

Fragments and memory of landscape: preservation of some fragile architectures

Original

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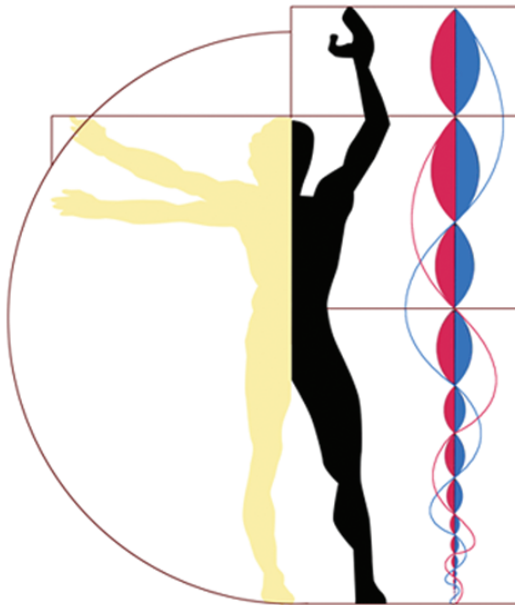
(Article begins on next page)

Fabbrica della Conoscenza

XIII Forum Internazionale di Studi

Le Vie dei
Mercanti

Carmine Gambardella



HERITAGE and TECHNOLOGY

Mind Knowledge Experience

Fabbrica della Conoscenza numero 56
Collana fondata e diretta da Carmine Gambardella

Fabbrica della Conoscenza

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Carmine Gambardella

**HERITAGE and TECHNOLOGY
Mind Knowledge Experience**

Le Vie dei Mercanti _ XIII Forum Internazionale di Studi

Carmine Gambardella

HERITAGE and TECHNOLOGY

Mind Knowledge Experience

Le Vie dei Mercanti

XIII Forum Internazionale di Studi

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Il Progetto "Ecoturismo urbano per la fruizione sostenibile dei Beni Culturali in Campania", in attuazione degli Obiettivi Operativi 2.1 e 2.2 del Programma Operativo FESR Campania 2007/2013 per la realizzazione e/o il potenziamento, nel territorio della regione, di forti concentrazioni di competenze scientifico tecnologiche, di alto potenziale innovativo, intende favorire la concentrazione di competenze scientifico-tecnologiche finalizzata a rafforzare la competitività dei sistemi locali e delle filiere produttive regionali non solo nei settori dei servizi associati al turismo e beni culturali ma anche in settori ad altissima tecnologia che possano rappresentare una svolta tecnologica e culturale all'approccio innovativo per lo Sviluppo sostenibile in aree ad altissima vocazione turistica.

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Tangible and intangible dimensions
History
Culture
Collective Identity
Memory
Documentation
Management
Communication for Cultural Heritage
Architecture
Surveying
Representation
Modelling
Data Integration
Technology Platforms
Analysis
Diagnosis and Monitoring Techniques
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Restoration
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Safety
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Materials
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Territorial Surveying
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Mind Knowledge Experience
Le Vie dei Mercanti
XIII Forum Internazionale di Studi

Aversa | Capri
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Peer review

Scholars has been invited to submit researches on theoretical and methodological aspects related to Heritage and Technology, and show real applications and experiences carried out on this themes.

Based on blind peer review, abstracts has been accepted, conditionally accepted, or rejected.

Authors of accepted and conditionally accepted papers has been invited to submit full papers. These has been again peer-reviewed and selected for the oral session and publication, or only for the publication in the conference proceedings.

Conference report

357 abstracts received from:

Albania, Argentina, Australia, Benin, Brazil, Bulgaria, Canada, Croatia, Egypt, France, Greece, Iraq, Israel, Italy, Japan, Latvia, Malta, Mexico, Norway, Poland, Portugal, P.R. China, Russia, Slovakia, Spain, Turkey, United Kingdom, USA.

More than 500 authors involved.

291 papers published.

Table of contents

- P. 35** Preface
Carmine GAMBARDELLA
- P. 36** **ID 002**
Architectural Restoration projects in metropolitan areas: the case of the Su-pyo Bridge
Beniamino POLIMENI
- P. 46** **ID 003**
Windows of memory: perspective panels to communicate archeological heritage
Alessandra PAGLIANO, Mariano MARMO, Roberta MONTELLA, Angelo TRIGGIANESE
- P. 55** **ID 004**
Heritage enhancement and communication: "Palazzo Te allo Specchio" follow-up
Alessandro BIANCHI
- P. 64** **ID 007**
Influences of building techniques on the annual primary energy requirement of buildings in Frignano (Italy)
Luigi MOLLO
- P. 69** **ID 008**
The sentry of Castellino Tanaro: the structural recovery of an ancient medieval tower
Cesare Renzo ROMEO
- P. 77** **ID 010**
Environmental monitoring of electromagnetic fields of urban territory of Samara Region of Russia
Andrey VASILYEV
- P. 85** **ID 011**
Methods and results of environmental monitoring of soil pollution by oily waste
Andrey VASILYEV, Dmitry E. BYKOV, Andrey A. PIMENOV
- P. 90** **ID 012**
Approaches to soil treatment from oily products and results of its approbation
Andrey VASILYEV, Vlada V. ZABOLOTSKIKH
- P. 95** **ID 013**
Besides the design: the analysis and documentation of the ancient "Via Pretoria" in Potenza. The most significant transformations of a Roman road axis in the historic city
Enza TOLLA, Antonio BIXIO, Giuseppe DAMONE
- P. 104** **ID 014**
Referential interpretation of vernacular heritage in recent architectural design
Emrah ASLAN, Dogan Sevinc ERTUR, Zafer ERTURK
- P. 114** **ID 015**
Teaching and Practice of Architecture in Recife (Brazil) 1959 – 2009
Enio LAPROVITERA DA MOTTA
- P. 124** **ID 016**
The Architect and the People of Recife (Brazil): 1959 – 2009
Enio LAPROVITERA DA MOTTA

- P. 132** **ID 018**
 Student-Centred Learning as an Approach to Design Primary Schools' Outdoors
Doaa HASSAN
- P. 143** **ID 019**
 Superkilen, Copenhagen
Mario PISANI
- P. 151** **ID 020**
 Revitalisation of historical landscape areas in UNESCO city of Banská Štiavnica
Ingrid BELČÁKOVÁ
- P. 158** **ID 022**
 Retrofit and conservation of historical concrete buildings in Turin (Italy)
Alessandro P. FANTILLI, Barbara FRIGO, Bernardino CHIAIA
- P. 166** **ID 024**
 Turin in 1815
Nadia FABRIS
- P. 174** **ID 026**
 The new and the old in the perception of cultural heritage. The language of innovative materials
 between conservation, protection and enjoyment
Gigliola AUSIELLO
- P. 181** **ID 027**
 The traditional sacral wooden construction in Lithuania. An illustrated catalogue of building
 techniques for the safeguard and recovery of cultural heritage
Liucija BEREŽANSKYTĖ, Tiziana CAMPISI
- P. 191** **ID 029**
 Public buildings in the construction tradition of the 20th -century Italian suburbs
Alessandro CAMPOLONGO
- P. 199** **ID 030**
 Projectivity and the homological relationship as a verification of the computer mathematical
 representation: the representation of plane and skew curves in graphical models.
Antonio MOLLICONE
- P. 210** **ID 031**
 New urban models | San Pablo case /// 'Luis Buñuel'
José Javier GALLARDO ORTEGA
- P. 218** **ID 032**
 Designing by strata: notes from the underground. Hypogeous spaces and the archeological
 museum of Pompei
Corrado DI DOMENICO
- P. 228** **ID 038**
 Cover, overlapping and layering: protection and promotion of archaeological heritage in Paris
Alice PALMIERI
- P. 238** **ID 039**
 The other side of the Ring-Bruxelles
Rosalba DE FELICE
- P. 248** **ID 040**
 Metropolitan cities of Italy: law, environment and sustainable development
Michele RUSSO

- P. 257** **ID 041**
Urban landscape and new venustas
Salvatore LOSCO
- P. 266** **ID 043**
The Technology of an Early Reinforced Concrete Structure in Turkey: The Great Storehouse of the Kayseri Sümerbank Textile Factory (1932-1935)
Nilüfer BATURAYOĞLU YÖNEY, Burak ASİLİSKENDER
- P. 275** **ID 044**
Fedele Fischetti and the Gallery of Real Casino Carditello
Antonella DIANA
- P. 283** **ID 045**
Contemporary design drawings as cultural heritage: interpretation and communication. Towards a digital archive of Rosani's industrial projects
Roberta SPALLONE, Francesca PALUAN
- P. 293** **ID 046**
Exploring and interpreting the landscape using technological innovative systems
Giacinto TAIBI, Rita VALENTI, Mariangela LIUZZO
- P. 302** **ID 047**
Architecture and subtraction: Ostiense square in Rome
Assunta NATALE
- P. 312** **ID 048**
Surveying for documentation and management the Renaissance building of Royal Hospital in Granada (Spain)
Juan Francisco REINOSO-GORDO, José Luis RAMÍREZ-MACÍAS, Francisco Javier ARIZALÓPEZ, Carlos LEÓN-ROBLES, Antonio GÓMEZ-BLANCO, Concepción RODRÍGUEZMORENO, Íñigo ARIZA-LÓPEZ
- P. 318** **ID 049**
Data quality elements for BIM applied to heritage monuments
Íñigo ARIZA-LÓPEZ, Francisco Javier ARIZA-LÓPEZ, Juan Francisco REINOSO-GORDO, Antonio GÓMEZ-BLANCO, Concepción RODRÍGUEZ-MORENO, Carlos LEÓN-ROBLES
- P. 326** **ID 050**
San Francisco Schools, 1839. Virtual reconstruction of The Franciscan convent of Betanzos and its transformations, in the XIX Century. (Galicia, Spain)
Marta COLÓN, Fernando FRAGA
- P. 336** **ID 051**
Wandering Experience in Napoli
Idit GOLDFISHER, Shani ZIV, Talila YEHIEL
- P. 343** **ID 052**
The representation of the memory: the analogic-digital survey of two funeral monuments in the Verano cemetery of Rome
Laura CARNEVALI, Fabio LANFRANCHI, Mariella LA MANTIA
- P. 353** **ID 053**
Archaeology and architectural design. New studies and projects for the Acropolis of Athens
Luisa FERRO
- P. 363** **ID 054**
Multilevel planning regional management. A GIS Platform Structure
Francesco ZULLO, Serena CIABO', Lorena FIORINI, Alessandro MARUCCI, Simona OLIVIERI, Stefano PERAZZITTI, Bernardino ROMANO

- P. 372** **ID 055**
 “col cerviello et non con le mani” New hypotheses on the Michelangelo plaster works of the Fine Arts Academy of Perugia
Paolo BELARDI, Luca MARTINI, Michele MARTORELLI
- P. 382** **ID 056**
 The lost imperial palace of Antioch on the Orontes (now Antakya, Turkey)
Stefano BORSI
- P. 387** **ID 058**
 New technologies for knowledge and the physical space of the museum
Gioconda CAFIERO
- P. 396** **ID 059**
 A pyramidal kitchen vault in a gothic-renaissance palace. Oliva, Valencia, Spain
Alba SOLER ESTRELA, Rafael SOLER VERDÚ, Manuel CABEZA GONZALEZ
- P. 404** **ID 060**
 LANDY. LANDscape DYnamics. Survey, representation, monitoring and communication of the dynamics of the landscape and risks related to them
Enrico CICALÒ1, Maurizio Minchilli, Loredana Tedeschi, Mara Balestrieri, Gianfranco Capra, Alessandra Casu, Arnaldo Cecchini, Tanja Congiu, Raffaella Lovreglio, Antonella Lugliè, Giuseppe Onni, Bachisio Mario Padedda, Paola Pittaluga, Clara Pusceddu, Paola Rizzi, Nicola Sechi, Silvia Serreli, Sergio Vacca
- P. 409** **ID 061**
 A strategic plan of investigation into the urban areas carried out together with public bodies
Giacinto TAIBI, Rita VALENTI, Michele LIISTRO, Sebastiano GIULIANO
- P. 418** **ID 062**
 Reticular valorization model for castles in Central-Eastern Europe. The Slovak experience
Mirko CAPUTO
- P. 428** **ID 063**
 Methods and Techniques “to work on the built”
Maria Antonia GIANNINO
- P. 435** **ID 064**
 Villa Cambi – the discovery of an unpublished posthumous building of G. Michelucci realized by B. Sacchi
Frida BAZZOCCHI, Vincenzo DI NASO, Andrea MASI, Charles Michael STARNINE
- P. 445** **ID 065**
 “Sensing to the past” like a new paradigm: knowledge and experience on fortified architectures
Alessandra QUENDOLO, Claudia BATTAINO, Maria Paola GATTI
- P. 455** **ID 067**
 Introduction to the study of the Apice territory.
Assunta CAMPI
- P. 465** **ID 068**
 Unveilings. Mnemonic project of the archaeological invisible landscapes
Claudia BATTAINO, Luca ZECCHIN
- P. 475** **ID 069**
 UAV surveys for representing and document the cultural heritage
Mauro CAPRIOLI, Francesco MANCINI, Francesco MAZZONE, Mario SCARANO, Rosamaria TRIZZINO

- P. 483** **ID 070**
The environmental engineering in Vesuvius National Park
Ferdinando ORABONA
- P. 490** **ID 072**
Methodological study on the application of the stratigraphic analysis to the New Towns of the Middle Age
Barbara BONGIOVANNI
- P. 498** **ID 074**
The immaterial city. An innovative look at the unrealized projects for 20th century Spoleto
Valeria MENCHETELLI, Laura NARDI, Giovanna RAMACCINI
- P. 508** **ID 075**
Planning dimension of restoration
Antonluca DI PAOLA
- P. 513** **ID 078**
A dialogue between architecture and technology. Methodological processes for the knowledge and preservation of buildings of value in the eastern part of Sicily
Giacinto TAIBI, Rita VALENTI, Sebastiano GIULIANO, Emanuela PATERNÒ
- P. 521** **ID 079**
Morphological Investigations and Virtual Reconstructions of the Domus of the Northeast Quarter of Volubilis (Morocco)
Concepcion RODRIGUEZ-MORENO, Jose Antonio FERNANDEZ-RUIZ
- P. 531** **ID 080**
A model of strategies used for traffic calming in an urban environment
Alma AFEZOLLI, Elfrida SHEHU
- P. 541** **ID 081**
Cultural heritage confiscated from racketeering. A course toward adaptive reuse and effective management
Stefania DE MEDICI
- P. 551** **ID 082**
Tighremt Aslim_ Aguddim Taliwin: cases study in the Draa Valley
Marinella ARENA
- P. 560** **ID 083**
The management of private properties with heritage values
Elfrida SHEHU, Alma AFEZOLLI
- P. 569** **ID 084**
Pompeii - World Heritage Site: the buffer zone urban structures and spaces of collective interest
Enrico DE CENZO, Giovanni BELLO
- P. 579** **ID 085**
Building techniques in the Umbrian Middle Ages: from history to conservation
Eleonora SCOPINARO

- P. 588** **ID 086**
 Development of a GIS environment for archaeological multipurpose applications: the Fano historic centre
Roberto PIERDICCA, Eva Savina MALINVERNI, Paolo CLINI, Adriano MANCINI, Carlo Alberto BOZZI, Paolo CLINI, Romina NESPECA
- P. 598** **ID 089**
 HISTORY BUILDS, SURVEYING RE-BUILDS: conservation work of a medieval building through the representation of its (most likely) construction history.
Hilde Grazia Teresita ROMANAZZI
- P. 607** **ID 091**
 Design + Nursing: From laboratories to Users, The Transformation of Concussion Prevention
Steven DOEHLER, Roberta LEE, Jeanine GOODEN, Jean ANTHONY, Kimberly HASSELFELD
- P. 615** **ID 092**
 Oscar Niemeyer, the architect of the curve surfaces. The freehand relief as tool for investigation of modern Brazilian architecture
Domenico SPINELLI
- P. 623** **ID 093**
 Survey on the landscape and morphological singularities of the Cliff of Aci Castello
Mariangela LIUZZO, Sebastiano GIULIANO, Salvatore SAVARINO
- P. 632** **ID 094**
 The use of external claddings in the functional recovery of disused industrial buildings.
Giulia MATERAZZI, Nicola CAVALAGLI, Vittorio GUSELLA
- P. 641** **ID 095**
 Structure and stone cladding in building constructions in L'Aquila, Abruzzo, Italy, from the 12th to the 18th century: methods used for the analysis and indexing of masonry categories and related performances in response to seismic activities
Stefano CECAMONE
- P. 650** **ID 096**
 Structural calculations by horizontal and vertical interoperability for the redevelopment of existing buildings
Bernardino CHIAIA, Sanaz DAVARDOUST, Anna OSELLO
- P. 659** **ID 097**
 Cultural built heritage in cemeteries, between architecture and urban design. The Serramanna Cemetery Chapel
Vincenzo BAGNOLO
- P. 666** **ID 098**
 The single hall churches in the historic centre of Catania (Italy): a cognitive method behind the design of sustainable refurbishment.
Alessandro LO FARO, Attilio MONDELLO, Angelo SALEMI
- P. 676** **ID 099**
 Unveiling a heritage through digital enlightenment: the Lisbon Royal Opera House of Tagus
Pedro Miguel Gomes JANUÁRIO, Maria João Mendonça Pereira NETO, MárioSay Ming KONG

- P. 686** **ID 100**
Heritage and technology: novel approaches to 3D documentation and communication of architectural heritage
Mariateresa GALIZIA, Laura INZERILLO, Cettina SANTAGATI
- P. 696** **ID 101**
Aljezur, “between vision” of Place and Memory: The use of new technologies for the protection of a place and its heritage
Maria João Pereira NETO, Pedro Gomes JANUÁRIO, Mário Say Ming KONG, Raffaella MADDALUNO
- P. 701** **ID 102**
Building Color Survey of Four Districts for Preserving a Group of Traditional Buildings in Japan
Kiwamu MAKI
- P. 709** **ID 103**
Experience, Immersion and Perception: Communication Design for Urban and Natural Environments
Daniela CALABI, Elisa CHIODO, Sabrina SCURI
- P. 718** **ID 104**
Pompeii - Nature and Architecture
Clelia CIRILLO, Luigi SCARPA, Giovanna ACAMPORA, Barbara BERTOLI, Raffaella ESPOSITO, Marina RUSSO
- P. 729** **ID 105**
Galeazzo Alessi: narration, representation and contemporary theatricality for XVI c. architectural heritage
Maria Linda FALCIDIENO, Massimo MALAGUGINI, Maria Elisabetta RUGGIERO
- P. 739** **ID 106**
A Geographic Information System for the documentation of the medieval and modern fortifications. The district of "Castello" in Cagliari.
Andrea PIRINU
- P. 747** **ID 107**
Building in / Building on. Composition strategies for re-conversion of productive buildings
Gaspere OLIVA
- P. 757** **ID 108**
The intangible visuality of invisible cultural landscapes. The aerial view for the knowledge of the past.
Davide MASTROIANNI
- P. 766** **ID 112**
The roles of industrial heritage areas on urban renewal: the case of “Ödemiş”
Julide KAZAS PEKCAN
- P. 777** **ID 113**
St. Erasmus in Isernia: a medieval cave church
Piero BARLOZZINI
- P. 784** **ID 115**
Implications of earthquake return periods on the building quality
Sandra TONNA, Claudio CHESI

- P. 794** **ID 116**
 Architectural History from a Performance Perspective. The Latent Potential of Knowledge embedded in the Built Environment
Michael HENSEL, Defne SUNGUROĞLU HENSEL
- P. 803** **ID 117**
 The underground city between design and survey: the greek hollow of Poggioreale
Maria Ines PASCARIELLO, Raffaele MARTINELLI
- P. 813** **ID 120**
 Strategies for the building stone and damage mapping applied to the historical center of Catania
Giulia SANFILIPPO, Angelo SALEMI, Erica AQUILIA, Germana BARONE, Paolo MAZZOLENI, Angelo SALEMI
- P. 823** **ID 121**
 The invisible roads of contemporary businesses
Agostino URSO
- P. 833** **ID 122**
 Fragments and memory of landscape: preservation of some fragile architectures
Emanuele ROMEO, Emanuele MOREZZI, Riccardo RUDIERO
- P. 842** **ID 123**
 Development of the urban-rural network in the metropolitan area of the Strait of Messina through the recovery of the historical and cultural obsolete heritage.
Alessandra MANIACI, Gianfranco SALEMI SCARCELLA
- P. 851** **ID 125**
 Revisiting residential architecture in the city of João Pessoa, Paraíba, Brazil
Maria Berthilde MOURA FILHA, Ivan CAVALCANTI FILHO
- P. 860** **ID 127**
 Development of a database using GIS technology: study and intervention in vulnerable neighbourhoods
AGUSTÍN HERNÁNDEZ, Miguel SANCHO MIR, Noelia CERVERO SANCHÉZ
- P. 869** **ID 128**
 Development of indicators to graphically and geometrically define state subsidised residential blocks in Zaragoza. Spain. Geometrical exposure to sun.
Aurelio VALLESPIN MUNIESA, Angélica FERNÁNDEZ MORALES, Zaira PEINADO CHECA
- P. 878** **ID 130**
 Integrated methodologies for documentation and restoration of Modern architecture: survey and representation of the “Casa das Canoas” by Niemeyer
Marcello BALZANI, Federica MAIETTI
- P. 888** **ID 131**
 Three-dimensional morphometric database for visualisation and critical analysis of the San Sebastiano in Mantua by Leon Battista Alberti
Marcello BALZANI, Federico FERRARI
- P. 896** **ID 133**
 Restoration works and valorization strategies of the architectural complex of S. Francesco in Amantea (CS)
Renato OLIVITO, Alessandro TEDESCO

- P. 906** **ID 134**
 Realistic 3D view as a form of interpretation and presentation of historic gardens
Ivan STANKOCI, Tamara REHÁČKOVÁ
- P. 915** **ID 135**
 Augmented reality for the understanding of cultural heritage. The case study of the monument of Giuseppe Sirtori in Milan
Carlo BATTINI
- P. 920** **ID 136**
 Adjustments. Repairing and reinventing damaged landscapes
Fabrizia IPPOLITO
- P. 926** **ID 138**
 The Recovery of Urban Post-War Landscape Middle-Class Housing in Naples
Chiara INGROSSO, Luca MOLINARI
- P. 932** **ID 139**
 Guidelines for the drafting of Maintenance plan dedicated to Archaeological Heritage: case-study Villa di Poppea, Oplonti
Maria Rita PINTO, Flavia LEONE
- P. 941** **ID 141**
 The Influence of Colouring on Style Expression of Industrial Architecture
Eva BELLÁKOVÁ, Eva ŠPERKA
- P. 949** **ID 143**
 The role of non invasive diagnosis for preventive archaeology in the frame of projects of industrial and energetic plants.
Pasquale MARINO
- P. 953** **ID 144**
 Sustainable development of hospital structures
Marsida TUXHARI, Denada VEIZAJ
- P. 960** **ID 145**
 World heritage and technology, the different understanding
Christina RAIDESTINO APERGI
- P. 968** **ID 151**
 Utility and necessity in architecture: design, construction and transformation of alpine buildings
Maria Paola GATTI, Giorgio CACCIAGUERRA, Andrea DONELLI
- P. 976** **ID 152**
 Use of TLS technology for the fem-based structural analysis of the anatomy theatre
Alberto GUARNIERI, Andrea MASIERO, Livia PIERMATTEI, Francesco PIROTTI, Antonio VETTORE
- P. 984** **ID 153**
 A planning & design approach for the rehabilitation of historic centres in Iraq
Giuseppe CINÀ
- P. 997** **ID 154**
 Survey of Architecture. Complex models for analysis, valorisation, restoration
Aldo DE SANCTIS

- P. 1004** **ID 155**
The Industrial Building Heritage: first steps for the Damages Evaluation of Innocenti-Maserati Strucutral Plants
Pietro CRESPI, Alberto FRANCHI, Paola RONCA, Antonio MIGLIACCI, Alessandro ZICHI
- P. 1012** **ID 156**
In-situ tests, analytical and numerical studies for the assessment capacity of a historic building in l'Aquila
Alberto FRANCHI, Pietro CRESPI, Paola RONCA, Nicola GIORDANO, Giulia RANSENIGO
- P. 1020** **ID 157**
The Trezzo sull'Adda's Castle: restoration consolidation and reuse of the Cultural Heritage for a sustainable future use.
Pietro CRESPI, Fausto NEGRI, Giovanni FRANCHI, Paola RONCA, Alessandro ZICHI
- P. 1027** **ID 158**
A methodology able to investigate the phenomenon of Unauthorized building: the case of Giugliano in Campania
Claudia DE BIASE
- P. 1037** **ID 159**
Landscapes of repentance and of compensation
Esther GIANI
- P. 1043** **ID 160**
From the knowledge process to the representation of the built environment. The case of the "Istituto del Rifugio" in Naples
Lia Maria PAPA, Pierpaolo D'AGOSTINO, Giuseppe ANTUONO
- P. 1051** **ID 162**
Which survey for which digital model: critical analysis and interconnections.
Andrea GIORDANO, Paolo BORIN, Maria Rosaria CUNDARI
- P. 1059** **ID 163**
3D modelling in Architecture: from tangible to virtual model
Tatiana KIRILOVA KIROVA, Davide MEZZINO
- P. 1074** **ID 165**
Innovation and Creativity of Architectural as a tool to Confrontation and Observation the Changes in the Mosque Architecture During Different Eras
Wafeek Mohamed Ibrahim MOHAMED
- P. 1094** **ID 166**
An online multilingual dictionary as a technology platform for heritage studies and development
Monika BOGDANOWSKA
- P. 1101** **ID 167**
Geophysics and Cultural Heritage
Pier Matteo BARONE, Carlotta FERRARA
- P. 1111** **ID 168**
The architectonic perspectives in the villa of Oplonti: a space over the real
Barbara MESSINA, Maria Ines PASCARIELLO

- P. 1121 ID 170**
Investigations on building techniques of the defensive walls in Kınık Höyük excavation (Turkey)
Valentina CINIERI, Emanuele ZAMPERINI, Marco MORANDOTTI
- P. 1131 ID 171**
Surveying and Restoration of St. Basilio Monastery in L'Aquila
Mario CENTOFANTI, Stefano BRUSAPORCI, Francesca CERASOLI
- P. 1140 ID 172**
A system for dating changes in building fabric via nail spectra
Chris HOW
- P. 1150 ID 173**
The aesthetic vision of the landscape in nineteenth century Piedmontese painting
Anna CIOTTA
- P. 1159 ID 174**
Grotesque forms and representations in baroque balconies of eastern Sicily.
Caterina GULLO
- P. 1166 ID 176**
The water and its monuments in Provence
Laura BLOTTO
- P. 1176 ID 178**
Knowledge and innovation in the field of Cultural Heritage
Caterina GATTUSO
- P. 1180 ID 179**
Cultural Heritage 2.0. Toward innovative tools for the communication of cultural and historical asset.
Stefano ZAGGIA, Angelo BERTOLAZZI, Federico PANAROTTO
- P. 1188 ID 180**
Self Explaining City
Luigi STENDARDO, Raffaele SPERA, Angelo BERTOLAZZI
- P. 1298 ID 181**
Protection of Cultural Heritage on the Example of Krakow Tenement Houses from the End of the 19th and the Beginning of the 20th Century
Beata MAKOWSKA
- P. 1203 ID 182**
Urban presence: the fountain
Federica CAPRIOLO
- P. 1210 ID 183**
Structural analysis of finite element models of masonry balconies and overhangs obtained by B.I.M.
Ingrid TITOMANLIO Giuseppe FAELLA
- P. 1218 ID 184**
Building Information Modeling for the static and seismic safety of masonry balconies and overhangs
Ingrid TITOMANLIO

- P. 1227** **ID 185**
Construction of the Museum of Fine Arts in Riga (1903-1905)
Arturs LAPINS
- P. 1233** **ID 186**
The Impressionist Range Of Creativity And Technical Innovation Of The Heritage Cities
Between Cosmic And Heritage Concept And Reformulation Of The Mental Image
Wafeek Mohammed Ibrahim MOHAMED
- P. 1249** **ID 187**
A tower for Shangai
Anna MANDIA
- P. 1252** **ID 188**
Protecting unpopular heritage. The difficulties of listing 1950s architecture and postwar planning
in Plymouth, UK
Daniel BARRERA FERNÁNDEZ
- P. 1261** **ID 189**
Sharing knowledge, grasping Cultural Heritage: a digital multidisciplinary approach to the
historical process of architecture and urban changes
Rosa TAMBORRINO, Fulvio RINAUDO
- P. 1271** **ID 190**
Algorithmic transformation between heritage and innovation in design
Michela ROSSI, Giorgio BURATTI
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Structure and geometry
Vito Maria Benito VOZZA
- P. 1289** **ID 195**
The redraw of the architecture in the smart city
Vito Maria Benito VOZZA Luigi CORNIELLO
- P. 1299** **ID 196**
Architecture as living sculpture.
Stefania DI DONATO
- P. 1309** **ID 197**
Bathing facilities: memory and survey of a forgotten coastal heritage
Antonella SALUCCI
- P. 1317** **ID 199**
Representing the time: the role of sequences representation in the design of visual information
Stefano CHIARENZA
- P. 1326** **ID 200**
Hollow clay elements of typical Calabrian tradition: typologies and construction techniques
Renato Sante OLIVITO, Caterina GATTUSO, Carmelo SCURO
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Best practice or bad practice? Technological perspectives, Administrative proceedings and
urban perceptions in the historic cities: the case of Royal Arsenals of Seville.
Daniela LALLONE, Fernando AMORES

- P. 1343 ID 202**
Analysis of ecological criteria for traditional housing and its adaptation to new housing design
Ebubekir GÜNDOĞDU, Emei BİRER
- P. 1353 ID 203**
Technologies to know and share the Cultural Heritage between East and West: geometric patterns in the decorations
Anna MAROTTA
- P. 1363 ID 205**
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Tiziano CATTANEO, Yongjie SHA, Emanuele GIORGI, Giorgio Davide MANZONI
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Not restoration but plannet and preventive conservation
Barbara SCALA
- P. 1383 ID 208**
Construction site information modelling and operational planning
Manuele CASSANO, Marco Lorenzo TRANI, Stefano DELLA TORRE, Benedetta BOSSI
- P. 1393 ID 209**
Key Enabling Technologies for an accessible Cultural Heritage: methods of application of the EU 2014-20 Programme strategy for Culture
Valeria DI FRATTA, Valeria AMORETTI
- P. 1403 ID 210**
Environmental protection versus simplification and development policy: searching for a difficult (but achievable) balance
Marco CALABRO'
- P. 1411 ID 211**
Wayfinding Accessible Design
Roberto DE PAOLIS, Silvia GUERINI
- P. 1421 ID 213**
A style between two centuries: the Great Hall of the Faculty of Architecture of Rome
Laura CARNEVALI, Giovanni Maria BAGORDO
- P. 1427 ID 214**
The rehabilitation of the school building heritage in Potenza (Italy)
Ippolita MECCA, Tiziana CARDINALE
- P. 1436 ID 215**
Cultural Heritage communication between narrative and creativity. 3D Video Mapping Projection and new suggestions of Augmented Space
Iolanda DI NATALE, Alice PALMIERI
- P. 1446 ID 216**
Urban symbiotic architecture in Pavia. The origins of Giancarlo De Carlo's Building Development Plan for Pavia University
Simone LUCENTI, Emanuele ZAMPERINI
- P. 1456 ID 217**
Different futures in the labyrinth of the carto-iconographical heritage of Milan
Maria Pompeiana IAROSSEI, Sara CONTE, Marco INTROINI

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Ancient villages: the Eco-museums to Eno-museums
Francesca MUZZILLO, Fosca TORTORELLI
- P. 1471** **ID 219**
Pompei between Archaeology and "Agritecture"
Fosca TORTORELLI
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Conservation Practices in Turkey in Last Decade, Two Monuments from Two Eras: the 4th-Century Laodikeia Church and the 16th-Century Rabi Madrasa
Ege Uluca TUMER
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Intersecting lives: Giovanni Battista Naldini and Giovanni Antonio Dosio
Antonella MARCIANO
- P. 1495** **ID 225**
The Augustan Bridge at Narni: Documentation and Analysis by Laser Survey and 3D Modeling
Alberto CUSTODI, Flora SCAIA
- P. 1505** **ID 226**
Morpho-architectural analysis, constructive modalities and structural diagnostics for the restoration of the Church of SS Bartholomew and Stephen in Bergamo
Alessio CARDACI, Antonella VERSACI, Davide INDELICATO
- P. 1515** **ID 227**
The twenty-seven buildings of the Littorio rural village in Candiana. Hypotheses of recomposition
Enrico PIETROGRANDE
- P. 1525** **ID 228**
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Giuseppe DI GREGORIO, Angelo MONTELEONE
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The experience of the journey. Digital technologies and visual itineraries to enjoyment of the city's cultural heritage
Elena IPPOLITI, Alessandra MESCHINI
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Golden Cartelline from the Wall Mosaic of S. Giovanni in Fonte. Remarks and Scientific Analyses on the Constituent Materials
Ciro PICCIOLI, Caterina GATTUSO, Valentina ROVIELLO
- P. 1554** **ID 231**
Strategies for the sustainable development of historical town centre and compatible conservation and reuse of the built heritage
Giuliana QUATTRONE, Elena GIGLIARELLI
- P. 1562** **ID 232**
Structures for the museumification of underwater cultural heritage
Marco RUSSO

- P. 1572** **ID 233**
 Architectural and Environmental Compositional Aspect for Technological Innovation in the Built Environment
Mario GROSSO, Giacomo CHIESA, Marianna NIGRA
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 UAV Remote Sensing for the Preservation and Restoration of Houses of Worship. Potential and Limitations
Margaret BICCO
- P. 1589** **ID 236**
 From ruin to hinge of urban renewal: the restoration of the church of St. Demetrius in Ceglie Messapica (BR)
Antonio BIXIO, Ippolita MECCA
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 Architecture of Light Case study St. Cross Church in Nin, Croatia
Ivanka STIPANČIĆ-KLAIĆ, Davor ANDRIĆ, Anja KOSTANJŠAK
- P. 1608** **ID 240**
 Innovative working spaces: the case study of Novartis and the “InNova” project
Lorenzo CAPOBIANCO, Giuliana CHIERCHIELLO
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 Sanfelice Palace, the house of a genius: some insights about the geometrical relations
Gerardo Maria CENNAMO
- P. 1625** **ID 242**
 Toward the “Smart Polis”: methods, tools and strategies of intervention for the sustainable regeneration of historic urban centres
Elena GIGLIARELLI, Lu BIN, Luciano CESSARI
- P. 1632** **ID 244**
 Remote sensing evaluation of fire hazard: towards operational tools for improving the security of citizens and protecting the environment
Carmine MAFFEI, Carmine GAMBARDELLA, Massimo MENENTI
- P. 1640** **ID 246**
 Marble sculptures FRP-based reinstating and consolidating practices
Ignazio CRIVELLI VISCONTI, Marina D’APRILE, Domenico BRIGANTE, Claudio CIGLIANO
- P. 1650** **ID 247**
 New fiber composite materials for Cultural Heritage conservation
Giuseppe CHIDICHIMO, Amerigo BENEUCI, Caterina GATTUSO, Alessandro SENATORE, Francesco DALENA, Valentina ROVIELLO
- P. 1654** **ID 248**
 Sustainable reutilization of the Pombaline System essentially based on the properties of the so-called “Gaiola Pombalina”
António José MORAIS, Alexandra AI QUINTAS

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The Roman Theatre in Trieste. Digital Analysis and 3D Visualizazion
Alberto SDEGNO, Paolo CASARI, Piero MICEU, Marco JEZ, Lisa MINIUSI
- P. 1671** **ID 250**
Pressure of tourism on heritage and technologies for an inclusive society
Valeria MINUCCIANI, Gabriele GARNERO
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The spatial-temporal journeys and the urban filters
Vincenzo CIRILLO
- P. 1685** **ID 254**
New heritage: Architecture and biological sciences
Rossella BICCO
- P. 1691** **ID 256**
Ordinary maintenance in the Venice "minor". Problems in nontrivial resilience
Piero PEDROCCO
- P. 1701** **ID 257**
HafenCity Hamburg
Agrippino GRANIERO
- P. 1709** **ID 259**
Survive the Saracoglu District - Preservation of Architectural Heritage of Ankara
Duygu KOCA
- P. 1716** **ID 262**
"School Project EXPO 2015" : LANDesign BREEDING-GROUND SALERNO
Maria Dolores MORELLI
- P. 1723** **ID 263**
"Universities for EXPO 2015": LANDesign in Mostra d'Oltremare
Sabina MARTUSCIELLO
- P. 1735** **ID 265**
The influence of colors on the sound environment perception
Virginia PUYANA ROMERO, Giuseppe CIABURRO, Luigi MAFFEI
- P. 1742** **ID 266**
Additive technology and design process: an innovative tool to drive and assist product development
Francesco TAMBURRINO, Valeria PERROTTA, Raffaella AVERSA, Antonio APICELLA
- P. 1748** **ID 268**
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Angela LOMBARDI, Jambaly MOHAMMED, Abdulkareem SAMAN
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The recomposition of fragmented objects: the case study of St. Andrea statue at Stiffe, L'Aquila
Marco CANCIANI, Corrado FALCOLINI, Mauro SACCONI, Lorenza D'ALESSANDRO, Giorgio CAPRIOTTI

- P. 1765** **ID 270**
Democratic evaluation of architectural heritage
Marta BERNI
- P. 1775** **ID 271**
Cultural Landscape: Sintra, the Shock of the Past into the Future
Alexandra AI QUINTAS, António José MORAIS
- P. 1783** **ID 272**
My concrete is damaged?
Andrea BASILE, Giorgio FRUNZIO, Giuseppe MATTIELLO
- P. 1792** **ID 273**
Build on natural tendencies to strengthen resilience of cultural and environmental heritage
Serena BAIANI, Antonella VALITUTTI
- P. 1798** **ID 274**
"Additional services" in the management of Cultural Heritage: the paradox of archeological site of Pompei
Fabiana FORTE, Roberta FORMISANO
- P. 1805** **ID 275**
Sponsorship in the enhancement of Cultural Heritage and the role of Creative Industry: some evaluative aspects.
Fabiana FORTE Manuela RUPE
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Maria Paola MARABOTTO
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Joaquín MARTINEZ MOYA, María Jesús MAÑEZ PITARCH, José Teodoro GARFELLA RUBIO
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Joaquín MARTINEZ MOYA, María Jesús MAÑEZ PITARCH, José Teodoro GARFELLA RUBIO
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Valeria AMORETTI, Vittorio NAZIONALE
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Marco CARUSONE
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Maria Carolina CAMPONE

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Armand VOKSHI
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Roberto ORAZI, Francesca COLOSI
- P. 2031** **ID 307**
Project for the Archaeological Park of Chan Chan, Peru
Francesca COLOSI, Roberto ORAZI
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Empatic forms for relational spaces
Marco BORRELLI
- P. 2051** **ID 310**
REMOTE SENSING: hightech tool for law enforcement in crimes perpetrated against environment
Flaviano TESSITORE
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Sema YALÇIN
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The signage and communication systems in the ancient city of Pompei
Sabrina MATALUNA
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Maria Grazia GIULIANO

- P. 2101** **ID 316**
 Seismic joints: architectural integration and structural safety
Caterina FRETTOLOSO, Mariateresa GUADAGNUOLO
- P. 2108** **ID 317**
 Floor masonry beams reinforced by BFRG
Mariateresa GUADAGNUOLO, Giuseppe FAELLA
- P. 2115** **ID 318**
 The Pompeii Artifact Life History Project: Conceptual Basis, Methods and Results of First Three Seasons
J. Theodore PEÑA, Caroline CHEUNG
- P. 2124** **ID 319**
 The virtual representation of the past.
Paola D'AURIA
- P. 2130** **ID 320**
 The impermanent project. Animation and 'multiplicative persistence' in contemporary urban space
Silvana SEGAPPELI
- P. 2138** **ID 321**
 Heritage - Religious buildings in the routes of restoration: the case of the church of St. Gennaro at the elm
Roberto CASTELLUCCIO, Veronica VITIELLO
- P. 2147** **ID 322**
 Relation between sustainable economic growth and Safety, security in Albania and the region
Artur BEU
- P. 2153** **ID 323**
 From Pompeii in Nola: the restoration of Mediterranean habitat. The De Nola of Ambrogio Leone.
Saverio CARILLO
- P. 2163** **ID 324**
 The non-finiteness heritage. A project strategy
Francesco COSTANZO, Gaspare OLIVA, Giuseppe DI CATERINO
- P. 2173** **ID 325**
 From Borbonic Royal Gunpowder to mouth of the river Sarno: a redevelopment project architectural and landscape
Andrea SANTACROCE
- P. 2181** **ID 326**
 The rebirth of the water in Rome. Aqueducts and fountains
Maria MARTONE
- P. 2191** **ID 327**
 Knowledge in Apollonia. The Medieval Monastery and the territory
Luigi CORNIELLO
- P. 2201** **ID 328**
 Mario Botta, the man's house in the New Stone Age
Lorenzo GIORDANO
- P. 2209** **ID 329**
 Museum Quarter as the "core of urban balance" in the post-industrial city
Elena SHLIENKOVA

- P. 2222 ID 330**
Roman period survivals in modern farms: the case of Masseria Tuoro in Vitulazio
Margherita DI NIOLA
- P. 2232 ID 331**
The Waterway from the Royal Palace of Caserta to the Royal Palace of Carditello.
Federica DEL PIANO, Valeria DI SALVATORE
- P. 2241 ID 332**
Among smart governance and smart communities. A survey in the city of Milan
Nunzia BORRELLI, Davide DIAMANTINI, Giulia MURA, Monica BERNARDI
- P. 2249 ID 333**
The design for the modification of the Marina and the Sentiero Terramare in Praiano
Paolo GIORDANO
- P. 2261 ID 334**
Istanbul World Heritage property. Representing and cataloguing the material and intangible assets for local sustainable development.
Alessandro CIAMBRONE
- P. 2270 ID 335**
Analysis and Landscape Planning. The Landscape Project of Taburno-Camposauro.
Concetta CUSANO
- P. 2280 ID 336**
The Caserta's Centre: cataloging as an instrument for knowledge
Luciana ABATE
- P. 2290 ID 337**
Virtual architecture: 3D representation in archeology - a new approach to the presentation of ancient architecture –
Ciro FERRANDES
- P. 2295 ID 338**
Design and communication for the Volturno rivers, between Capua and the Mediterranean sea
Ludovico MASCIA
- P. 2203 ID 339**
Knowledge, survey, technology for carbon neutral restoration: from an old hospital to a luxury hotel
Paolo GIANDEBIAGGI
- P. 2311 ID 340**
Italian military engineers in the court of the King of Spain in the 18th century
Giada LUISO
- P. 2317 ID 341**
Neo-gothic influences on the academic architecture of Giovanbattista Patturelli.
Concetta GIULIANO
- P. 2322 ID 342**
Reading the Territory, sign graphics and remote sensing images. The case study of Historic Center of Naples
Rosaria PARENTE
- P. 2332 ID 343**
Digital Invasion at the Royal Palace of Caserta. Telling a story/Telling your story
Alessandra CIRAFICI, Manuela PISCITELLI

- P. 2341** **ID 344**
Charles and Georges Rohault de Fleury illustrators and historians of the medieval architecture.
Danila JACAZZI, Antonio MENALE
- P. 2354** **ID 345**
Modern churches in the province of Caserta
Riccardo SERRAGLIO
- P. 2364** **ID 347**
Images of possible futures. Representing changing landscape
Alessandra CIRAFICI, Antonella VIOLANO, Antonio MAIO
- P. 2371** **ID 348**
Urban farming as an eco-oriented tool for redevelopment of urban contexts
Raffaella DE MARTINO, Rossella FRANCHINO, Caterina FRETTOLOSO
- P. 2379** **ID 350**
Nisida: integrated and transdisciplinary survey for interpretation of sources
Claudia CENNAME, Ornella ZERLENGA, Salvatore PETRILLO, Domenico PIGNATA, Ciro SCOGNAMIGLIO
- P. 2389** **ID 351**
Architecture and material culture: the construction of the working-class neighborhood of the new Pompei
Pasquale VAIANO
- P. 2399** **ID 352**
Beyond the visible Remote sensing and Photointerpretation
Francesco MAIOLINO
- P. 2409** **ID 353**
A methodical approach to knowledge the sacred heritage of Aversa
Luciana ABATE, Davide MASTROIANNI, Rosaria PARENTE
- P. 2419** **ID 354**
Perception and fruition of open spaces in the historical centers
Manuela PISCITELLI, Milena KICHEKOVA
- P. 2429** **ID 355**
Multisensor and multiscale surveying into Pompeii's archeological site. Three case studies.
Carmine GAMBARDELLA, Nicola PISACANE, Alessandra AVELLA, Pasquale ARGENZIANO
- P. 2469** **ID 356**
Metropolitan Strategies. Urban planning scenarios for a territorial system
Giuseppe GUIDA
- P. 2478** **ID 357**
Smart Planning
Ottavia GAMBARDELLA
- P. 2489** **ID 358**
THE MUTABLE VISION: The study case of Montesanto Metro Station
Elena DI GRAZIA, Giuliana CHIERCHIELLO, Valerio PALMIERI
- P. 2498** **ID 359**
"Environmental networks" as complex management tool of the urbanized territory
Raffaella DE MARTINO, Rossella FRANCHINO

- P. 2505** **ID 360**
Urban Regeneration - Largo Ex-Gesuitico - Piazza A. Moro - Ortanova (FG)
Gianluca CIOFFI
- P. 2512** **ID 361**
Evolution of design and application of a method
Gilda EMANUELE

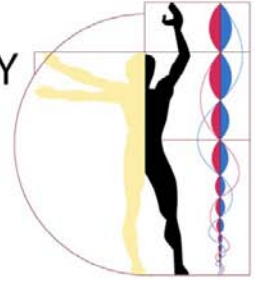
Preface

The theme of the thirteenth Forum “Le Vie dei Mercanti” aims to investigate the complex relationship that develops between technological innovation, knowledge, enjoyment and protection of cultural heritage and the landscape. This leads to the need for an international multidisciplinary comparison in order to explore the questions and issues that are being debated not only in academia, but also among those who govern, manage and control Public Administrations, Institutions and businesses.

The subtitle specifies the macro areas: Mind, intended as both speculative thought as well as the preparation of a methodological process; the subject who investigates, establishes an inescapable destiny with the object analyzed at different scales of analysis, from the architectural structure and design, to the infrastructure and the landscape; Knowledge, as the historicizing of the state of the art reached by the disciplinary skills, integrated with those of material culture, humus generative of innovation for the formation of a human capital that continues to grow; Experience, the representation and sharing of results obtained with good practices, exemplary and paradigmatic, as patrimonial value for humanity to achieve a better quality of life and places created working with Art.

The conference is open to multidisciplinary experiences on one or more of the proposed themes. Scholars are invited to present research on either the theoretical and methodological aspects or concrete applications carried out on these issues.

Carminé Gambardella



Fragments and memory of landscape: preservation of some fragile architectures

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Abstract

The interest in the land has encouraged studies and restoration projects aimed at the enhancement of the architectural heritage contained in it, but excluded assets that just lent themselves to actions of new functions: a network of small buildings that together with natural and urbanized areas, form a territorial system in which the architecture is bound by ties of interdependence: Italian buildings for the production of wine as the "palmenti" for grape pressing, the Galicians "horreos" for storage cereals, the "pigeonniers" of the Pyrenees, small buildings, mainly rural character. Such architectures are now vulnerable since, ill-suited to host functions economically attractive. Based on these considerations, we suggest actions to value based not so much on the new functions the same as their "reviving": that is, their conservation through the sole use as a symbol of collective memory and historical evidence of cultural processes of contexts and rural landscape.

Keywords: cultural landscape, fragile architecture, conservation, enhancement.

1. About fragments and memory of landscape*

The increasing interest on the territory as large and complex cultural heritage on the one side has promoting studies and restoration projects aimed to the enhancement of the architectural heritage contained in it but, to the other hand, it has also excluded assets which doesn't lent to speculative actions of re-functionalization [1].

Nowadays we could consider these assets like fragments of a system of architectures, which connotes the landscape creating a singular cultural vision which represents the memory of the places where daily life has left indelible traces.

A network of small buildings which forms a territorial system in which architecture is linked to unique natural and urbanized areas by close ties of interdependence. In the past, this had the role to represent a society that looked to the future by inventing new systems of production, of trade, of communications, which accelerated the evolution process of entire European contexts. From this base arose an area vision as a scenario of productive and social actions. Today, through the permanence of some architectures, it adds value to the landscape, but at the same time shows aspects of vulnerability.

The Galicians "horreos" are an examples of those, that made up a widespread network to keep and trade wheat and cereals, from the hinterland to the Atlantic coasts. The "pigeonniers" of the French regions of the Pyrenees: a system of communication through the construction of small rural buildings, in which pigeons lived during their continuing movements. The "palmenti" and the wine crops' organizations of many Italian regions, for example of Basilicata, Piemonte and Valle d'Aosta.

Nowadays these architectures are vulnerable because they are not adapted to accommodate economical attractive functions and they do not suggest other solutions except to be preserved

because they are historical rural complex systems fragments, in contrast to valorisation strategies that impose an increasing tourist exploitation of the cultural heritage.

According to these considerations, the essay aim to propose actions for conservation and enhancement of the "horreos", "pigeonniers" and "palmenti" not based on the introduction of new functions, but focused on their "reanimation": this means their only conservation through the use as a symbol of collective memory and historical testimony of cultural processes, linked to specific landscape contexts [2].

Actually, according to the latest conservation theories it's not always possible re-functionalizing all the architectures. However this does not result in exclusion from strategies of exploitation but it suggests actions aimed to the conservation of asset without changing types and meanings: in one word the "essence" of the same architecture and different reasons for which it was created. So, a more conservative and more "cultured" approach takes over. It just provides the "reanimation" which allows insiders (but only to those who really know the meaning of this expression) to safeguard a fragile heritage without completely destroying or modifying the function, but committing the role of economic engine to what surrounds these most vulnerable elements.

In this way it is possible to apply greater and more complex enhancement strategies where the cultural landscape represents the engine for the conservation, as in this case. Therefore, the re-functionalization of some buildings that may be changed with radical transformations compensates the impossibility to find a function for the small size architectures but with great cultural value.

In many cases this does not happen and a phenomenon that can be called "cultural aberration" take place. This because of such operations, seeking to enhance and re-functionalize each architecture (which is ascribed cultural value), in order to put it in economic and tourist circuits, produces "collateral effects" that can be defined as anti-cultural and anti-historical: the transformation of the original function, in these cases, empties the object of its real "essence" and the territory is deprived of cultural and documental value, that it acquires with the presence of even traces of agrarian life of a society.

In this sense, cases of restoration and renovation of old driers are best known to the criticism: from the simplest to the most complex of which often remain only the outer casing [3].

These interventions deserve accurate reflections starting from the substantial differences that exist between the assets that are considered cathedrals because they have large dimensions and often, starting from a simple wooden construction, they offer now more modern shapes (developed at the end of XVIII century).

The literature on this subject is abundant; however some of these examples do not represent the symbol of the rural attitude of a territory, but the utopia of an industrial class organized in order to exploit social and natural resources.

But there are also examples of dryers in which are still present rural architecture's characters and they are widespread in territories with homogeneity aspects both from the landscape point of view and the anthropic one. Unfortunately many of them, at best transformed into homes, have lost their cultural character becoming simple mechanisms of an economic and real estate perverse dynamics.

Therefore, we will analyze only few rural architecture which have conserved their original character and are already part of a process of "reanimation" of individual architectural elements. In most cases, they have been protected, and nowadays they represent one of the strengths of the enhancement of the broader Italian, French and Spanish landscape contexts.

2. Fragile architectures in French and Italian landscape: "pigeonniers", "topie" and "palmenti"

In the region of Midì Pirenneis and especially in the Tarn's departments, the departments of the Garonne, of the Lot and of the Haute Garonne one, the "pigeonniers" strongly characterize the landscape helping to establish the rural culture of large territories. These «appartient aujourd'hui à notre patrimoine régional jusqu'à servir même d'enseigne à tout ce qui concerne l'art et le le tourisme de nos département» [4] also represents one of the objectives of the preservation of a rural land. This even though they are located in isolated contexts and do not offer opportunity to be preserved except as an historical sign of their original function.



Fig. 1, 2, 3. Midi Pirennais: examples of "pigeonniers" and the particular of a stone pillar

This attitude distinguishes the French protection politics from many others (the Italian one for example) in which everything should be not necessarily attributable to economic profits and tourist attractiveness.

In fact studies conducted on "pigeonniers" identify as urgent an action in the area which may identify and catalogue different types especially in relation to the context and the time in which they were built; this in order to enhance, rather than the value of "real estate", the cultural one, linking it with the ancient agricultural traditions.

From this study we may know and understand the characters which on the one hand join all of these buildings, for the original purpose, on the other hand they show different characteristics of form, material and decoration in relation to autochthonous realities: for example "pigeonniers" on stone pillars or on arches; a polygonal structure, a square or cylindrical tower; "pigeonniers" or Gaillacois or Gariotte; and still "pigeonnier-balet" and "pigeonnier-porche".

However, all have common features: building materials (stone, brick, wood), "trellis" construction type or "dry walls" and the use of "mushroom" stone pillars in those where the dovecote is raised off the ground. But the similarities are found especially inside, where elements appear to shelters of cane or clay for pigeons and all are covered by wood structures and roof tiles.

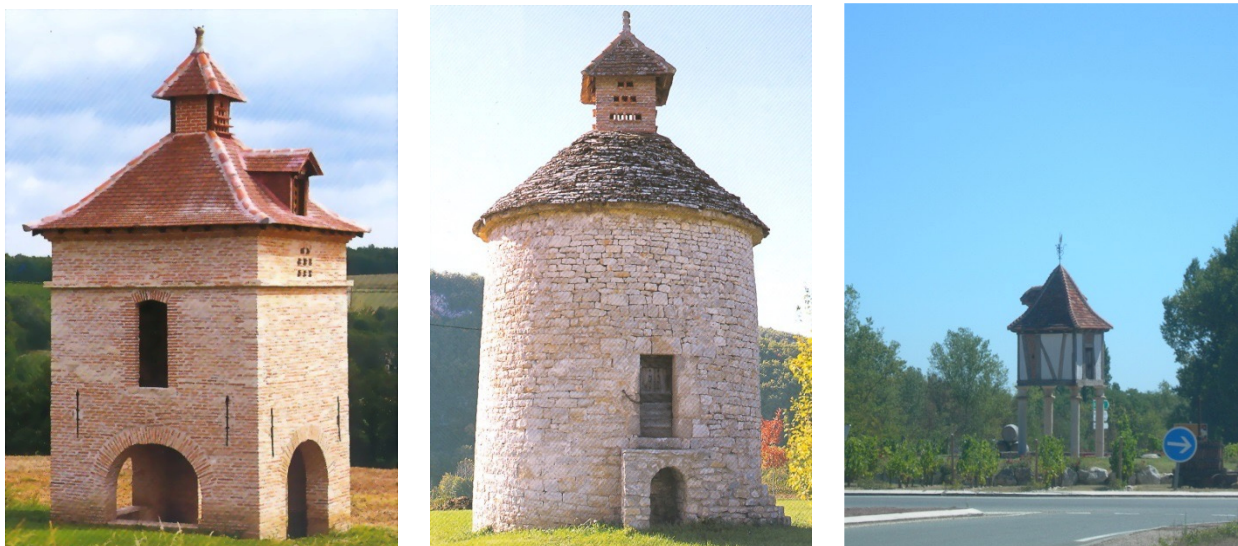


Fig. 4, 5, 6. Garonne e Lot: some "pigeonniers"; the last is inserted in a roundabout

On the top of the roof it always appears ceramic decorative designs, most of which represent doves. However, despite these architectures are considered regional heritage, in some cases there is a less of attention on the restoration operations, during the substitution of the elements that compose the artefact: this practice goes against the value of the architecture because the value of spontaneity given by retrieval of raw materials in the area.

Moreover, the desire to show the type only for tourism purposes means that in some cases they appear as "cultural fetishes" until they become just furnishing of medians. It is the main risk of "pigeonniers"; this is the most obvious manifestation of what can be called "cultural aberration".

Equally interesting in Italy appear the rural architectures related to the cultivation of the vine, the grape harvest, the production and storage of wine.

If in regions such as Piemonte and Valle d'Aosta, for example, traces of entire winemaking landscapes are preserved, whose past is represented by the clear division of the fields and by the organization of the vineyards, in Basilicata are still preserved traces of all production process [5].

In the first case there are elements still surviving, the "topie", built with local stone and used to support those screws and proceed to the general organization of the vineyard. These are monolithic stone elements or compositions of stone and brick with conical shape that still represent entire portions of the landscape, or they can be identified as fragments, within the territory that today is densely modified by the mankind and transformed due to the construction of extended industrial and commercial complexes.

In this case, they represent the only trace of the past: the historical memory of a territory which drew economic and social benefits through the well-organized process of cultivation, production, sales of agricultural products.



Fig. 7. The landscape between Piemonte and Valle D'Aosta, characterized by the system of "topie" for the cultivation of the vine.

Nowadays, they can only be preserved through operations of "reanimation", because their texture would not allow a different using from the original and it does not recommend valorization actions that are not related to the agrarian value of a land [6].

The "palmenti" are also interesting as historical memory of the rural landscape; they are present in some areas of Basilicata and in particular at Pietragalla. In this case there is such a concentration of these rural architecture that appears almost like a village.

They are about small architectures built with local stone and leaned to the slopes of the hill whose use was related mainly to the grape harvesting and pressing.

The singularity of this architectural construction is given by the relationship between these buildings (often placed against each other and under different ownership), by the construction techniques and materials used to produce them, but especially by the system in that they were an integral part: the vines in the flat area of the territory now are totally disappeared; the "palmenti" for the collection and grape pressing, the "rutte", that are the cellars or natural caves where the wine was kept; the paths between the farms for carriage with wagons or beasts of burden of agricultural products.

Nowadays, it is not conserved much of this and "palmenti", certainly the most evident fragment of this "agrarian system", are currently abandoned and assaulted by speculative building, or even destroyed to make way for industrial facilities or shopping centers.

Even in Pietragalla, the lack of attractiveness of this agrarian system discourages protection actions. The result is the non-use of this heritage for tourism or business purposes. However, this should not stop the "reanimation" and the preservation of an irreplaceable testimony of agricultural matrices of that territory [7].



Fig. 8. The "palmenti" in the agrarian territory of Pietragalla, with the modern buildings on the background

3. Spanish "hórreos" and "cabazos"

With the Decree 449 (February 22, 1973), concerning the vernacular architecture, were laid under the protection of the state granaries over a hundred years old existing in Galicia and Asturias: «All the buildings known as "hórreos" or "cabazos", in the regions of Asturias and Galicia, which have an antiquity no less than a century, remain under the protection of the state, which will prevent all interventions that alter the character or will can cause the demolition» [8].

However, this decree was not very incisive, although represents the first step towards the preservation of "spontaneous architecture" having cultural value.

Explaining the conservation of the barns, Plinio noted that «there are people who build barns, with brick walls almost a meter thick (...), in other places, on the contrary, the wooden barns are built on pillars» [9].

Galicia could be one of the places that Plinio spoke about; its *hórreos* match the description of the Roman naturalist, except that most of them are built of stone. In the more sophisticated cases, they remember ancient sarcophagi raised from the ground or small temples.

But the best value, in my opinion, is that the "*hórreos*", perfectly inserted into the landscape, represent the most important expression of Galician vernacular architecture because they have intelligent solutions concerning functionality, forms and proportions; the wisdom and genius with which local materials were exploited: granite and wood are present in large amounts in the territory.

As already expressed in 1964 for the exhibition "Architecture without Architects" the Galician stone barns are examples of spontaneous architecture, because of their perfect construction [10].



Fig. 9. Combarro: examples of "*hórreos*" located along the coast

In addition, the essay suggests to that their value is in the fact that they are still cleverly inserted in urban and regional contexts, so much that the landscape it is strongly characterized; they have a high historical value related to the productive activities of Galicia; the barns assume an important position in urban centers, as the case of Combarro; in the end, they have a high level of recognition in the area.

So they represent the balance between nature and built, they do not need to be re-functionalized, and their development strategies should ensure the only "reanimation" in respect of the vocation of places and features (of matter, form, function) that retain them [11].

However, although they are considered regional heritage, they are disappearing: some are in a state of disrepair; others are voluntarily destroyed; others sold to be disassembled and to be inserted in different contexts: these are the cases in which "*hórreos*" decorate gardens and homes in Madrid or Ibiza [12].



Fig. 10, 11. Combarro: examples of "horreos" located in the hinterland

Also in this case of re-functionalization we bump into a "cultural aberration" in which the architectural element loses all meaning and especially the relationship with the territory. Moreover it was decided to put a stop through other laws such as the Plan de Ordenacion del Litoral of 2010 which protects the regional Galician coastline with architectural and landscape value.



Fig. 12. Carnota: example of "horreo" particularly interesting for the size

However European laws make clear that all the landscapes, as well as having an interest in the local communities, represent a great value for the Europe, and the need to protect them. It means to preserve the quality of these areas through conservation actions which it maintain significant aspects through the preservation of the natural autochthonous elements and spontaneous architecture present in them.

Only in this way these fragments forgotten by the system of global valorization can renew and strengthen the interrelationship between the territory and the landscape. They become points of accumulation of the memory of centuries, of historical events, of economic and social processes of one people or an entire society.



Fig. 13. Combarro: another example of "horreos" located along the coast

Bibliographical References

* This section: *About fragments and memory of landscape*, was written by Emanuele Romeo.

** This section: *Fragile architectures in French and Italian landscape: "pigeonniers", "topie" and "palmenti"*, was written by Riccardo Rudiero.

*** This section: *Spanish "hórreos" and "cabazos"*, was written by Emanuele Morezzi.

[1] AGNOLETTI, Mauro. *Paesaggi Rurali Storici - Per un catalogo nazionale*. Roma-Bari: Editori Laterza, 2011, pp.5-191.

[2] DALLA COSTA, Mario. *Il progetto di restauro per la conservazione del costruito storico*. Torino: Celid Editore, 2000, pp.165-169.

[3] IENTILE, Rosalba; NARETTO, Monica. *Conservare per il paesaggio*. Savigliano: L'Artistica Editrice, 2006, pp.1-21.

[4] DE VIVIES, Bertrand. *Les Pigeonniers de Midi Pyrénées*. Albi: Editions APA POUX, 1994, p. 2.

[5] GIUSTI, Maria Adriana; ROMEO, Emanuele (edited by). *Paesaggi culturali*. Roma: Aracne Editrice, 2010, pp.5-22.

[6] DEVOTI, Chiara (edited by). *Montjovet. Caso-studio per un modello di schedatura dei borghi alpini*. Torino: Celid Editore, 2005, pp.9-14.

[7] LABELLA, Angelo. *Il paesaggio agrario della Basilicata nella storiografia nazionale e regionale dell'ultimo ventennio*. Potenza: Calice Editori, 2010, pp.11-50.

- [8] CASTRO ALLEGUE, Francisco (edited by). *Código del Patrimonio Cultural Gallego*. Santiago de Compostela, 2005.
- [9] PLINIO IL VECCHIO. *Storia delle arti antiche*. Libro XXXVI. Milano: Biblioteca Universale Rizzoli, 2000, p. 22.
- [10] RUDOFISKY, Bernard. *Architecture without architects : a short introduction to non- pedigreed architecture*. New York: Doubleday, 1964, p.114. RUDOFISKY, Bernard. *Le meraviglie dell' architettura spontanea: note per una storia naturale dell' architettura con speciale riferimento a quelle specie che vengono tradizionalmente neglette o del tutto ignorate*. Bari: Laterza Editori, 1979, p. 14.
- [11] LLANO-CABADO, Pedro. *Arquitectura popular en Galicia. Razon y construccion*. Santiago de Compostela: Edicions Xerais de Galicia, 2006.
- [12] GONZÁLES-VARAS, Ignacio. *Conservación de bienes culturales. Teoría, historia, principios y normas*. Madrid: Ediciones Catedra, 2006.