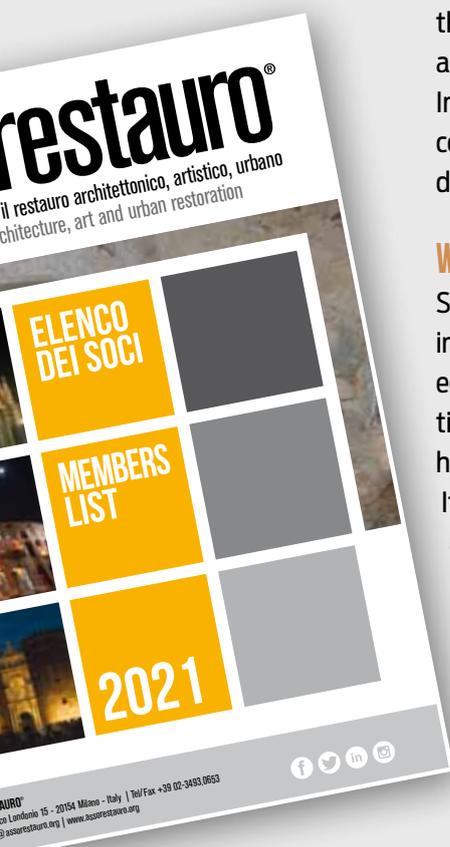
## WHAT ARE ASSORESTAURO'S GOALS ?

Assorestauro is the National Trade Association for the Restoration Sector, representing manufacturers of materials, equipment, technology, specialist companies, designers and suppliers of services for analyses, surveys and diffusion. The Association offers its members information, assistance, advice and training both directly and through its partners, with a view to building a consistent and unitary orientation to the different sectors of the restoration industry at a national and international level.

As a national association, Assorestauro aims at coordinating, protecting and promoting the interests of the restoration sector. Moreover, it represents the outer market, in Italy and abroad, the common positions in technical and economic issues, as well as an image. In fact, it carries out targeted activities such as relevant ads of the sector, information and communication, protection of common interests (economy, image, standards), research, development and promotion.

## WHAT DOES ASSORESTAURO DO ?

Several activities aimed at promoting the professional skills in the restoration sector fall in the scopes of the Association. They include diagnostic analysis, design and on site execution, producing technology and materials, as well as contribute technological Innovation, with the support of Institutions, Universities, Agencies for the protection of cultural heritage and ITA - Italian Trade Agency. This type of activities includes both promotions in Italy (conferences and training seminars, trade exhibitions, courses and similar initiatives) and abroad (foreign missions, training, b2b encounters, restoration sites). In such occasions the member companies are involved and they are offered the chance to study and penetrate foreign markets through projects co-sponsored by national and international bodies.



@assorestauro   



project

# RESTAURO MADE IN ITALY



“Restauro Made in Italy” is a **wide project aimed at promoting the sector of Italian restoration abroad**, launched by ITA - Italian Trade Agency and organized by Fiera Ferrara and Assorestauo by means of technical and promotional initiatives and activities to be held in Italy and abroad in 2020/2021.

The objective of the project is to strengthen – in terms of increased business volume and penetration of third markets – the sector of Italian restoration, the enterprises working in the sector, the training institutions and academies offering skill building, and the local authorities supporting the sector. Considering the high degree of specialization of the sector in Italy and abroad, it is urgent to take the unmissable opportunities now arising from an increased demand in the cultural field worldwide, especially from the most industrialized country, where cultural resources and restoration are rated as a new and growing economic asset.

The first steps of the project are developed as an alternation of actions of technical promotion and spreading of the Italian methods and technology in the reference market. These actions will come as complex application projects and commercial penetration initiatives, including the participation to trade shows and networking events to support the technical actions.

### **INNOVATIVE CONTENTS OF THE PROJECT**

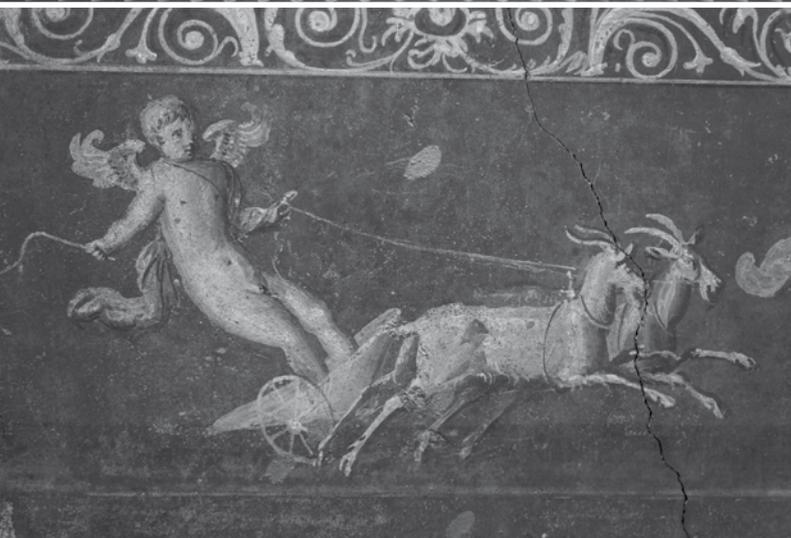
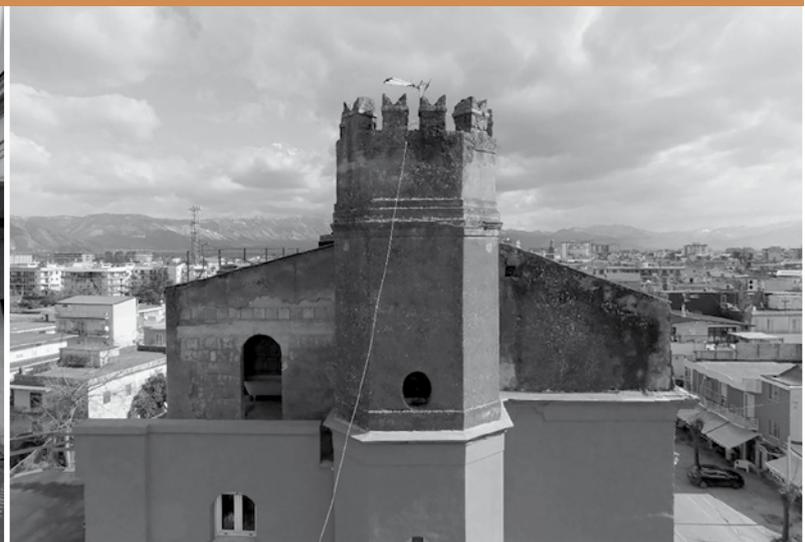
The project owns an innovative strategy, combining different technical and commercial actions aimed at building a model for business promotion and penetration for the Italian SMEs to operate abroad. These coordinated and synergic actions offer concrete opportunities for the Italian enterprises (manufacturers of materials and technology, suppliers of services catering for analysis, survey, engineering and communication, and the sector businesses) to expand their sales network and prospective customers in the reference market, and to improve the commercial penetration of products and services “Made in Italy”, to which Restoration of cultural heritage belongs by all rights.

The technical and operational actions developed in Italy offer the chance to spread the Italian practices, methods and technology in the third markets, and create virtuous examples of “good practice”. Training actions help build a background of functionaries, technicians, professionals and operators that will be capable of appreciating, using and asking for the peculiar methods of the Italian restoration business.

The partnership with the “International Exhibition of Restoration, Museums and Cultural Business” of Ferrara – the reference trade show for Assorestauo – helps build marketing opportunities in Italy and in the target Countries, and enhance the international appeal of the Italian restoration business.

# Restoration week®

Italian Trade Agency and Assorestauro are glad to present an international event in Italy, the Restoration Week 2021. A week rich of activities and meetings dedicated to the excellence of Italian restoration. The event will be focused on strategic restoration worksites in South Italy along a path from Naples passing through Pompeii, Bari, and Matera. During the week, the audience will have the opportunity to take part in virtual tours in restoration sites and attend to live streamed conferences.



**Naples, Italy**

**Monday 30<sup>th</sup> August**

**10:00 to 11.30 am**<sup>GMT+2</sup>

**VISIT TO:** Girolamini Complex and Library

**2:30 to 4:00 pm**<sup>GMT+2</sup>



**LIVE STREAMING RESTORATION WEEK FROM DONNA REGINA CHURCH:**

- \_ Church of Donna Regina vecchia
- \_ Girolamini Library
- \_ Church of San Giovanni in Carbonara
- \_ Villa Galdi, Marigliano

**KEY WORD:**

Complexity

**Pompei (NA), Italy**

**Tuesday 31<sup>st</sup> August**

**9:30 to 11:30 am**<sup>GMT+2</sup>

**GUIDE VISIT TO:** Pompei Archeological Park

**2:30 to 4:00 pm**<sup>GMT+2</sup>



**LIVE SHOW RESTORATION WEEK FROM POMPEI AUDITORIUM:**

- \_ Villa of Diomede
- \_ Insula dei Casti Amanti

**KEY WORD:**

Value

**Bari, Italy**

**Wednesday 1<sup>st</sup> September**

**“International Restoration Exhibition”** at the Nuova Fiera del Levante in Bari

**12:00 am to 5:30 pm**<sup>GMT+2</sup>

**Workshop for the presentation of Country Projects organized by Italian Trade Agency within the promotional project “Restauro Made in Italy”**

- 12.00 am: Albania
- 4.30 pm: Lebanon
- 5.30 pm: Cuba



**2:30 to 4:00 pm**<sup>GMT+2</sup>

**LIVE STREAMING RESTORATION WEEK:**

HERITAGE AND SUSTAINABILITY - The Restoration of the Italian Historical and Cultural Building Heritage, an inspiration for the world”

**Bari, Italy**

**Thursday 2<sup>nd</sup> September**

**“International Restoration Exhibition”** at the Nuova Fiera del Levante in Bari

**10:30 am to 5:30 pm**<sup>GMT+2</sup>

**Workshops for the presentation of Country Projects organized by the Italian Trade Agency within the promotional project “Restauro Made in Italy”**

- 10.30 am: Saudi Arabia
- 11.30 am: Azerbaijan
- 4.30 pm: Israel
- 5.30 pm: Croatia



**2:30 to 4:00 pm**<sup>GMT+2</sup>

**LIVE STREAMING RESTORATION WEEK:**

FROM KNOWLEDGE TO RESTORATION - The Apulian experience within the national territory

**Matera, Italy**

**Friday 3<sup>rd</sup> September**

**10:00 to 12.00 am**<sup>GMT+2</sup>

**VISIT TO:** Rock Churches

**2:30 to 4:00 pm**<sup>GMT+2</sup>



**LIVE STREAMING RESTORATION WEEK FROM CASA CAVA AUDITORIUM:**

- \_ Rock Churches
- \_ Jazzo Gattini Archaeological Route
- \_ Lanfranchi Palace
- \_ Cave House Museum

**KEY WORD:**

Ethics

30 AUGUST  
NAPOLI

Maria Maio  
School of Specialization  
in Restoration of Monuments,  
University of  
Federico II, Napoli

#complexity



# NAPLES, THE COMPLEXITY OF CONSERVATION

The history of Naples presents itself as a microcosm of European history made up of different civilizations, peoples and cultures that have also left traces in its complex artistic and monumental heritage. In 1995 the historic center of Naples was recognized by UNESCO as a world heritage site for its monuments, which testify to the succession of cultures of the Mediterranean and Europe. Walking through the streets of the city we come across ancient, sumptuous buildings, whose beauty strikes us at first glance making us immediately aware of the importance of their protection. In our path, however, we also run into other types of buildings; still ancient but with a more neglected and decadent character, which contribute to creating an aesthetic complexity of the city. Each building tells a story, has unique peculiarities to be discovered through its study and “archaeological” approach that can consider its territory and protect its identity. Historic buildings are subject to decay with the passage of time if constant maintenance is not carried out. This phenomenon is accelerated by the abandonment that often occurs because of natural catastrophic events such as earthquakes. There are numerous examples of buildings that have been lost due to abandonment, to avoid this and to keep the building alive it is essential to find a function that is useful to society. Article 5 of the Venice Charter of 1964, in fact, states that: *“The conservation of monuments is always favored by their use in functions useful to society; such a destination is desirable, but must not alter the distribution and appearance of the building. The adaptations required by the evolution of uses and consumption must therefore be contained within these limits”.*

1



Maria Maio  
School of Specialization  
in Restoration of Monuments,  
University of  
Federico II, Napoli

# THE CHURCH OF SANTA MARIA DONNA REGINA VECCHIA: THE COMPLEXITY OF THE RESTORATION PROJECT

## INTRODUCTION

Cultural heritage restoration project is an extremely complex activity. The restorer has to dialogue with the monument that the architect Gino Chierici defines as the “Great Mute” in his writings. The complexity of the restoration project is given by a large number of internal and external variables that co-exist and may impair it; for this reason the knowledge phase is fundamental. Another complex aspect of the cultural heritage restoration project is the unexpected that can emerge during the works; this characteristic is dictated by the uniqueness of each restoration site and sometimes by the impossibility of knowing everything. During the restoration works (started in 1928) of the church of Santa Maria Donna Regina Vecchia (Fig. 1), for example, the architect Gino Ghierici had to face with his own experience the most delicate and problematic operation of repair of the Gothic apse. The church, located near the cathedral complex on the northern edge of the Greco-Roman centre of Naples, in fact, is a singular example of Gothic architecture in Italy, designed and built for the devotional use of the Clarissan nuns. Gino Chierici, to repair the Gothic apse which had been destroyed in the seventeenth century in order to allow the construction of the new church, had to demolish part of the Baroque choir. It was technically possible, but on the wall to be demolished there was the fresco by Solimena (Fig. 2) and it was impossible to pull it away from the wall. To put in place this project the big painting had to be moved with the entire wall.

Fig. 1  
The main facade  
of the Church of  
Donna Regina Vecchia

Fig. 2  
Fresco by Solimena  
“Saint Francis offering  
roses to the pope”



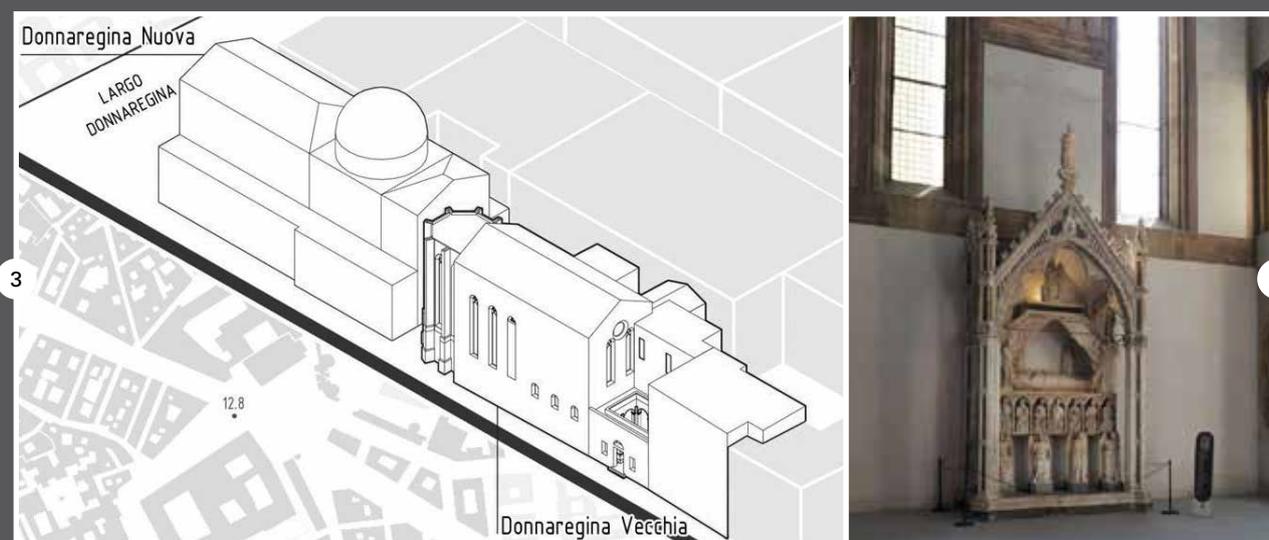


Fig. 3  
Church of Santa Maria  
Donna Regina Vecchia and church  
of Santa Maria Donna Regina  
Nuova by the thesis of  
Pietro Peluso and Anna Rosati

Fig. 4  
Queen Maria  
of Hungary's tomb made  
by Tino di Camaino

## THE HISTORICAL BACKGROUND

The church of Santa Maria Donna Regina Vecchia ("old") is so called to distinguish it from the newer and adjacent church of Santa Maria Donna Regina Nuova (Fig. 3). The convent was originally a Basilian foundation in the VII century, later it belonged to the Benedictine order and then passed to the Poor Clares. In 1293 the convent was destroyed by an earthquake and the church that we see today was built in early fourteenth-century with donations provided by Queen Maria of Hungary who was very religious. This project should be understood as part of a programme set out to make Naples a great capital, too. Charles I of Anjou begun the programme of embellishment of the city and it was carried on by Queen Maria's husband Charles II of Anjou. After death the Queen Maria of Hungary was buried in the church of Santa Maria Donna Regina Vecchia in a splendid tomb made by Tino di Camaino (Fig. 4).

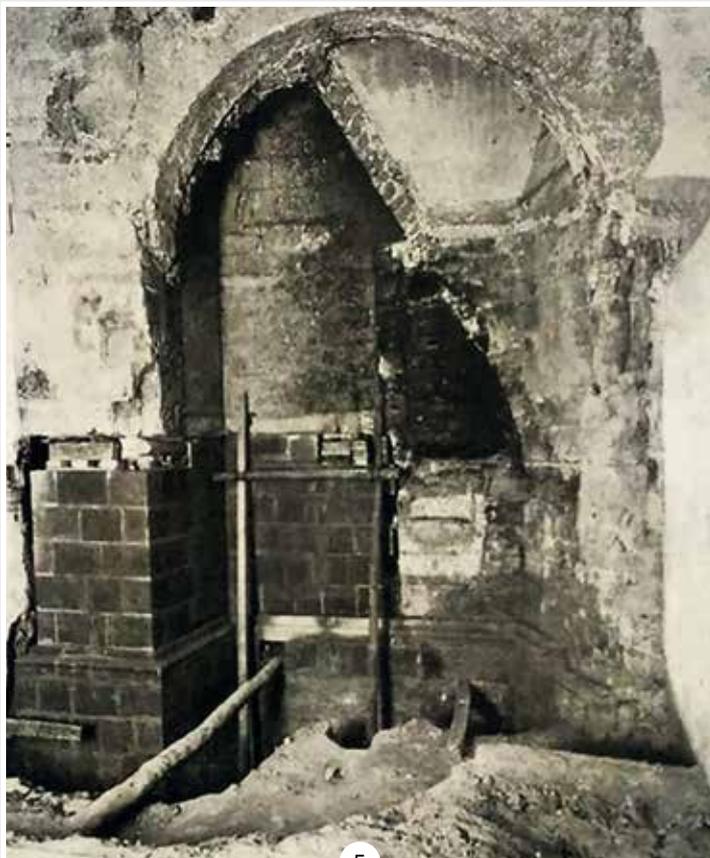
In the second half of the sixteenth century took place in Naples the Baroque and Donnarregina' nuns decided to transform the old church in a warehouse and build a new church behind the existing one. In order to give the building sufficient length, during the construction of the new church the Theatine Giovanni Guarini partially destroyed the Gothic apse for the realization of the Baroque choir. This choice was made for lack of space, but despite this, the new choir did not present the solemn aspect of the old one, which is characterized by its octagonal shape, size, bright windows and stucco. This time period marked the beginning of the decline of Santa Maria Donna Regina Vecchia. The church, in fact, was divided into two floors, extending from the vaults of the choir up to the apse: the lower floor became a warehouse, while the upper one a private chapel. After the abandonment of the old church, the Maria of Hungary's tomb had been moved in the new church, to preserve it. In 1861 the Municipality of Naples became the owner of the church and it was used in various ways, such as Court of Assizes, school, etc. Only in 1928, thanks to the restoration of Gino Chierici, the church resumed its ancient splendor.

## THE RESTORATION PROJECT BY GINO CHIERICI

During several years the church of Santa Maria Donna Regina Vecchia underwent many changes put in place to adapt it to various uses; for example, the Gothic apse was partially destroyed, the dividing walls were built and a cycle of frescoes in the choir was covered with a layer of lime. Gino Chierici, Soprintendente all'arte medievale e moderna, designed the restoration project of the church based on painstaking philological research and mastery of construction techniques. The goals of this project were to reconstruct the missing part of the fourteenth-century apse and to eliminate the additions in order to give the church the initial configuration. These operations started with investigation on the foundation and on the existing walls. After having demolished part of the Baroque choir and moved the wall with Solimena's painting, Gino Chierici reinforced the existing foundations of the Gothic church (Fig. 5) and rebuilt the apse (Fig. 6). Instead, during the investigations of the dividing walls on the ground floor of the church, Chierici and his team found some octagonal pillars (Fig. 7-8), which had supported the vaults. The dividing walls, which had incorporated the original structure and were built in order to adapt the building for other uses when the convent was suppressed, were destroyed and the missing pillars were replaced using the same stone used for the originals. Chierici then re-placed Maria of Hungary's tomb in the Gothic church and cleaned the frescoes in the choir (Fig. 9), after having completed the structural work (Fig. 10). This restoration project was begun thanks to the donation of the Banco di Napoli.

Fig. 5  
Foundation works

Fig. 6  
Apse reconstruction works



5



6

## THE COMPLEX OPERATION OF TRANSPORT OF SOLIMENA'S PAINTING

In 1684 Solimena painted the fresco in the choir of the church of Santa Maria Donna Regina Nuova representing "Saint Francis offering roses to the pope". He was very young, not yet twenty-seven, when he took the job of painting the wall of the choir. In the fresco we can see some inaccuracies due to the painter's not yet mature age and to a self-taught training; for example, in the painting, Solimena used a lot of tempera to correct mistakes and tonalities. These characteristics made it impossible to pull away the painting and made it necessary to move the entire wall.

The first problem faced in the transport of Solimena's painting concerned the consolidation of the painting and the wall where it was located. In particular, the consolidation of the paints was achieved through injections based on casein and gypsum or lime, while the

Fig. 7-8  
The discovery of the octagonal columns during the investigations of the dividing walls on the ground floor

Fig. 9  
Cleaning of the frescoes in the choir



### BIBLIOGRAPHY

J. Elliott and C. Warr, *The Church of Santa Maria Donna Regina. Art, Iconography and Patronage in Fourteenth Century Naples*. Routledge Taylor & Francis Group, New York 2016

G. CHIERICI, *Il restauro della chiesa di Santa Maria Donnaregina*, F. Giannini, Napoli 1934

G. CHIERICI, *Il trasporto degli affreschi del Solimena in S. Maria Donnaregina*, in «*Bollettino d'arte del Ministero dell'E.N.*», s. III, a. XXVI, n. 12. 1933

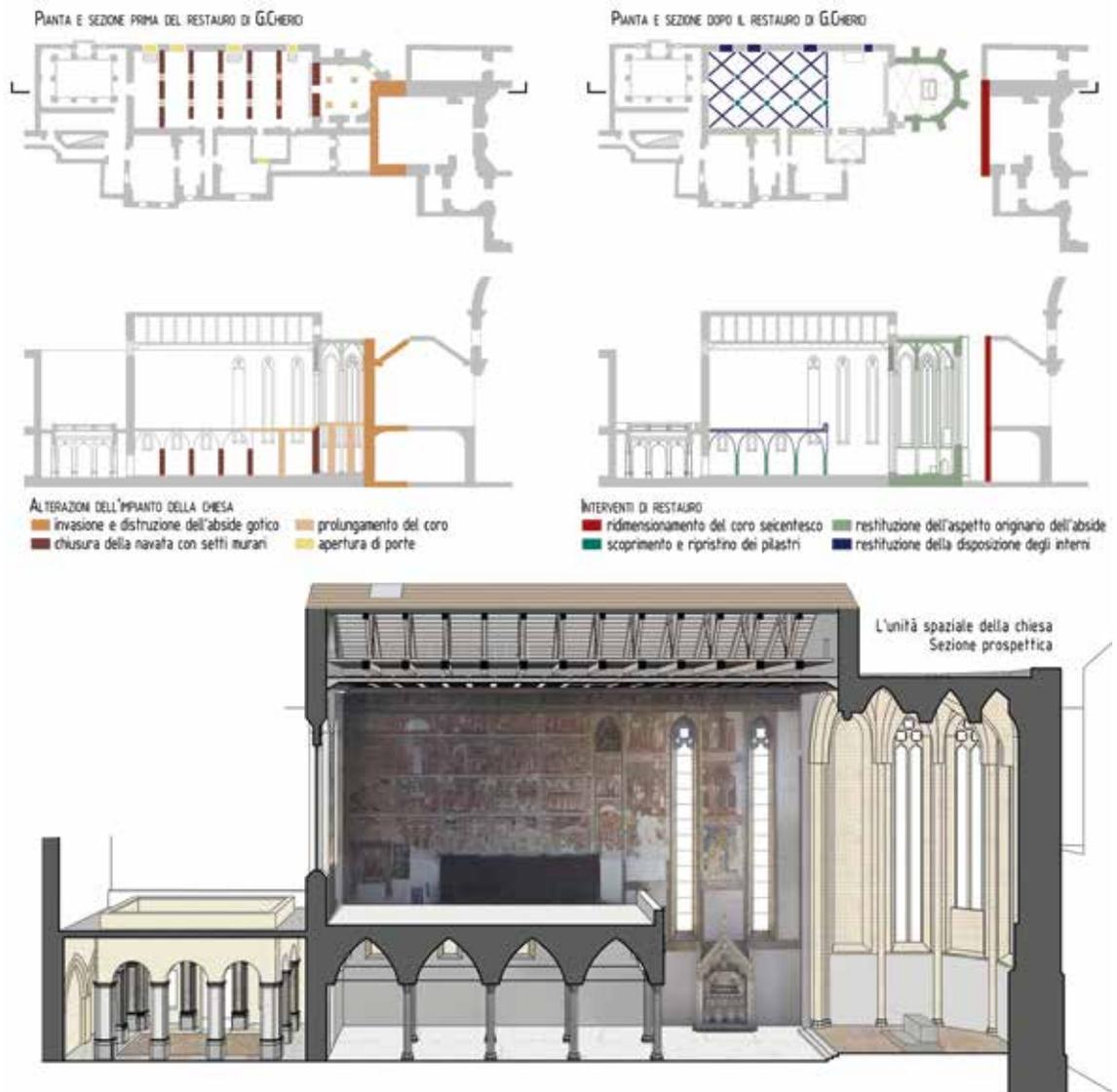
R. PICONE, *Restauri a Napoli tra le due guerre: L'opera di Gino Chierici 1924-1935* in *La cultura del restauro* a cura di S. Casiello, Marsilio, Venezia 1996.

E. BERTAUX, *Santa Maria di Donna Regina e l'Arte senese a Napoli nel secolo XVI*, F. Giannini, Napoli 1899

fixing of the colour was obtained through a solution of paraffin in gasoline applied hot in several stages and, to facilitate the penetration of the fixative into the plaster, the surface was heated. Subsequently, the consolidation and reinforcement of the wall was made, the thickness of which was reduced to less than half. The wall, after being enclosed between a wooden and a concrete frame, was moved six meters through the use of pairs of rails: seven low walls were built and on these were placed the rails. This operation was particularly difficult because of the dimensions of the paintings and it took five months of preparatory works and forty-five minutes to move the fresco.

At the end of restoration works the church of Santa Maria Donna Regina Vecchia recovered the original architectural space and today it is the seat of the Scuola di Specializzazione in Beni Architettonici e del Paesaggio, which is part of the University of Federico II. In its boundaries and eventually chose this rare saccharoid limestone as the material

Fig. 10  
Structural works by  
the thesis of Pietro Peluso  
and Anna Rosati





Sonia Vallese  
Assorestauro

## THE MONUMENTAL COMPLEX OF THE GIROLAMINI

**LITHOS**  
Restauro e conservazione

info@lithosrestauri.com  
www.lithosrestauri.com

### HISTORICAL AND URBAN CONTEXT

The monumental complex of the Girolamini constitutes one of the most significant cultural concentrations of Naples. Founded in 1586, it underwent successive additions during the eighteenth century, through a progressive occupation of the block of the ancient center of Naples which today is located between the homonymous square and via Duomo. The Monumental Complex, in fact, was built with the progressive annexation of adjoining factories and with some demolitions inside the Oratorian insula. All the spaces were organized around the two cloisters, which they also act as connecting elements between the various parts of the complex. The first, (Fig. 1) with a Renaissance layout which leads to the Church of San Filippo Neri, and the large cloister, on the other hand, called l'Aranceto (Fig. 2), is the main access point to the library. The Oratorian Library of the Girolamini was one of the first libraries open to the public in Naples. This perspective also defined the activity of the Filipinos fathers as a formative activity, of reference in the territory, especially for young people of poorer families, who could access an education that included different disciplines, from historical and erudite, to naturalistic, to mathematics, to music.

### A NEW PROJECT FOR THE LIBRARY

The project to refurbish the spaces of the library and enhance the path of visit, therefore has the prospect of returning to the territory an ancient cultural institution, which, since the end of the sixteenth century, has promoted and marked an erudite reflection in Naples characterized by a significant cultural openness, of international scope. The library intends to present itself as a new cultural hub in the city center, offering heterogeneous experi-

ences dedicated to scholars of bibliographic material, and those who wish to discover the beauty of the monumental rooms, both for those who want to discover the material preserved in the music Archive.

### **THE RESTORATION OF THE SALA VICO**

Sala Vico, the heart of the library, is a jewel of late Neapolitan Baroque architecture. Arranged on several levels, in its interior furnishings and architecture blend to create an imposing scenography severe although colored to the extreme, built at the beginning of the 18th century (Fig. 3). Sala Vico is a precious casket of wonders in which the decorative passages are perfectly combined reaching a pleasant aesthetic continuity. It has a ceiling consisting of a dense wooden plank, to which the huge canvas of 300 square meters adheres, organized in different squares connected to form a seamless surface of continuity, painted by scenographers. According to the most typical late Baroque illusionist tradition, the decorative apparatus is characterized by a false succession of lacunar ceilings, cornices with protruding shelves and rounds of recessed cornices.

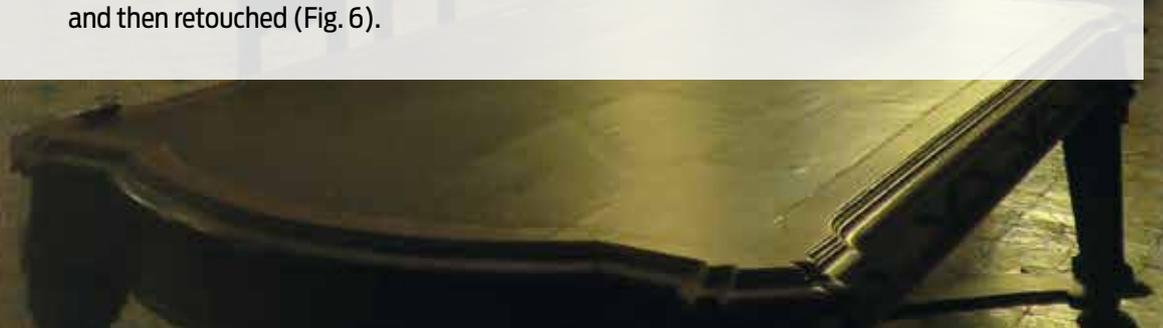
In order to proceed with the restoration site of the wooden apparatus and the decorated canvas on the ceiling, a series of protective works were preliminarily planned in order not to damage the historical-artistic and book heritage present in the room, which will remain in situ, both because it is immovable, both for safety reasons and to limit the damage of a possible movement (Fig. 4). The work will therefore proceed to the protection of the book material, with the packaging of the materials, which will be relocated in situ, and the

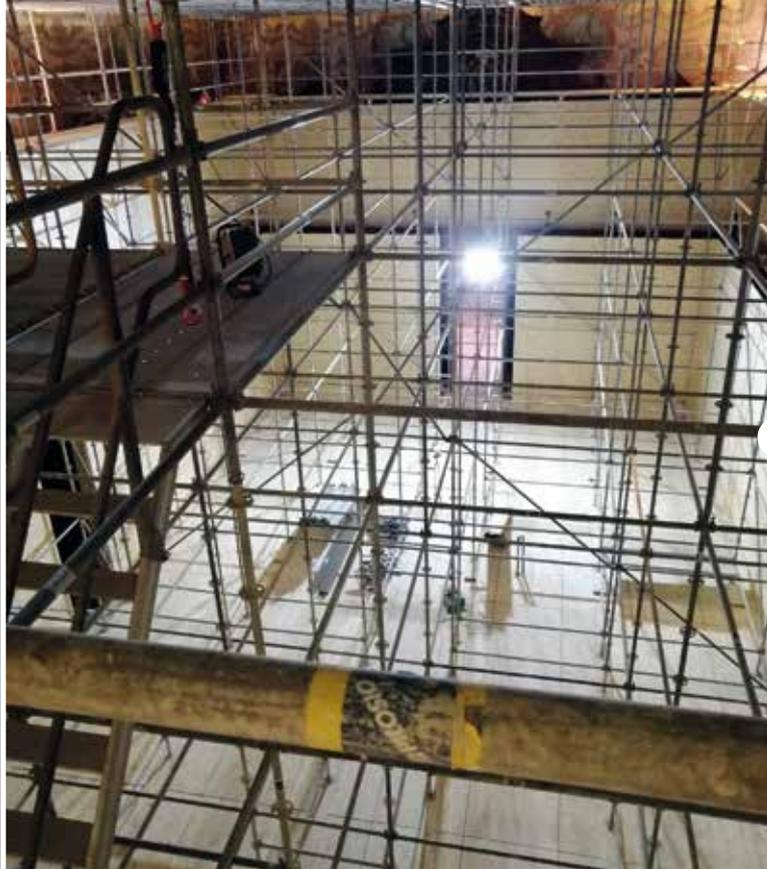




packaging of the shelves, with non-woven fabric sheets, then with the installation of a wooden paneling to protect all the wooden apparatus of the wardrobes, the scallops, the walkway and the upper balustrade.

In addition, provisional works and the shoring of the wooden false ceiling painted on canvas are foreseen (Fig. 5). For this decorative system, a restoration system similar to that of tapestries/arazzo was developed. All the nails that supported the canvas and no longer suitable will be extracted and replaced by stainless steel screws, while the surrounding fillings will be made with a cotton velatino and subsequently covered with Japanese paper and then retouched (Fig. 6).





4



5



6

LITHOS

Maria Maio  
School of Specialization in  
Restoration of Monuments,  
University of Federico II Napoli

## SURFACE RESTORATION: THE CASE OF THE CHURCH OF SAN GIOVANNI A CARBONARA



info@b5srl.it  
www.b5srl.eu

tecnici@brigante-engineering.com  
www.brigante-engineering.com

### PREMISE

The church of San Giovanni a Carbonara, founded in 1343 is an example of extraordinary relevance for the Neapolitan architecture history.

The complex, located near the north-eastern edge of the Angevin walls, consists of a monastery, churches and chapels with independent entrances, distributed on different levels: the church of San Giovanni a Carbonara proper (Fig. 1); the church of Pietatella a Carbonara (Fig. 2), adjacent to the architectural complex and founded in the fourteenth century, which preserves the nineteenth-century additions; the Renaissance chapel of S. Monica (Fig. 3) located on the right side of the apse of the church, built in the fifteenth century at the behest of the Sanseverino family and the eighteenth-century church of the Consolazione degli Afflitti in Carbonara (Fig. 4), located between the two ramps of the staircase, under the church of San Giovanni a Carbonara, which serves as a crypt.

The plant, located on a slight rise from the current Via San Giovanni a Carbonara, is very complex due to the considerable transformations it has undergone over the years.

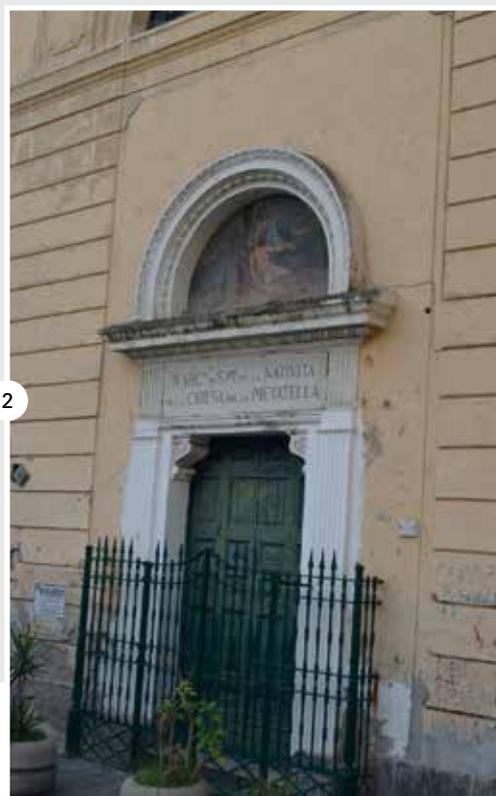
The church of San Giovanni a Carbonara was built in the fourteenth century near Porta Capuana in an area at the time considered “extra moenia”, i.e. outside the city walls. For centuries the debris and mud from the hilly areas poured into this valley with the rains and then ended up in the sea. The area was used as a “landfill”: in fact, the waste was thrown here and then set on fire. The place was called “ad carbonetum” and hence the name “a Carbonara” with which the church is known. Between 1330 and 1343, the year of the beginning of the construction of the church, Gualtiero Galeota donated some of his lands and properties that he owned in this area to the Augustinian monks. Construction work on the church continued until 1418. The first expansion took place during the fifteenth and

Fig. 1  
Entrance to the church of San Giovanni a Carbonara proper

Fig. 2  
Entrance to the church of Pietatella a Carbonara

Fig. 3  
Entrance to the chapel of S. Monica

Fig. 4  
Entrance of the church of the Consolazione degli Afflitti in Carbonara







sixteenth centuries with the construction of the Caracciolo del Sole (1427) and Caracciolo di Vico (1517) chapels and, probably, the chapel of Santa Monica, which has an independent access. In the same years the chapel of Somma was built (1566) which involved moving the entrance along the southern longitudinal wall. Another important transformation took place in the early eighteenth century when Ferdinando Sanfelice built a majestic double staircase that eliminated the difference in height with respect to the underlying Via Carbonara and connected the various chapels. The church was restored for the first time in 1856 by Federico Travaglini and, after being severely damaged during the bombings of 1943, a de-restoration was carried out which eliminated the nineteenth-century additions with the aim of restoring the original appearance of the Angevin factory to the church.

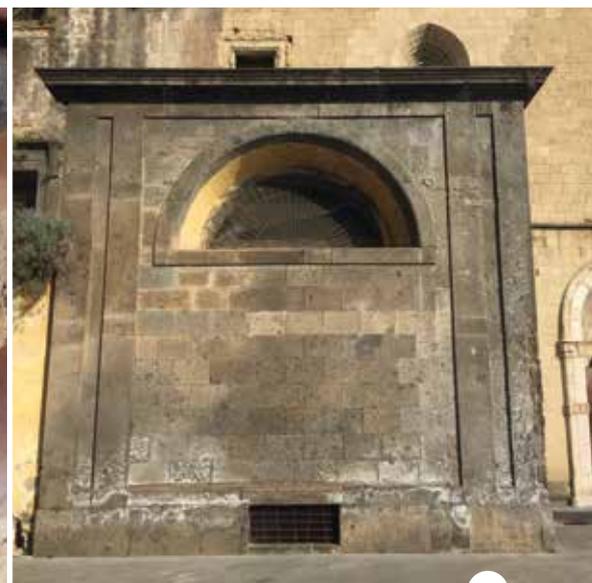
### **RESTORATION OF THE FAÇADE IN TUFF AND PIPERNO STONE**

The main and side facades of the church of Santa Monica and San Giovanni a Carbonara are characterized by the presence of stone elements in tuff and piperno, typical Neapolitan building materials. These elements showed various degradations caused by the presence of colonies of microorganisms, salts, crusts, and residues of various kinds; therefore, surface restoration operations were necessary. The colonies of autotrophic and heterotrophic microorganisms, present on tuff and piperno, were eliminated with the application of biocides, subsequent mechanical removal, washing with demineralized water and brushing with sorghum brushes (Fig. 5). For the parts affected by superficial soluble salts, on the other hand, extraction operations were carried out by applying compresses with absorbent papers and demineralized water. The presence of oils, paints, crusts and residues of various kinds was eliminated with compresses with absorbent papers and ammonium carbonate, with subsequent brushing and washing with demineralized water to remove even the residues of the processing. At the end of the disinfection and cleaning phases, the works involved the application on the Tuff stone, of a coat of protective consolidating agent based on lime water, to avoid the phenomenon of stone exfoliation. Then the surface was consolidated and protected with the application of ethyl silicate, by using a brush, in order to create a protective film on the facing in piperno and tuff. The restoration of the stone elements ended with the grouting and stylisation of the joints, carried out in such a way as to determine the uniformity of the various wall faces.

During the restoration of the stone elements, a criticality was found on the façade of the Eboli chapel in Castropignano, covered with slabs of pipernoid tuff (Fig. 6). The chapel presented an invasive phenomenon of rising soluble salts; therefore it was necessary to study and apply innovative techniques. The first operation was to carry out preliminary chemical analyzes in the laboratory which showed the strong presence of sulphates. The removal of salts was carried out through the application of ammonium carbonate compresses at 10% and the use of barium which blocks the phenomenon of sulphation by reacting and forming Barium sulphate.



5



6

## OTHER FACADES' RESTORATION WORKS

Restoration work on the facades of the complex also involved the plastering of the Sanfeliciano staircase, the frescoes and the marble portals. After careful analysis of the plaster on the parapets of the great Sanfeliciano staircase, using stratigraphy, X-ray diffractometry and cross-sectional glossing to understand the physical and chemical composition of the plaster, the Superintendent of Naples decided to preserve the original material. The restoration work included the removal of all stucco and parts whose composition did not correspond to the original plaster, after which disinfecting, and cleaning operations were carried out (Fig. 7). The consolidation was carried out using an ethyl silicate-based product and afterwards the grouting and smoothing was carried out with plasters which by composition corresponded to the original one, specifically hydraulic lime-based plaster. The restoration operations on the frescoes on the external facades of the San Giovanni Complex in Carbonara were carried out by a restorer specialized in the sector. The first operation concerned the disinfection of the surface, then the consolidation of the paint film and cleaning was carried out.

Finally, the final grouting was done by integrating the grouted gaps in mimetic watercolor. In the case of the marble portals, the work was carried out by a specialised restorer who, in agreement with the restoring officer of the Naples Superintendency, after an initial disinfection operation, proceeded to remove the crusts by means of several cycles of ammonium carbonate compresses and removal with scalpels and spatulas (Fig. 8). Subsequently, the missing parts were integrated with resin and fiberglass bars, the work was completed by applying a nano-silicate consolidating product and scialbatura to restore the original color of the marble elements.

Fig. 5  
Washing with demineralised water and brushing with sorghum brushes

Fig. 6  
Façade of the Eboli chapel in Castropignano, with evident rising soluble salts

Fig. 7  
Disinfection and cleaning operations on the Sanfeliciano staircase

Fig. 8  
Marble portal with the presence of black crusts



7



#### **BIBLIOGRAPHY**

A. Pane, *La cupola della cappella Caracciolo del sole in San Giovanni a Carbonara: Architettura e restauri di un 'monumento' della Napoli del quattrocento*, Altralinea, Firenze 2020

G. Vitagliano, *Alcuni interventi ottocenteschi sulle coperture della chiesa di San Giovanni a Carbonara in Napoli*, Arte Tipografica, Napoli 2005

A. Aceto, *La cappella Caracciolo di vico in San Giovanni a Carbonara a Napoli (1514-1517) e il problema della sua attribuzione*, Casa Editrice Leo S.Olshki, 2010

Maria Maio  
School of Specialization in  
Restoration of Monuments,  
University of Federico II Napoli

## THE REBIRTH OF VILLA GALDI IN MARIGLIANO AFTER THE 1980 EARTHQUAKE

graphite  
YOUR EPC CONTRACTOR

contact@graphite.ae  
www.graphite.ae

### From the construction to the present-day

Villa Galdi is an imposing building which, before being damaged by the earthquake of 1980, boasted of being the flagship of civil architecture in the whole of the Agro Nolano area (Fig. 2).

Its history begins in the late 1600s when a branch of the noble Galdi family from the hamlet of Coperchia, a fraction of the nearby municipality of Pellezzano in the province of Salerno, reached Marigliano, choosing it as a place of residence. Marigliano was a popular destination for its geographical position but also for the presence of the nearby thermal baths.

The building is characterized by a rectangular plan and consists of three floors above ground, a floor below street level, an attic and a large garden, still belonging to the villa and subject to restrictions.

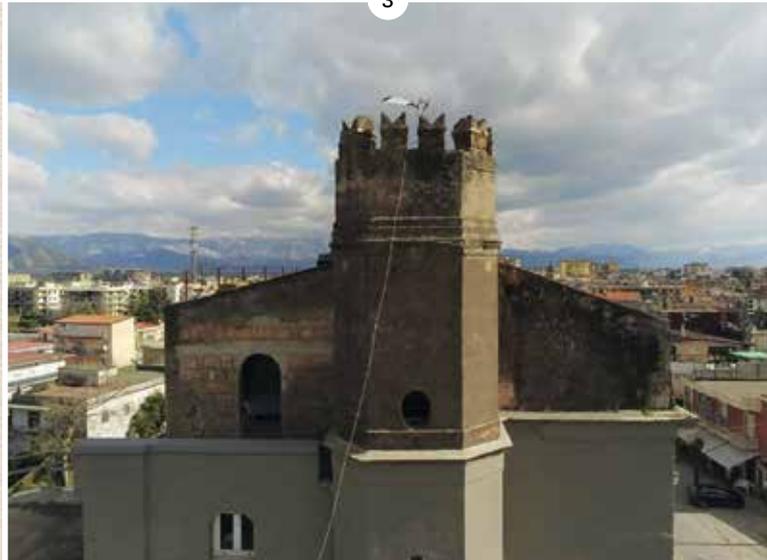


2



Marigliano (Napoli) - Villa Galdi

3



4



5

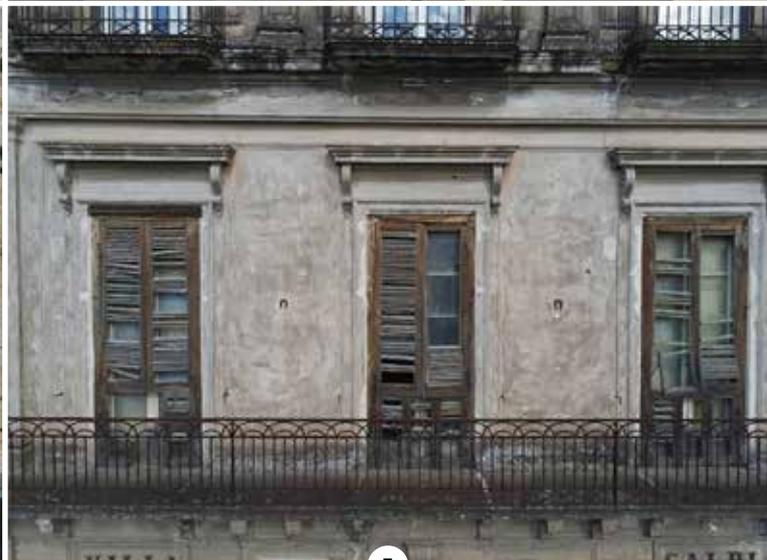


Fig. 1  
Main façade  
of Villa Galdi

Fig. 2  
Historical postcard  
representing Villa Galdi

Fig. 3  
Tower

Fig. 4-5  
Details of the  
main façade

The structure was born without concrete and effective references to a specific architectural canon, even if its marked verticality, accentuated by the presence of a side tower (Fig. 3), leads to vague similarities with the Italian Gothic of the nineteenth century. The artifact until 1866 has substantially preserved the original characteristics. In fact, in those years, the railway track was built, and the train tracks were built just five meters from the south-west wing of the building, resulting in a partial disfigurement of the villa. The owners, however, took action against the railway company, requiring the train to Naples to make five annual stops at the villa, so as to allow the loading of provisions to supply the other house they owned in the city. In 1898 the villa was equipped with a stable and a carriage house which were built on the northern wing of the residence. In the early twentieth century the old farm buildings were demolished. In 1931 the devastating earthquake damaged the villa considerably, causing the partial collapse of tower located on the western side of the building. In the following years the tower was rebuilt, although a few years later, in 1980, the

structure was again damaged by the earthquake. Following this disastrous event, the villa was partially abandoned. Many and incisive were the transformations undergone by the villa, such as the reinforced concrete structure built in the garden and the body of the building leaning against the building.

## Description

The main façade has three overlapping orders of pilasters that mark the floors and form a symmetrical architectural framework, with elegant and harmonious dimensions (Fig. 4). The central portal is surmounted by a continuous balcony with differing corbels in piperno stone (Fig. 5). This façade presents the ashlar base and the upper orders in smooth plaster, the different material treatment of the surfaces establishes a slight chromatic difference between the various architectural elements.

The interior is characterized by an atrium with symmetrical lateral vestibules punctuated by imposing columns that allow to see the internal garden (Fig. 6). The visual and volumetric relationship that is established between the built parts and the greenery is remarkable: from the entrance it is possible to see, from multiple points of view, the garden which is rich in exotic vegetation and preserves the original fence. The supporting structure of the building, on the other hand, is in tuff masonry (Fig. 7).

Fig. 6  
Garden

Fig. 7  
Dome sail detail made  
of tuff blocks

Fig. 8  
Presence of  
pink-orange color

Fig. 9  
Partially collapsed attic

## Investigations for the restoration of the original color scheme of surfaces

The original colors of the facade and the interiors of the first floor of Villa Galdi have been identified through patches of descialbo and stratigraphy. These tests identified the num-



6



8

ber and type of finishes used over the years, up to the original one. The operations began with historical and photographic research from which, however, no data or documents emerged that could reveal what color Villa Galdi was originally.

The next step was the observation of the washout points around the windows on the second floor which highlighted the presence of orange areas, reminiscent of much brighter colors, of a warm and intense pink. Other portions that show this tone of the finish are present on both side faces, where there are signs of pink-orange color (Fig. 8).

The descialbo tests and stratigraphic investigations were carried out both on the plaster and on the stucco decorations, i.e. the lesene and the frames of the French windows, and were carried out on the second floor, near the balconies.

From the stratigraphies emerged that the masonry was directly present under the coarse finishing layer.

The overlapping of the interventions that the facade has undergone over the years has shown an alternation and disharmony in the stratigraphies. In areas where the color has survived, this is found under the last gray layer, with a big grain size, while the pink-orange plaster is smooth and well spread.

The pollution and the natural degradation of the materials have caused the chromatic alteration and the consequent blackening of the surfaces.

The stratigraphic investigations also highlighted the succession of modern paints and lime based colors with the alternation, in the interiors of the first floor, of areas still covered by wallpaper.

The sandblasting and cleaning of the surfaces are currently underway, as well as the design for the refurbishment of the partially collapsed attic (Fig. 9)



7



9

31 AUGUST  
POMPEI

Marco Cataldi  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan

#value



# POMPEII ARCHAEOLOGICAL PARK: ARCHAEOLOGY AND VALORISATION

According to UNESCO, a World Heritage site must display Outstanding Universal Value, which is the basis of any nomination. They describe it as value whose “cultural and/or natural significance is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity” <sup>(1)</sup>. Archaeological Areas of Pompeii with Herculaneum and Torre Annunziata were enrolled in UNESCO World Heritage List in 1997 <sup>(2)</sup>. Criteria assumed for their record are quite understandable. Pompeii is the only Roman city preserved in such an exceptional way, due to Vesuvius eruption in 79 AD. This tragedy froze the daily life of a rich Roman city forever. Statues, frescoes, jewellery are not the only evidence that came to us. Work tools, carbonized food, human bodies stuck in the escape are remains of such a historical value that it is not easily comparable with any other situation, offering a vivid slice of Roman material culture.

Pompeii also offers another kind of historical value. It was one of the first systematic archaeological dig to be executed by the will of the Bourbon royal family. They started in 1748 and the digs are still open to search for new hidden treasure. This long history of excavation shows the different approaches to the problem of archaeology, and they could be still read in the real archaeological sites and in their arrangement <sup>(3)</sup>. Starting from the idea of only rudely removing artistic pieces, such as frescoes, statues, and jewels, they arrived in the 20<sup>th</sup> century to the modern idea of preserving the authenticity of the site as we got it. In this effort, the last value of Pompeii could be read.

Modern archaeologists, together with architects, engineers, and scientists, works steadily to preserve the ruins of Pompeii for as long as possible. They also make an extra effort to make them accessible to all visitors who want to be fascinated by their history. Finally, they want to design a project with its contemporary significance, but harmonious and respectful in many ways of the irrecoverable ancient material. This joint effort adds an extra value to the historical one already existing. This value is the will of the people of today to respect the past and to act in the present at best, to hand down in the future this unmatched evidence.

---

(1) UNESCO, *Operational Guidelines for the Implementation of the World Heritage Convention (WHC. 19/01 – 10 July 2019)*: 2.2.1 Outstanding Universal Value: definition and attributes

(2) WHC, CONF 208 VIII.C - *Inscription: The Archaeological Areas of Pompei, Herculaneum and Torre Annunziata (Italy)*, 1997

(3) UNESCO, *Archaeological Areas of Pompei, Herculaneum and Torre Annunziata: Outstanding Universal Value -Authenticity*, <https://whc.unesco.org/en/list/829/>

Marco Cataldi  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan

## THE RESTORATION OF DIOMEDES' VILLA: A WORK WHICH HANDS DOWN A THOUSAND-YEAR HISTORY

# LITHOS

Restauro e conservazione

info@lithosrestauri.com  
www.lithosrestauri.com



DE MARCO  
ARCHEOLOGIA RESTAURO COSTRUZIONI  
BARI

info@impresademarco.it  
www.impresademarco.it

### THE HISTORY OF THE PLACE

“Villa of Diomedes” is probably one of the most famous places in the archaeological park of Pompeii. Its relevance is due to the fact that it is a luxurious example of suburban villa, probably owned by the wealthy libertus M. Arrius Diomedes, whose tomb was discovered in front of this monumental residence (Fig. 1). It is spread over three levels, and it is composed of a vast hanging garden, an upper peristyle and a lower one, with a private pool and an external triclinium, where they used to feast during the hot summer days (Fig. 2). The villa originally looked out over the seaside, but the Vesuvio eruption in 79 A.D. was so strong that it reshaped the former coastline to the existing profile. During the excavations, the bodies of a master and his servant were found together with a little treasure of 1.356 sestertii near the entrance of the villa. About eighteen other people, women and children, were also caught by the explosion. The richness of this residential complex is testified by the sumptuous jewels worn by them during the infructuous escape.

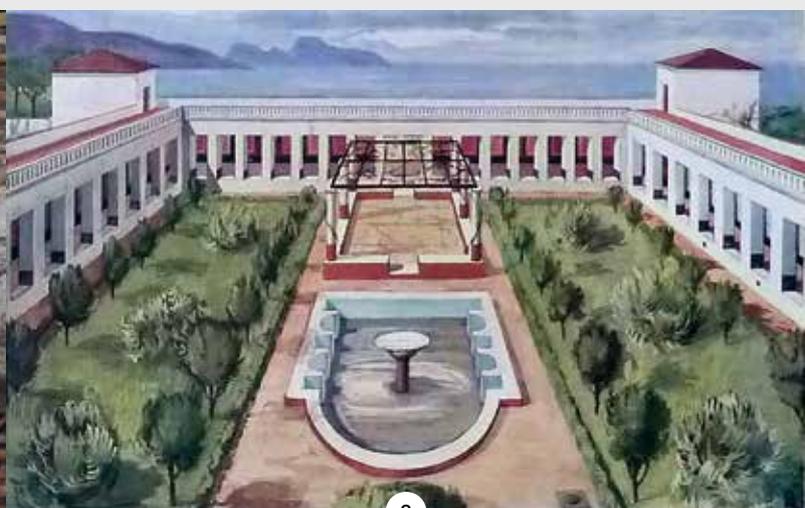
“Villa of Diomedes” was also one of the first archaeological site to be dug between 1771 – 1774 by Francesco La Vega, a war engineer employed by the Bourbon royal family. He first used a modern excavation method, keeping an accurate record of discoveries and making the geometric survey of the place. He also decided to display the archaeological remains outdoor (Fig. 3), contrary to the previous custom to bury them again after having taken every hidden treasure. The graffiti and the signs of the visitors on the Villa walls attest the relevance that it had in XIX century for European people. These stunning ruins of a previous prosperity became an essential milestone in the Grand-Tour of Italy, and they sparked the imagination of artists and writers. In 1852, the French writer Théophile Gautier wrote the short novel Arria Marcella, inspired by a matrona, whose corpse was found buried in the Villa.

# P O M P E I I

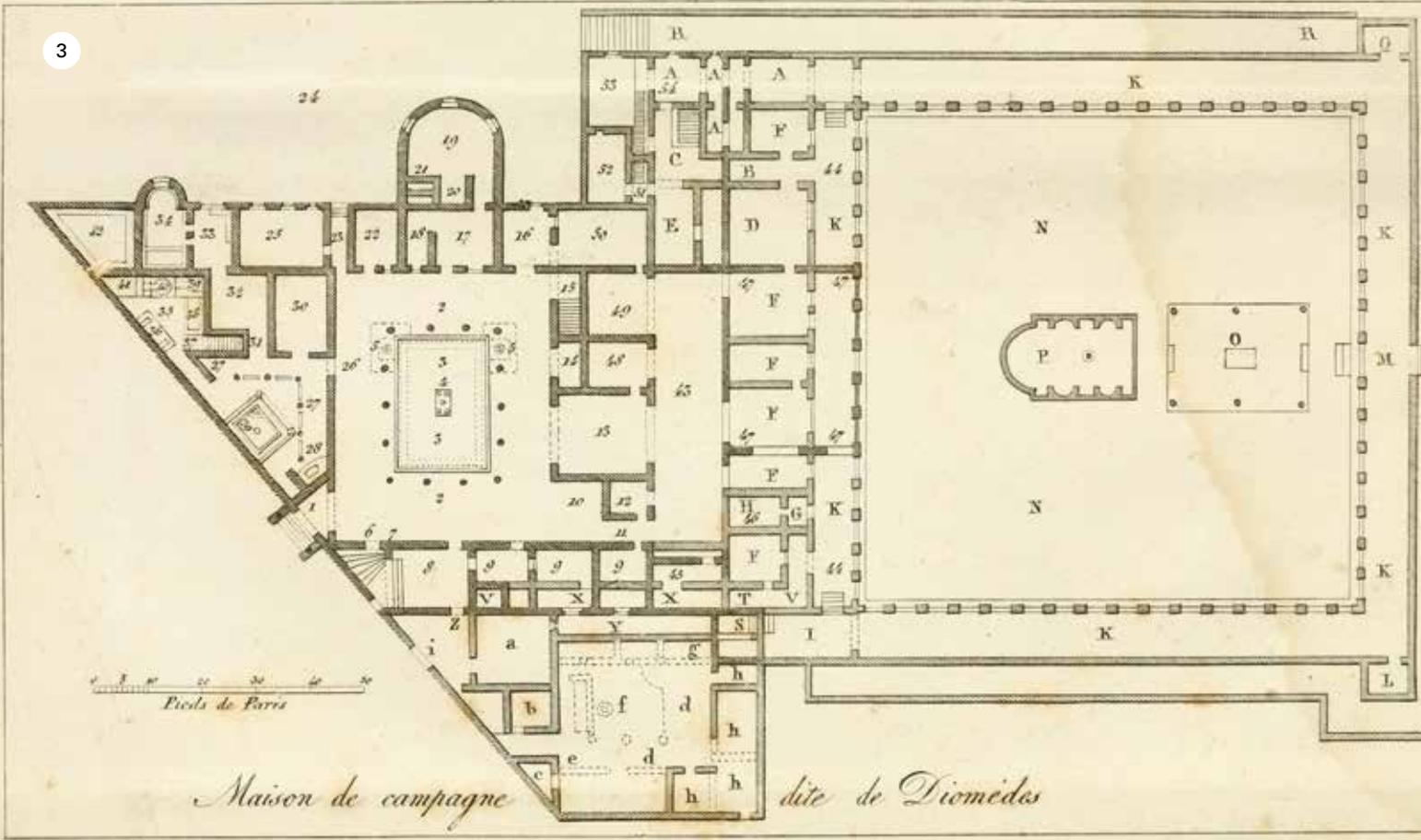
pompei.info@beniculturali.it  
www.pompeisites.org



1



2



## THE WORKS OF RESTORATION

Nowadays, “Villa of Diomedes” is under restoration within “Grande Progetto Pompei”. The aim of this project is to reopen villae, insulae and monuments of Pompeii, which were previously kept closed due to the lack of maintenance (Fig. 4). It also aspires to encourage a virtuous collaboration between scientists called to analyse archaeological finds and business contractors. In that event, De Marco srl won the contract for structural consolidation works on the remains of Diomedes’ villa. Their efforts focused on improving static performance of the old structure, following the criteria of compatibility, durability, and reversibility. They used microscopic analysis to determine the chemical composition of the original mortar of the walls. In this way, they were able to craft a lime-based mortar fully compatible with the old one but with enhanced structural performance. This custom-made product was used to trim joint sealing of historic masonry and to shape the top surface of the walls (Fig. 5). They also replaced old wooden lintels with new stronger ones made of chestnut. They accurately studied a specific procedure to remove the old elements without loss of historical material as if it were a surgical operation. The same approach was employed to cut off an old concrete slab, nowadays no more bearable by the masonry walls below. They designed a new wooden floor, that is lighter but stronger than the previous one. They finally coated it with cocciopesto to assure waterproofness and chromatic harmony with this peerless context.

Fig. 1  
M. Arrius Diomedes epigraph  
found in front of the Villa

Fig. 2  
Graphic reconstruction  
of the lower peristyle  
(Maiuri, 1947)

Fig. 3  
Plan of Diomedes Villa  
(from Jorio, 1836)

A proper water protection is also linked to preservation of frescoes, mosaic floors and other types of surfaces. These precious remains suffered from rainy water leaks and rising damp that have been attacking them for years. Lithos srl. won the contract for fixing works on this ensemble of different materials and techniques. They took advantage of scientific advisors to survey degradation and to discern the chemical composition of products applied in the Diomedes' Villa (Fig. 6).

They discovered the usage in paintings of the rare Egyptian blue, which is one of the first synthetic produced pigment in the Ancient World. There are few traces left in archaeological sites around the Mediterranean Sea and the Pompeii finds are essential to study the pigment trade system in the Roman Empire. Then, the fixing works on plaster surfaces carried out in the XIX century were regarded as historical layers too. The signs of famous visitors, including Camillo Benso Count of Cavour, were discovered on them, so the value of this patches turn out to be undeniable (Fig. 7).

Fig. 4  
Current situation  
of the peristylum

Fig. 5  
Archaeological walls  
under restoration

Lithos srl, after these analyses, executed preliminary cleaning operations removing weeds and dirt deposits. Then, the consolidation of unstable frescoes fragments was made with

4



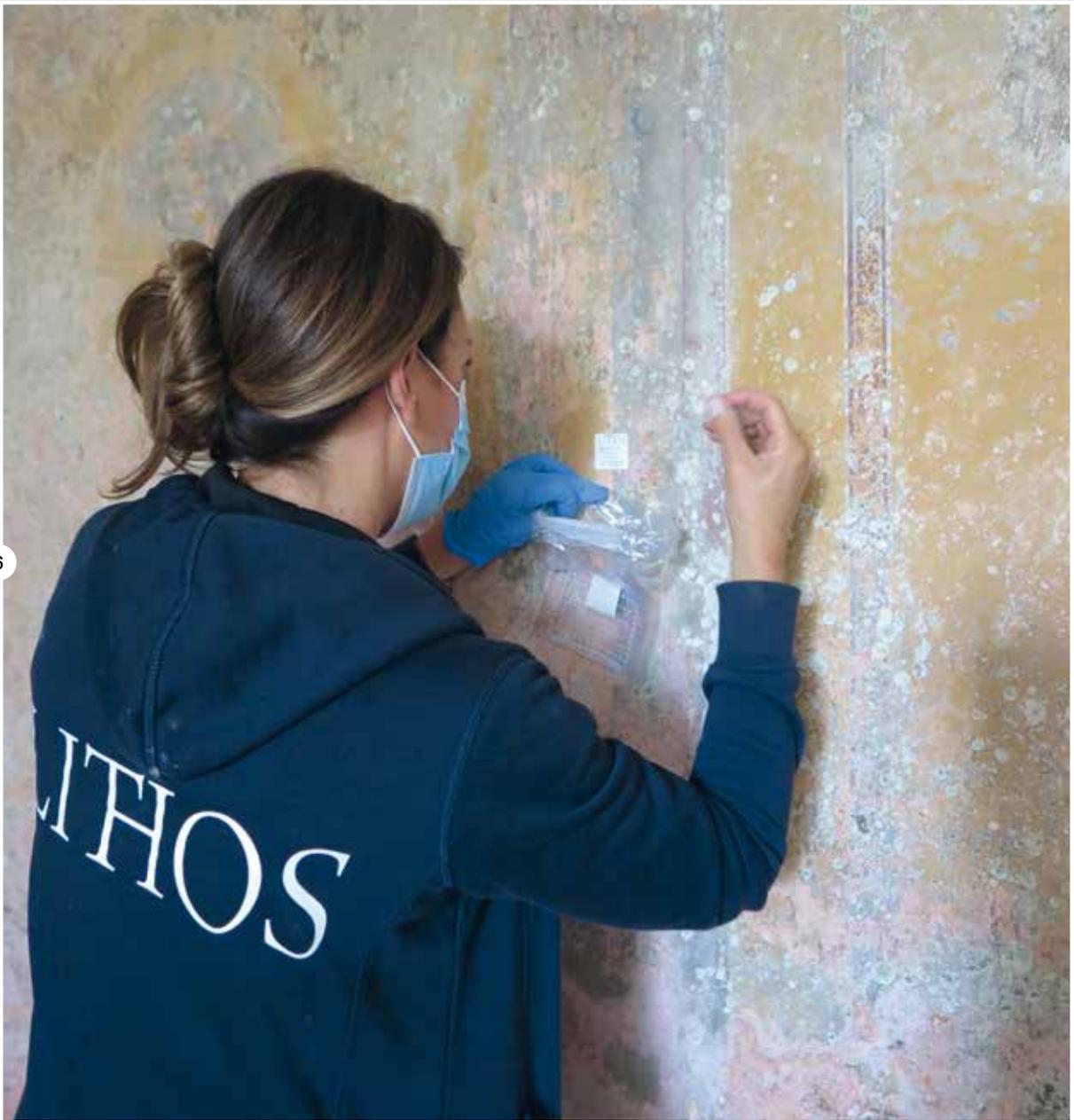
totally compatible materials as well as the last protective layer applied on them. They restored the paintings only in some parts where it was required for a better comprehension of images, using watercolour, and following the principles not to make unrecognizable antiquated imitations (Fig. 8). Other specifically developed procedures of cleansing, strengthening, and sealing were used on the rest of materials, such as mosaic floors, stone, and metals.

The richness of “Villa of Diomedes” is proved by the elaborate sequence of rooms and by the wide range of finishing techniques. De Marco srl and Lithos srl separately approached these two faces for more informed works, but they were joint together by the same purpose of handing down Diomedes’ Villa as well-preserved as possible. The perfect conservation of these irreplaceable ruins will definitely help arouse the fantasy of future visitors. Today’s tourists have already been able to visit the archaeological dig during the event “Su il sipario! Cantiere in scena”, held on July 2<sup>nd</sup>. On this occasion, small groups of people were allowed to get around the ongoing works and in doing so they became aware of the cultural efforts behind the restoration process (Fig. 9).

5



6



7





8



9

Fig. 6  
Removal of frescoed  
plaster sample

Fig. 7  
Signs of Grand Tour  
visitors left on XIX century  
plaster repairs

Fig. 8  
Retouching with watercolour  
of the frescoed images

Fig. 9  
Visitors and restorers during  
"Su il sipario!  
Cantiere in scena" event

Marco Cataldi  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan

## THE RESTORATION PROJECT OF INSULA OF CHASTE LOVERS IN POMPEII



info@b5srl.it  
www.b5srl.eu

**fratellinavarra**

info.milano@fratellinavarra.it  
www.fratellinavarra.it

### HISTORICAL BACKGROUNDS

The “Insula of Chaste Lovers” is one of the last insulae to be discovered in the central IX Regio of Pompeii. The first archaeological dig began in the early 20th century, then during WW II the site was bombed registering some damages, and finally in the 80’s the first restoration project was accomplished. In addition to the troubled excavation events, the Insula unearthed a truly vivid picture of Pompeian daily life during the Roman Empire. The insula is composed of multiple residences and one baker’s establishment, where, in its stable, the remains of the mules which used to carry the wheat were discovered untouched (Fig. 1). The insula took its name from the pictorial cycle on the walls of this wealthy artisan house, representing three extraordinary vibrant scenes of a couple of lovers tenderly kissing each other (Fig. 2). Some preparatory drawings on the plaster and work tools of masons, probably engaged in repairing the damage of an earthquake that occurred in 62 A.D, were also found in the baker’s domus (Fig. 3). Due to its recent discovery, the Insula also acquires a unique relevance for the volcanology historians, by showing them in some parts of the dig the perfect stratification of lapilli coming from Vesuvio eruption in 79 A.D. Then, there is a big portion of the lot (about half of it) still awaiting excavation, from which we cannot really say what kind of unrepeatable historical evidence will be found.

### AIMS OF THE PROJECT

After some years of poor management, the entire archaeological park of Pompeii was object of a special and urgent Programme of conservation, damage prevention, maintenance, and restoration, called “Grande Progetto Pompei”. It was made official by the Italian law n. 34/2011 (art. 2) and receives funding from both Italian Government and European Union in a shared effort to preserve those unique remains of the Roman culture. This plan also aims at combining skills from multiple disciplines, to bring out the best of them in every single project on the local scale. Restoration of the Insula of the Chaste Lovers is part of the programme as well. The engineering firm B5 srl., led by the architect Francesca Brancaccio and the engineer Ugo Brancaccio, signed in 2016 a deal with Ministero dei Beni Culturali for the project of restoration of the insula. A team of archaeologists, geologists, restoration specialists and structural engineers was engaged to deal with the multiple faces of a project in such a challenging site.

The first step to a conscious project was to evaluate the state of preservation of the archaeological wall, of the frescoes and organic remains. In this preliminary stage, the scientific advisors employed their analysis skill to give an assessment on conservation, which fortunately resulted quite good. Thanks to a first steel covering, disposed in 1989, the ruins below were protected for years, but nowadays the roof started working improperly, threatening the conservation of material with rainy water leaks (Fig. 4). So, they decided to build a new roofing to the archaeological dig to ensure a better protection from rain, humidity, and fluctuations in temperature that could threat the survival of these precious historical

P O M P E I I

pompei.info@beniculturali.it  
www.pompeisites.org

Fig. 1  
Remains of the mule  
got stuck during  
the Vesuvio eruption

Fig. 2  
The painting representing  
the couple  
of “Chaste Lovers”





3

traces. They also worked expressly on them to give structural reinforcement to the most unstable walls and to end up the fixes on frescoes and plasters (Fig. 5).

The new roofing faces the challenge to be a light but earthquake-proof structure. Following the Italian guidelines of restoration, it must also have a recognisable modern appearance, yet harmonized in colours and materials with the Pompeian setting. Then, it must be totally removable without loss of historic material, and it must allow the insula to be visited by every kind of tourists without interruption of excavation work beneath.

### THE PROJECT

In 2010, a first “Cantiere Evento” took place in the Insula of Chaste Lovers, allowing the visit of the archaeological dig from a new point of view thanks to a temporary walkway suspended above by the old roof. B5 srl. Engineering took up this concept, designing a new coverage with hanging walkways at the altitude of 7.5 meters above the ruins, in addition to a re-shaped path at floor level. The hanging tour is an innovation to the classical museum setting of Pompeian domus and gives disabled people the opportunity to visit other-



4

Fig. 3  
Other painting found  
in the Baker's domus

Fig. 4  
Insula of Chaste  
Lovers from  
Abundance Street

Fig. 5  
Existing coverage  
and reinforcement system



5

wise inaccessible spaces. This device also allows you to have a general glance to the insula, some parts of which are willingly kept as frozen at the time of eruption (Fig. 6).

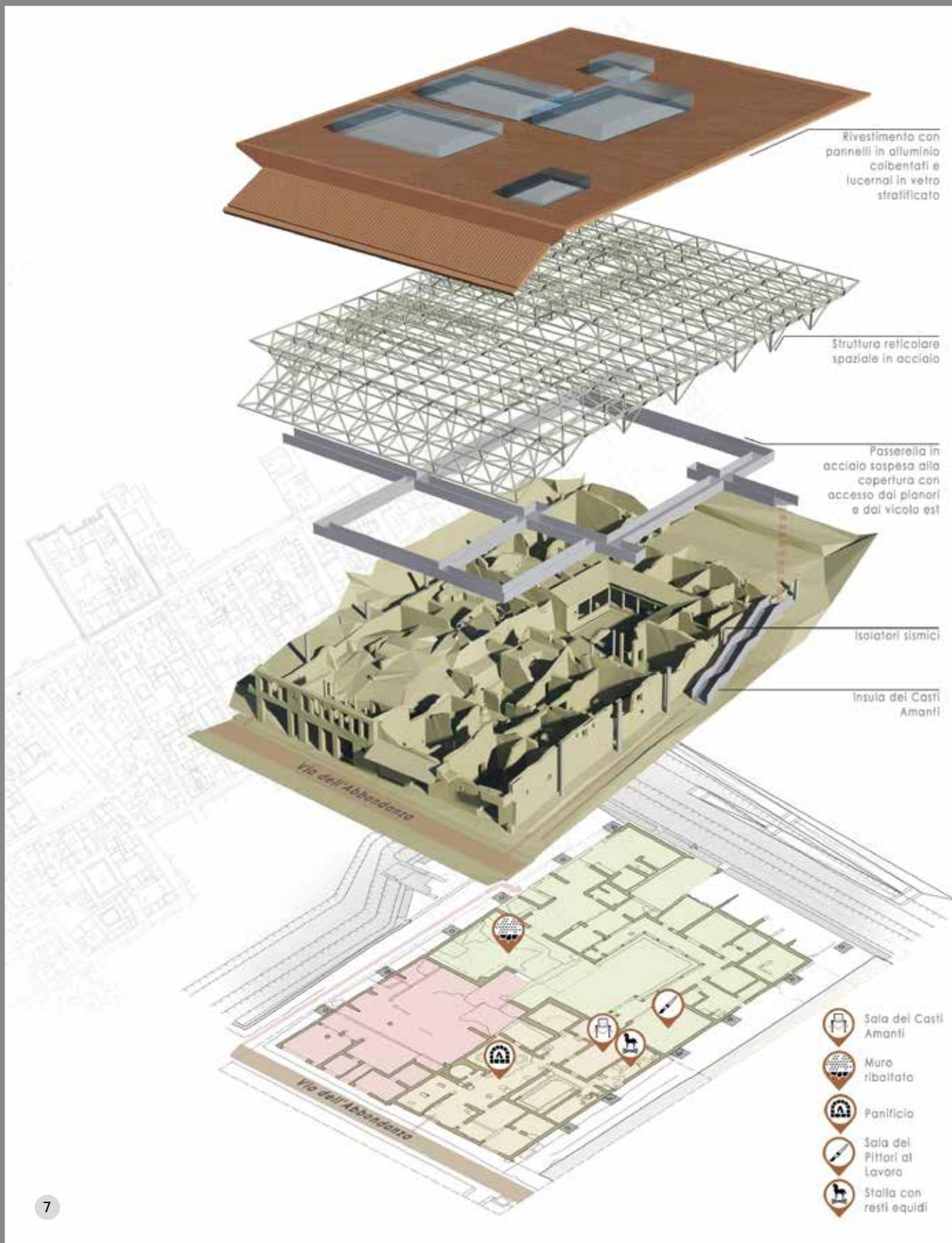
The structure is a steel space frame, that lies on the insula like a modern layer to the old ones and covers a surface of nearly 2.000 sqm. It is coated by brick-coloured aluminium sheets and glass panels, following the actual sequence of open and closed spaces of the domus below (Fig. 7). It was impossible to employ the old walls of the rooms as supports, due to their precarious firmness and new anti-seismic Italian regulation. So, they thought about holding the structure through two rows of six pillars each, external to the insula perimeter. In this way, the vertical supports are founded on the lateral alleys of lot without touching historical remains, considered untouchable as works of art, and future removability is guaranteed. Then a thermal insulation layer and a proper guttering system hidden in the steel frame ensure good climatic conditions to preserve the precious Lovers' paintings. Finally, the excavations fronts of the dig were reshaped in order to not collapse and eventually work as ditches for the insula in case of flooding.

The project of B5 srl Engineering is an exemplary case of fruitful collaboration between different disciplines, each of which provides its specific contribution. The common purpose is to design an excellent project, which assures on the one hand the conservation of the insula, and on the other hand gives Pompei a new culturally relevant addition to its masterpieces.



Fig. 6  
Bakery ovens found  
almost intact

Fig. 7  
Axonometric projection  
of the new roofing project





**01** SEPTEMBER  
CONFERENCE

## Heritage and Sustainability.

# The restoration of the Italian cultural historic building heritage, an inspiration for the world

*Assorestauro in collaboration with  
Green Building Council Italia, Ordine degli Architetti P.P.C di Bari*

**LIVE  
STREAM**

on [www.restorationweek.it](http://www.restorationweek.it)

**01 September 2021 | 2.30 pm to 4.00 pm** GMT+2

**Nuova Fiera del Levante Bari | Sala Congressi 2**



In the framework of Restoration Week 2021, we will deepen the connection between restoration and sustainability, hosting the international organizations that are working to propose environmentally conscious new building and preservation methods.

The world of construction, in Italy as in the rest of the world, must regenerate itself in order to make a concrete contribution to achieving the set goals. The building sustainability rating systems concretely represent a part of the response to this need.

GBC Italia is interested in stimulating a new wave of regeneration of the building market through the integration of history and green building practices, sharing its GBC Historic Building® rating system with the international community, expanding its applicability beyond the Italian market: an international version of GBC Historic Building® will be developed to ensure that the classification system becomes technically and readily applicable globally, changing the way the market operates on historic buildings by integrating sustainability and restoration practices.

Italy with GBC Historic Building® International is the first that combines environmental objectives with the value of the Heritage and the restoration of the Italian and world cultural heritage.

02 SEPTEMBER  
CONFERENCE

# From knowledge to restoration The Apulian experience within the national territory

*Assorestauro in collaboration with  
the Technical-Scientific Committee, Ordine degli Architetti P.P.C di Bari*

LIVE  
STREAM

on [www.restorationweek.it](http://www.restorationweek.it)

02 September 2021 | 2.30 pm to 4.00 pm <sup>GMT+2</sup>

Nuova Fiera del Levante Bari | Sala Congressi 2



Ordine degli Architetti,  
Pianificatori, Paesaggisti e  
Conservatori della Provincia di Bari



03 SEPTEMBER  
MATERA

Elisa Ardito  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan

#ethics



# THE “RESILIENCE” OF MATERA

Ethics deals with human behaviour in a process of continuous humanisation. Matera is the product of this process that has taken the city from amnesia to the re-emergence of an idea, from abandonment to urban regeneration, from horror to beauty.

It is a “resilient” city (in the etymological meaning of the term): it has had the ability to redeem itself, to adapt to changes and transform uncertainties into innovation, reconstructing the original ecosystem of Matera based on the passive architecture of caves, the collection and thrifty use of water, the community way of life.

Due to the world conflict and the difficult post-war conditions, the “Sassi of Matera” were occupied by about 17,000 inhabitants who lived in caves, without light and in alarming sanitary conditions. In 1952 the population was forced to emigrate to the new model neighborhoods built with public funding and the troglodyte habitat system was declared uninhabitable by walling off access to houses and roads.

The whole community with its identity and its past was decreed and placed on the margins of history.

It was only in 1986 that the “Conservation and recovery” law of the Sassi of Matera was enacted (Law 11 November 1986, n.771) which give the Municipality the role and resources to deal with the rehabilitation; but the way for the redevelopment was much more complex because it was necessary to erase the stigma of “national shame” from the Sassi.

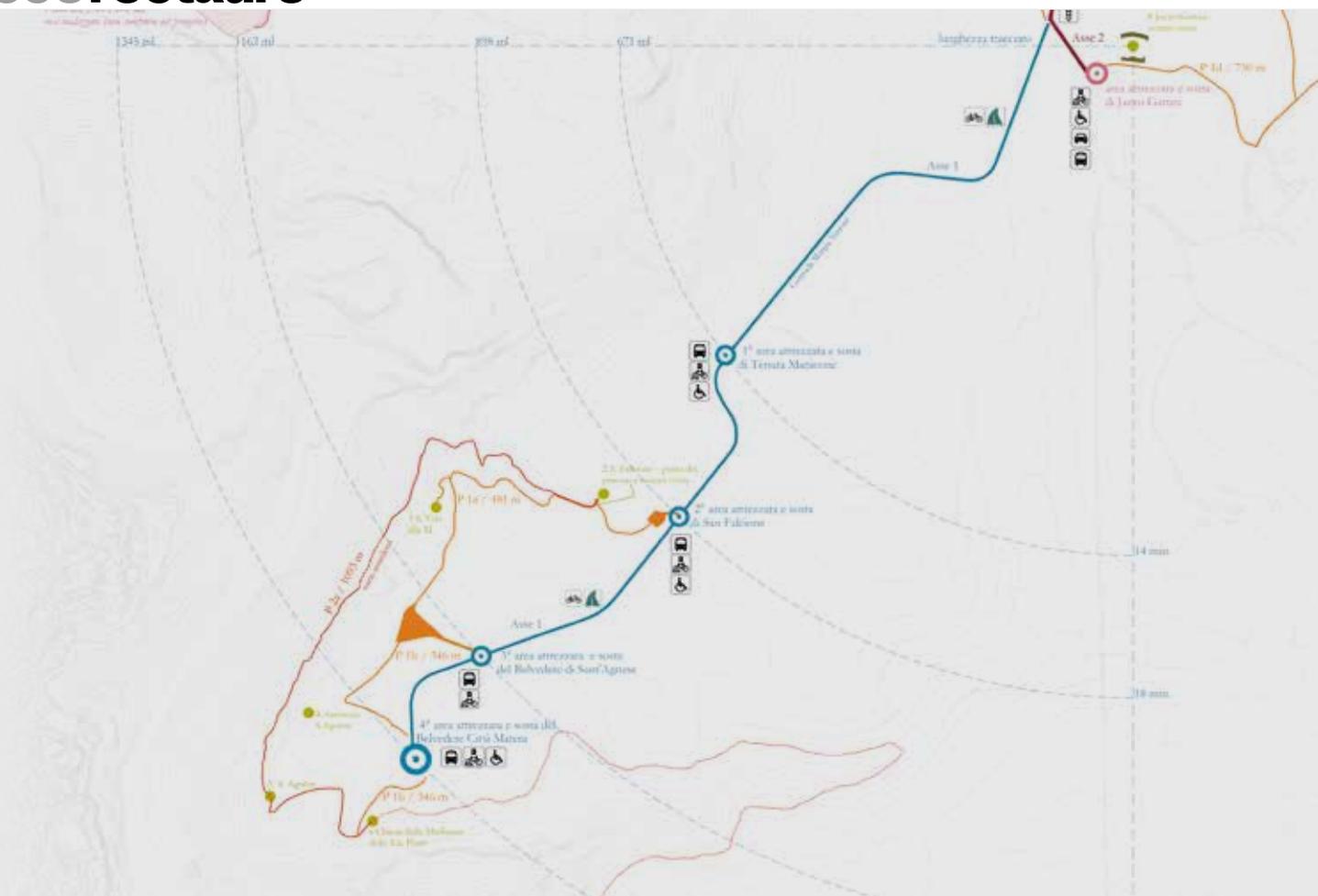
The only solution was the return of the inhabitants through restoration interventions compatible with the preservation of values. But on one hand, most of the citizens of Matera did not want to rehabilitate the Sassi, a wound still open to the mark suffered by shame and the imposition of new models; on the other hand, in order to establish correct safeguard codes it was first necessary to interpret the places and establish their values and meanings. It was therefore necessary for the restoration to be primarily a social gesture, capable of living in the memory, interests and passions of citizens. All this began with the inscription in the UNESCO “World Heritage List” created in 1993 as the first site in Southern Italy.

What makes Matera unique in the history of cities carved into the rock is that it is still and again inhabited; symbol of fall and rebirth, of resilience, community, and culture.

Since the 1990s, the inhabitants of Matera have returned, managing to reconcile the habitat and ancient knowledge with the innovations necessary for today’s living standards. Today, traditional techniques - water collection, soil protection, cave dwelling, natural architecture, passive geothermal, the type of urban structure - are a model for new research into bio-architecture, sustainable city, and green economy.

Matera overturns the paradigm of history as constant and linear progress with a single direction.





Elisa Ardito  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan

## PARK OF HUMAN HISTORY - ROCK CIVILISATION

### Rock churches: “architecture in negative”

info@ferima.it  
www.ferima.it/it/

The “Park of Human History – Rock Civilisation” project is implemented through a series of interventions within the Historical and Natural Archaeological Park of the Rock Churches of Matera in the Murgia Timone area, which are related to the restoration and protection of the rock churches, the upgrading of the routes and the use and enhancement of the sites through innovative multimedia technologies.

These interventions are integrated with those of “Park of Human History – Prehistory” project, in order to reconstruct the environmental, historical and archaeological system and obtain an integrated and unified system of protection, conservation and use.

The Gravina of Matera consists of a huge limestone furrow that crosses the territory for twenty kilometres in length. The limestone favoured the presence of prehistoric man, who used the caves as a refuge; during the Middle Ages, man enlarged the cavities to create complex living structures including spaces dedicated to worship: the rock churches.

In the ambivalence of the phenomenon - civil and religious - there is upside-down construction, or architecture in the negative, often with multi-level rooms, partly excavated

and partly integrated with tuff ashlars.

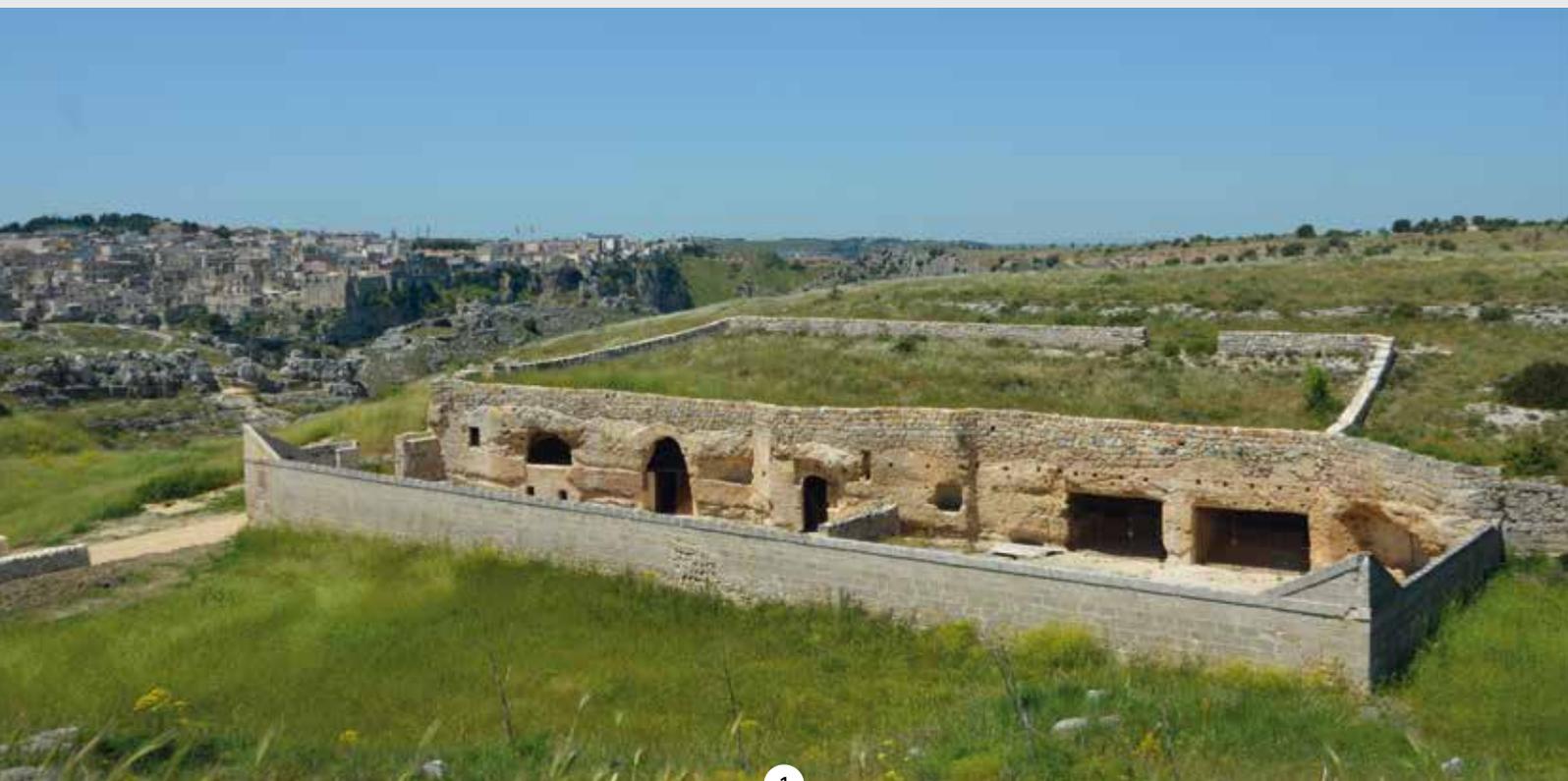
Belonging to the Park's historical-archaeological heritage there are seven rock-hewn churches, but we will investigate three: the church of San Falcione, the church of Sant'Agnese and the church of Madonna delle Tre Porte.

### **CHURCH OF SAN FALCIONE**

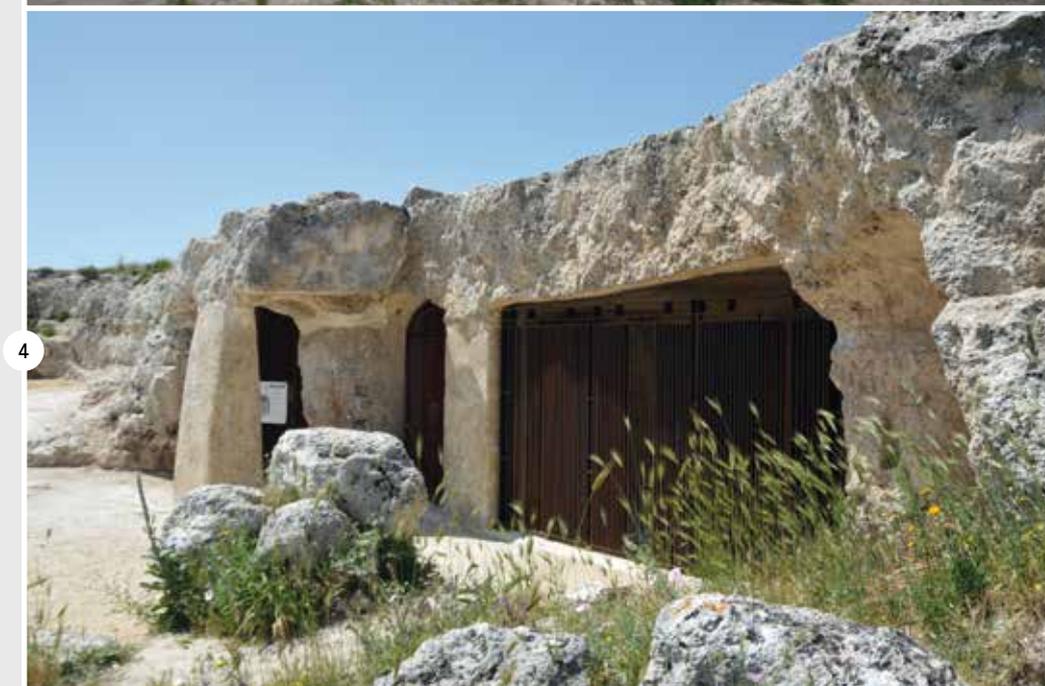
The rock church of San Falcione, also known as San Canione, belongs to the 9th-10th century Byzantine model and it is among the oldest churches in Matera. The complex consists of eight rooms lined up on the same front and surrounded by a wall built in the 19th century, when it was converted into a sheepfold by the Gattini counts. The church is flanked by other rooms that were used as a waxwork (to produce candle wax), shelter (to house the beehives) and animal shelter (Fig. 1).

The church (the third room from the left) is characterised by an entrance with a parabolic arch to access into a pseudo-rectangular room. In the centre, a pillar stands between two round arches leading into the presbyteries. The presbytery on the left has a rectangular floor plan, with an entrance arch and a niche carved with a Latin cross, while the presbytery on the right has a semicircular floor plan. A round-arched niche, containing a chair with a hint of a backrest, is excavated on the right wall of the front room, on the same side is one of two frescoes of St Nicholas.

The walls of the complex show abundant salts, microbiological attacks, alveolization and other erosion damage caused by the infiltration of rainwater and moisture.



1



### **CHURCH OF ST AGNESE**

The chapel of St Agnese has a rectangular plan, separated from the presbytery by a round arch, it is completely excavated in the rock and decorated with simple niches on the walls. Of great importance is the discovery of the fresco of the plague of St Agnes from the Byzantine period, later covered by another fresco from the 1600s.

The roof of the single-nave hall is in a poor state of preservation due to problems of humidity and water infiltration from the plateau above (Fig. 2).

### **CHURCH OF THE MADONNA DELLE TRE PORTE**

The church of the Madonna delle Tre Porte takes its name by its characteristic: it had three entrance arches that led to three separate oratories. Today it has only two of the three apsidal naves due to repeated collapses caused by weathering. The church has a pseudo-rectangular plan with the shorter sides hollowed out by three apsidal cavities. It is divided into

three naves marked by four massive pillars (the front two pillars have partially collapsed) connected by arches. The walls are decorated with crosses engraved by the faithful over the centuries and embellished with numerous frescoes attributed to the Maestro di Miglionico, a leading figure in Lucanian fresco painting in the second half of the 15<sup>th</sup> century (Fig. 3).

Of particular interest is the intervention of Studio Fèrima and the De Marco srl company: the project involves the restoration of the third entrance, through the reconstruction of the narthex in anastylosis and the relocation of part of the rocks at the top supported by the pillar reconstructed with stone blocks quarried in situ (Fig. 4).

The strategy for the restoration aims to slow down the process of deterioration on the individual assets and on their relationship with the whole environment in which they are located and where the causes of deterioration are originated. Equally important are the operations aimed at renovation of the stone structure, through preliminary waterproofing measures and fixing the extrados of the overlying rocky bank.

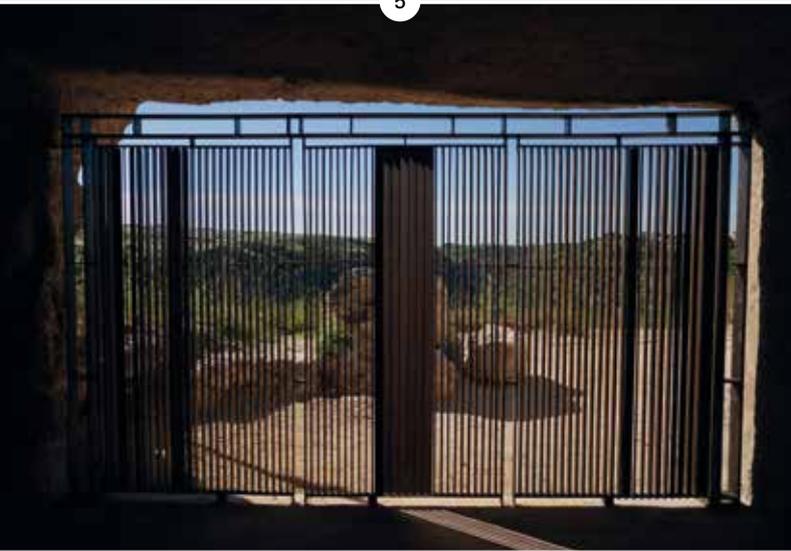
The structural interventions of the project are oriented at the renovation of the structure resistance conditions: reconstruction of collapsed parts, reintegration of missing parts, stitching up of discontinuities in the existing stone structure, maintaining a high degree of compatibility and reversibility.

The restoration project moves from a big scale (territorial) to a more detailed one, with the realization of corten-type steel window frames. Their installation guarantees the complete safety of the rooms, blocks the UV rays of the sun (thanks to slanted slatted frame) and dampens the wind currents which cause erosion (Fig. 5).

3



5



6



Finally, the project deals with the arrangement of the existing road system and the accessibility of the area through the reconversion of the Murgia Timone district into an equipped naturalistic road and cycle/pedestrian axis with limited traffic (zone 30).

From Jazzo Gattini (an ancient fortified sheepfold transformed into an information and multimedia point) will depart a “light rail”: an electric shuttles will travel through the district of Murgia Timone to the viewpoint over the city of Matera (“Belvedere Città Matera”). Along the route it will be possible to stop in three removable picnic and rest areas, designed to blend in the landscape system (circular seating elements, monolithic stone seats, lamellar wood stops) (Fig. 6-7).

In continuity with the new cycle-vehicular axis (district of Murgia Timone), two pedestrian routes have also been identified for visiting the rock churches, they are oriented towards different levels of difficulty and/or time available to tourists.

The valorisation and fruition project addresses the issue of physical, sensorial and cultural accessibility, essential requirements for making Italy’s cultural heritage sites fully accessible.



Elisa Ardito  
School of Specialization in  
Restoration of Monuments  
Polytechnic of Milan



**DE MARCO**  
ARCHEOLOGIA RESTAURO COSTRUZIONI  
BARI

[info@impresademarco.it](mailto:info@impresademarco.it)  
[www.impresademarco.it](http://www.impresademarco.it)

[info@ferima.it](mailto:info@ferima.it)  
[www.ferima.it/it/](http://www.ferima.it/it/)

## PARK OF HUMAN HISTORY

### The archaeological site of Murgia Timone

As part of the actions for Matera “European Capital of Culture”, the Municipality has set up the “Parks of Human History” system, consisting of four theme parks (named “Prehistory”, “Rock civilisation”, “Peasant civilisation” and “City of Space”) which tell the identity of the places and the anthropic use of the Murgia landscape from the Neolithic to recent time.

To the west of Matera, the perimeter of the protected area of the Parco Regionale della Murgia Materana develops along the Gravina of Picciano to the confluence of the Bradano river. The archaeological site of Murgia Timone belongs to this protected area: it is part of the limestone and calcarenite complex of the Plio-Pleistocene platform of the Gravina Calcarenita.

The archaeological site of Murgia Timone is divided into two areas, linked by a third one. The first area – which found to the east side of the plateau - is the “entrenched village”, a term coined by the archaeologist Ridola to identify the earliest phases of human settlement in the Matera area (Park of Human History - Prehistory). The second area – which found to the west side of the plateau - is a very large land where the seven rock churches are located (Park of Human History - Rock civilisation). Both areas are connected each





other by two buildings of the traditional agro-pastoral system, such as Jazzo Gattini and Masseria Radogna. The action programme for Matera will consider Jazzo Gattini and Masseria Radogna as accommodation and service facilities for “Park of Prehistory” and “Park of Rock Civilisation”, in a general plan of public functions. (Fig.1)

## **PARK OF HUMAN HISTORY - PREHISTORY**

### **The path on prehistoric entrenched villages and Jazzo Gattini**

In the archaeological site of Murgia Timone, the research carried out between the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century by D. Ridola, G. Patroni and U. Rellini led to the discovery of “chamber tombs” date back to the Middle Bronze Age, and “burial mounds” date back to the Iron Age and a Neolithic village.

A long ellipsoidal perimeter ditch remains of the village, whose course, although only partially investigated, has been fully identified. The moat makes an area of approximately 20,000 m<sup>2</sup>; it is joined to a second smaller circular moat (7,000 m<sup>2</sup>) situated at the east side.

Two openings have been identified at the east and west ends of the moat, described as two access gates. The western entrance (about 4 m wide) consists of a simple rocky plane that stop the moat; on the contrary, the eastern entrance is a kind of semicircular forepart, defined “bezel-shape” because of its shape. (Fig. 2)





In addition, the monumental structures of post-Neolithic burial hypogea and a lot of excavations related to dwelling and productive buildings of a vast settlement are visible within the enclosure moat: for example, holes for housing the hut poles, kilns, cisterns with a canalization system, tanks for collecting foodstuffs and intercommunicating wells for decanting clay.

Of great importance is the discovery of a chamber tomb, datable to the Middle Bronze Age, located near the western entrance of the village: it is characterised by a quadrangular cell with rounded edges, with a rectangular access well, surrounded on the outside by a circle of stones. A rich set of pottery were found in this tomb, which has allowed us to imagine that these places were occupied by an elite community that was perfectly integrated into the socio-economic processes of the period (above all, in a system of production and circulation of ornaments). (Fig.3)

Despite the difficulty of interpreting the archaeological facts, the village of Murgia Timone is an important example of a monumental settlement type, whose chronological history start from the beginning of the Neolithic until to the Final Bronze Age.

The strategy proposed by Studio Fèrima for the restoration of the “entrenched village” is aimed at the renovation of the structure resistance conditions, reintegration the missing elements, stitching up the lesions in the stone structure, consolidation the dry-stone walls and vertical load-bearing elements and manually removing the weeds.

The restoration of the prehistoric “entrenched village” is part of a broader project of environmental rehabilitation and enhancement of the cultural heritage, which aims to become a model of “experiential tourism” suitable for the state of the historical-architectural-landscape heritage area. This project recovers the existing pathway, thanks to insertion of a wooden footbridge, flexible and removable, which establishes the archaeological route from west to east of the moat. (Fig.4) The new footbridge aims to direct users towards a specific route and safeguard not only the archaeological finds (especially the upper part of the tombs from further weights of human beings), but also the protect vegetable species.

Finally, the existing road system will be improved and made safe within the project area, without modifying or defining new routes, which connects Jazzo Gattini to the “entrenched village”.

The Jazzo Gattini, an ancient fortified sheepfold in the centre of the Murgia, is transformed into a reception and information point, due to its central position adjacent to the archaeological area and close to the road leading to the rock churches of Murgia Timone. The project supports the touristic promotion of the park through the adoption of the most advanced multimedia and interactive technologies with real and virtual routes within it, or rather by mobile applications that include numerous sights, both historical-artistic and geological-naturalistic.

# QA

quaderni di assorestauro



YEAR10NR01