DEVELOPMENT AND PRESERVATION IN LARGE CITIES: AN INTERNATIONAL PERSPECTIVE

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DEVELOPMENT AND PRESERVATION IN LARGE CITIES: AN INTERNATIONAL PERSPECTIVE

edited by
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Carmine Gambardella
David Listokin

DEVELOPMENT AND PRESERVATION
IN LARGE CITIES:
AN INTERNATIONAL PERSPECTIVE

IV edition 2015

Table of Contents

Table of Contents

ITALY AND THE U.S. – HERITAGE TOURISM MAGNITUDE, PROFILE, ECONOMIC, CONTRIBUTION PROMOTION AND CHALLENGES

ITALY AND THE U.S. – PRESERVING SACRED STRUCTURES – SPECIAL ISSUES IN PRESERVING HISTORIC CHURCHES AND SIMILAR RESOURCES

San Francisco, California, photo: Alessandro Ciambrone

POMPEI FABBRICA DELLA CONOSCENZA / POMPEII KNOWLEDGE FACTORY
Digital Terrain Model degli Scavi di Pompei

GRUPPO SCULTOREO DI "PAN E UNA CAPRA", MUSEO ARCHEOLOGICO NAZIONALE DI NAPOLI
Copia in scala 1:1 mediante prototipazione rapida da scansione laser 3D

CARMINE GAMBARDELLA

The fourth edition of the six month series of seminars (January – June 2015) entitled Preservation and Development in Large Cities: An International Perspective was an extraordinary success, as the previous editions of 2012 (first), 2013 (second) and 2014 (third). It involved 70 participants including professors, researchers, post-doctorate fellows, graduate students and students of partner institutions, who have all received a joint participation certificate.

The series was organized by the Centre of Competence of the Campania Region on Cultural Heritage, Ecology and Economics (BENECON, institutional partner of Forum UNESCO University and Heritage), the Department of Architecture and Industrial Design Luigi Vanvitelli of the Second University of Naples, and Edward J . Blustein School of Planning and Public Policy, the Center for Urban Policy Research at Rutgers, the State University of New Jersey.

The professors and researchers from BENECON and the Department drew up several papers in relation to their specific subject areas, in a logic of integrating their skills and confronting "without limits" which characterizes the methodological approach of our scientific community, with Italian and American case studies on design, architecture and landscape.

Multidisciplinary teams of PhD and undergraduate students carried out during the course, in a logic of comparative analysis between Italy and the United States, discussions and proposals on the issues of the protection and enhancement of the material patrimony, natural and intangible, on the development of the historical and contemporary city, the design at different spatial scales, the use of innovative technologies for the preservation and promotion of the cultural heritage and landscape.

A multidisciplinary research methodology covered the following disciplines: representation, safety and protection of the environment and structures, territorial government, urban planning and legislation, management of the landscape and cultural heritage, cultural economics, history of architecture and communication design.

The scientific and human experiences in the four years of cooperating with Rutgers University is been very important, with continuous exchanges between Italian and US researchers and students, the organization of the fifth edition of

Indagini strutturali condotte sulla Nativity Church, Gerusalemme

Indagini strumentali integrate nella Chiesa del Pio Monte della Misericordia, Napoli

the course in 2016, the development of international cooperation projects and participation since 2013 of David Listokin, course director at Rutgers, respectively at the XI, XII and XIII International Forum of Studies "Le Vie dei Mercanti", sponsored by the Forum UNESCO University and Heritage, the Italian National Commission for UNESCO and the US-Italy Fulbright Commission.

He will also participate in the XIV Forum of 2016 entitled "World Heritage and Degradation: Smart Design, Planning and Technologies" to be held in Naples, Pompeii and Capri on June 16 - 18.

The experience is part of a virtuous process of internationalization that incudes institutions, universities and US multinationals, our established partners including, in addition to Rutgers, MIT (Mobile Experience Laboratory), Berkeley (Landscape Architecture and Environmental Planning Department) and Topcon Positioning Systems, the world leader in the technological equipment of the complex surveying.

In this framework, on 25 February 2015 the lecture "Pompeii Knowledge Factory" presented at the LEAP of Berkeley and two days later I met the Consul General of Italy in San Francisco to launch a partnership programme in progress with the "Universities of California" network. Subsequently Louise Mozingo, Director of the LEAP at Berkeley, took part in the XIII International Forum of Studies "Le Vie dei Mercanti", which was held from 11 to 13 June at Aversa and Capri, reporting to the plenary session and participating as a member of the Scientific Committee. I have invited Louise again this year in a process of now consolidated cooperation, with me going back to Berkeley as a visiting professor in the month of November 2015.

"Amboy (California, USA), Hist. Route 66 -- 2012 – 1" by Dietmar Rabich

DAVID LISTOKIN

Co-director of the Center for Urban Policy Research - Edward J. BlousteinSchool of Planning and Public Policy, Rutgers University, USA

Our fourth annual class bringing together Rutgers and our Italian colleagues at the Second University of Naples (SUN) has again been an inspiring collaboration. The class considers the subject of development and preservation from a cross-national perspective in Italy and the United States (U.S.). To foster cross-national dialogue and understanding, students in this class worked as joint teams (encompassing both SUN and Rutgers students) to study historic preservation topics of mutual interest. From the joint student work, we gleaned the following. There is much interest in historic preservation in both Italy and the U. S., with preservation more ingrained in the former country and preservation more of a recent value in the latter country. There is widespread application of adaptive reuse in both nations. Italy has been doing this for some time and adaptive reuse has become more popular in the U. S. The students considered adaptive reuse examples ranging from former palaces in Naples converted to performing arts centers and the adaptive reuse of once-grand historic properties in Detroit, Michigan. In both nations, a primary obstacle to enhanced preservation activity is constrained financial resources, with the downturn in the economy aggravating this situation. In Italy, direct governmental financial grants are a primary financial aid to preservation, while the U. S. has opted for indirect preservation governmental support in the form of tax credits. In part as a spur to economic development, both nations look to tourism as a financial pump primer; heritage tourism, in turn, is an important and growing component of the overall huge tourism market. There is concern in Italy that its historical lead in European heritage tourism has eroded over time and heritage tourism activity is uneven in the United States. The preservation of historic religious structures is important in both countries, yet poses challenges (e. g., the large number of such resources in Italy that can strain preservation funding and separation of church and state in the U. S. complicates the application of standard preservation mechanisms).

As an example of the joint UNO-Rutgers student collaboration, we synopsize below some of the papers written by the class students since our collaboration began:

Washington National Cathedral "National Cathedral - Airforcefalcon05 – 2" by Airforcefalcon05

Guggenheim Museum "NYC - Guggenheim Museum" by Jean-Christophe Benoist

• "Development Strategies for the Immaterial and Cultural Heritage of the Department of Architecture and Industrial Design Luigi Vanvitelli of the SUN"—analyzes how the area surrounding the SUN could benefit from the integration of the university into the community, which can be accomplished by building housing units for students or providing community services.

• Santa Maria Capua Vetere"—discusses the village of Santa Maria Capua Vetere and provides a context for its history and potential for use as residences for students and university affiliates.

• "The Department of Economics of the SUN- Ideas for the Creation of a University Campus"--examines the abandonment and decay of a number of historic resources in Capua due to a lack of funding and calls for preservation and adaptive reuse.

• "Matilde Serao and Jane Jacobs, Proto-Preservationists"-- compares preservation efforts of Italian journalist Matilde Serao and American journalist Jane Jacobs. Both women were integral in efforts to preserve churches in redeveloping neighborhoods in Italy and the U.S. respectively.

• "The Role of Mass Tourism in Historic Preservation in Greece"--examines the importance of historic preservation and tourism to economic development in Greece.

• "The Role of Black Church in the US"—describes the historical context of the Black Church and its place as an institutional, cultural, and architectural landmark.

We thank our Italian colleagues in fostering this collaboration, most particularly Carmine Gambardella (Director of SUN's Department of Architecture and Industrial Design and President of BENECON) and Alessandro Ciambrone (SUN's International Coordinator).

Napoli, Cimitero Monumentale, cappella Caracciolo di Santobono. Ripresa laser scanner 3D della chiostrina 3x0.
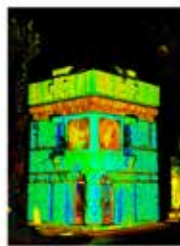
Napoli, Cimitero Monumentale, cappella Caracciolo di Santobono modello "nuvola di punti" completato, modulabile con un laser Cyclone.

Napoli, Cimitero Monumentale, cappella Caracciolo di Santobono. Modello tridimensionale texturizzato.

Napoli, Cimitero Monumentale, cappella Caracciolo di Santobono. Rotazione parzo del prospetto anteriore da modello tridimensionale texturizzato.

Rilievi 3D digitali integrati delle Cappelle monumentali del Cimitero di Poggioreale, Na

sensori: Z+F 5010i + Trimble GX + Trimble VX

data di acquisizione: luglio 2007

caratteristiche: I due sensori laser scanner 3D – il primo a "tempo di fase" il secondo a "tempo di volo" – consentono il rilevamento tridimensionale già altissima precisione dalla scala urbana a quella architettonica, con restituzione real-time di modelli nuvole di punti orientate a fitta realistiche. Gli strumenti topografici di alta precisione permettono rilevamenti metrici georeferenziati di ampie porzioni di territorio, di manufatti architettonici, di infrastrutture, sono altresì utilizzati a supporto delle scansioni laser tridimensionali.

risoluzione: cm 0,5 x 35

LA CAVITA' ANTROPICA DI PIANURA (NAPOLI)
Storia, Cartografia, Geometria, Geologia, Comunicazione web

Introduction

CARMINE GAMBARDELLA

The series Development and Preservation in Large Cities: An International Perspective aims to promote a debate on the local and international experiences on the following issues in both Italy and the United States: conservation and management of the historical, architectural, archaeological, landscape and environment; development of the historical and contemporary city; design at various and territorial scales; use of innovative technologies for the preservation and promotion of cultural heritage, both tangible and intangible.

In this logic, BENECON, institutional partner of the Forum UNESCO University and Heritage, and the Department of Architecture and Industrial Design SUN have carried out research and operational projects, national and international, on the World Heritage sites, given the partnership with the World Heritage Centre UNESCO and the UNESCO Chair in Landscape, Cultural Heritage, and Territorial Governance.

These issues will also be addressed during the XIV International Forum "Le Vie dei Mercanti" (Naples, Pompeii and Capri, June 16 to 18, 2016) entitled World Heritage and Degradation: Smart Design, Planning and Technologies chaired by myself, as founder and General Chair since its first edition in 2003, and sponsored by the Forum UNESCO University an Heritage, the National Commission for UNESCO and the US-Italy Fulbright Commission.

The Forum is an international discussion on the disciplines of architecture, design and landscape through the presentation of research and operational projects on the conservation and valorisation of World Heritage and "smart" regeneration of degradation, with analyses and proposals ranging from the design at all scales, to architectural assets, the territory, infrastructures and the landscape.

Academics, along with professionals who have a role in the governing, managing and controlling of public agencies, institutions and the business world are invited to submit papers related to design objects, architecture and landscapes. This is with the aim of conserving and recovering, valorising and regenerating, managing and designing (or re-designing), for the more general improvement of the quality of life, in an innovative and contemporary relationship between man and the environment, through "beauty", while respecting the history, traditions,

DAVID DI MICHELANGELO
Indagini georadar
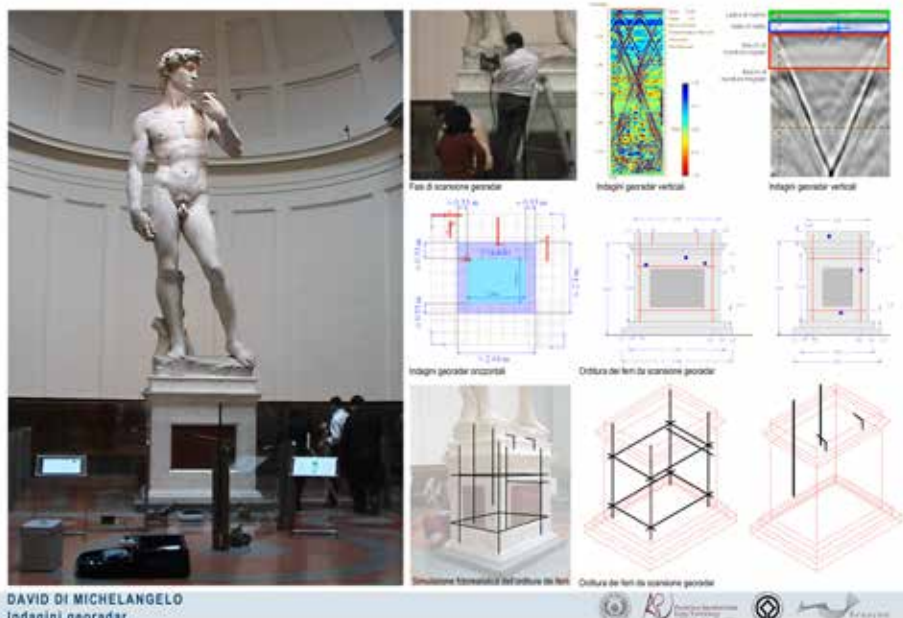
Metodologia di indagine comparata per la caratterizzazione delle discariche

Discarica PARCO SAURINO

sensore utilizzato: Itres CASI1500, missione 03.05.12, ore 12.50 ZULU
Carte tematiche e profili spettrali

Immagini iperspettrali a confronto:
in alto a sinistra, l'elaborazione RGB nel campo del visibile;
in alto a destra, l'elaborazione nel Range dell'Infrarosso medio e vicino
rielaborata con l'algoritmo *Red Vegetation* (RedVeg).

Le gradazioni di rosso sono direttamente proporzionali al vigore
vegetativo come è evidente osservando i tre profili spettrali nel grafico
a sinistra che risultano essere completamente difformi l'uno dall'altro
rappresentando un campo ad alto vigore vegetativo (A), uno a medio
vigore vegetativo (B) ed uno incolto o arato recentemente (C).

Carmine Gambardella
CRdC Benecon Dipartimento di Architettura e Disegno Industriale "Luigi Vanvitelli" SUN
Il Sabato delle Idee _ La terra dei fuochi e il futuro della Salute in Campania _ 18 gennaio 2014

identity and principles of sustainable development, as well as being attentive to the needs of our and future generations.

This publication, in its fourth edition, contains summaries of lectures and research papers by 70 Italian and American professors, researchers, as well as PhD and undergraduate students.

The contribution of the complex representation team, which I coordinate, refers to the projects on World Heritage sites in Campania such as Pompeii Knowledge Factory, the Management Plan of the UNESCO site of Caserta and the Ecopark of Cilento and Vallo Diano paradigmatic of the cognitive multicriteria approach, developed thanks to international partnership that includes universities, public administrations, the Guardia di Finanza and multinational companies like Topcon (Toshiba group), world leader in mobile mapping.

As part of the multidisciplinary approach and the integration of skills that characterizes the research and projects of our scientific community, the following papers were drawn up:

Pasquale Argenziano 'The integrated digital approach to the survey and the geometric modeling of the archaeological buildings. The case study of the Amphitheatre into Pompeii's archeological site';

Alessandra Avella 'The integrated digital approach to the survey and the geometric modeling of the archaeological buildings. The case study of the "Torre di Mercurio" into Pompeii's archeological site';

Maria Carolina Campone 'The Church of St. John Stoudion in Constantinople: the geometric rationality and formal experimentation in the proto-byzantine architecture';

Marco Calabrò 'The role of the time factor in land use management';

Jolanda Capriglione 'The Outstanding Province of Caserta';

Saverio Carillo 'To sacralize modernity the reconstruction of the Campanile in Venice and the change of the city skyline twentieth century';

Claudia Cennamo, Concetta Cusano 'hierarchical parameters of planning for the prevention of accidental damage in high structures';

Alessandro Ciambrone 'Representing World Heritage properties in Sicily: cultural differences and local identity';

Connected Park Environment del Cilento
Prof. Arch. Carmine Gambardella

ACCIAROLI_Torre

Gianluca Cioffi 'Urban regeneration - Piazza G. Marconi Aversa (Ce) – Italy';
Alessandra Cirafici 'Mapping. Between cartography, community maps and open data. Urban exploration and representation of the territory';
Marina D'Aprile 'St. Agata's site conservation planning: documenting and surveying';
Gilda Emanuele 'Traces of regeneration';
Fabiana Forte 'Financing cultural heritage preservation in Italy: incentives and proposals';
Rossella Franchino, Raffaela De Martino, Caterina Frettoloso 'Environmental networks for anthropized contexts preservation';
Claudio Gambardella 'Design as Art: the case of Gugliermetto experience';
Ottavia Gambardella 'Designing a smarter, more sustainable San Francisco';
Paolo Giordano 'The representation of the monastic utility: parchments and territorial images';
Eleonora Giovene Di Girasole 'Urban coastal areas: innovative strategies for collaborative regeneration';
Giuseppe Guida 'Landscape urbanism scenarios for the territorial system';
Chiara Ingrosso 'Neapolitan residential housing heritage';
Danila Jacazzi 'The Neapolitan architecture during the second world war in the photographs from the archive of the firefighter department';
Elena Manzo 'Cardarelli hospital and the theme of healthcare buildings in Naples in the first half of the twentieth century: a long debate between proposals and interventions';
Maria Cristina Miglionico, Giuseppe D'Angelo 'Landscape: ecology, patch, corridor and matrix';
Francesca Muzzillo, Fosca Tortorelli 'New Piazza Municipio subway station. Occasion of preservation and development in Naples';
Nicola Pisacane 'The integrated digital approach to the survey and the geometric modeling of the archaeological buildings. The case study of the 'Villa of the Mysteries' into Pompeii's archaeological site';
Mario Pisani 'The Expo 2015 in Milan';
Manuela Piscitelli 'The perception of public space. Human scale and historical

Attrezzature Scientifiche

Immagine digitale

Nuvola di punti

Laser Scanner 3D Zoller & Froehlich

Il Sistema laser scanner 3D è particolarmente adatto per il rilievo di manufatti architettonici e di elementi del territorio con sviluppo prevalentemente verticale (costoni, cave, etc).
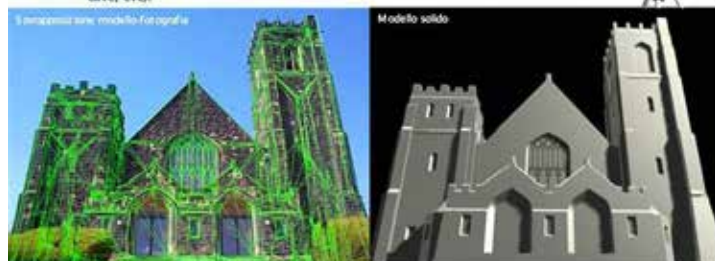
Sovrapposizione modello-fotografia

Modello solido

PAESTUM_Tempio di Cerere
500 a.C.

centers';

Riccardo Serraglio 'The Church of San Pietro in Cattedra in Caserta designed by Marcello Canino';

Antonella Violano, Monica Cannaviello, Francesca Verde 'Technological design and cultural heritage: preserve improving energy quality';

Ornella Zerlenga 'Multimedial and interactive graphic scenography for San Gennaro's history'.

The series of lectures held by David Listokin, summarized in his paper, have integrated and extended to the US context this process of multidisciplinary knowledge shared through comparative analyses and the study of best practices on the management of natural and cultural heritage and the development of the contemporary city.

The thirty Italian and American PhD and undergraduate students, in addition to attending classes for six months, developed their papers on the following two topics:

- Italy and the US – Heritage tourism magnitude, profile, economic, promotion contribution and challenges;
- Italy and the US – preserving sacred structures – special issues in preserving historic churches and similar resources.

The participants benefitted from an extraordinary comparison and research experience. In addition to lectures on the online Sakai platform, the seminar series was characterized by a continuous exchange of ideas shared through emails, teleconferences and social networks, out of university hours, all testifying to the importance of the international comparison of the topics covered, in a multidisciplinary context, essential to all forms of learning in contemporary higher education and professional practice.The scientific debate continues and is not limited to the issue of the participation certificate and joint publication, albeit important, of these Acts. The debate projected toward the XIV Forum, to which many of the professors, researchers and students involved in this experience, will participate.Starting from the title of the Forum "World Heritage and Degra-
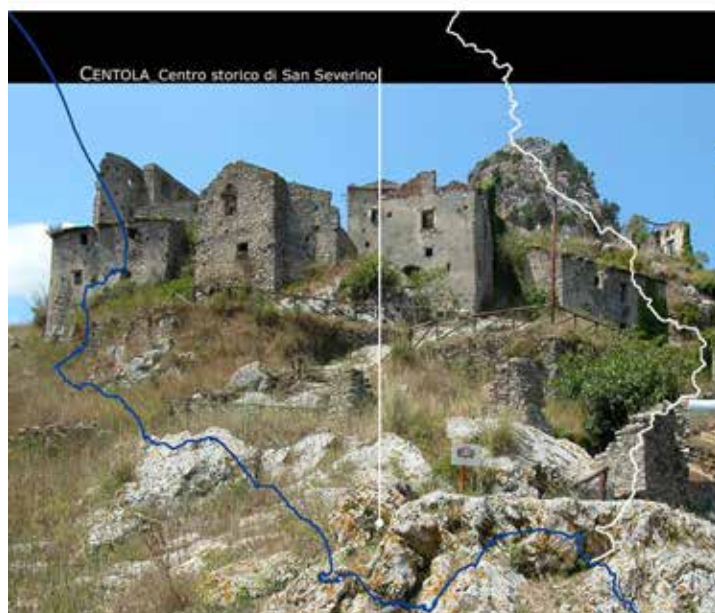
CENTOLA Centro storico di San Severino

CUMA
Antro della Sibilla
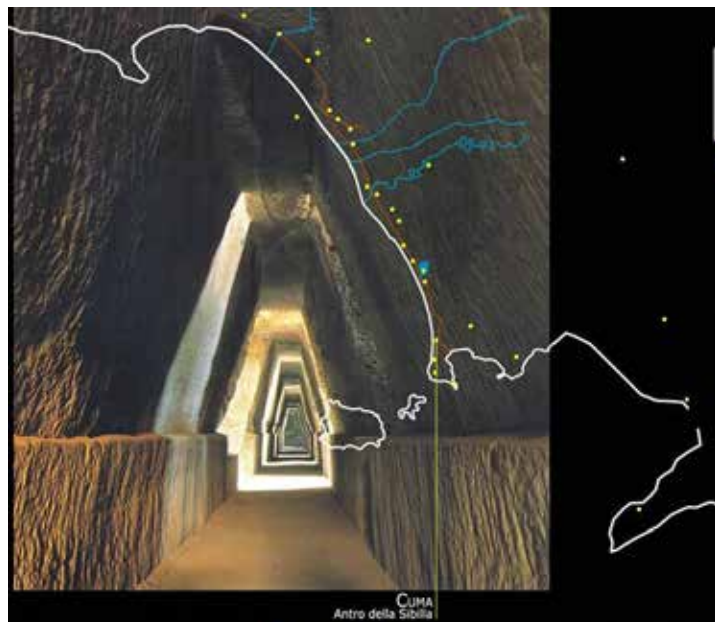
dation", the confrontation is now in progress: the Internet of Everything, smart design, planning and technologies, building information modelling, in the age of globalization, become operational tools - that alongside the traditional ones of the profession - for the protection and promotion of World Heritage, considered as goods to be shared by all mankind, and the regeneration of the degradation and the "minor heritage", in all aspects, and as contemplated by the UNESCO Conventions on tangible and intangible assets and European Landscape Convention. The event aims to create a critical transversal dialogue, open to cultural and "unlimited" influences, in a logic of integration between the skills that extends, and is not limited to the following disciplines: anthropology, architecture, archaeology, history art, cultural geography, design, ethnology and folklore, economy, history, landscape, museum management, philosophy and political science, sociology and urban history, cultural tourism, planning and integrated management. The location is exceptional. Campania with six sites included in the World Heritage List, two UNESCO Man and Biospheres, two sites on the List of Intangible Heritage is one of the richest regions in the world for cultural heritage and landscape. It is no coincidence that the Forum is to be held in Naples, Pompeii and Capri, with site visits and presentations of operational projects by the scientific community of Benecon, a university consortium that houses 250 researchers and distinguished professors of four regional universities (Second University of Naples, University of Sannio, University of Salerno). The event, in its fourteenth edition, has now reached a success that was unimaginable until a few years ago. The 40 members of the International Scientific Committee are Directors, Deans, Chairs and Rectors of major Departments, Faculties, Schools, Reserach Centres and Universities, partners of BENECON, or representatives of international organization such as UNESCO, the Fulbright and Uniscape (the Network of Universities dedicated to the implementation of the European Landscape Convention), or even general managers and CEOs of multinationals operating in the fields of design, architecture, cultural heritage and all related disciplines. All the full papers are reviewed by two members of the Scientific Committee through the blind peer review process. The high cultural and scientific value of documents has allowed their indexing on the ISI Web of Science.

Summary of Investment and Benefits:
Annual (2013) Texas Historic Preservation

Summary of Annual Economic Investment, 2013

Annual Spending (2013)
- Historic rehabilitation $772 million
- Heritage tourism $2.25 billion
- Main Street $224 million
- Historic museums $93 million
- **Total $3.34 billion**

Annual Historic Preservation Investment
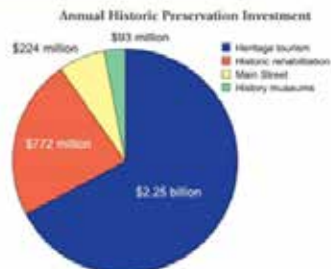
Total Economic Impacts of Annual Historic Preservation in Texas: $3.34 billion annually

In-state benefits of the $3.34 billion annual investment, based on multipliers:

Jobs	**79,419**
Income	$3,260 million
Gross domestic product (GDP)	$4,624 million
Total taxes	$1,129 million
State and local taxes	$291 million
In-state wealth	$4,111 million

In-state GDP by Annual Historic Preservation (000$)
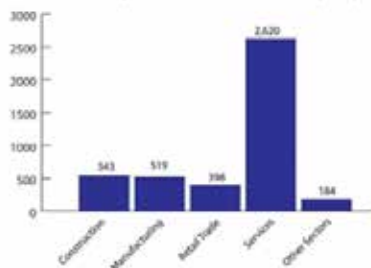
Jobs and Gross Domestic Product (GDP) in Texas supported by annual historic preservation:

Sector	Jobs	GDP (millions $)
Construction	7,782	543
Manufacturing	6,602	519
Retail Trade	7,949	398
Services	50,071	2,620
Other Sectors	7,015	184
Total Jobs	**79,419**	**4,264**

In-state Employment Created by Annual Historic Preservation (jobs)

Table 1

36
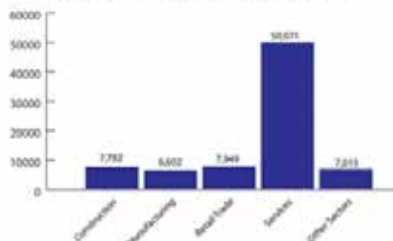
HISTORIC PRESERVATION, HERITAGE TOURISM, AND ECONOMIC IMPACTS IN TEXAS

DAVID LISTOKIN

Co-director of the Center for Urban Policy Research - Edward J. BlousteinSchool of Planning and Public Policy, Rutgers University, USA

Texas is one of the largest states in America with a population of about 27 million and a land mass of 696,000 km². For context, Italy contains about 61 million people living in an area of about 301,000 km². Texans are proud of the state's rich and diverse heritage and are committed to the continued economic growth that is a vital part of that heritage. Historic preservation is not an alternative to economic growth but a key component of it. To document this, the Texas Historical Commission (THC) commissioned a study (a collaboration between Rutgers University and University of Texas-Austin) that quantified the economic contributions of historic preservation in Texas. The 2015 study findings are synthesized below.

The analysis applies the Preservation Economic Impact Model (PEIM) to quantify the total impacts of historic preservation, encompassing both direct and secondary economic effects for: jobs, income, wealth (gross domestic product or GDP), output (value of shipments), and taxes (to all governments). The PEIM is applied to both annual and aggregate direct economic Texas investments of different components of historic preservation. Annual 2013 direct economic effects from historic preservation activity in Texas include at a minimum $772 million in historic rehabilitation spending, $2.25 billion in heritage tourism spending, $224 million in net Main Street Program activity, and $93 million in net history museum operations—for a total of $3.34 billion (all in annual 2013 dollars). Further, three long-term programs are examined: the 1978-2013 federal historic rehabilitation investment tax credit applied in Texas, the state's 1981-2013 Main Street-related activity, and the state's 2001-2015 $447 million historic courthouse restoration work. These three long term or cumulative investments amount respectfully to $1.78 billion (tax credits), $5.29 billion (Main Street), and $447 million (historic courthouses), in direct economic effects (adjusted for inflation using 2013 dollars) over the lives of the initiatives.

In all cases, base data were assembled and applied to project total effects (direct and secondary) of these activities. Results are summarized in Table 1. When multiplier effects are taken into account from the $3.34 billion annual preservation investment, the total annual impacts to the nation include a net economic gain of 114,122 jobs, $4,433 million in income, $7,307 million in GDP,

Summary of Investment and Benefits:
Cumulative Texas Main Street Investment

Total Impacts of Cumulative Main Street Investment in Texas: $5.29 billion

In-state benefits of the $5.29 billion annual investment, based on multipliers:

Jobs	126,719
Income	$5,763 million
Gross domestic product (GDP)	$7,362 million
Total taxes	$1,264 million
State and local taxes	$563 million
In-state wealth	$6,675 million

Jobs and Gross Domestic Product (GDP) in Texas supported by cumulative Main Street investment:

Sector	Jobs	GDP (millions $)
Construction	36,886	2,069
Manufacturing	10,217	725
Retail Trade	23,403	1,096
Services	49,179	2,642
Other Sectors	7,034	880
Total Jobs	**126,719**	**$7,362**

In-state GDP by Cumulative Main Street Investment (000$)
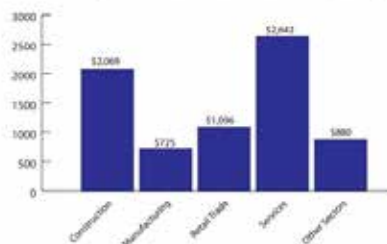
**In-state Employment
Created by Cumulative Main Street Investment (jobs)**

Table 2
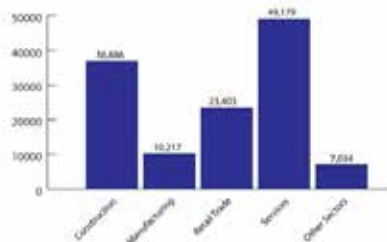
and $1,596 million in total tax revenues On an annual basis, the in-state effects to Texas from the annual $3.34 billion investment in historic preservation include 79,419 jobs, $3,260 million in income, $4,624 million in state GDP, and $1,129 million in total taxes (Table 1).

The cumulative (aggregate direct spending over time) impacts are not surprisingly quite significant (Table 2). We shall focus here on impacts to the state of Texas. The 1978- 2013 federal historic rehabilitation investment tax credit applied in Texas ($1.78 billion) generated cumulative state-level impacts of 35,746 jobs, $1,896 million in income, $2,401 million in GDP, $140 million in state and local taxes and $2,195 million of in-state wealth. The 1981-2013 aggregate Main Street investment in Texas ($5.29 billion) generated cumulative state-level impacts of 126,719 jobs, $5,763 million in income, $7,362 million in state GDP, $563 million in state and local taxes, and $6,675 million of in-state wealth. Finally, the 2001-2015 aggregate historic courthouse investment has generated in Texas 9,607 jobs, $501 million in income, $615 million in GDP, $36 million in state and local taxes, and $561 million of in-state wealth. Again, Texas does well in retaining the wealth generated by federal tax credit-associated rehabilitation, Main Street activity, and historic courthouse investment.

What sectors of the economy benefit from the historic preservation investment in Texas? Take for instance the 79,419 Texas jobs from the annual $3.34 billion historic preservation spending. Of that 79, 419 total, the largest benefit –50,071 jobs – accrues to the service sector (e.g., 24, 811 jobs alone in the service category of arts, entertainment, recreation, and hospitality), followed by retail trade (7,949 jobs), construction (7,782 jobs), manufacturing (6,602 jobs) and other sectors (7,015 jobs). In short, while certain economic sectors benefit the most from Texas historic preservation, namely services, retail trade, construction, and manufacturing, because of the interconnections in the economy, all Texas business sectors benefit from historic preservation investment. Similar widespread benefit results from the cumulative impacts of historic preservation activity reported above. For example, of the total 126,719 Texas jobs generated from the 1981-2013 aggregate Main Street investment in Texas of $5.29 billion,

Dallas, Texas Historic District "historic district – dallas, texas" by mahanga

49,179 jobs were realized by the services sector, followed by 36,886 jobs in construction, 23,403 jobs in retail, 10,217 jobs in manufacturing and 7,034 in other sectors. So again, the benefits of Texas historic preservation are distributed throughout this state's economy with understandably certain sectors (e.g. services, construction and retail) realizing the greatest benefits.

As indicated above, the Texas economic impact study examines many aspects of historic preservation in that state. We present below further detail on one component, heritage tourism, a subject of considerable interest in both the United States and Italy.

HERITAGE TOURISM

The travel industry is one of the most important businesses in the United States, and heritage travel is a high-value and fast growing segment of the travel industry. Direct travel spending in Texas was $58,382 million in 2013. Direct expenditures by Texas heritage day-trippers and overnight visitors amounted $7,298 million in 2013, accounting for approximately 12.5 percent of total $58,382 million direct travel spending in Texas.

TABLE 3
Summary of Texas Traveler Spending (2013)

	Total Traveler Spending ($ millions)	Total Spending By Heritage Travelers ($ millions)	Heritage Spending as % of Total Traveler Spending
Day trip	$7,861	$707	9.0%
Overnight	$50,521	$6,591	13.0%
All	*$58,382*	*$7,298*	*12.5%*

The Alamo (San Antonio, Texas) "The Alamo front view" by Bigroger27509

The distributions of heritage travel spending are shown in Table 4. Noticeably, transportation ($1.9 billion) accounted for approximately 26 percent of direct heritage travel spending, and lodging ($1.6 billion) accounted for approximately 22 percent.

TABLE 4
Distribution of Texas Heritage Travel Direct Spending (2013)

Spending	$ Million			%		
	Total	Day	Overnight	Total	Day	Overnight
Transportation	$1,868	$167	$1,714	25.6%	23.6%	26.0%
Food and Bev	$1,533	$186	$1,305	21.0%	26.3%	19.8%
Shopping	$1,109	$187	$844	15.2%	26.5%	12.8%
Entertainment	$890	$112	$751	12.2%	15.8%	11.4%
Lodging	$1,598	$0	$1,753	21.9%	0.0%	26.6%
Other	$307	$55	$224	4.2 %	7.8%	3.4%
Total	$7,298	$707	$6,591	100.0%	100.0%	100.0%

Texas heritage travel amounted to 10.5 percent of the 500 million person-days spent on Texas travel in 2013 (Table 5). While travelers who visited a historic site represent only 10.5 percent of all Texas travel, heritage travel outlays accounted for 12.5 percent share of the total Texas traveler expenditures. Heritage day trips were 5.2 percent of all day trips to Texas, while heritage overnight trips amounted to 11.5 percent of all overnight trips to Texas.

TABLE 5
Magnitude of Texas Travel in Trips (2013)

Travel Type	All Travel (in millions)	Heritage* Travel (in millions)	Heritage as % of All Travel
Day trip (person-days)	80.3	4.2	5.2
Overnight (person-days)	421.0	48.5	11.5
Total Person-Days of Travel	501.3	52.7	10.5

*Defined as a business or leisure traveler indicating "visit historic site" as one (of up to four) "primary activity."

Austin, Texas Historic District - "6th Street historic district Austin, Texas" by Kenneth C. Zirkel

Texas heritage traveler attributes include:
Higher average education level than non-heritage travelers.
Higher share of females and retirees than non-heritage travelers.
Higher daily spending than non-heritage travelers.
For the purposes of this study, only the Texas business or leisure travelers who cited "visit a historic site" as primary activities in the survey were flagged as "heritage travelers". Further, the estimated $7,298 million in direct heritage-attributed spending is conservatively adjusted downward (to $2.255 billion in 2013) to include only the share of overall travel expenditures focused directly on heritage activity.

TABLE 6
Adjusted Texas Traveler Spending (2013)

	Total Traveler Spending ($ millions)	Total Spending By Heritage Travelers ($ millions)	Total Heritage-Attributed Spending ($ millions)
Day trip	$7,861	$707	$193
Overnight	$50,521	$6,591	$2,062
All	*$58,382*	*$7,298*	*$2,255*

The total annual economic impacts from the $2.25 billion in spending by Texas heritage travelers (encompassing both direct and multiplier effects) are presented in Table 7. The impacts at the national level include: 70,166 jobs, $2.82 billion in income, and $4.21 billion in gross domestic product. Texas received over two-thirds of these gains (54,204 jobs, $2.03 billion in income, and $2.98 billion in GDP) and realized annual in-state wealth creation of about $2.6 billion. Clearly, the benefits from heritage tourism are quite significant.

TABLE 7
Total Economic Impacts of the Annual
Texas Heritage-Attributed Traveler Spending ($2.25 Billion)

	In Texas	Outside Texas	Total (U.S.)
Jobs (person-years)	54,204	15,962	70,166
Income ($000)	$2,029,480	$789,849	$2,819,329
GDP ($000)*	$2,976,402	$1,235,072	$4,211,474
In-State Wealth ($000)**	$2,607,451	-------	-------

*GDP = Gross Domestic Product
**In-State Wealth = GDP minus Federal Indirect Business Taxes

GDP =Gross Domestic Product
In-State Wealth = GDP minus Federal Indirect Business Taxes
For a copy of the full study by many authors see http://www.thc.state.tx.us/public/upload/publications/economic-impact-historic-preservation.pdf

SYLLABUS

This class will consider the subject of development and preservation in large cities (and other places) and will examine this interaction from an international perspective, considering case studies in the United States (with an emphasis on New York City) and Italy (with discussion of Naples and Pompeii). New York City has some of the leading cases in the United States of development triumphing over preservation (e.g., demolition of Penn Central Station) as well as opposite situations (e.g., preservation of Grand Central Station). The same is true in Italy, including Naples and Pompeii. The class will electronically link (via Skype/other means) Rutgers University in New Jersey and the School of Architecture at the Second University of Naples (SUN) and the Region Centre for Cultural Heritage, Ecology and Economy (BENECON). The class will be taught in parallel by David Listokin (Rutgers) and faculty from SUN and BENECON.

The class will present:
1. Why – What are the forces respectfully driving development and preservation and what is the larger historical framework of these two forces.
2. How – What is the regulatory framework for development (e.g., zoning, and subdivision codes) and preservation (e.g., landmark designation, transfer of development rights, and tax credits), with a focus on the latter.
3. "Historic" cases – These are notable past examples of development and preservation cases. Two examples for New York City include:
a. Penn Central and Grand Central Stations – two iconic structures with contrasting development/ preservation outcomes.
b. St. Bartholomew's Church – landmarking of religious structure upheld and stopped planned demolition, but fostered a counteraction against restraining religious entities.
4. "Current" cases -- Ongoing preservation versus development situations. Potential examples in New York City include Atlantic Yards (Brooklyn) and Saint Vincent's Hospital (Manhattan).
5. Future Policy and Planning – Based on the historic and current cases, what planning and preservation policies and mechanisms can better synthesize development and preservation.

To foster cross-national dialogue and understanding, students in this class will work as joint teams (encompassing both Naples and Rutgers students) to study historic preservation topics of mutual interest. For each topic, the student analysis will: (1) summarize the existing preservation thinking/ application in each country (Italy and the United States), (2) compare and contrast section (1) findings, and (3) discuss how each country can learn from one another on the given preservation subject.

LEARNING OBJECTIVES
At the conclusion of this class the student will understand (1) the background, context and history of the historic preservation movement; (2) historic preservation theory, mechanisms, and policies, ranging from landmark designation to tax incentives; (3) economic, social, and other impacts of preservation; and (4), how (1) to (3) above compare and contrast in the United States versus an international application, in Italy.

Lectures and topics 2015

HISTORIC PRESERVATION: INTERNATIONAL PRESERVATION

February 2	An historical overview of preservation in the United States (U.S.) (Prof. D. Listokin)
February 9	U.S. federal government preservation programs (Prof. D.Listokin)
February 16	U.S. state government preservation programs and U.S. local government historic preservation in the nation and New York City (Prof. D. Listokin)
February 23	U.S. federal government financial preservation programs (e.g., tax incentives and grants); U.S. property rights and development-preservation tensions in the nation and New York City. Also, housing, economic development, and social impacts (Prof. D. Listokin)
March 2	Representation (Prof. C. Gambardella) and GIS (Prof. N. Piasacane)
March 9	Representation in Cultural Heritage (Prof. O. Zerlenga), and Legislation (Prof. M. Calabrò)
March 23	Communication Design (Prof. A. Cirafici) and Environment Design (Prof. F. Muzzillo)
March 30	Economic Evaluation (Prof. F. Forte) and History of Architecture (Prof. E. Manzo)
April 6	Community Case Study Draft Presentations (Rutgers class only)
April 13	Urban Design (Arch. O. Gambardella, PhD), Landscape and Cultural Heritage (Arch. A. Ciambrone, PhD)
April 20	Class Review
April 27	Cross-national student team presentations (Naples and Rutgers)
May 4	Cross-national student team presentations (Naples and Rutgers)
May 11	Final Community Case Study Paper

The Museum of Modern Art, San Francisco, California, photo: Alessandro Ciambrone

MODULES, PAPERS, and BIOGRAPHIES

Carmine Gambardella
David Listokin
Pasquale Argenziano
Alessandra Avella
Maria Carolina Campone
Marco Calabrò
Jolanda Capriglione
Monica Cannaviello
Saverio Carillo
Claudia Cennamo
Alessandro Ciambrone
Gianluca Cioffi
Alessandra Cirafici
Concetta Cusano
Giuseppe D'Angelo
Marina D'Aprile
Raffaela De Martino
Gilda Emanuele
Fabiana Forte
Rossella Franchino
Caterina Frettoloso
Claudio Gambardella
Ottavia Gambardella
Paolo Giordano
Eleonora Giovene de Girasole
Giuseppe Guida
Chiara Ingrosso
Danila Jacazzi
Elena Manzo
Maria Cristina Miglionico
Francesca Muzzillo
Nicola Pisacane
Mario Pisani
Manuela Piscitelli
Riccardo Serraglio
Fosca Tortorelli
Francesca Verde
Antonella Violano
Ornella Zerlenga

Pompeii, Amphitheater. Overview, and detail of the UAV during photographic acquisitions.

THE INTEGRATED DIGITAL APPROACH TO THE SURVEY AND THE GEOMETRIC MODELING OF THE ARCHAEOLOGICAL BUILDINGS. THE CASE STUDY OF THE AMPHITHEATRE INTO POMPEII'S ARCHEOLOGICAL SITE.

Pasquale ARGENZIANO

Second University of Naples, Department of Architecture and Industrial Design "Luigi Vanvitelli", Aversa (CE), Italy.

From the research project on Pompeii and its hinterland, coordinated by Prof. Carmine Gambardella, these paper is focused on the integrated digital surveying procedures of the amphitheater in classic archaeological city. Retracing the most complex scientific protocol of the research project, the studies on the contemporary and the archaeological cities are not limited to simple geometric drawings of the building, but to the multi-disciplinary and cross-disciplinary thematic values. The interaction and integration of multiple disciplinary skills on a case study, however, can be optimally if and only if its morphological and geometric knowledge are shared in order to facilitate and clarify the complete knowledge of architectural and particularly complex stratified, like those of archaeological value. The geometric surveying step remains the first a key passage of the scientific research on Cultural Heritage. The surveying scientific activity at he beginning of the Third Millennium not be separated from the optimised and integrated use of the most advanced digital tools in this field, aimed at the model not only the geometric data as exhaustive as possible.

The geometric integrated digital survey of the Amphitheatre in Pompeii - performed in the spring of 2015 - has at least two singularity aspects, such as to earn a specific treatment: the imposing size and the particular morphology of the building, along with the limited time allowed for activities on site. The team has therefore planned a expeditious surveying project, maximising the use of digital technologies and trying to minimise the possibility of errors during acquisitions.

The digital survey project of the Amphitheatre integrates four different acquisitions: 3D laser scanning, GPS and traditional topographic surveyings, high-resolution photographic mapping and digital photogrammetry techniques.

In particular, the topographic network was made by the Trimble VX S6 Total Station, which provides technologically high standards of precision; georeferencing of topographical landmarks was acquired by Trimble R5700 sensitive to GPS constellation; the photogrammetry was made by Nikon D70 camera; the 3D laser scanner was carried out by Faro 3D X330 and Faro 3D X130, which can be properly defined as multi-sensor platforms integrating compass, inclinometer, a RGB photographic camera and laser sensor. Their scan range lasers' were

Pompeii, Amphitheater. 3D Laser Scanners capturing, and topographical acquisition.

variable between 0,6 and 330 meters, and their relative accuracy was variable between 2 and 200 mm, depending on the scan settings.

According to the overall geometric shape of the building, the surveying project of the Amphitheatre was characterised by three factors: the buildings' size, its morphological shape, the environmental monumental value. Whereas the Amphitheatre is a large concave building, walkable along concentric paths on three significant levels at least, the survey was structured: to divide the building into homogeneous architectural sectors, corresponding to the same macro-scanning projects; to use two laser scanners Faro CAM2 and one total station, with a team of 12 surveyors, divided into homogeneous groups according to acquisition activities; to follow in each macro-scanning an ordered scan sequence taking care to overlap the last scan on the first one, or to detect in the last scan position some targets saved in the first one. This in order to optimise the operations of scans compensation, integrating data of the embedded sensors with the global targets' coordinates.

The scan scheduling according to a sequential path is justified by the sensor's technological characteristics, and its operability in the alignment scans' software. Starting from the first scan, the sensor stores the data of the compass, the inclinometer, and the GPS receiver (outdoor) incorporated therein; these data are used synergistically with relative coordinates of the homologous targets, picked semi-automatically in several scans.

Following the capture mode just tried and tested, the team using the Faro 330 sensor mostly worked in the open areas, leveraging the power of the laser beam propagation up at least 200 meters with good quality; the other team, using the Faro CAM2 Focus 3D X130 sensor, worked in the lower underground level and the ima cavea sector. The open areas of the ima cavea were selected to overlap the point cloud models captured along six days, with two Faro sensors. Not being able to use fixed targets in the Amphitheatre scenario, they were used 30 spherical targets, positioned on cylindrical or prismatic bases to better lay them to horizontal surfaces.

During the 3D laser scanning activities, the 2D and 3D targets were differently used: while 2D targets shall be bound to the scan scenario during the data

Pompeii, Amphitheater. 3D Laser Scanner capturing in the underground tunnel.

capturing time, especially if several of them are to be determined respect to the topographic network; the spherical target can be gradually moved, when they go out from the optimum scanning radius, and may be so relocated in subsequent areas in the same scan scenario.

Assessed the overall size of the Amphitheater, and the technological characteristics of the two Faro sensors, and then the various accuracies reached by them, the spherical targets were tested by 3 different sizes (respectively 14, 25 and 50 cm in diameter) in order to optimise the semi-automatic targets detecting by the software even at great distances from the sensor. Thirty spheres of various diameters were placed in about 300 positions to guide each other 275 scans. In order to solve the inability to measure the coordinates of the spherical targets' center, it was materialised a topographic network georeferenced with respect to which were measured the coordinates XYZ of a large number of target areas in 2D placed underground. The point clouds' alignment is then calculated with respect to the sensor position when shooting 3D capturing, and the homologous targets' position.

This processing feature therefore integrates the traditional topographic approach to the more recent 3D laser scanning technique, adding an upper check error level to the sensors feature. The UAV photogrammetric sensor solved the shadow cones of the scans in the coverage areas of the Amphitheatre's apical ring.

The processing deducible from the discrete 3D model open to several considerations well beyond the amphitheater's shape: it is important to understand, learn and investigate the complex geometry of the auditorium, the direction of the stairs crossing and reaching the different parts of the theatre space, such as the shape of the corridor below the auditorium itself; and also it is important to study the auditorium's slope in relation to the visibility inside the different parts of the theatre, or to study the trend of the tiers according to the problems of cutting of stones and other materials used for the construction.

The first step was to verify the plan shape and then extend the considerations to the spatial geometry of the auditorium.

The first verification was the application of Pascal's theorem to the inner pe-
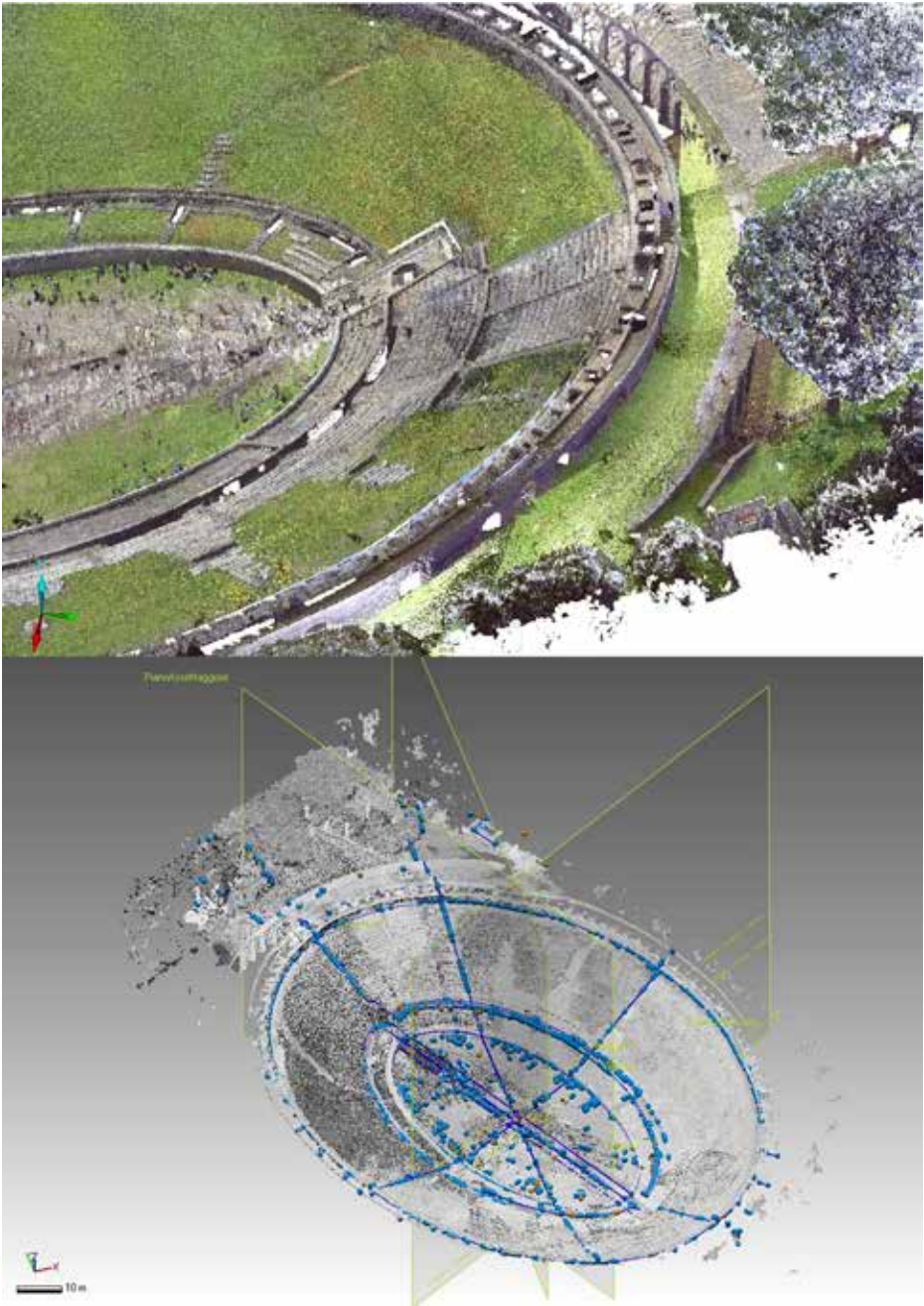
Pompeii, Amphitheater. 3D point clouds model, and geometrical cross-sections to model the real shape.

rimeter of the upper wall and that of separation between the auditorium and arena. Recall that the Pascal's theorem verifies the curves obtained from the flat section of the cones through the relationship between six points of the same curve through the alignment of three points inside and outside the same curve. The audit was conducted on points and then actually detected with considerable accuracy, due to the high precision required when scanning. The test, performed on two pairs of six points for the two sections made -share perimeter wall, and the inside portion of the wall of separation between 'arena' and 'cavea'- verified with a minimum margin of error of the elliptical amphitheater.

The attention to the geometry of the Amphitheater in Pompeii must not be limited to the study of its plan, but the spatial configuration of the surfaces that describe the spaces. Indeed checks plan will mainly determine the curve that describes the real performance with less error and how this same curve turns into model space through the creation of surfaces of different complexity.

Just in case, think the influence that this information determines the trend of bleachers and on their radially and their disposal than the performance of the perimeter of the amphitheater.

Different, in fact, it is the tracking mode of a perpendicular line to an elliptical wall, than to an oval one. In the first case the curvature varies at each point, in the second is constant for the individual arcs of circumference that determine the final shape.

This trend involves variations of the surface detected by the steps of the auditorium, as occurs on digital model must verify the direction in which the slope of the auditorium is constant. Direction of the slope constitute the generating of theoretical inner surface that define a good chance a cone, from which sections define direction connecting the various parts of the theatre as well as the ways in which various stone elements were designed, cut and built.

The operation of surface definition of the auditorium will be the analysis of the innovation development of the mesh from point cloud guaranteeing an even more thorough than those available through only plane sections with vertical or horizontal position.

The above considerations want to be a first approach to the analysis of complex
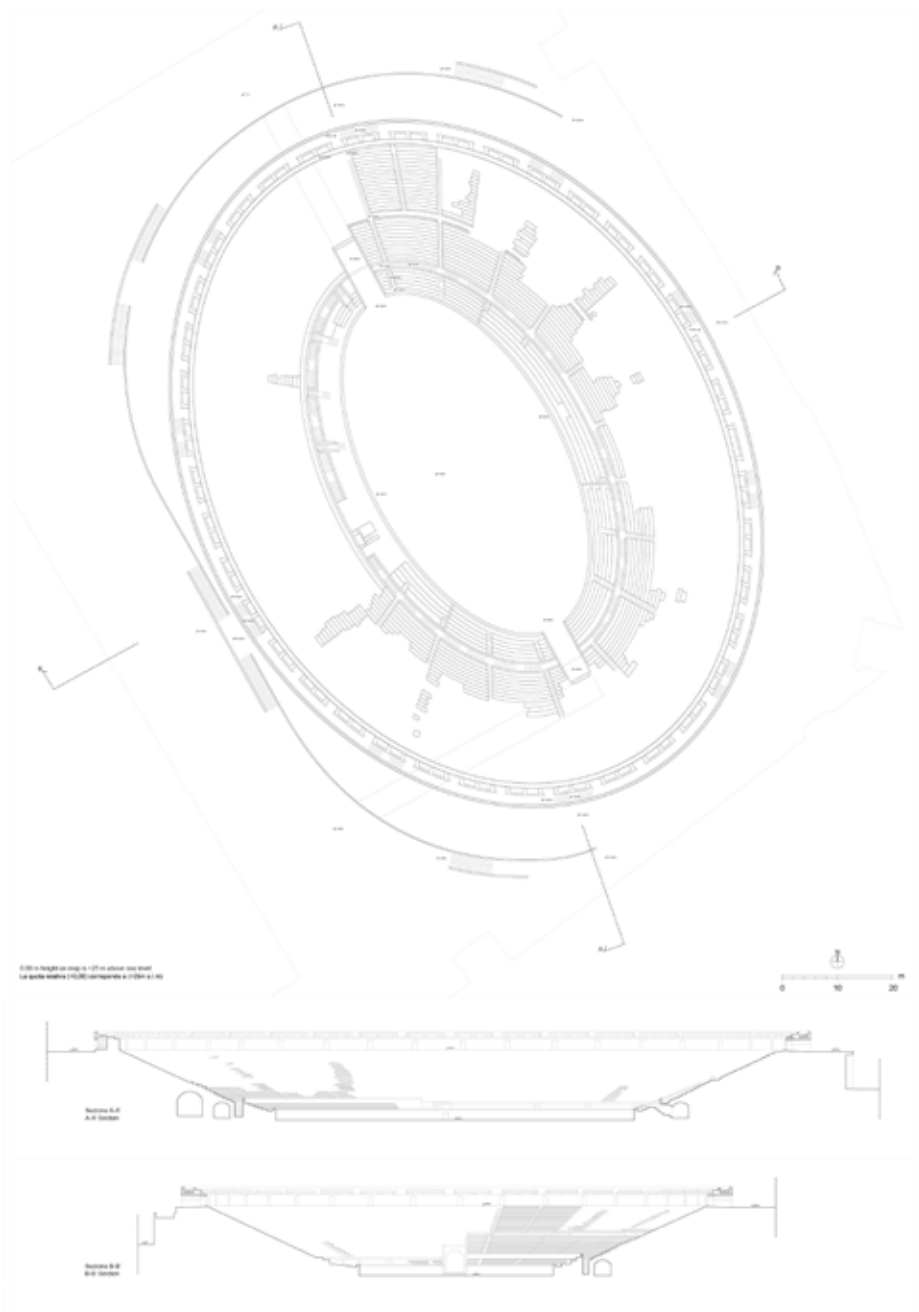
Pompeii, Amphitheater. Plan, and cross-sections drawn by point cloud model.

geometries directly on the 3D model that can be in the case of some buildings the opportunity to develop and elaborate in the best way the discrete point cloud model from which generate the continuous model. A modality that can optimise the use of laser scanner systems for survey of buildings and a critical use of software for processing and modelling, also for the construction of structural models, assumptions of restoration and design.

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Pompeii. Tower XI, more usually known as 'Torre di Mercurio'.

THE INTEGRATED DIGITAL APPROACH TO THE SURVEY AND THE GEOMETRIC MODELING OF THE ARCHAEOLOGI-CAL BUILDINGS. THE CASE STUDY OF THE "TORRE DI MERCURIO" INTO POMPEII'S ARCHEOLOGICAL SITE.

Alessandra AVELLA

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This paper focuses on the three-dimensional integrated digital survey of the "Torre di Mercurio" in the archaeological site of Pompeii, whose need for a structural restoration has been causing its interdiction to the visitors of the excavations in about the last fifteen years.

This study was conducted in the framework of a wider research being developed on the territory of Pompeii titled Campus Project "Urban Ecotourism for the sustainable use of the Cultural Heritage in Campania."

The survey activities carried out on the "Torre di Mercurio" and on other archeological buildings with different shapes in the archaeological site of Pompeii such as the Amphitheatre and the "Villa dei Misteri" offers an opportunity to reflect about the integrated digital approach to the architectural remote sensing and the different methodological interpretations of the three-dimensional modeling.

The "Torre di Mercurio" was subjected to an integrated digital survey aimed at the geometric/morphological characterization and the realization of a multi-scale digital model towards all possible scientific analyses that can be performed on the monument, i.e. the structural, conservative and fruition characterizations of the Architecture.

These notes therefore, describe the integrated digital survey performed through a methodological approach that is not limited to mere geometric restitution of the Architecture: the metrical and visible dimensions, in fact, are integrated with the data acquisition that enrich the architectural diagnostics – from spectrophotometric and thermal characterization for surface analysis to sonic and ultrasonic measurements for the investigation of the building structures - in order to guide the possible design and recovery activities.

The Tower XI, more usually known as the "Torre della Via di Mercurio," is among the first urban elements brought to light. Restored in stages over the years, today it looks altogether intact while having substantial structural problems.

Its building dates back to the last phase of construction of the fortifications of Pompeii in the first century BC, when these fortifications were reinforced with strong towers placed into the thickness of the double curtain of the city walls, from which exceeds in both sides approximately two meters to dominate with the third floor the parts of the wall between the towers. The Tower located between
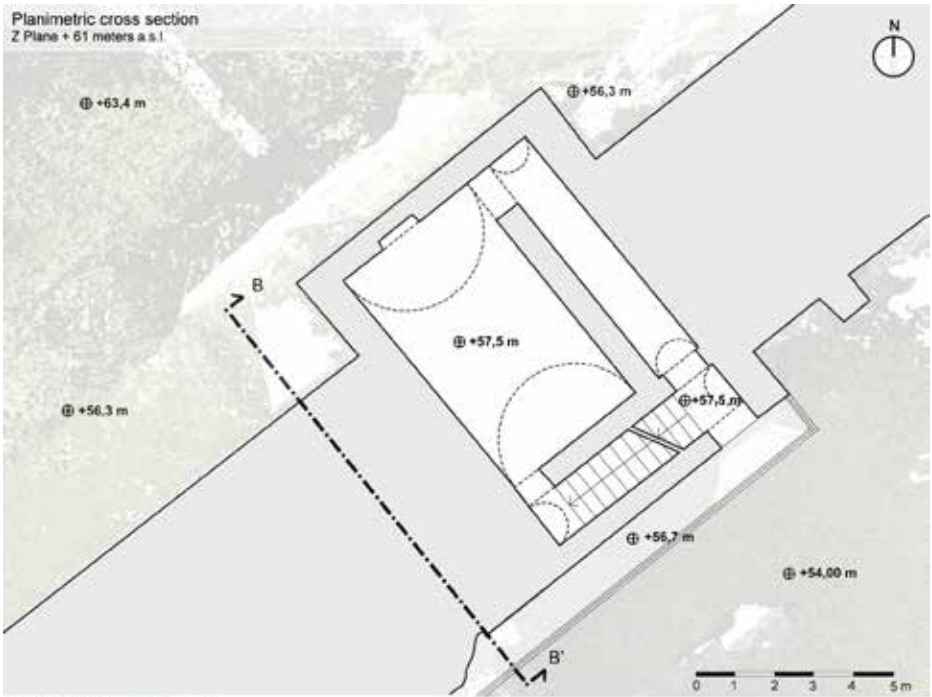
Pompeii, 'Torre di Mercurio'. Planimetric cross section mesh model at 61 meter above sea level.

"Porta Ercolanese" and "Porta Vesuvio" at the end of the "Via di Mercurio" in the "Regio VI", is a stocky parallelepiped with quadrangular plan approximately 9.50 and 7 meters on side by 13 meters high, conforming to military techniques. The Tower's interior is articulated in two superimposed vaulted rooms, connected by an interior staircase and surmounted by a terrace equipped with battlements, now destroyed.

The masonry is in opus incertum with small stones of lava and tuff linked with mortar without original plaster.

Once the morphology, the scale, the materiality of the object of the investigation, as well as the spatial relationship between the building and its context were observed, the survey project was performed with the laser scanner Faro CAM2 Focus 3D X330 and was divided into two on site data capturing steps.

The first was performed outside the building, through a continuous sequence of scans: the tower was observed around toward the east starting from the "extra moenia" area. The city walls were then bypassed to reach the "intra moenia" area. Finally, the gangway built on the facade in the last century was crossed to enter the building.

The second step was performed in the tower's interior through a sequence of continuous scans starting from the bottom room; these followed the architectural path through the corridors and the stairways, up to the flat roof.

Finally, the digital photogrammetric close-range technique was used to integrate the scans' gaps. The two scanning projects were relative aligned by thirty-one 2D targets, and checked at 25 tie points.

The latter were neatly arranged in the outer areas and inner spaces of the building, with a focus in the shared areas between the two projects' paths, identified in three significant portions of the building (ground level, the wall pick and the floor covering).

Laser scans were performed in a sequential order, to exploit the technological characteristics of the sensor, which includes a compass, an inclinometer and a GPS receiver (only active during outdoor acquisitions).

All data were processed relative to the local coordinates of homologue targets, which were recognised in each scan by a semi-automatic procedure.

Planimetric cross section
Z Plane + 65,50 meters a.s.l.

⊕ +63,4 m

⊕ +56,3 m

D

C

⊕ +65,2 m

⊕ +56,3 m

⊕ +63,0 m

D'

⊕ +56,7 m

C

⊕ +54,00 m

0 1 2 3 4 5 m
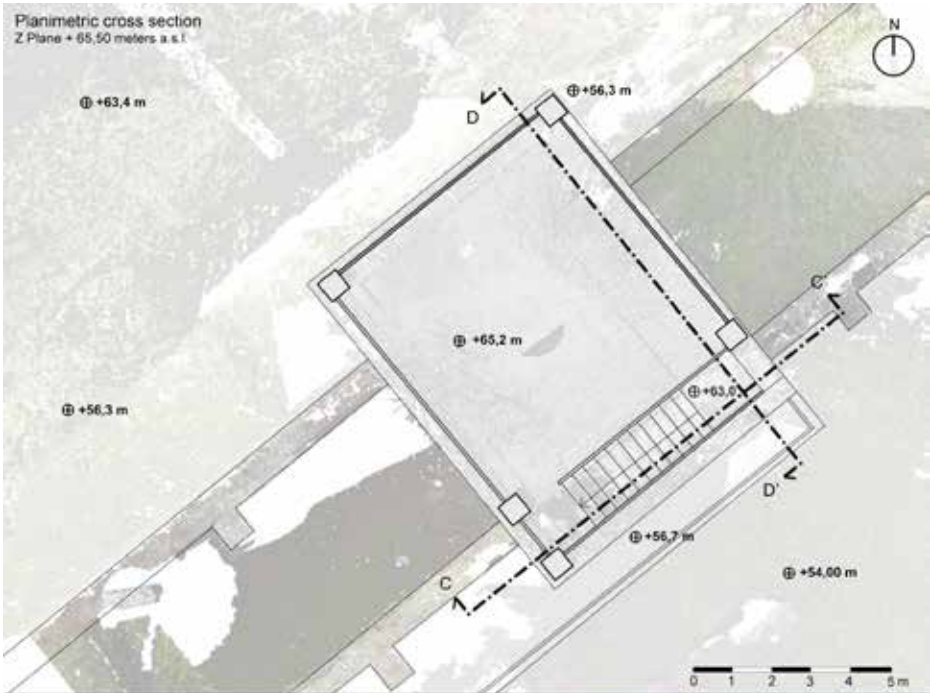
South - East elevation, front

0 1 2 3 4 5 m
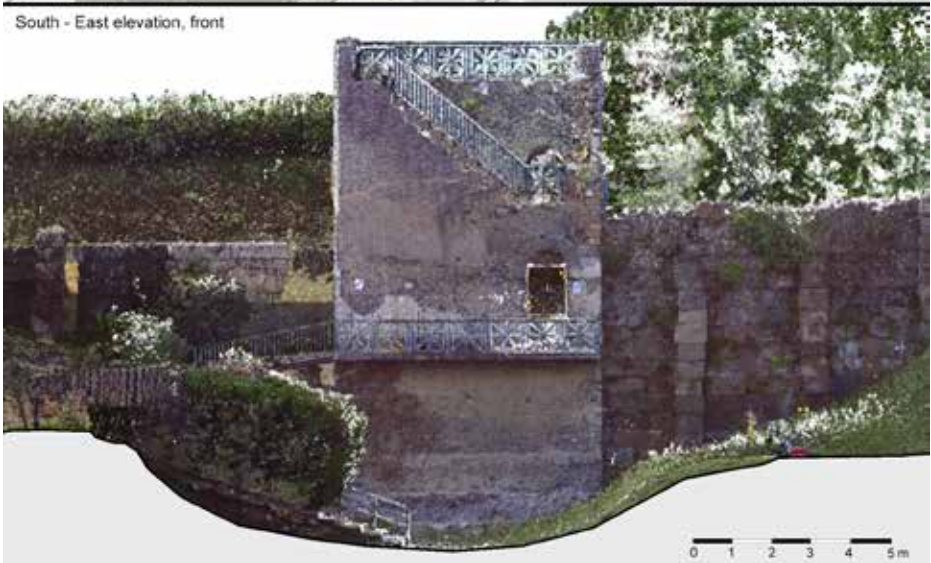
Pompeii, 'Torre di Mercurio'. Planimetric cross section mesh model at 65,5 meter above sea level (on the top) and south - east elevation mesh model (on the bottom).

The positioning of each point cloud is then calculated by using both sensor and targets position, thus leading to a negligible error.

The integrated point cloud consisted of 515 million elements. A model mesh was then extracted by means of a geometric discretisation (meshing and rational); this was the basis for the creation of the bi-dimensional drawings described in this paper.

The scientific community acknowledges that the acquisition of the morphology of any object by means of scans, orientation and mapping of point clouds is not complete until the accomplishment of the critical processing of the huge amount of produced data, according to the procedures of the Architectural Drawing.

This methodological approach aims at a geometrical modelling of acquired data on the basis of the information that is needed to support further speciality studies on the surveyed object, while respecting the procedures of Manuals of the Treaties of Architecture. Indeed, in the case of archaeological building, survey and 3D representations from point cloud acquisitions should refer to construction techniques, implementation phases, and to further modifications and additions in the following centuries.

The survey on "Torre di Mercurio" is the chance for critical, although not exhaustive, considerations of the parameters for the adoption of the most appropriate 3D model of the point cloud. In this sense, it can be retrieved from published literature that terrestrial laser scanning applications did not yet led to the definition of rules to unambiguously guide the construction of a geometrical model from which to retrieve architectonical representation of the object.

Basing on considerations and methodological experiments performed in the research described herein and developed as a result of previous studies, essential parameters are the specific qualities of the architectural object being surveyed, the nominal scale of representation and the objectives of the survey. The latter drive the selective extraction of data from the three-dimensional discrete database, while being dictated by how the 3D geometrical model is to be used by a variety of further specialist analyses on the architectonical structure, or rather by its virtual visualisation through pseudo-3D perception.

In the first case, the geometric approximation of the point cloud model is de-

C - C' cross section
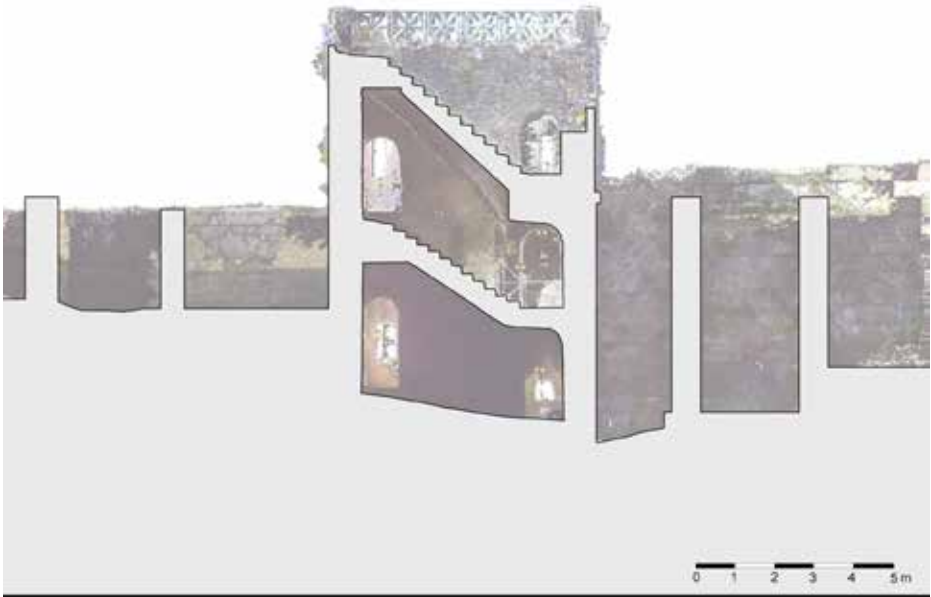
D - D' cross section
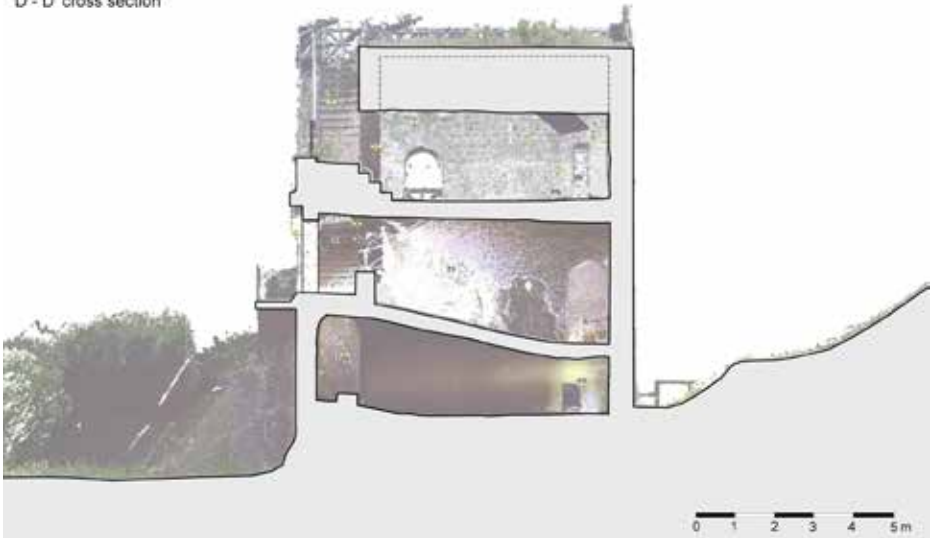
Pompeii, 'Torre di Mercurio'. C - C' and D - D' cross-sections. The cross sections are useful to understand the vertical structure of Tower. The section planes were drawn along the scale in two different directions.

termined by the specific needs of each operator, by the exchange format constraints typical of the dominant software in a specific sector, by the need to conform to common techniques of architecture representation, and by the geometric modelling needs required by architecture diagnosis. The virtual representation of the artefact does not require the metric correspondence between physical object and geometrical model, but rather a simplification allowing a pseudo-three-dimensional perception. The same simplification would not be adequate when it is enjoyed by means of augmented reality devices. Along the same way of reasoning, the entire mesh model would not even depict the complexity of the real world.

In this specific case study, the shape of the building being quite simple, the material composition and the irrational morphology of internal and external surfaces completely made of rocks, and the absence of relevant architectural elements as well as of decorations, suggested the processing of the entire 3D data altogether, by means of successive geometrical approximations of the discrete model towards the construction of a three-dimensional model supporting structural restoration hypotheses.

This on-going study is meant to draw initial considerations on a method to analyse 3D data acquired by an integrated digital survey that can be implemented and extended to different contexts, either archaeological and of other types.
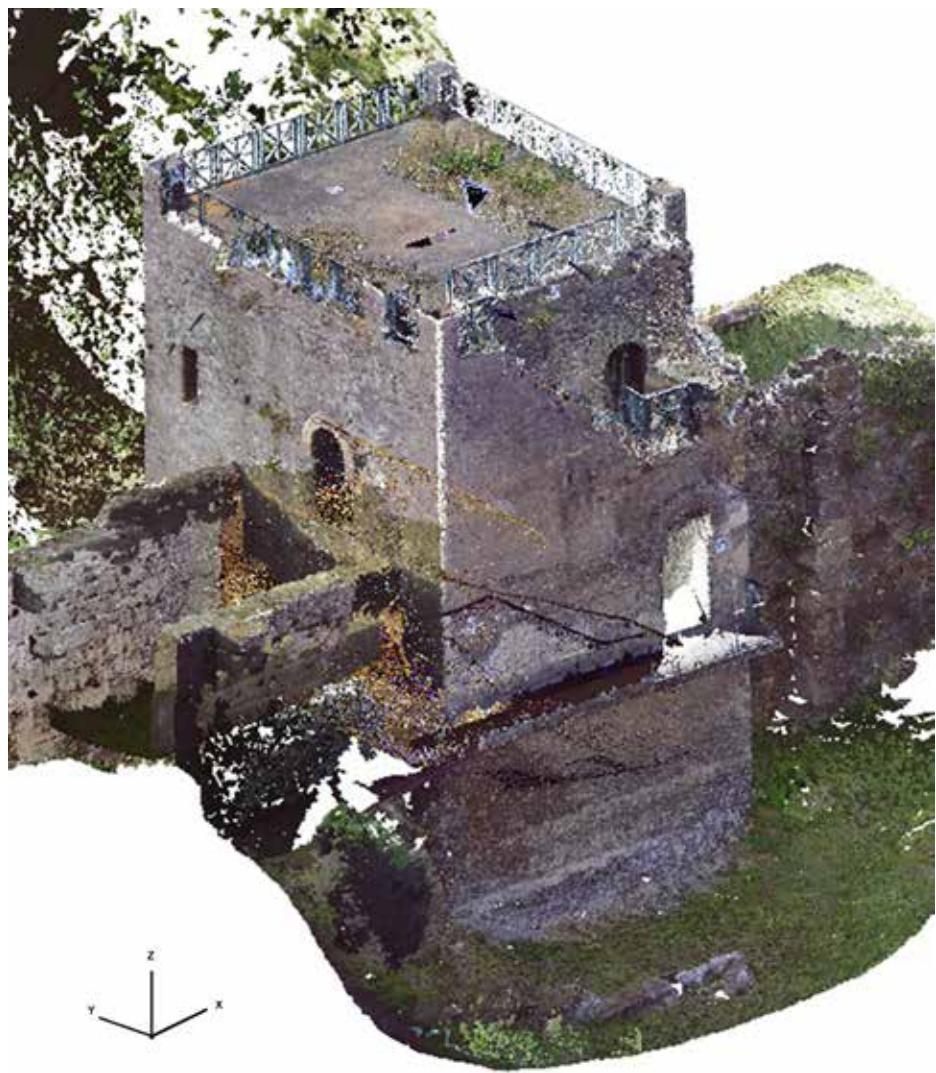
Pompeii, 'Torre di Mercurio'. Mesh model, a detail of axonometric view from south-eastern.

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* The authors of the drawings that illustrate this paper are Luciana Abate, Vincenzo Cirillo and Rosaria Parente under the scientific coordination of the professors Nicola Pisacane, Pasquale Argenziano, Alessandra Avella.

S. John Stoudion in Constantinople. Plan (by Ebersolt, 1913).

THE CHURCH OF ST. JOHN STOUDION IN CONSTANTINOPLE: THE GEOMETRIC RATIONALITY AND FORMAL EXPERIMENTATION IN THE PROTO-BYZANTINE ARCHITECTURE

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The mosque Emir Ahor Jamissi, situated in the quarter of Psamathia, near the modern Greek church of S. Constantine, and at short distance from the Porta Aurea (Yedi Koulé), is the old church of S. John the Baptist, which was associated with the celebrated monastery of Studius.

The monastery was long the triumphal path that the emperors were making going to the Imperial Palace, as proof of its value strongly iconic in the program of definition of imperial images and of the art, vital in the Byzantine world. In favour of the identification of the building, there is, first, the authority of tradition, which in the case of a church so famous may be confidently accepted as decisive. In the next place, all indications of the character and position of the Studion, however vague, point to Emir Ahor Jamissi as the representative of that church. For the mosque presents the characteristic features which belonged to the Studion as a basilica of the V century, and stands where that sanctuary stood, in the district at the south-western angle of the city, and on the left hand of the street leading from S. Mary Peribleptos to the Golden Gate. Furthermore, as held true of the Studion, the mosque is in the vicinity of the Golden Gate, and readily accessible from a gate and landing (Narli Kapou) on the shore of the Sea of Marmora.

According to the historian Theophanes, the church was erected in the year 463 by the patrician Studius, after whom the church and the monastery attached to it were named, safely identified with Studius who held the consulship in 454 during the reign of Marcian.

If we may trust the Anonymus, the church erected by Studius replaced a sanctuary which stood at one time, like the Chora, outside the city. Seeing the territory immediately beyond the Constantinian fortifications was well peopled before its inclusion within the city limits by Theodosius II, there is nothing improbable in the existence of such extra-mural sanctuaries, and as most, if not all, of them would be small buildings, they would naturally require enlargement or reconstruction when brought within the wider bounds of the capital. According to Suidas, the building was at first a parochial church; its attachment to a monastery was an after-thought of its founder. In the course of its history the church underwent noteworthy repairs on two occasions.
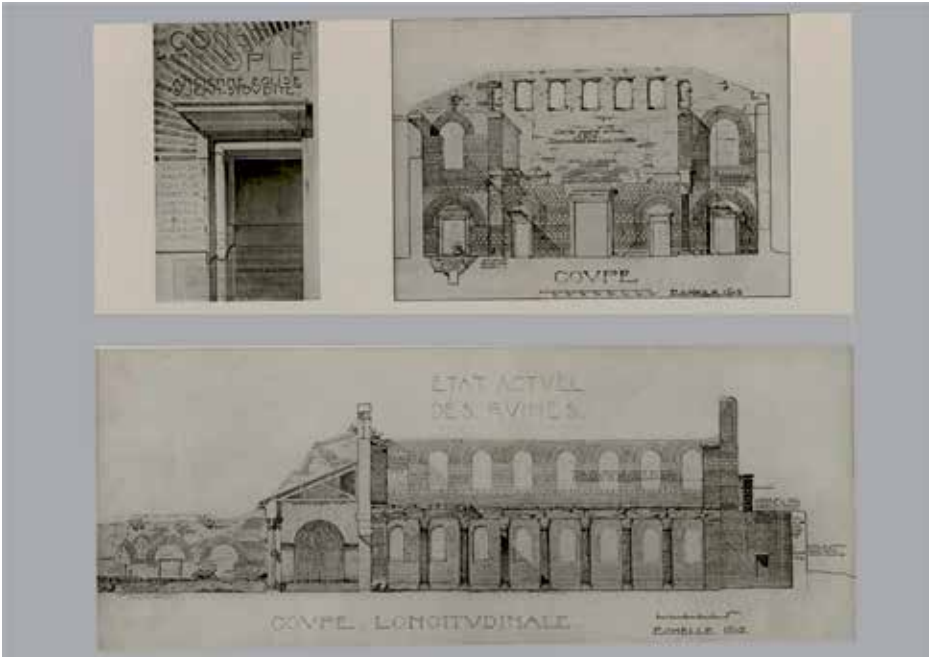
Details: front door, section, longitudinal section

It was first taken in hand for that purpose, soon after the middle of the eleventh century, by the Emperor Isaac Comnenus (1057-58), who was interested in the House because he and his brother had received part of their education in that 'illustrious and glorious school of virtue.' What the repairs then made exactly involved is unfortunately not stated. But, according to Scylitzes, they were so extensive that 'to tell in detail what the emperor and empress did for the embellishment of the church would surpass the labour of Hercules.' Probably they concerned chiefly the decoration of the edifice.

The next repairs on record were made about the year 1290, in the reign of Andronicus II, by his unfortunate brother Constantine Porphyrogenitus. Owing to the neglect of the building during the Latin occupation the roof had fallen in, the cells of the monks had disappeared, and sheep grazed undisturbed on the grass which covered the grounds and Constantine, fond of popularity, did all in his power to restore the former glory of the venerated shrine.

The new roof was a remarkable piece of work; large sums were spent upon the proper accommodation of the monks, and the grounds were enclosed within strong walls. Like other monastic institutions, the Studion suffered greatly at the hands of the iconoclast emperors.

Under Constantine Copronymus, indeed, the fraternity was scattered to the winds and practically suppressed, so that only twelve old members of the House were able to take advantage of the permission to return to their former home, upon the first restoration of eikons in 787 by the Empress Irene.

The church of S. John the Baptist of the Studion is a basilica, and is of special interest because the only surviving example of that type in Constantinople, built while the basilica was the dominant form of ecclesiastical architecture in the Christian world. It has suffered severely since the Turkish conquest, especially from the fire which, in 1782, devastated the quarter in which it stands, and from the fall of its roof, a few winters ago, under an unusual weight of snow. Still, what of it remains and the descriptions of its earlier state given by Gyllius, Gerlach, and other visitors, enable us to form a fair idea of its original appearance. The explorations conducted by the Russian Institute at Constantinople have also added much to our knowledge of the building. It is the oldest church fabric in the

Details: portico's façade, rear façade

city, and within its precincts we stand amid the surroundings of early Christian congregations.

For, partly in original forms, partly in imitations, we still find here a basilica's characteristic features: the atrium, or quadrangular court before the church; on three of its sides surrounded by cloisters; in its centre, the marble phialé or fountain, for the purification of the gathering worshippers; the narthex, a pillared porch along the western façade, where catechumens and penitents, unworthy to enter the sanctuary itself, stood afar off; the interior area divided into nave and aisles by lines of columns; the semicircular apse at the eastern extremity of the nave for altar and clergy; and galleries on the other sides of the building to provide ample accommodation for large assemblies of faithful people.

The basilica, oriented in an east-west, is divided in three naves separated by two rows of seven columns, which support a lintel. The substantial shortening of the longitudinal axis gives the system a roughly rectangular shape (25m without the apse x 24), whose dimensions in length and width tend to equalize, thus recalling the central plan and preludes to the development centripetal space that characterizes the Byzantine architecture.

Of the atrium, almost quadrangular, probably colonnade, which preceded it is now visible only a portion of the northern wall. The narthex was also tripartite by two arches supported by pillars overleaped by cornices and the two side rooms were in communication with the atrium through two rooms of access, the central one framed by four marble columns of the Proconnesus supporting an trabeation, which rested, at either end, on pillars.

An tripartite scanning marks the passage from the vestibule to the nave, where again three entrances, of which the central was the actual door (βασιλική πύλη), led into the respective aisles. Within no trace remains of the ambo, the altar or the gate, while they are still in situ columns that separated the major nave from that north, with capitals today mutilated, supporting an mighty entablature of white marble, to above which was the matroneum, as is the case of Haghia Eirene Church.

The façade retains its original appearance only to the first level, where two rooms were probably placed above the side vestibules, while the central part,

Details of the portico

which faces the nave with a colonnade, would have also a porch on the side of atrium, as the lower level, as can be seen also in the basilica of Tourmanin in Syria. T

he apse, provided with synthronos, circular inside and polygonal on the outside, was lit by three large doors and presented the side of the entrances open at the side aisles, apparently responding to liturgical requirements.

Some issues remain open, primarily that of access to the stands and the upper cover. Hard to say if there was a set of windows above the stands, such as those that can still be seen on the west wall, as is clear also from a thumbnail included in Menologion of Basil II (X sec.).

In this collection, the oldest in the Byzantine world, in the page dedicated to Theodore Studite (November 11), the miniaturist draws the religious building with a series of windows with round arches that run above the upper galleries, but is difficult to infer an intention to certify the real state of the places.

Some typological innovations, here attested for the first time, are intended to wide successive developments, such as the apse protruding or pyramidal design of the façade, while other features –atrium's development, narthex's partition, the synthronos, common elements to the Haghia Eirene, refer to a period of formal processing still in fieri.

In this sense, it also motivates the careful geometric-mathematics partition that governs the parties, according to a specific form (roughly 1: 1) which is also found in Haghia Eirene. The typological proximity between the two buildings demonstrates once again, on the one hand, their importance for subsequent architectural history not only Byzantine; by another, the climate of experimentation not only artistic, but more generally scientific-mathematical, permeating Constantinople between V and VI century.
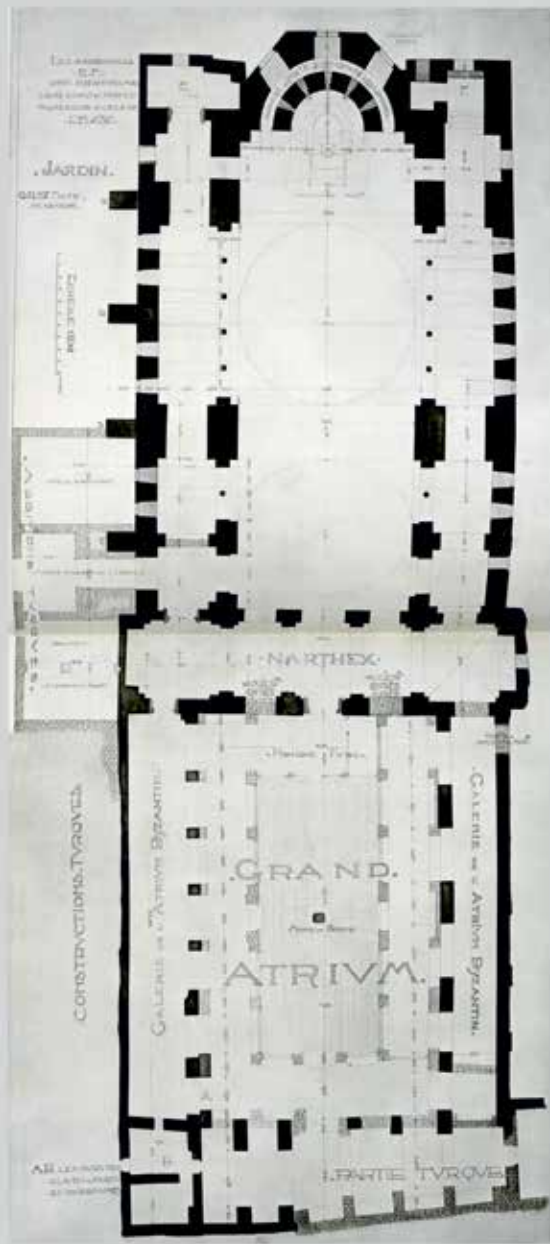
Haghia Eirene in Constantinople. Plan (by Ebersolt, 1913).

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Pinetamare, Castel Volturno, photo: Alessandro Ciambrone

THE ROLE OF THE TIME FACTOR
IN LAND USE MANAGEMENT

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In recent years, especially in Southern Italy, there has been an increasing phenomenon of urban decay in buildings – often of considerable size – which are often started, but not fully completed.

One of the consequences is that the beauty of our territory has long been severely disfigured by concrete skeletons, that are completely devoid of any function and consist of bare concrete walls, no coverings, balconies without railings and pillars with rusty iron armour in sight. In most cases, they have been neglected due to the severe Italian economic crisis.

The issue goes far beyond the aesthetic profile, with it affecting environmental (consumption and soil pollution caused by the deterioration of the materials), economic (depreciation of the entire area and removal of tourist flows) and social (the link between urban decay and quality of life having now been highlighted) aspects. It is therefore worth making a distinction between volumes realised illegally and never completed, on the one hand, and interventions with regular building permits, but not completed, on the other.

The first category does not create any particularly controversial issues, since local administrations have all the legal means to act against any form of unauthorized building. However, the second type of intervention is more interesting: the question is if, in the case of inertia of the owner of the building permit, is possible for the administration to intervene with sanctions.

Initially, this would not seem possible, since the permit holder has made no changes to the project presented, nor created volumes other than those authorised, but merely limited himself to realising only part of what was allowed.

However, it is worth exploring the theme further.

Article 42 of the Italian Constitution allows the law to apply limits to property "in order to ensure its social function and make it accessible to all", therefore private property cannot be called neutral with respect to the interests of the community in which it is situated.

It has therefore been noted that every time private property is "modelled" by the choices of urban planning, it becomes an instrument of public power in favour of the territory: the urban plan defines the design of the territory, the future projection of its development, taking into account the building potential not in the abstract, but rather in relation to the real economic and social needs of the

Pinetamare, Castel Volturno, photo: Alessandro Ciambrone

community.

Not surprisingly, the method of zoning provides that the establishment of purely quantitative indices and construction parameters should accompany a "functional" zoning, intended to confer on those volumes a qualitative dimension, by suggesting the target and, therefore, the public interest (directly or indirectly) they are called to meet.

The aforementioned considerations make it possible to affirm that the issuance of a building permit is the result of an evaluation (carried out during planning) that goes beyond a simple quantitative verification of the compatibility between land use and planned volumes. In this sense, it does not allow the citizen to realize only a fraction of what is authorized as long as remain under those volumes, but rather legitimate holder of the permit to implement exactly what is required, and on schedule; these are essential conditions so that the property can meet its social function, contributing to the overall and harmonious development of the territory.

With regard to the time factor, the model of urban planning offered by General Law n. 1150/1942 was characterized by a timeless perspective drawing of the territory, since an indication of the times within which the individual transformations were to be realized was not included.

The failure to prescribe a timeline results in it being left to the initiative of the individual about the "if" and "when" to implement what has been planned, with the risk that the development of the area can be realized in an episodic, random and irrational manner. In order to solve these problems, the most recent regional legislation proposes a new planning model, called "two-stage", under which a part of the municipal development plan for an indefinite period and intended to draw up the essential development lines of the territory, is accompanied by a part containing specific objectives of chronologically determined interventions. The first of the two parts (called structural plan) is entrusted with the task of defining the basic philosophy of the entire planning process; the so called operational plan, on the contrary, define concretely what changes are meant to be actually carried out and, above all, how long this should take.

This is consistent with the provisions of the building permit. Article. 15 of Pres-

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idential Decree n. 380/2001 stipulates that the building permit should be required to indicate the terms of start and completion of the works, respectively to be determined no later than one year from the issue of the permit and three years after the start of the work.

The rationale of the provision of an initial and final term of the effectiveness of the permit is evidently aimed at allowing the administration to establish a harmonious relationship between the time of planning and the concrete realization of the transformation of the territory.

In cases where the work has not been completed on time, the permit is no longer effective for the unrealised part, although the owner may apply for an extension before the expiry of the term. What happens if the owner does not intend to continue the work? How should the incomplete building be certified? Can the administration take action and, if so, to what extent? The wording of the provision seems to indicate that the built part must be considered legitimate, regardless how much has been realised. In fact, it is worth distinguishing between two situations: it is clear that if the degree of incompleteness is minimal and does not preclude a functionality of the built, the failure to complete the entire project by the deadline simply involves the impossibility of continuing the work. However, if the volume is rather seriously incomplete and, therefore, entirely unfit to fulfil the function for which it was intended by the planner, the inertia of the owner cannot be considered legitimate: the citizen was not authorised to realise up to a certain volume, but rather to give life to a work with well-defined physical and functional characteristics.

The correctness of this conclusion emerges from the consideration that if the project originally presented to the administration had been the one carried out (incomplete), the administration could not issue the building permit. It must be observed that Article 31 of Presidential Decree n. 380 2001 sets out an hypothesis of illegal building when the work involves the construction of an entirely different type of building, in relation to volume and use, than the one authorized. The reference to the volumetric or functional characteristics seems to be compatible with the hypothesis of only partly built properties, volumetrically smaller than the original project: consequently, has to be considered abusive not only

Alimuri

what is eventually built after the expiry of the final date of the permit, but the entire structure.

The consequence is that the administration not only can, but must proceed with the exercise of sanctioning powers by ordering the demolition of the incomplete building.

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Capua, panorama with the dome of the Chiesa di S. Maria delle Dame Monache, XVI Century, photo: Franco Cucciardi

Capua, spianata Olivarez with the Chiesa di S. Maria delle Dame Monache in the background, photo: Franco Cucciardi

THE OUTSTANDING PROVINCE OF CASERTA

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History has given to this part of Campania the epithet "felix" because here you really meet the conditions of the excellence of a territory: water (river, lake, sea), sun, healthy wind, rich volcanic soil, hills, lush plains. Here for thousands of years, humans have been able to collect fruit and planting, to choose, to select, and it is thanks to them that today the province of Caserta boasts a vast variety of land products. Just because for a long period of time, humans have lived in a natural generous environment, they built churches, palaces, theaters and gardens.

There are many traces of them not only in the several local museums, but also on the whole territory where valuable historic and archaeological areas provide the context to vineyards, orchards and pomarii of all kinds, giving life to land-scapes of rare beauty.

In facts, from the "felix" land, that we now call Caserta, it was and it still is easy to go to Rome as to the Magna Grecia. It's a natural bridge to the heart of the Mediterranean, but also important to the eastern regions, Molise and Puglia, which provide an easy connection with the Adriatic.

One need look no further than of the many ways of communication which, start-ing from Rome, cross the territory of Caserta, starting with the most famous of the Roman roads, the Via Appia arriving in Brindisi, the Casilina, the Via Latina that goes inward, to the Via Popilia, the via Campana, the Domiziana that runs along the coast.

As a result, many are the people who have come and gone, who have settled here over the millennia, as evidenced by the scattered monuments in an almost seamless territory which becomes an open book to read the history of many civilizations, from the Osca to the Aurunca to the Etruscans, Samnites and then Greek, Roman, Lombard, Norman, Angevin, Aragonese ... until these days with strong American settlements on the Phlegraean coast and inland.

But the province of Caserta is not 'just' that. The history, the art or simply the natural beauty, the variety of wines, the gastronomy, offering a unique product as mozzarella di bufala, lead us to the wealth of the province of Caserta where you go from the sea to the mountains, to the rivers, to the

lakes in the short span of a few kilometers: from the uncontaminated beauty of

Capua, the dome of the Chiesa dell'Annunziata from the trenches, photo: Franco Cucciardi

Capua, Cloister of the Convento dei Carmelitani, photo: Franco Cucciardi

Mount Massico, where it's still produced excellent Falernian wine that, according to the poet Horace, was also the proper name of the place (Epodes 4.13), to the sweetness of the beaches of Mondragone and Baia

Domitia, where local legends (and archeology) speak about the ancient sunken Sinuessa visible from a short distance from the shore, the tepens (lukewarm) Sinuessa, as Silius Italicus wrote (Punica 8,527).

But with the buffalo milk, DOP products are produced too: fresh and dried ricotta and then butter, burrini, burrata cheese, fresh and smoked provolone, fresh and smoked scamorza, as well as a 'parmesan' with an intense aroma and savory taste, similar to the true Parmigiano only because of form. This is an area rich in history and that could be easily noticed at first sight.

The artery which, from the great "Palace" that dominates Caserta, brings us to the wide plain of the Volturno is dotted with monuments of great historical and artistic value. We're talking about the Via Appia, this ancient street has become in recent decades a long, huge shopping mall, full of all sorts of offers.

In Curti we find the Conocchia (the Distaff), a funerary monument of the 2th cent. AD, based within the S. Prisco's so-called Old Prison. The Distaff, restored around the 1790 by Ferdinand IV of Bourbon, is well known since the sixteenth century as represented in many important 'travelers'

sketches, including Pirro Ligorio, and owes its name to the' strange 'form' reinvented in the eighteenth century restorations: there's a beautiful waterfort of Giambattista Piranesi and a watercolor drawing of Luigi Rossini shows how was it before and after. We report two other buildings, quite similar to this one: in Quarto, not far from Pozzuoli, and St. Rémy (the ancient Glanum) in Provence, where there's the beautiful mausoleum of the Julian family.

Almost diagonal to the Conocchia there is another memorial, the Old Prisons, so called because they were probably used as a prison for the gladiators, and it's almost certain that this hypothesis was correct. The building, dating from the Augustan age, is of remarkable architectural interest: two cylinders, the second stuck in the first, ending with a dome.

The cylinder that acts as a base is 5 meters high and is fully surrounded by 22 semicolumns ionic type, while the upper part is accompanied by pillars. Proba-

Capua, Chiesa dell'Annunziata, photo: Matteo Schiavone

bly there had to be a polychrome decoration, as evidenced by fragments of frescoes still visible. Giuliano da Sangallo left us an elegant sketch (see picture), while the Bramantino made a drawing.

Until a few decades ago, the two buildings were surrounded by bright green plantations and orchards, as shown the loquats, apricots, oranges, mandarins, lemons, apples, peach trees that here are certainly not lacking because the area, as Cato says, is ideal for the cultivation (De re rustica 1), while Polybius reminds fertility, beauty, proximity to the sea, to the river Volturno with its commercial landings (Histories 3.91).

According to a tradition that can be traced back to Varro (Lat. 10.2) and later by Livy and Pliny, the name Capua derives precisely from the fertility of the area. Not far away lies the so-called Patturelli Fund, owned by the family of the great architect who worked with Vanvitelli, where in the last century the famous Matres Matutae (VI-IV cent. B.C.) were discovered, today in the Museo Provinciale Campano Capua.

S. Maria Capua Vetere is, as the name says, the old Capua which can be reached along the Appian Way. It was a very rich city and, therefore, full of extraordinary monuments, chief among them the impressive amphitheater of which remain only the first two 'levels' of the original four. It is the second in Europe after the Colosseum. It is located on the remains of a previous amphitheater - we have few material traces of it but many historical traces: it owes its reputation to the actions of the rebel slave Spartacus. The large elliptical cavea measures 167 / 137 mt. and foundations in some places reach a depth of 8 mt. The old structure remained in use until the 9th cent. A.D. After the destruction of the city by the Saracens (841), the site became a fortress until Francesco I of Bourbon ordered the restoration (1826). The modern town slowly began to revive from the 12th cent. and by the time it was enriched by beautiful buildings, monuments and churches, starting from the cathedral with five naves and baroque decorations, which St. Symmachus pursued on the foundations of the catacombs of San Prisco (432). Equally on the remains of a Roman building, the old Constantinian basilica, was built the church of San Pietro in Corpo. About 10 meters high, the impressive Arch of Hadrian (2th cent. A.D.) stands

Capua, Real Sala d'Armi, photo: Franco Cucciardi

on the Appia.

It's impossible to speak in a few lines about the modern Capua, such is the wealth of history that this city, lying on the banks of the Volturno at the old river port Casilinum, offers to visitors. The new Capua was founded by Lombards in the ninth century: it was set on three major roads. The first starts from Porta Roma, the beautiful "door of the towers" on which stood the statue of Frederick II - which he ordered to build it - and comes up to the Volturno. The road took the new name of Corso Appio because it follows roughly the old route of the Via Appia and opens up almost all of a sudden

the elegant Square Giudici.

The second road starts from the bell tower of the Cathedral to end up at the Monastery of Dame Monache (10th cent.), which today is the Faculty of Economics headquarters. On this road, today called via Gran Priorato di Malta, there was the palace of the 'Lombard princes' (10th cent.). Today the only remaining is one of the four corner towers incorporated as a bell tower to the church of S. Domenico. In this area there are the three most important Lombard churches: St. Saviour, St. Michael and St. John (10th - 11th cent.). On the same street stands the church of S. Marcello Maggiore (10th cent.) and the impressive Palazzo Lanza. The third road, the Via Roma, starts from the monastery of St. Catherine (1383) and ends on the ancient Vitriera which looked out on the gardens, churches and palaces, including the elegant palace Antignano (15th cent.), now home of the Museo Provinciale Campano, with a tricuspid portal which can be regarded as unique in the architecture of that period.

The museum, opened in 1874, houses important collections, including that of the absolutely brilliant Matres Matutae, beautiful stone carvings that depicts women with babies. Here there is also a rich lapidary, the most important after that of the Museo Archeologico Nazionale di Napoli, as well as a superb collection of vases and a fine collection of so-called Tanagrine. Some rooms are dedicated to the finds of the Middle Ages, marble capitals, sculptures blended with those of the Renaissance. The gallery is also rich in works ranging from the fifteenth to the seventeenth century with paintings of the Vivarini, of the school of M. Stanzione, all of great value. The Library of international significance is full

Capua, Basilica di Sant'Angelo in Formis, frescoes, photo: Franco Cucciardi

of scrolls dating from the tenth century, incunabula and cinquecentine, as well as a collection of all journals of Terra di Lavoro since 1848.

The Diocesan Museum is another great museum in Capua and is located a few meters away from the first one. It keeps valuable works such as the delightful Madonna della Rosa (author unknown, 14th cent.) and a number of sacred silver objects of craftsmanship. Very interesting are also the Museum of Modern Religious Art and the Museum of Contemporary Art, which houses artists' studios. Not far away stands the basilica of S. Angelo in Formis.

Comparison of the urban landscape of Venice without and with the Campanile of San Marco rebuilt

TO SACRALIZE MODERNITY
THE RECONSTRUCTION OF THE CAMPANILE IN VENICE
AND THE CHANGE OF THE CITY SKYLINE
TWENTIETH CENTURY

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The reconstruction of the Campanile in Venice, collapsed suddenly on the morning of July 14, 1902, lasted about a decade, with the new building opened on the day of Saint Mark April 25, 1912, is, in other respects, also a kind of manifesto of what will be the new, programmatic, architectural values signed by Twentieth Century.

There is also need to consider the great value of the brand that 'the image of architecture' has always had in the history of social relations without even the restoration could be an exception if, in other ways, it seems to retrace the anthropological value that was recognized in the 'cult of the relics'.

Unique in this regard, is regard as in the same period in which it ended the reconstruction work, the largest building of the contemporary time, the Metropolitan Life Building, in New York, was made using as their model the tower of the Venetian lagoon. «Quando circa trent'anni addietro furono visti sorgere di terra i primi edifizi che, piano su piano, parevano dar la scalata alle nuvole ed ebbero il tipico soprannome di sky-scrapers, fu un inarcar di ciglia e uno sbalordimento generale, ammirando tutti, se non il buon gusto, certo l'audacia degli ingegneri e anche un poco il coraggio degli inquilini che senza vertigini eleggevano di andare ad annidarsi come le rondini sotto i comignoli di un campanile.

Pareva per altro che tali torri colombaie dovessero rimanere rari sforzi isolati di un genio bizzarro, anomalie inventate a profitto della concorrenza artistica o della vanità nazionale.

Ma non fu vero, e, forse perché le stravaganze in certi tempi sono appunto quelle che fan fortuna, nonostante le critiche de' savi e gli avvisi de' prudenti, gli sky-scrapers pullularono non solo ma andarono sempre crescendo di altezza e di difformità».

The text, extracted from La Civilta Cattolica of March 1908-which also bears a reproduction of the building in New York, in itself unusual for the magazine-is talking about techniques used in the American context of those years. The building, in addition to being dimensionally larger than the original Italian, came to be made with a timing of execution of at least two years shorter, remarking, by reason of the technologies used, a substantial aporia with the traditional construction site of the original model. «A tali risultati non si sarebbe potuto gi-

Comparison in the square of San Marco without and with Bell rebuilt

ungere coi soliti materiali e coi vecchi metodi di costruzione: ma al difetto portò pronto soccorso la pratica genialità e la ben nota abilità tecnica degli ingegneri americani. Il ferro battuto e l'acciaio, di cui si conosceva già l'uso limitato nell'edilizia, divenne nelle loro mani l'elemento trasformatore di tutta l'ossatura di un casamento.

La carcassa dell'edifizio è un castello fatto di sbarre d'acciaio inchiavardate dalla base alla cima che costituiscono i pilastri ascendenti collegati tra loro da grosse travi traversali all'altezza dei piani di cui reggono l'intelaiatura dei palchi» . If you need to perform reasoning on the precise circumstances of the analyzed experiences, it captures in the system of selection of cultural forms of expression of temporal events of human history and some old times at the expense of others and, nevertheless, as the experience dialectic between the Venetian Bell Tower and skyscraper in New York, the choice of the temporal selection is learn to realize the perfect specimen of its contemporaneity.

The important fact that must be emphasized is, therefore, the value of design that brings the experience of restoration, as its contribution to the reader, and the broader cultural reflection of the individual ages of man.

Another striking feature, in no way marginal, is the consideration that objectively you can ask, maybe only a certain amount, how some American magazines of architecture of the time they looked to Italian architecture, even in small towns, with the play factories, especially religious, inside the monumental heritage of the Italian reality. In other ways, the celebration of the Venetian Bell Tower as 'authoritative icon' of a modernity that was firmed, proved functional historic task that the US cultural reality felt called.

On the other hand the bell tower, was not the only sacred symbol which was inspired by the North American context where, for example, for the construction of the City Hall of San Francisco makes explicit reference to the dome of St. Peter's Basilica.

The process of sanctification of modernity, in fact, is identified on the basis of the transformation of the conception of politics that, in the West, is linked to the construction of two significant social experiences. «Storicamente la sacralizzazione della politica, nel senso ora spiegato, è un fenomeno che ha avuto
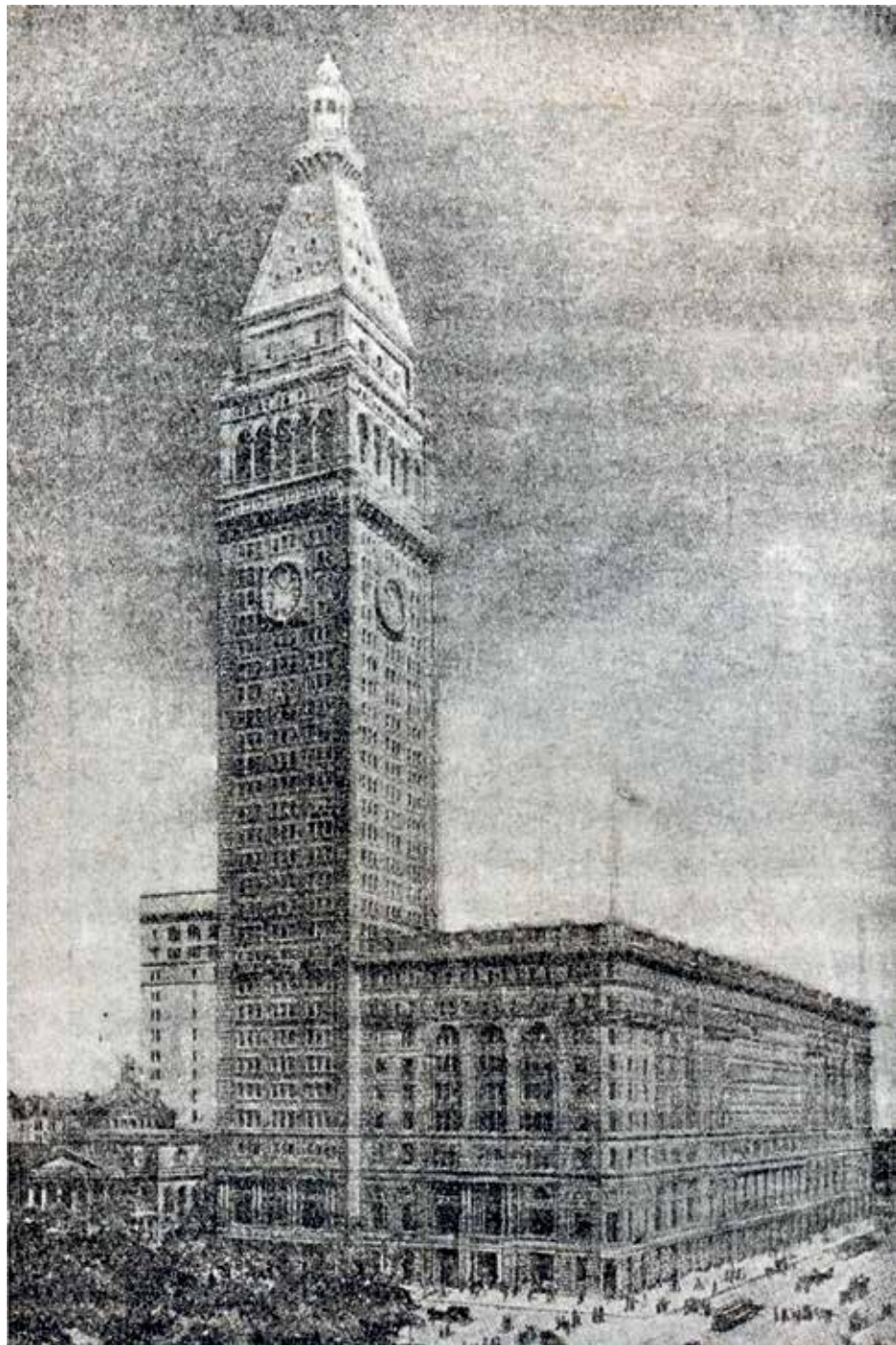
The Metropolitan Life Building from a picture published by "Civiltà Cattolica" in 1908

inizio con la nascita della democrazia moderna e con la politica di massa. Le sue origini sono democratiche, repubblicane e patriottiche.

Concretamente, le prime forme di religione della politica sono apparse durante la Rivoluzione americana e la Rivoluzione francese, come insieme di credenze, di valori, di miti, di simboli e riti che conferivano carattere e significato sacro alle nuove istituzioni politiche della sovranità popolare».

It affects, in this sense, having to register as symbols of an ancien regime acquire absolutely different connotations and, for other complementary aspects, compared to their traditional value of image which is also brand . «Vivrà la nuova torre, -wondered Danusso- sfiderà i secoli come la prima, vedrà nuove glorie e nuove civiltà? Alcuni avevano provato a negarlo quando l'idea dell'applicazione del cemento armato era apparsa all'orizzonte.

Poi i dubbi si acquetarono e tutti attesero fiduciosi che la ricostruzione fosse compiuta. Oggi ci danno affidamento non solo il cemento armato in sé, che in questi dieci anni è penetrato molto più profondamente nella convinzione universale, ma altresì le cure continue e quasi affettuose che gli artefici tutti, senz'ombra di stanchezza, diedero sempre all'esecuzione con intelletto e con fede.

Quanti nell'avvenire del cemento armato abbiamo fiducia dobbiamo andare gloriosi, poiché meglio non si poteva onorare la moderna costruzione che affidandole un compito così superbo».

Even in that ancient site is to associate the most representative image of the building of the Milan after World War II, the Velasca Tower, in which the design team is to add still the engineer Arturo Danusso, that seems to recover its image with environmental his "medieval" part of the building overhang, the "drawbridge" prepared for advances in high bell tower of the Venetian. In the words of the engineer from Turin it is also synthesized confidence in a future of which the monument-symbol, yet it, the Church's temporal wanted to celebrate the auspicious nature of fixity to the ecclesiastical institution.

The Chicago City Hall some photos published by "The Architect" in 1916

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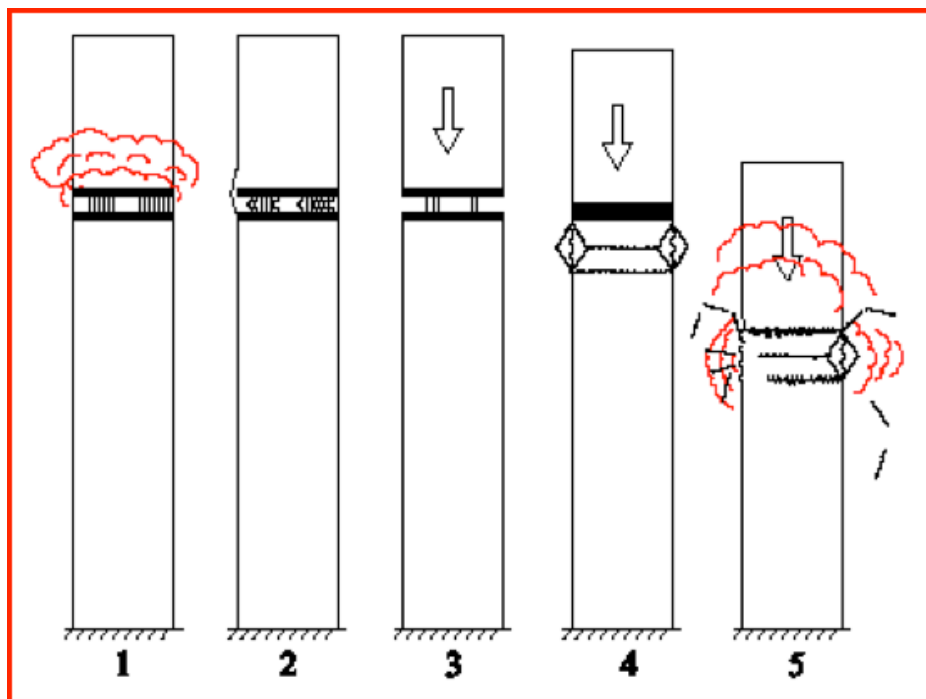
Figure 1. New York. Scheme of the collapse of the Twin Towers.

HIERARCHICAL PARAMETERS OF PLANNING FOR THE PREVENTION OF ACCIDENTAL DAMAGE IN HIGH STRUCTURES

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INTRODUCTION

This paper focuses mainly on high structures such as towers, skyscrapers, steeples, etc. and analyzes their structural behavior. Through examples of history, as the Bell Tower of San Marco in Venice (1902), the Civic Tower of Pavia (1989) and the Twin Towers in NY (2001), that have undergone ruinous collapses, this text attempts to define the good rules to design tower structures with a perspective to prevention from accidental damages such as falls, earthquakes, terrorist attacks, which can invest buildings bringing them to the ground. Therefore, the work highlights new structural concepts that take into account problems related to high dimensions, the robustness as crucial parameter to the security from collapse and the structural hierarchy.

BOLD STRUCTURES: SOLEMN IMAGES OF STRENGTH SOMETIMES DENIED. ANALYSIS OF THE COLLAPSES [1]

The term "tower" indicates, in general, any building that has a prevalence of the vertical dimension on the horizontal one. In this sense the term is quite general, considering that the towers assume various and symbolic functions for the society, according to the historical periods and places where they arise. The typology of the tower translates into a recognizable shape the relationship between architectural morphologies and natural ones, expressing the peculiar desire to talk to the sky and the landscape.

The collapse of the bell tower of San Marco in Venice

The starting date of construction dates back to the ninth century, but the work was completed in the twelfth century; in 1489 the bell tower was damaged due to a thunderbolt, while in 1511 were discovered injuries caused by an earthquake. Completely restored in the sixteenth century, It was again damaged by a lightning in 1745. On July 14, 1902 took place the total collapse of the bell tower. The consequences of structural heterogeneity induced by the secular duration of the restoration site, along with design uncertainties due primarily to the weak link between the two structures (church and bell tower), accidents, heavy tampering ended to frustrate a structural design very innovative for its time when it was drafted.
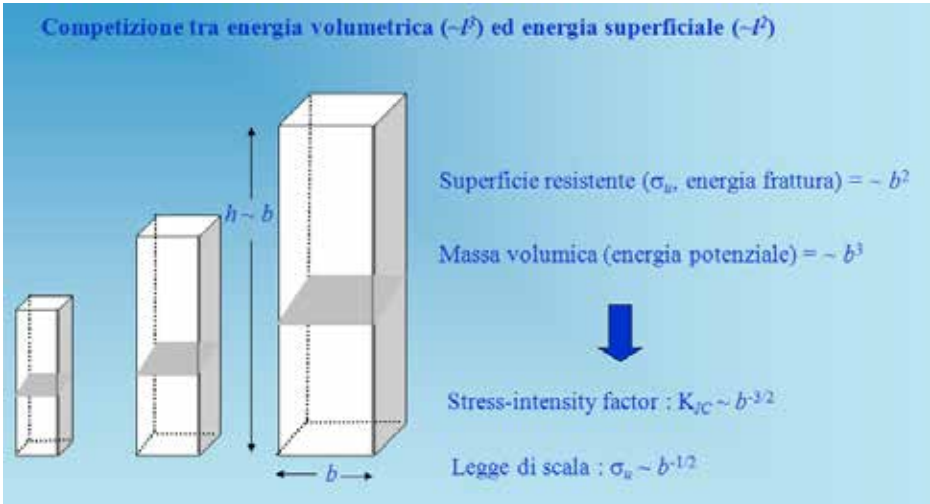
Figure 2. Reduction in resistance with increasing dimensions.

The Civic Tower of Pavia

Different circumstances preceded the collapse of the Civic Tower of Pavia, which occurred in 1989. The tower was built between 1100 and 1300, It underwent a single intervention of consolidation in 1869 through mortar roughcast. During 1983 it was forwarded a request to the Cultural Heritage Office for the urgent rehabilitation to check the state of degradation of the Bell Tower; on March 17, 1989 the civic tower of Pavia suddenly, without warning and evident signs, collapsed for mechanical failure, placing public attention on the state of preservation of existing assets. Opinions on the causes appeared discordant: failure of foundations, deterioration of the material caused by wind action, deterioration of material for aging. As it had not appeared any warning signs of the event, the collapse was not foreseeable. This consideration highlights the problem of the analysis, which still too often are related to the evidence and they not allowing you to make an exact structural diagnosis a priori.

The Twin Towers in NY

The collapse of the Twin Towers that took place in 2001 in New York, represents a case of "disproportionate collapse", namely a collapse in ruinous size compared to the cause that generated it: the two towers, in fact, collapsed completely due to the punctual impact of the aircraft only on certain levels. The subsequent phases of the collapse can be outlined thus: a) softening steel for T>850°C; b) consequent reduction of the critical load of columns; c) trigger of collapse due to instability (increased of free span); d) catastrophic collapse, progressive cascade.

Figure1 The times recorded in the collapse show a sudden speed and confirm the cascade effect (South Tower: 10.1s; North Tower: 8.7s). As it's known, in the case of the collapses of buildings in loom subjected to seismic actions, the energy involved for damaging the structure is of the order of 60-70% of the dynamic inertial one called into question by the oscillations; in the case of the Twin Towers only 30% of the potential energy was spent to break the structure, the rest was transformed into kinetic energy.
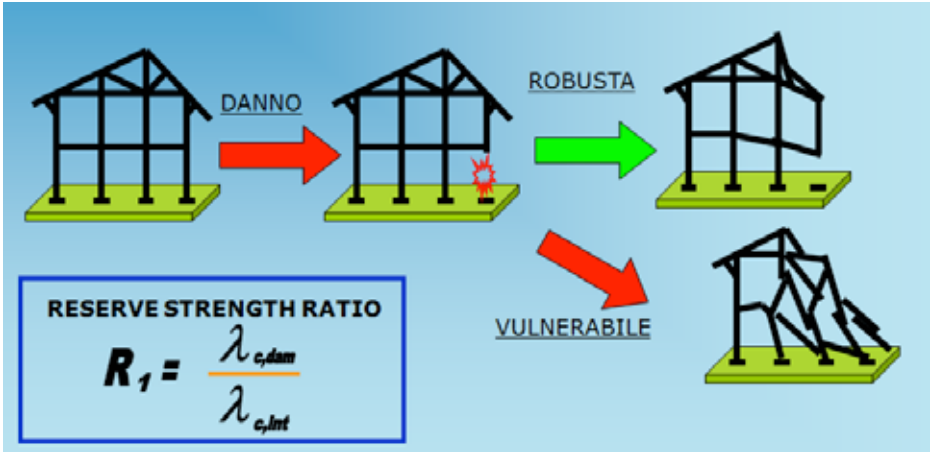
Figure 3. A robust structure

FRAGILITY OF TOWER STRUCTURES: SIZE EFFECT AND ROBUSTNESS [2,3]

The reason why the towers collapse so catastrophically compared to other types can be found, essentially, in two motives:

1) "size effect", namely: reduction in resistance with increasing dimensions and intrinsic limitations to dimensions of the structures;

2) "robustness" insufficient, namely: lack of redundancy and compartmentation; structural organization "in series"; structure "to exoskeleton".

As mentioned, the size effect is identified with the reduction in resistance with increasing of the size and with the intrinsic limitations imposed by nature to its elements. It can be argued, that: large structures have greater sensitivity to defects and stress concentration; the control parameter is the energy of fracture (J/m2); the apparent resistance decreases with increasing size. The reason of the decrease of resistance with the size is that the elastic energy stored by a solid under stress is proportional to the volume of the solid (m3), while the resistance is proportional to the area of the cross section (m2). The relation to be considered is area/volume; in fact, as the solid increases in size, this ratio decreases. Larger is the number that comes from the ratio area/volume, more the robustness of the building is guaranteed (this is what occurs, for example, in squat buildings than slender ones). Figure 2 A structure is defined robust if a localized event of damage does not propagate disproportionately (disproportionate collapse) but it remains confined to the concerned compartments. Figure 3 In this sense, local accidents do not propagate to the global scale of the structure. It should be noted, therefore, an analogy with the concept of "toughness" of materials, ie the ability to not propagate with fragile a micro defect at the macroscale. In a tower building, both in a continuous structure made of masonry than in a framed structure (steel or concrete), the behavior of structural elements is predominantly arranged "in series", ie each structural element depends statically from that which precedes it, and also, for the peculiar form, slender and with cylindrical symmetry, the structural partitioning is practically impossible, because it would undermine the dynamic characteristics of the article. Consequently, the risk is particularly high, and the propensity to progressive collapse makes such structures very vulnerable. Finally, it is known that the
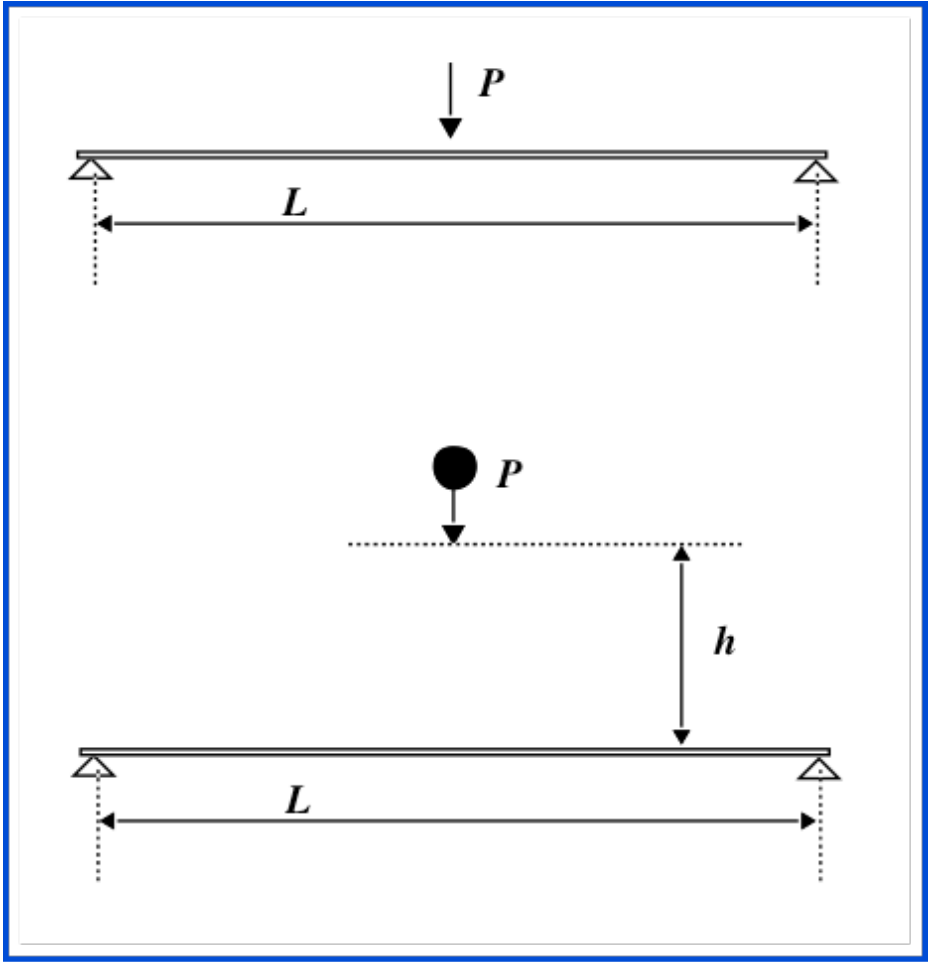
Figure 4. Maximum Stress under Static and under Dynamic Load.

structures "to exoskeleton" (in which the carrier component is predominantly identified with the external skeleton) have advantages under the action of static loads to the structures compared to endoskeleton ones (in which the carrier component is identified with the classic frame of pillars and beams): in fact in the first, at the same strength, the weight is halved and the advantage is all the greater the greater the slenderness. It shows, however, (2,3) that this benefit is greatly reduced for dynamic loads or sudden impacts, to the detriment of the robustness of the entire system. In fact, being d the depth of the section, l the light of the beam, I the inertia of the section, E the modulus of elasticity and h the height of free fall of the load P:

MAXIMUM STRESS UNDER STATIC LOAD (2)

$$s_{max} = \frac{P\ell(d/2)}{4I}$$

MAXIMUM STRESS UNDER DYNAMIC LOAD (3)

$$s_{max} = \sqrt{\frac{6PhE(d/2)^2}{\ell I}}$$

Figure 4 In the formula (3) the benefit of inertia decreases (square root) and the slenderness (ll) passes as denominator. Therefore, both in the design phase, as in the verify phase and consolidation of towers, steeples and "high" structures existing, it would be appropriate to take account parameters of robustness, calculating the index with the factor RSR (reserve strength ratio), which measures the ratio between the load bearing capacity remaining after an event of local damage and the bearing capacity of the original. This ratio depends on some geometric parameters and on the material forming the structure.
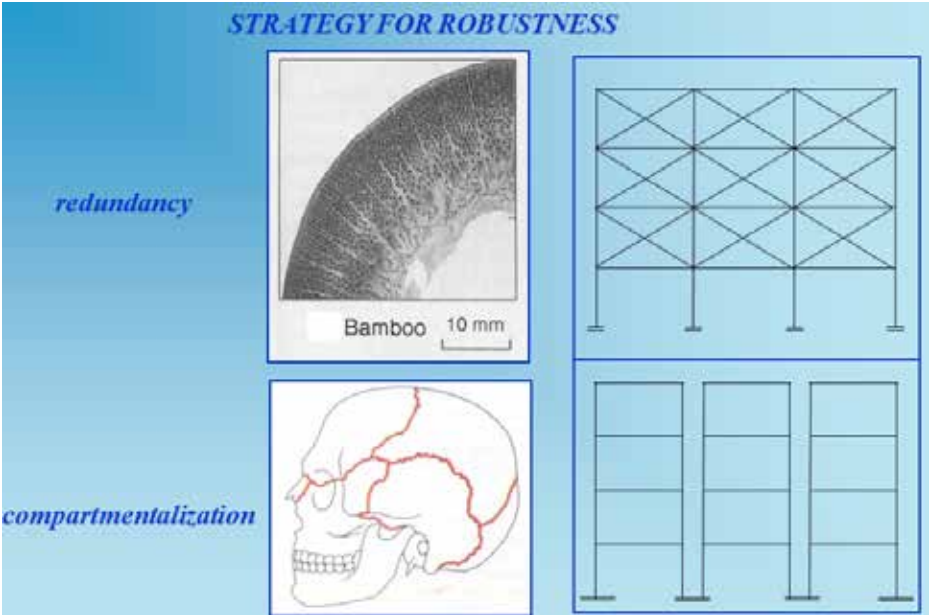
Figure 5. Strategy for Robustness: redundancy and compartmentalization.

CONCLUSIONS

In view of what we said, the structural engineering and architecture must agree on some issues. New materials, with greater ductility at the same weight, can facilitate the task of architects and engineers, but will not be decisive in the absence of new structural concepts that take into account the robustness and the problems associated with large dimensions. New schemes of functioning, of transferring loads and compartmentalization must also consider the accidents. In the upcoming future the hierarchical structures (organized through combinations of individual elements in sets more and more complex, that lead to a highly flexible design environment) will probably represent the outpost of new architectural and structural goals. Figure 5

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Catania [The Late Baroque Towns of the Val di Noto (South-Eastern Sicily) World Heritage property]; Siculorum Gymnasium, photo and site visit by the author, August 2015

Teatro Bellini [The Late Baroque Towns of the Val di Noto (South-Eastern Sicily) World Heritage property], photo and site visit by the author, August 2015

REPRESENTING WORLD HERITAGE PROPERTIES IN SICILY: CULTURAL DIFFERENCES AND LOCAL IDENTITY.

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Sicily is one of the richest administrative region in the world for number of World Heritage Properties (WHP), which are 7 out of 51 in Italy, the richest country on the planet for such labeled sites. Until now, there are 1031 properties included in the World Heritage List (WHL) in 163 State Parties, which are divided in the following categories for properties: 31 transboundary; 2 delisted; 48 in danger, 802 cultural; 197 natural; and 32 mixed.

The Sicilians WHPs were inscribed on the WHL in the following chronological order: Archeological area of Agrigento, 1997; Roman Villa del Casale, 1997; Aeolian Islands, 2000; Late Baroque Towns of the Val di Noto (South-Eastern Sicily), 2002; Syracuse and the Rocky Necropolis of Pantalica, 2005; Mount Etna, 2013; and Arab-Norman Palermo and the Cathedral Churches of Cefalú and Monreale, 2015. Two of them are natural sites, Aeolian Islands and Mount Etna, out of four natural WHPs in Italy. Also, Sicily has two intangible cultural assets inscribed on the Representative List of the Intangible Cultural Heritage of Humanity: Opera dei Pupi, Sicilian puppet theatre, 2008; and Traditional agricultural practice of cultivating the 'vite ad alberello' (head-trained bush vines) of the community of Pantelleria, 2014.

Representing cultural and natural assets, in the author's opinion is related to the principles of multidimensional (multi-criteria) and multidisciplinary research approach, which allows to investigate from the landscape – territorial scale to the architectural work, to the single object. The monuments, landscapes, architectural artifacts, through this methodological criterion, are analyzed, and interpreted through different disciplines of study, not only to measure the formal and geometric aspects, but those intangibles too. These give signs about the history, the environmental, sociological, cultural context in which that monument, landscape and architectural artifact is born and has been configured [1].

WHPs have a special value, connected to their status, recognized worldwide also in terms of international visibility and increasing of cultural tourism. In this logic, Countries that have special historic, architectural and landscape assets, are vigilant in preserving their cultural heritage, and they focus on cultural tourism, for its capacity of attract visitors, in order to obtain economic and social benefits for local people and territories [2]. This is the case of properties includ-

Noto, Corso Vittorio Emanuele [The Late Baroque Towns of the Val di Noto (South-Eastern Sicily) World Heritage property], photo and site visit by the author, August 2015

Noto [The Late Baroque Towns of the Val di Noto (South-Eastern Sicily) World Heritage property], photo and site visit by the author, August 2015

ed in the WHL, which, for their Outstanding Universal Value, become an attraction for cultural tourism on a global scale [3]. Despite this, Italy is losing tourists in the last thirty years, especially in the Mezzogiorno.

The negative trend of Southern Italy is confirmed by the 2014 data from ISTAT (Italian Institute of Statistics): among the top ten most visited regions in Italy, only two of them are from the South, Campania and Sicily, which rank in the last positions, though they are among the richest administrative regions in the world for its cultural heritage and landscape, with six and seven UNESCO properties. These data suggest that the promotion and enhancement of landscape and cultural heritage is not adequately developed, especially taking into account the global scenario that is particularly complex and capable of providing infinite offers to meet many needs. Probably, in Italy it has not been fully understood the economic, social and environmental impact related to the proper management of cultural heritage and landscape [4].

Promoting Sicily through its World Heritage, material and intangible, could reinforce the strength and identity of this region in a global cultural tourism market. It follows a brief description of Sicilian assets included in the WHL and in the List of the Intangible Cultural Heritage according to the Nomination files and Periodic Reporting at the UNESCO World Heritage Centre.

The Archeological area of Agrigento was founded as a Greek colony in the 6th century B.C. Its supremacy and pride are demonstrated by the remains of the magnificent Doric temples that dominate the ancient town, much of which still lies intact under today's fields and orchards. Selected excavated areas throw light on the later Hellenistic and Roman town and the burial practices of its early Christian inhabitants. Agrigento was one of the greatest cities of the ancient Mediterranean world, and it has been preserved in an exceptionally intact condition.

The Villa del Casale at Piazza Armerina is the supreme example of a luxury Roman villa, which graphically illustrates the predominant social and economic structure of its age. The mosaics that decorate it are exceptional for their artistic quality and invention as well as their extent.

The Aeolian Islands provide an outstanding record of volcanic island-building

Syracuse, Cathedral (Temple of Minerva) and Piazza Duomo (Syracuse and the Rocky Necropolis of Pantalica World Heritage property), photo and site visit by the author, August 2015

Syracuse, Maniace Castle (Syracuse and the Rocky Necropolis of Pantalica World Heritage property), photo and site visit by the author, August 2015

and destruction, and ongoing volcanic phenomena. Studied since at least the 18th century, the islands have provided the science of vulcanology with examples of two types of eruption (Vulcanian and Strombolian) and thus have featured prominently in the education of geologists for more than 200 years.

The site continues to enrich the field of vulcanology. The group consists of seven islands and five small islets.

The Late Baroque Towns of the Val di Noto (South-Eastern Sicily) are: Caltagirone, Militello Val di Catania, Catania, Modica, Noto, Palazzolo, Ragusa and Scicli.

These were all rebuilt after 1693 on or beside towns existing at the time of the earthquake which took place in that year. They represent a considerable collective undertaking, successfully carried out at a high level of architectural and artistic achievement. They also depict distinctive innovations in town planning and urban building. This group of towns represents the culmination and final flowering of Baroque art in Europe [8].

Syracuse and the Rocky Necropolis of Pantalica consist of two separate elements, containing outstanding vestiges dating back to Greek and Roman times: The Necropolis of Pantalica contains over 5,000 tombs cut into the rock near open stone quarries, most of them dating from the 13th to 7th centuries BC. The other part of the property, Ancient Syracuse, includes the nucleus of the city's foundation as Ortygia by Greeks from Corinth in the 8th century BC. It was described by Cicero as 'the greatest Greek city and the most beautiful of all'.

Mount Etna is an iconic site encompassing 19,237 uninhabited hectares on the highest part of Mount Etna, on the eastern coast of Sicily.

Mount Etna is the highest Mediterranean island mountain and the most active stratovolcano in the world. The eruptive history of the volcano can be traced back 500,000 years and at least 2,700 years of this activity has been documented.

Located on the northern coast of Sicily, Arab-Norman Palermo includes a series of nine civil and religious structures dating from the era of the Norman kingdom of Sicily (1130-1194): two palaces, three churches, a cathedral, a bridge, as well as the cathedrals of Cefalú and Monreale. Collectively, they are an example of a

Cathedral Church of Monreale (Arab-Norman Palermo and the Cathedral Churches of Cefalú and Monreale World Heritage property), photo and site visit by the author, August 2015

social-cultural syncretism between Western, Islamic and Byzantine cultures on the island which gave rise to new concepts of space, structure and decoration. They also bear testimony to the fruitful coexistence of people of different origins and religions (Muslim, Byzantine, Latin, Jewish, Lombard and French).

The puppet theatre known as the Opera dei Pupi emerged in Sicily at the beginning of the nineteenth century and enjoyed great success among the island's working classes. The puppeteers told stories based on medieval chivalric literature and other sources, such as Italian poems of the Renaissance, the lives of saints and tales of notorious bandits. The dialogues in these performances were largely improvised by the puppeteers.

The traditional practice of cultivating head-trained bush vines (vite ad alberello) is transmitted through generations of vine growers and farmers of the Mediterranean island of Pantelleria. About 5,000 inhabitants own a plot of land, which they cultivate using sustainable methods. The people of Pantelleria continue to identify themselves with vine growing and strive to preserve this practice.

In the idea to promote Sicily through its WHPs and intangible heritage, there is no intention to submit a predominant or hierarchical position to the World Heritage in comparison to other cultural and natural assets. In fact, the proposal to use the UNESCO brand is linked to create a 'cultural tourism' economy, which can support the activities of protection and valorization.

These are addressed in particular to the 'minor' and immaterial heritage. Sicily could be promoted through a cultural tourism campaign that focuses on the incredible typological differences of Sicilian assets, all close and well connected among them, also in terms of infrastructures and transportation tools.

Representing World Heritage properties in Sicily means to enhance cultural differences and local identity for this extraordinary island, which testify interactions, exchanges and spirit of the Mediterranean basin, in its history.

This promotion would encourage awareness of local communities that must strongly participate in the process of regeneration and enhancement of their heritage, in its Outstanding Universal Value.

In the current era characterized by the knowledge, the cultural identity of the sites has a value much larger than that related to the income of tourism because

Cathedral Church of Palermo (Arab-Norman Palermo and the Cathedral Churches of Cefalú and Monreale World Heritage property), photo and site visit by the author, August 2015

Palermo, Teatro Politeama (Arab-Norman Palermo World Heritage property), photo and site visit by the author, August 2015

it is an indispensable asset in educational processes to maximize human capital and to make competitive and attractive the territory.

The identity of places is the result of the memory of ancient traditions and knowledge as well as of the material evidence of the past that have shaped its physical form. To preserve historical continuity by ensuring to men a better living environment, we must create a balance between the spaces of the past and the present needs, offering innovative solutions to meet the different needs in optic of sustainability.

Cultural tourism can be an option, although not the only one, for the cultural and economic development of territories with strong international appeal, precisely because they are guardians of significant historical presences.

These have marked the evolution, traditions and defined the landscape, always if careful integrated within planning strategies and management of natural and built as well as intangible assets.

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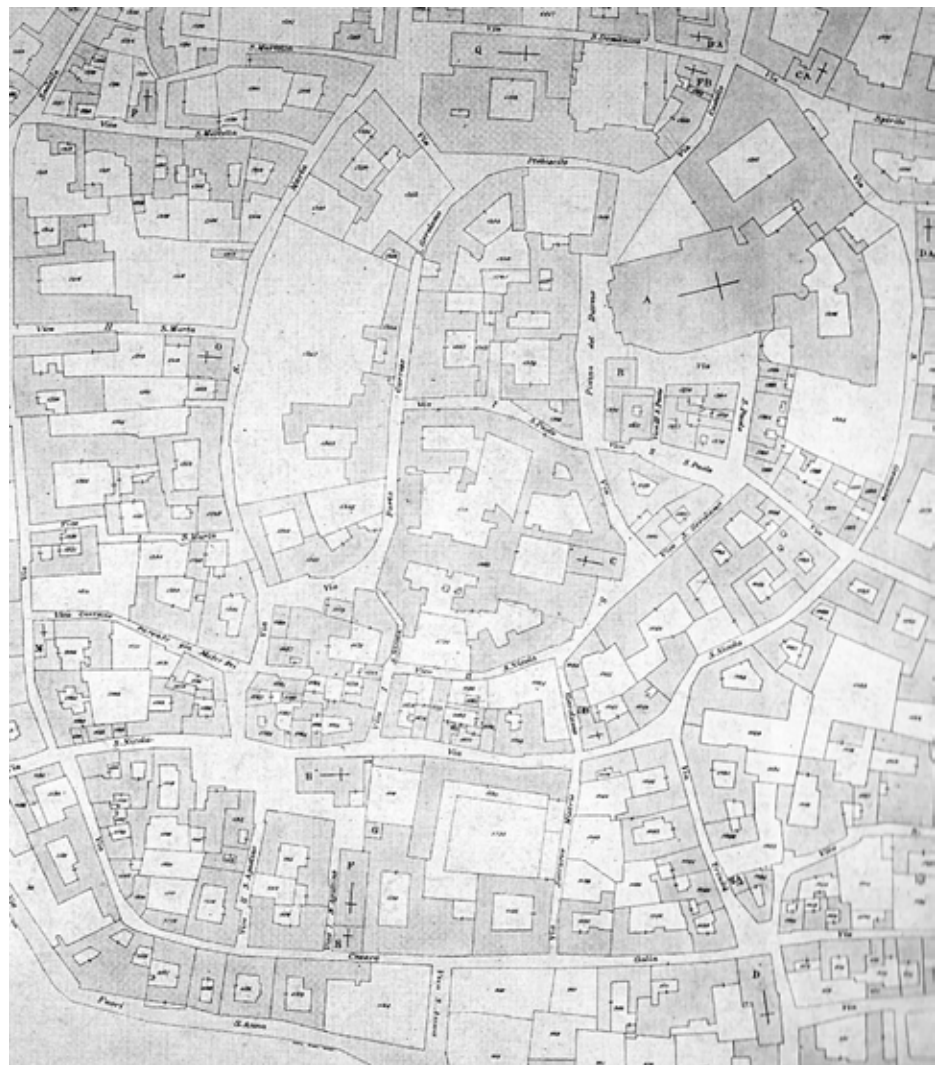
Cadastral plan

URBAN REGENERATION - PIAZZA G. MARCONI
AVERSA (CE) - ITALY

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URBAN

The measure in question relates to the work of regeneration, adeguamen¬to functional and plant Piazza Guglielmo Marconi, located in Aversa (Caserta). The area is the result of a villain intervention of urban renewal, the result is devastating in terms of the reading of the historical fabric, rendered unrecognizable by the demolition of the Monastery of St. Jerome (Iimmagine1), erected around 1499 or so, perverting almost all of the original ring road. The ancient complex, abandoned in 1911 as a result of the displacement of the nuns at the nearby convent of St. Francis, as a result of the partial collapse and a total state of disrepair, was completely demolished in 1924, leaving standing only the old church, originally dedicated to the Holy Cross (immagine2).

Later in the 50s of last century, the Church has been incorporated into a new building used as a primary school, intervention that has shattered all the old urban system, as well as completely distorted the image of the old Church of the Holy Cross.As a whole, the area is designed as an element of gravity to bring together the different realities that exist in the adjacent urban.The Square is configured with irregular, memory of the old layout of the Monastery of St. Jerome, who in his perimeter hosts a number of car parks which are topped by oak trees existing (west) that give color to the entire surrounding context as well as mitigate the urban microclimate.

Penetrating inside the square is possible to identify two different types of flooring, while the share jumps identify areas to stop, differentiated from those pedestrian. This is done in order to allocate part of the square to permanently stop car (perimeter - south - east) due to the lack of parking spaces in the surrounding areas. While the remaining part is designed as a place of: aggregation, recreation area, meeting place and a space to host any events and outdoor events. However, this space can also be transformed into picnic area where the exigencies require it, this operation is made possible by the introduction of fountains at grade, or if there is a need, these are switched off allowing you to use the area Pedestrian in full. Inside the square is a pergola iron white, positioning becomes the point of recognition of the square, is almost aligned with the axis north-south, in the direction of the Cathedral.

Convent

The pergola incorporates an internal seating system and is equipped with a system integrated light LED so as to avoid that these spaces can become places at risk in the night hours, in addition to providing stage effects suggestive. In order to ensure spaces for relaxation, socialization and meeting place we have been provided for the sessions in the top and bottom of the square, the area destined mainly to social interactions, unlike the side portions at an altitude of the road intended to stop. In the light of the description it is, ultimately, that the general configuration of the square acts according to a projection multipolar.

THE SQUARE

The square opens to the City and in some places it becomes part through the spatial elements of connection and parking. This approach is reflected in the way of access to and use of the area that looks physically and perceptually permeable.

The speech of accessibility "enlarged", understood as an area of opportunity to be enjoyed even by a public with disabilities, it has been a focal point of the project hypothesis. The system access ramps, for example, allows a direct access without any barrier, as are the paths crossing the whole area. Great attention was paid to the organization's internal use where users can move freely throughout the Square (picture 3). You can still distinguish the different types of paths, pedestrian and vehicle traffic, which is required mainly for safety. The distinction of the user flows, and their paths, is ensured by the different treatment of the surfaces to create natural stone, and with different colors depending on the use. Some stretches of the routes are located at a higher level than the road surface offering privileged views from inside the square, as well as guaranteeing a safety barrier towards pedestrians.

Through the system of routes (one below of a trellis), it is possible to cover the different spaces of usability, the community and staging. The latter are represented by level car parks, which are placing along a part of the perimeter, another portion of parking spaces is provided within the surface of the square, this space is designed in such a way as not to be perceived as a stop , but rather as an extension of the square, it can therefore be used for events or events.

Plan

The space called Sheet (north) is a tribute to the famous composer Domenico Cimarosa Aversa (Aversa 1749- Venice 1801), in fact, forms of stone that make up the drawing are set according to the harmonic relationships Patriotic Hymn -1799 (image 4).

The entire surface of the square is shaped mainly with two jumps of one share equal to street level (which is designed in bitumen, as currently) and another at a height of fifteen centimeters squared stone meant regular, lava and limestone , according to the plan which aims to bring out the old route of the Monastery of St. Jerome; Indeed limestone identifies the part of the old monastery built, while the volcanic stone identifies the empty part, the ancient courts.

The constraint inedificabilità, that is under the area, suggested an approach to design-oriented modeling surface soil aimed spatial articulation of the functional areas in the Piazza, stop, play, cultural activities, recreational activities, parking. The area dedicated to events and equipment is enclosed at the top, where you can also find iron pergola white.

The lighting system is ensured through lighting column of 7 m high for lighting vehicles and pedestrians, as well as by the lights marking step (image 5). The stop pedestrian space is located along the path of the iron pergola, thanks to the system designed, in which the sessions monoblock stone veneer from linear geometry and regular, positioned in both the top and bottom of the square. Accommodation Green follows compatibility criteria that take into account the characteristics of the vegetation of the essences selected with respect to the micro-climate of the intervention.

The arrangement of the different types of green responds primarily to the need to create areas "closed" so as to shield the visibility and the passage-parking of vehicles. The use of trees is, in fact, aimed at obtaining shadow areas along the parking areas, and some stretches of the pedestrian routes, in addition to being already present along the perimeter of the old Square.

The use of shrubs and bushes follows a logic characterized by the accomplishment of systems of delimitation of certain functional areas. In light of the above description is, ultimately, the general configuration of the square acts according to a projection multipolar aimed at entertaining matches physical, visual with the

3d rendering

Fountain view

surrounding urban fabric and with its history. The concept of eco-compatibility is expressed in the choice of technological solutions and materials adopted. It is an approach strongly marked by sustainability in a broader sense that refers to new conservation strategies that are oriented anyway starting from safeguarding the transformation of an area according to agreed rules and are compatible with the socio-economic and cultural needs of a community.

The entire square opens to the city and in some places it becomes an integral part of the spatial elements through connection with areas of interest. Great attention was paid to the organization's internal use where users can move freely across the surface and in particular in the play area for children, designed with a shock-resistant rubber flooring casting according to the design of paving stone and using the same color combination.

The games are designed for such areas of the inclusive, that is, they allow the use also for people with disabilities. The commitment of composition was to be able to bring together the old system of oak trees (arranged in a simple perimeter to the two islands of rest) with the new design of the square.

The trees are missing inserted under the new scan in order to give substance to the design of the green.

Then there is the use of shrubs and bushes that follow different logics and is marked by the creation of systems of delimitation of functional areas that shielding of the parking perimeter.

These paths, being made with different essence, are a valuable tool for the knowledge of the specific plant. In addition, the fact of using a mode of communication based on the senses, has the advantage of being "fruita" also by an audience with psycho-physical disabilities.
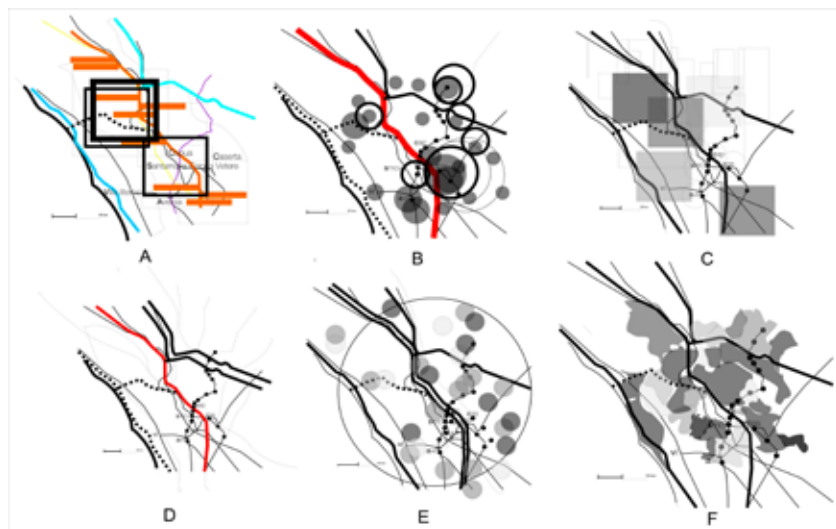
Study Area

A. Identification of macro-areas of reference with visual dominance, B. Identification rays of interest, C. Schematic representation of the connections weights roads of rubber and iron, D. Schematic representation of the networks primary Connection, E. schematic representation of the flow of interest and breadth of influence on the territory, F. schematic representation of the areas and agricultural and urban soils with different characters of Use. (concept and graphic design: L. Mascia)
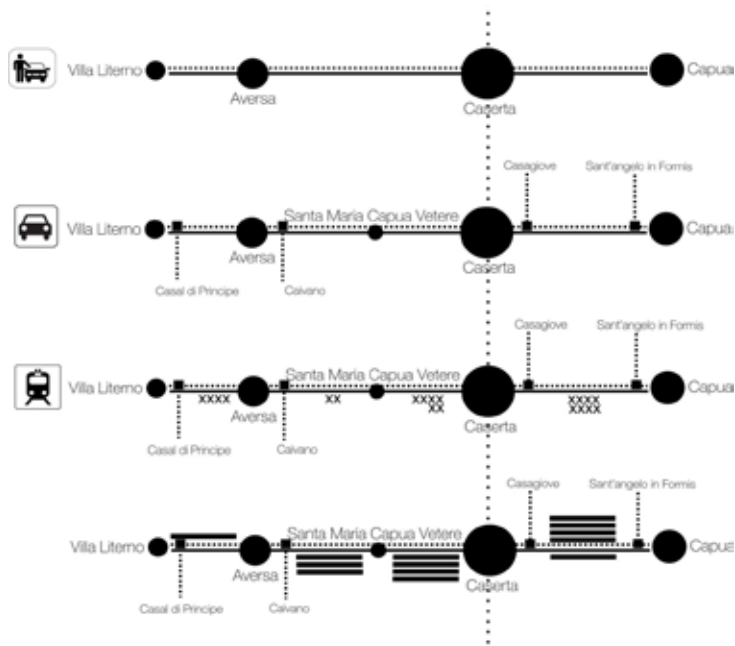
Schematic representation of the system infrastructure in the area of investigation; identification of the locations of the nodes and the intersections with the system of cultural attractors. (concept and graphic design: L. Mascia)

136

MAPPING.
BETWEEN CARTOGRAPHY, COMMUNITY MAPS AND OPEN DATA.
URBAN EXPLORATION AND REPRESENTATION OF THE TERRITORY

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In the present-day scientific and cultural context, the representation of the territory appears crossed by significant changes of both the theoretical given order and the technical-methodical aspects linked to the capillary dissemination of the new media and to their use in forms of representation characterized by the increasingly frequent sharing of the visual and communicative outcomes. The present contribution, starting with the meaning today taken on by the concept of 'map'and by the definition of the new forms of participated cartography, suggests a reflection on the topic of territorial images as they are being configured in the contemporary scenario, as well as about the meaning that these forms of representation can acquire as tools of shared administration.

The topic of the exploration and crossing of places, is investigated in the following notes with a contemporary meaning in which it is possible, today, to recognize the sense of some of the most widespread practices of territorial repossession, more and more often enacted in the attempt to oppose the critical and homologating aspects of globalization through the urban exploration in its various declinations.

These re-appropriation tactics are carried out through a mapping, a practice halfway between critical cartography and community maps, but also by means of immersive crossings with the aim of investigating the urban environment, intervening on it as well as repossessing it in a purely symbolic sense. We are thus talking about creative drifts; de-constructions of the identities of places, intended as the intertwining of complex relations, perceptive and emotional experiences of urbanized space, through which it is possible to move on to the construction of new visions and conjecture a kind of sense making, a new attribution of sense for the places in the urban environment.

The idea of 'map', however, includes a wider range of narrative outcomes that have developed in various ways over time and today manifest themselves in the form of 'cross-media' representations.

Here the new digital languages are intertwined with the new practices of participation, of documentality and of the widespread habit to leave a trace of one's passage in the atopic dimension of the Net. Through innovative paths of transmedia storytelling, today collective endeavors of urban representations
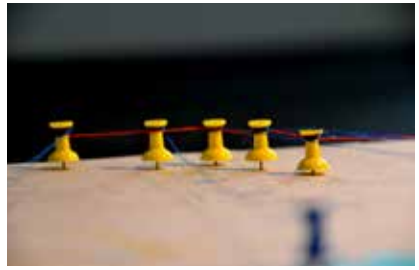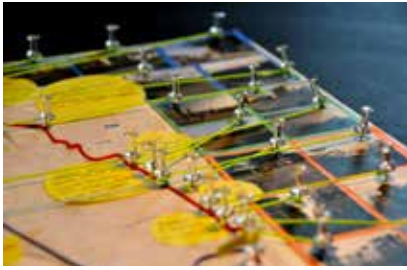
Drifts and routes
The communicative artefacts, which the pictures refer to, give the results of the surveys of the area, looking for paths and nodes of interest in a scene of unprecedented attention to the perceptual dimension of the crossing. (Laboratory of "Multimedia graphics" academic year 2013/14 prof. A. Cirafici).
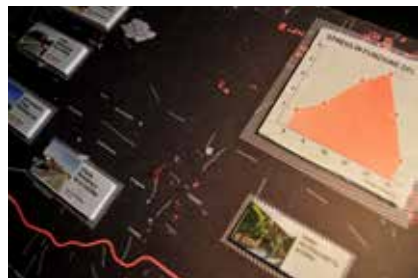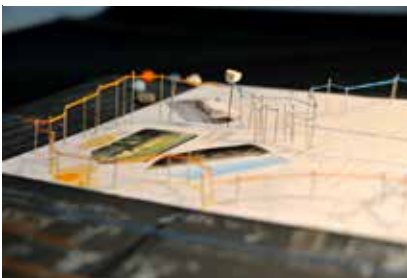
Storytelling and maps
The images highlight the narrative representation strategies of the spatial experience of the routes looking for new attributions of meaning.
(Laboratory of "Multimedia graphics" academic year 2013/14 prof. A. Cirafici).

are staged on multiple free platforms whose contents are compounded, added, overlapped, shared and confused.

The onset of the second information era, namely from the Web 2.0 onwards, which is matched by a relentless process of capillary dissemination of new technologies and by a radical democratization of the processes through the Net, has produced a proliferation of territorial representations in the form of maps, static and dynamic images, schemes… This is an area of great innovation and interest towards representation, both in investigating the possibility to define and describe the birth of 'new visual languages', and in reflecting about the increasing need to translate and simplify disciplinary knowledge in view of a dissemination and participation of citizens in the direct shaping of their territory and the construction of shared transformation sceneries.

n fact, the true novelty lies here: the discovery of new actors who use and enjoy the territorial images and are able to directly interact, even without the technical competencies, with the process of production and exchange of new forms of representation of the urban space.

Thanks to the simplification of web-based tools, today it is easy to construct maps, produce information as well as to generate and share the representation of places, especially those one grows affectionate to, by closely linking it to one's physical and emotional experience. Scholars have called this collective phenomenon Neogeography; the width of this phenomenon is huge, especially if one considers this form of participated cartography as a tool for a shared administration of the territory, i.e. if one imagines to use these new mappings as an effective, intuitive and convincing medium for the definition of processes of public action. T

he images are supposed to lead to actions and to promote an increasingly stronger interaction between landscape and planning policies on one side and these interesting forms of participative elaboration of knowledge on the other side.

These are new 'visions' for new project strategies, within a dynamics that is interlaced with the broader topic of reflection concerning the role of ICTs in the definition of new forms of reappropriation and enjoyment of the city and the territory. However, this dynamics also raises interesting questions about the

Quietroute_the places of the soul
The concept starts from the need to satisfy the need for rest and relaxation in everyday life. The app is designed to offer users the suggestion of a number of places that fit this idea of a "break" from stress. The open source platforms makes suggestions based on location, ideal places known or absolutely, unknown and personal, that are constantly being implemented by the users with multimedia content (images, sounds, videos, ...), comments and memories about the places that everyone sees as their "places of the soul".
(G. Iannotta, S. D'Amato, Laboratorio di 'Multimedia graphic' a.a.2013/14 prof. A. Cirafici)

role of those disciplines such as (in a broader sense) communication design, that today have to comply more than ever with the task of defining 'social territories' along with cultural ones, horizons of collective and shared responsibility within which to explore the increasingly closer relationship between new media and project-linked practices, dealing with the idea of cultural heritage seen as 'common good'.

The opportunity to verify on the field the meaning of what is described above was offered on the occasion of the virtuous process triggered in the area of Caserta by the presentation of the 'Carditello Smart Territories' project coordinated by Prof. Carmine Gambardella.

The research path articulate a process of analysis and representation trying, on one side, to trigger strategies of repossession of places and their collective memory through forms of participated narration, and on the other side to face the specific topic of the relationship between mobility, landscape and strategies of enjoyment of the Cultural Heritage, while trying to redesign the map of territorial infrastructure starting from the individual experience of the exploration of places.

The research path – that is still ongoing and has entailed the participation of the students of the 'Multimedia Graphics Laboratory' of the Design and Communication Degree Course of the Department of Architecture and Industrial Design at the SUN University – started with an exploration of the territory by means of operations of 'cartographic errancy'.

This was drawn from the experience of Google Earth with its dizzying passage of scale, aimed at the exploration and identification of unexpected places along the layouts or in the intersection knots between the traces.

The non secondary aim of this operation is to disclose the conceptual analogy between the structure of the territory and the space of the Web. The following step was to promote the experience of places through practices of physical errancy throughout the territory, a sort of physical 're-design' of the identified layout.

Especially at this stage the use of GPS and ICTs, very user-friendly tools as they are integrated in the most common smart devices available on the market,

Sity_Urban Interferences
Through the design of a special travel kit (a portable chair/stool for urban drifts and stops, with a set of "interference maps" and camera to take photographs and record and pencils to take notes), the project aims to organise an urban performance by activating the experiential interference processes, promoting a re-appropriation of the places, they reveal attitudes and quality, and may lead to the transformation of individual experience into a collective performance.
(M. Solomon, A. Belardo, D. Ippolito Laboratory of "Multimedia graphics" academic year 2013/14 prof. A. Cirafici)

has the potential to enrich the experience of places by adding a character of traceability, recordability and possibility to share information online – all of which transforms the places into 'knots' of a knowledge network because they are 'entities', as said, able to convey information.

The relationship between mobility and the landscape/cultural heritage can therefore become the key for the interpretation of a territory investigated starting from the personal experience of living places and of passing along them.

The issues emerged during the planning of this type of collective endeavor of reconnaissance on places in search of a denied awareness, of quality and beauty, have brought to the attention of the disciplines dealing with representation a quite high number of themes.

Any intention to document a territory so clearly defined by the complexity of the systems of relations (physical, perceptive, spatial, cultural, social etc.) gravitating around it has to tackle the themes that contemporary debate persistently faces and that deal with the ability of the representation to narrate complexity, to interpret its infinite reasons with an expressive immediacy that finds in the idea of a well-articulated "communicative project" its representational dimension, including expressive techniques and languages that are far more contaminated than in the past.

It is therefore useful to investigate whether and how the ICTs, that appear as unquestioned drivers of territorial negotiation and that clearly induce changes in the use of space, may be consciously integrated in the processes of 'design' of the territory.

It makes sense to wonder whether GPS systems can be used not only for recording but also to learn through the experience and movement, and thus whether they are, eventually, capable of 'configuring' places, i.e. to plan spaces in the sense of attributing them an intentional meaning.

It makes sense to raise questions about the meaning to be attributed to the 'situated knowledge', that is to a knowledge that makes reference to an idea of a network of know-how in which the information is generated directly by the places that represent their knots, a network that underlines the mutual existing relations as well as the potential ones.

WireSpace_Parasite invasion
The project develops a reuse concept and strategy, managed by groups of "cultural creatives", of abandoned industrial sites surveyed during the urban crossings assuming a network for creative activity as part of self-production, participation and crowdfunding. (A. Germano, G. Lista a. Primavera, C. Santangelo Laboratory of "Multimedia graphics" academic year 2013/14 prof. A. Cirafici).

Above all, though, it makes sense to investigate the role that representation may acquire in this research field that, in the highest sense of the term, has a 'political' and strategic role since it is the sector in which the act of representing may contribute to the real anchoring of knowledge within a system and that could truly mould the destiny of a territory.

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1 SANT'AGATA DELLE TREMITI

2 SANTA MARIA DI RIPALTA (LESINA)

3 SAN GIOVANNI IN PIANO (APRICENA)

4 SAN GIOVANNI IN LAMIS (S. MARCO IN LAMIS)

5 S. MARIA DI PULSANO (Monte Sant'Angelo)

6 SANTA MARIA DI CALENA (PESCHICI)

7 SAN PIETRO (TORRE MAGGIORE)

8 S. S. TRINITA' DI MONTE SACRO (MATTINATA)

9 SANTA MARIA DI MONTE D'ELIO (SANN. G.)

Tremiti's estates

ST. AGATA'S SITE CONSERVATION PLANNING: DOCUMENTING AND SURVEYING

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The statement "understanding heritage to preserve it" underlines the need for deep-in, methodologically reliable, documenting and comprehensing of heritage features, values and vulnerabilities, such that consequently its preservation planning is appropriately addressed. Though summarised, here the main outfits are illustrated of such an "understanding project" about St. Agata's settlement, which has been in abandon for about sixty years and now is extensively in ruins. For the first time, it has been at last surveyed and archaeologically investigated. Starting with the site Laser-Total-Station survey [1], complemented by detailed manual surveys (diagonal check) too, the building stratigraphy phasing, together with the masonry-laying and timber structuring analysis, have been cross-ref- erenced with historical data. This assessment informed the understanding of the fabric development throughout history up to the actual remains, such as registered through the as- found condition surveying.

Historically, the river Fortore was the boundary of Capitanata's historic district at Apulia's region. From the early Roman age this land has been characterised by a dense net of rural settlements. Several traces so attributed still survive within St. Agata's site, too [2]. Scattered among grain fields, rough grazing and wooded lands, this heritage also comprehends few former monasteries and cave churches, Middle-aged throughout, typologically diversified, now often in ruins, generally Benedictine or Cistercian foundations. Main religious centres - – such as St. Vincent's at Volturno and Montecassino's Abbey – had, indeed, wide estates here. On a small hill, 63 m. high, whose foot an ancient fountain is placed at, close to Fortore's mouth – then more forward and provided with a "no inconsiderable harbour" [3] – in Serracapriola's countryside is located St. Agata's ex-monastery. It was born as grange of St. Mary's Abbey at Tremiti's isles, an eleventh-century fortified settlement at St. Nicola's isle, originally occupied by Montecassino's monks. Using these sites, generally fortified, as farms provided with large plots of land, by the on-site presence friars let productions better manage (Fig. 1). But St. Agata's was long needed even to store St. Mary's goods on dry land. This logistic value increased during the 15th and the 16th centuries - St. Agata's golden era - when the enlargement of the river harbour was planned, too [4]. From the 17th century a wide durable site abandonment

PhotoSurvey
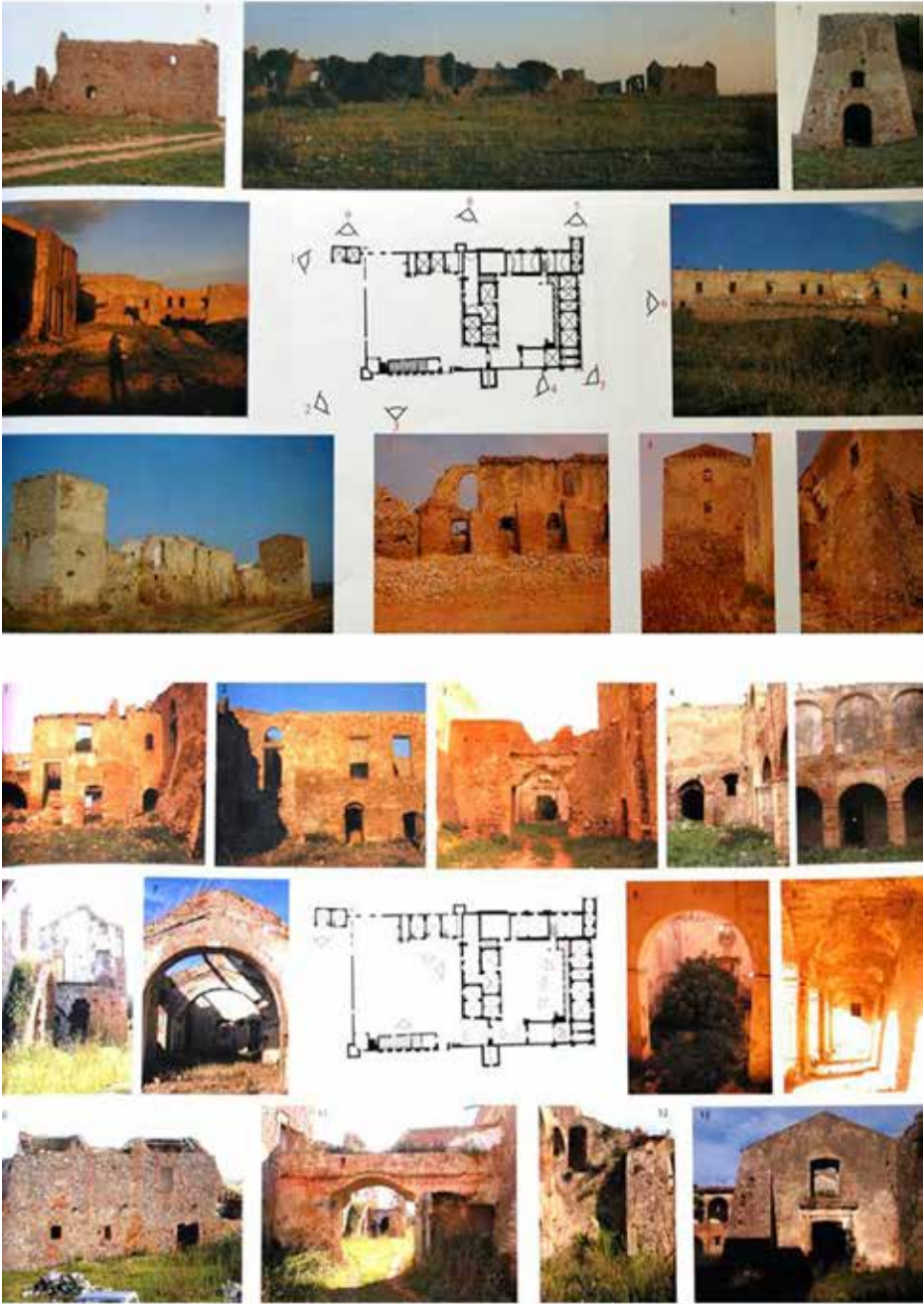
started, further worsened later, when the asset began to be dismembered. Used as farm at least up to Second Post-War, during the Seventies it was fully abandoned. Now roofs and floors diffusely lack, together with wide areas of walls, especially to the top, and entire volumes.

St. Agata's grange first document dates 1328; it regards its rent collection [5]. Nevertheless, the foundation cannot be dated before 1255, when the Cistercians from Fossanova's, after having occupied St. Mary's substituting the Benedictines (1237), re-arranged and enhanced dry-land possessions. This first building phase (1255-1328) extensively survives at the monastery ground floor. Startigraphically, it involves the pointed cross-vaulted rooms, the towers and the ground faces of almost the entire surrounding wall (Fig. 2). The two uses of the site (religious and productive) induced the Cistercians adopting a "double court" building, with towers at corners and gates. The monastery is at the east around a squared cloister. Its western wing divides the site functions. The laic one is arranged on west around a rectangular court, onto which many storehouses and dwellings of master farmers and artisans were lined up into squared, two- floor, one-room modules [5]. Now, only a few of them survive.

Starting from the fourteenth-Forties the first durable abandonment involved St. Agata's up to the fifteenth century. Its recovery was up to the Lutherans Augustinians who, substituted the Cistercians at Tremiti (1412), gradually re- formed St. Mary's assets on dry-land through deforestations, production and livestock farming. That transformed St. Agata's into a directly-run centre for a large estate - the second, such as earning source. Architectonically, the reform entailed repairing and refurbishing, above all, into the east and north wings at the first floor, to renew the dormitories, the common spaces and Prior's apart- ment. Then, especially for the damages caused by the strong earthquake on July 30, 1627, further general repairs were necessary. By 1750 the consequent building reinstatement, consolidation and enlargement works were completed. This building phase, denotable by plastered brick-laying, is extensively wit- nessed today: the cloister portico - two orders of ten segmental arches each standing on cross-shaped abutments – most of the church, the brick scarps and buttresses onto the former front-walls of sub-horizontal coursed-pebbles and rubbles (local soft

Surveys and chronololy
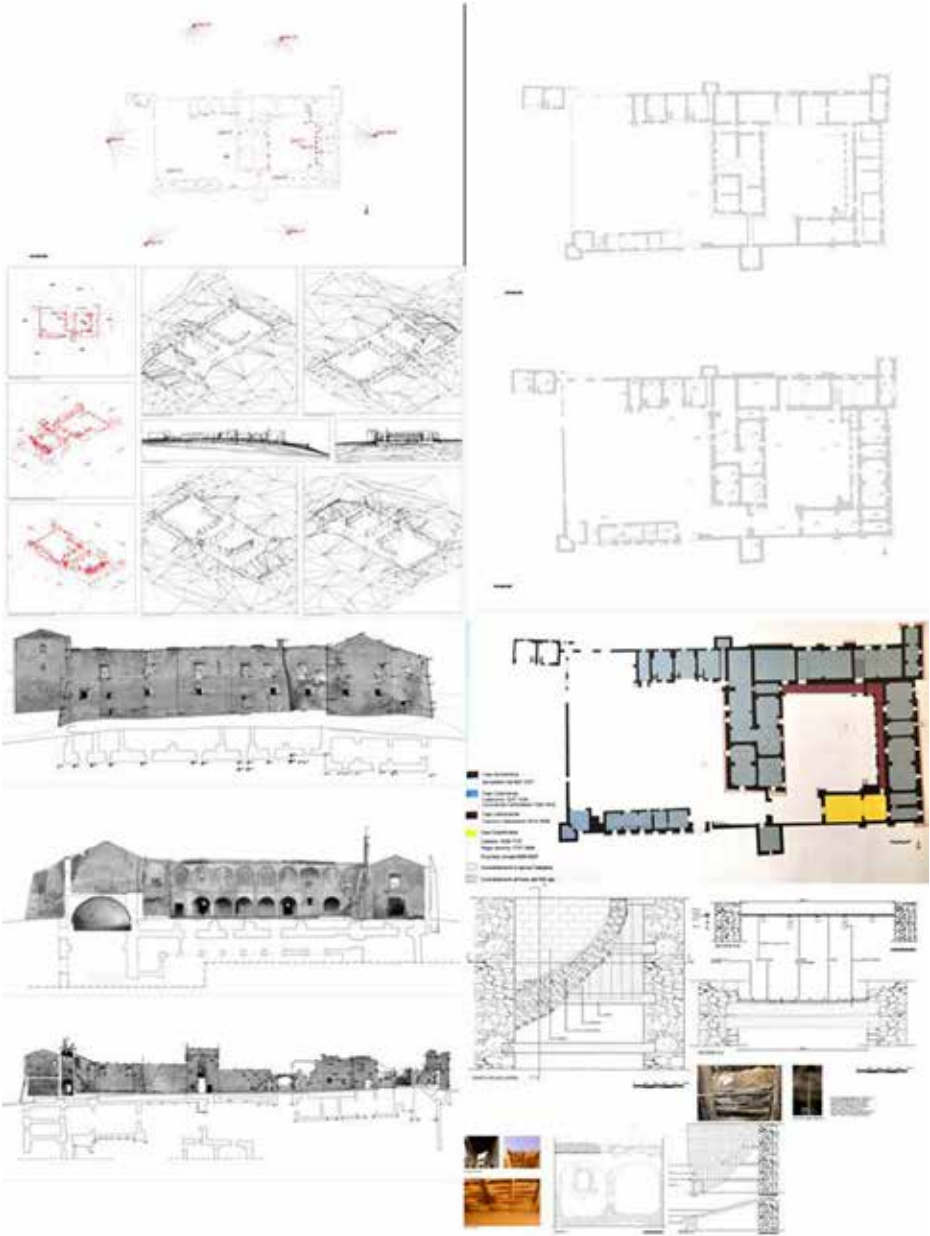
limestone), set horizontally at due distance (33-39 cm) by fragments inserting into thicker mortar joints (Fig. 5).

The north-west tower, still existing in 1834 and depicted such as the major one, is collapsed (Fig. 3). Each standing tower presents a diverse layout, while the building features appear substantially uniform. But at top, any turreted volume consists of sub-horizontal coursed, small and medium-sized, pebbles and rarer rubbles, horizontally laid in mortar joints at each thickness of quoins (33-39 cm). Used only at corners, these are hard limestone blocks, alternately set in course header and stretcher. This walling technique, stratigraphically corresponding the former phase (1255-1328), also can be registered at the surrounding wall, but at the top, and at the cross-vaulted spaces on the ground floor, where the supporting corner piers standing out against sidewalls. Despite this similar walling laying, some towers architecturally display arrangements better of Norman-Hohenstaufen's taste, but the pentagonal one, on the south-west, attributable to the early Angevin realm.

The east corners deserve further notes. The south one at the ground floor - where there are two, almost alike, barrel-vaulted rooms put side by side - reveals to be former, stratigraphically and architecturally, the Cistercian remains. Before the monastery, hence, there was presumably a fortified fence provided with quadrilateral towers at corners to communicate by fire and smoke to Tremiti. On north at the ground floor, standing up against the east front, there are three, almost similar, squared, cross-vaulted spaces, put side by side toward north, such as the northern one fully length emerged against.

Attributable to the early Angevin age, however this last module has been stabilized adding a massive brick scarp onto its north base face, presumably during the sixteenth century (Fig. 3-6).

St. Agata's entrance was at south, into the laic side. From here toward west, very well protected, transversal at the back of the main south tower, the monastery gate still is located. It only preserves the brick-laying skeleton (Fig. 2). The church is just opposite to it. Its first space has been extensively restored, such as the front, after 1627's earthquake. Now it is reduced to the fabric-box. By a major rounded arch it goes to the second space: a Cistercian-aged, pointed
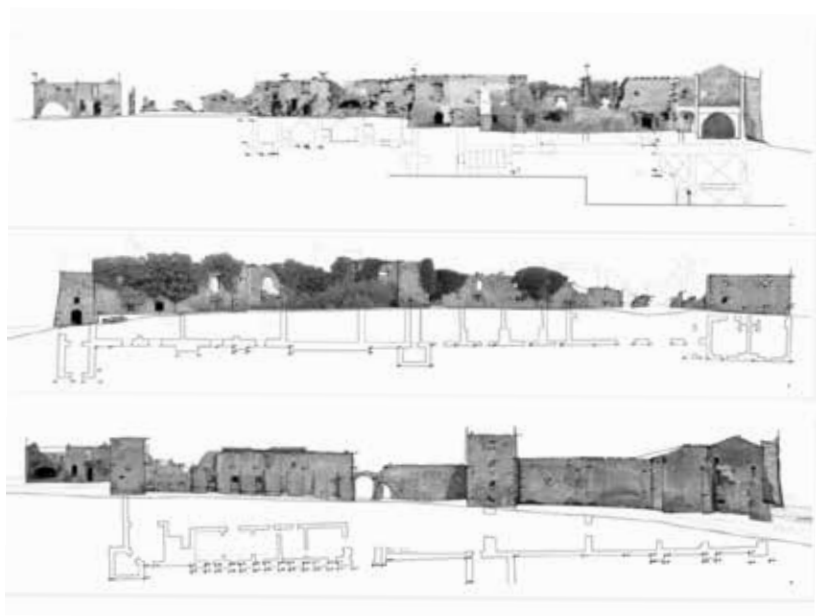
Ortophoto survey

cross-vaulted room with cornices and thin piers against the wall. The façade, very simple, still preserves some stuccoes onto the brick portal.

The east wing – where also the Prior had his place – has been repeatedly transformed throughout the site history. The second building phase (1420-1567) is here documented at the first floor, where walling consists of pebbles and rubbles, no diversely seized in accordance with the Cistercian phase, associated with fragments of tiles and bricks, all laid in sub-parallel courses, set horizontally at due distance (on average 50-55 cm) in thicker mortar joints (Fig. 5).

The works to repair 1627's damages, completed by 1750, only adopted bricklaying throughout the site (Fig. 4,7-8). For its clay deposits Serracapriola has long boasted traditional pottery industry (bricks and tiles), indeed, as family-run kilns. During the late Modernity are documented bricks from Serracapriola about 22-25 cm length, 11-13 cm large and 4.-4.5 cm thick [6]. A significant use of this size typology recurs throughout St. Agata's third building phase, even with others.

The Regional Landscape Territorial Master Plan ascertained in 2013 the archaeological interest of the site [7]. Consequently, the Provincial Strategic Master Plan "Capitanata 2020" arranged to finance with European resources (4 million euro) St. Agata's restoration and re-use project [8]. Such a research may contribute to get this goal faster.
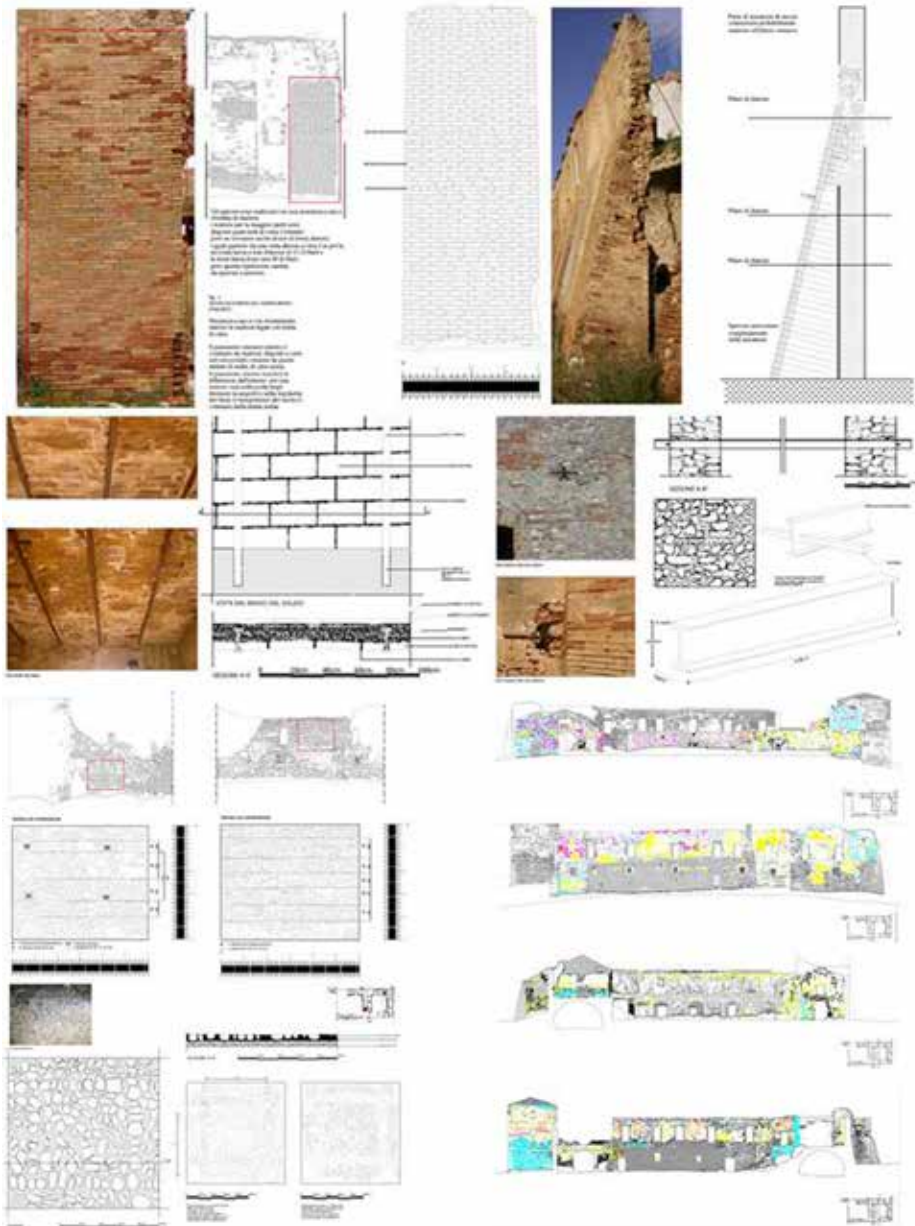
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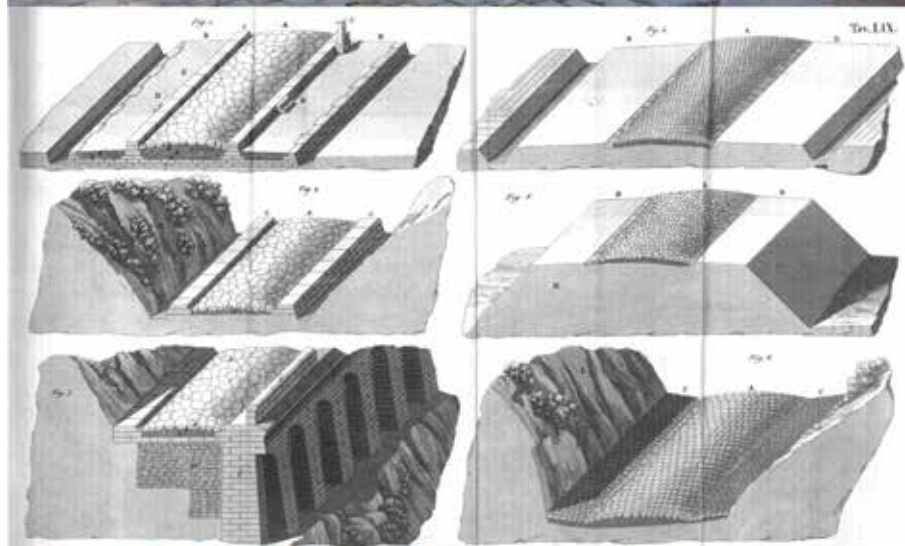
PANEL XI (Duodecim Tabularum Leges). The large stones of national park Appia Antica (Rome)

TRACES OF REGENERATION

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Roma came from 29 large military roads, some of which stretched to the ends of the empire. These streets were lined with temples, palaces, baths, race-courses, tombs and other proud buildings up to a distance of fifty Roman miles. They were also in major roads military public buildings called mutationes, and mansiones, names that can be translated for post houses and accommodation. Mails or mutationes were distant from each other 12 in 15 miles, 18 to 22 km or 4 in 5 leagues from 25 to grade. There were horses pei couriers state, mules, donkeys, oxen and wagons pel de transport 'luggage armies. These houses were ordinarily placed in the villages and hamlets open, so much at night as by day the service could be more readily and easily.

The buildings called mansiones served to house troops; the distance between them was 30 to 36 miles (45 to 54 kilometers). The Romans distinguished the different species of streets with the words away, actus, process, Semitic, trames, diverticulum, divortium, callis. Via matches this entry road; its width was 8 Roman feet, lest two cars going in the opposite direction, could pass without jostling; on which it should be noted that the cars of the ancient Romans had no more than three feet away.

This width of 8 feet Romans, prescribed by the laws of the twelve tables, does that 7 feet 4 inches of the foot of Paris, or 2 meters, 384. Actus was a road made for the passage of a single vehicle and its width was 4 feet Romans. This name came from a measure of the surface that was used to measure the land, the width of which was 4 feet, and length of 120. Iter was a way for people on foot and on horseback, and its width was only three feet.

That call Semitic or Trail had only half the width of the process. When he cross-ing fields called trames, diverticulum, divortium. Callis was a path practiced in the mountains to conduct grazing herds. The streets of which we have just spo-ken were particular works. About the major roads crossing all the provinces of the empire, " Having had the opportunity to measure the wheel tracks recessed into the floor of many remains of ancient streets , and especially in Pompeia , I recognized that there was no point more than three feet of interval between them is indicated by the name of general military roads , consular or praetorian , and sometimes even with the same names of the consuls or emperors who

General plan - park plan with sports facilities - particular sidewalk with paving and cycle path - View of park and via Appia

had made them do such are the ways Appia , Flaminia , Domitian ; but also they took the names of the provinces , as the streets Latin Tiburtina , Campania , Praenestina " . The great military roads were generally divided into three distinct parts: that of the vehicle called ager, bank, was the highest; it was convex widthwise, and sometimes paved with large stones of every shape, as was the famous Appian Way, which was considered the most beautiful and solid of the Roman roads. "Since many vestiges of ancient streets that I measured in the contours of Rome, as the way Appia, Latin Labicana, Tiburtina and Prenestina, that the width of the paved, had to be 16 Roman feet (14 feet 8 inches and foot Paris, or 4,768 meters) "1.

This part was separated from the other two calls margines, margins, with increases or banchette stone wide 2 Roman feet above 1 1/2 high (wide 593 mm high 445 mm), which served of seats to travelers, and retreat to the pedestrians to walk in the rain, or when the bank and the margins were too cluttered with vehicles and troops. The middle part was specially designed for the infantry, and margins for the horses and cars.

The width of each margin was ordinarily half of that of 'embankment intermediate, so that the total width of the largest military roads was not that from 36 to 40 Roman feet (from 10.67 meters to 11.86 meters) . The Romans for the construction of their roads employing the stones, the lava, sandstone, pebbles, lime, sand, gravel, marl, clay and earth away.

The land on which he had to pass the road, at times provided the materials needed to build it; then they were content to dig to the right and to the left to extract them. "In other streets and marvelous to see that is not found in the territory of any of the materials are composed of waves, which suggests that there be been brought from very distant places, or to find them you should be practicing the very deep." "May establish the streets in a solid and lasting was their first care, after having traced the direction, that to level and smooth out the soil because of the situation of the country ch 'they had to cross; then they beat him severely with wooden Pilloni shod and made expressly in order to provide to it a uniform firmness ".

On this ground is level and well beaten, stretched the different layers that were

Regeneration of via Appia _ Caserta _ Graduate thesis _ Degree Course in Architectural Science and Enginee-ring | Architecture and Industrial Design Department Luigi Vanvitelli SUN Second University Naples, Italy

to make up the yard or massive road, as shown in Table LIX. These layers were called, as those areas, with the names of statumen, Rudus, nucleus, and summa crusta or summum dorsum; ie massive stones, hazel and surface railway or coverage.

These four layers formed with a thickness of 3 feet or 1 meter. In large military roads, the first layer or statumen, was formed with one or two rows of flat stones laid in mortar bath.

The second layer or Rudus, consisted of a masonry stones well beaten: this layer well smoothed lay third, called the nucleus, which was a kind of glaze composed of gravel mixed with lime recently extinct. The floor or summum dorsum ,, was placed on the latter, in which s'incassava beating. In many ancient streets, as the Appia, the Prenestina, the Tiburtina Valeria, the floor is made with large stones cut into irregular polygons of five, six or seven sides, some of which have 3 feet and 1 / 2 in diameter, combined perfectly: this was the construction of the part of the great stone-paved streets. In some ancient streets it is not the point layer called the nucleus; large stones forming the floor are immediately set upon one called Rudus.

The surface of those ways that were not paved with large stones was formed by a layer of glaze composed as mentioned gravel mixed with lime. They reserved the larger pebbles to cash them later in the enamel in order to form the top surface called summa crusta.

They were probably-constructed in this manner the two other parts of large roads, indicated under the name of margines: perhaps it was above this layer that formed the surface of them, as can be seen from the Table LIX, in which the digits 1 and 2 show two ways to make the first layer said statumen; 3 that called nidus; 4 the nucleus forming the upper surface of the parts of roads call them margines; 5 the thickness of the floor of the middle part, arranged like the Via Appia.

For the project one of the first objectives was to restore its primary function which is to link as well as vehicular and pedestrian path and also to return to the ancient street parking areas, typical of the Via Appia, the refreshment of new travelers .

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This important objective has been achieved by introducing wide sidewalks lined (with essences of poplar) and especially with areas in the park.

Despite the Appia result being the scene of movements of particular historical importance: road link to the Roman troops bound for Constantinople, transit route for the merchants who came from the East to the Ionian cities, vital artery crossed by pilgrims in the Holy Land and Christians during the Crusades; Today sees completely obliterated its archaeological value, historical, architectural and landscape. Today is therefore needed a true regeneration that brings new life to the roots never silenced, giving it again the dignity of Queen of Roads. It 'was introduced end of the bike path to speed, but with slow mobility, crossing an area that currently has industrial designation. Along the way were then introduced small elements with educational and informational signs on the historical route of the Via Appia for a conscious journey along a street connecting the Tyrrhenian to the Adriatic was the most important artery of the South and through Brindisi was the main link between Rome and Ancient Greece. They are designed also two areas to green for the regeneration of the traveler: north park arranged with green dunes that shield, through the unusual landscape of dunes, the view of industrial halls built close to the Street, with the stands of green oriented to the sports park located south of the Via Appia.

San Francisco, California, photo: Alessandro Ciambrone

San Francisco, California, photo: Alessandro Ciambrone

FINANCING CULTURAL HERITAGE PRESERVATION IN ITALY: INCENTIVES AND PROPOSALS.

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In Italy, as in other European countries, the involvement of private subjects in the preservation of Cultural Heritage has become a relevant issue, that depends on several factors, above all, the scarcity of public resources. The latest official data are clear: in Italy, the public resources assigned to the culture now represent only 0,20% of the Public Administration budget (with it being 0,35% in 2002).

The budget of the MiBACT (Ministero per i beni e le attività culturali e il Turismo), with the economic-financial crisis, has progressively decreased (just over € 2 billion in 2008 to almost € 1.6 billion in 2014). It represents only 0,10% of the GDP [1], with it not being a case that Italy, among the other European Union state members, is one of the states which spends less on culture [2], despite its extraordinary Heritage.

As several studies and reports in the field of Cultural Economics have highlighted for a long time, the traditional approach that considered this heritage as "immutable" has been overcome by an approach that recognizes its vitality, or productivity [3], as well as, its preservation, is understood as a "productive" activity carried out for "social use" [4].

It is in this sense that the notion of valorization should be interpreted. In Italy, this notion is particularly debated because there is a "culture of conservation" that prevails and it enforces a very ancient legislative tradition (it starts from the period that precedes the unification of Italy, passing from the 1939 legislation), which must be "proudly" defended, but there was not a "culture of valorization" or, in other words, the country has little invested in its cultural heritage.

As set out in the Italian Code of the Cultural and Landscape Heritage (Legislative Decree n. 42/2004), valorization (or enhancement) consists of the exercise of the functions and regulation of the activities aimed at promoting knowledge of the cultural heritage as well as ensuring the best conditions for the use and public enjoyment of the heritage.

A private subject may concur, co-operate or participate in such activities. Then, in a purely economic interpretation (concerning the *mise en valeur*) it is possible to consider valorization as a way for an "entrepreneurial" management of the cultural heritage, capable of producing revenues for its preservation.

San Francisco, California, photo: Alessandro Ciambrone

San Francisco, California, photo: Alessandro Ciambrone

It is important to underline that this interpretation does not aim to increase the market value attributable to the cultural asset, but rather to attract resources for financing its conservation and accessibility [5], providing it with the "social plus value"[6].

This obviously represents the economic gain and the social benefit yielded through the conservation, which – as it obtains a greater value – may be also understood as valorization. According to the Council of Europe, «…private management is currently the most interesting area for involving the private sector in protection of the cultural heritage. It can take many forms and extend from management of State property to management of privately owned heritage» [7]. In this perspective, among the different forms of management of cultural property undertaken by private initiatives introduced by the Italian Code and aimed at the valorisation of Cultural Heritage are Sponsorship and Additional Services; both have been analyzed, highlighting some critical aspects [8].

The latest "Art Bonus" Decree, establishes new tax, financial and administrative measures to increase private investments in art and cultural projects as well as the tourist industry. Among the new tax incentives there is the introduction of the "art-bonus", a new tax credit to encourage cash donations (both individuals and businesses) to support culture during the fiscal years 2014 through 2016. To be eligible for the tax credit, the donations must be aimed at maintenance, protection, and restoration of public cultural property and made to non-profit cultural institutions. The tax credit is equal to 65% of the contributions in the years 2014 and 2015 and 50% of that in the years 2016.

The maximum amount of the tax credit is 15% of the annual taxable income for individuals and non-commercial entities and 0,5% of annual revenue for companies and other taxpayers deriving business income. Furthermore, to improve the touristic supply, hotels and other accommodation facilities will benefit from a tax credit equal to 30% of documented expenses occurred for their modernization and digitization (for tax years 2015, 2016 and 2017); finally, the Decree-Law introduces a Strategic Plan for "Major Cultural Patrimony Projects", assigning several resources for the years 2014, 2015 and 2016.

Leaving aside the other measures introduced by the Decree, there is no doubt

California Academy of Science, San Francisco, photo: Alessandro Ciambrone

Golden Gate Park, San Francisco, California, photo: Alessandro Ciambrone

that it represents an effort to encourage private support for the culture and historical heritage, trying to align Italy with other European countries (but not with the USA, where the exemption from tax is much higher).

If the Art Bonus Decree regards cultural property owned by the State, on the side of cultural property owned by private subjects, the question of the incentives for their preservation is more delicate and complex.

Analysing the market of preservation of building stock in the last years (ordinary and extra-ordinary maintenance, renewal and requalification of residential and non-residential constructions and civil works), it now represents «the pillar which sustains the construction industry and the main driver of the new building cycle and for the economic restart» [9].

The expense for renewal activities has reached 61,6 % of the total sales in the building industry, with a value of € 115,4 billion (the production value of the entire building industry is € 187,9 billion). One of the main reasons of this performance is represented by the tax deduction provisions for rehabilitation interventions (in the measure of 36%, 50% and 55%), introduced in Italy since 2002. Regarding the historic properties owned by private parties (historical villas, castles and palace), obliged by law to conserve and maintain their properties, we have assisted in the last years a very heavy tax increase for all kinds of private proprieties and, particularly, for those of cultural and historical interest. Specifically, the property tax of listed buildings, which in the past was calculated on the basis of a symbolic value, the so called "figurative rent", from 2012, with the Salva Italia Decree, has been increased dramatically, becoming the taxable income the effective rent.

The increase of the tax burden on the historical properties conjointly with the forthcoming cadastral reform and the many bureaucratic bonds are making the maintenance and valorisation of the cultural property owned by privates even more difficult. In this perspective results particularly interesting the 'Associazione Dimore Storiche Italiane' proposal, under the study of the Government.

It consists of the reduction by 30% of the property tax (the IUC- Imposta Comunale Unica- introduced in 2014 by Stability Law) for owners of historic properties

Asian Art Museum of San Francisco, California, photo: Alessandro Ciambrone

under the condition that they have to invest not only into the restoration but also the valorisation of properties, improving the services for their enjoyment, setting up a network with other realties in the territory and promotional activities.

This means all "additional services" which, according to the analysis [10], could generate a VAT revenue capable of compensating the reduction of the property tax, but also, in the best case, further revenues for the State to re-invest in activities of valorization, communication and education for the enjoyment of the cultural heritage, in the form of the multiplier effects [11].

The above measures and proposals, like so many others, are necessary in financing Cultural Heritage Preservation, but because «…preservation has important economic values and produces certain economic benefits as well as economic costs, for both private actors and the public at large» also in the European context, research on the relationship between historic preservation and economics is still critical and needs to be provided on a regular basis [12].

Contemporary Jewish Museum, San Francisco, California, photo: Alessandro Ciambrone

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TERRITORIAL FRAMEWORK

Campania Region

Regional Park of the Sarno River Municipalities

Angri
Castellammare di Stabia
Nocera Inferiore
Poggiomarino
Pompei
San Marzano sul Sarno
San Valentino Torio
Sarno
Scafati
Striano
Torre Annunziata

Sarno River Basin: Ecosystemic Analysis (Source: elaborated by R. De Martino)
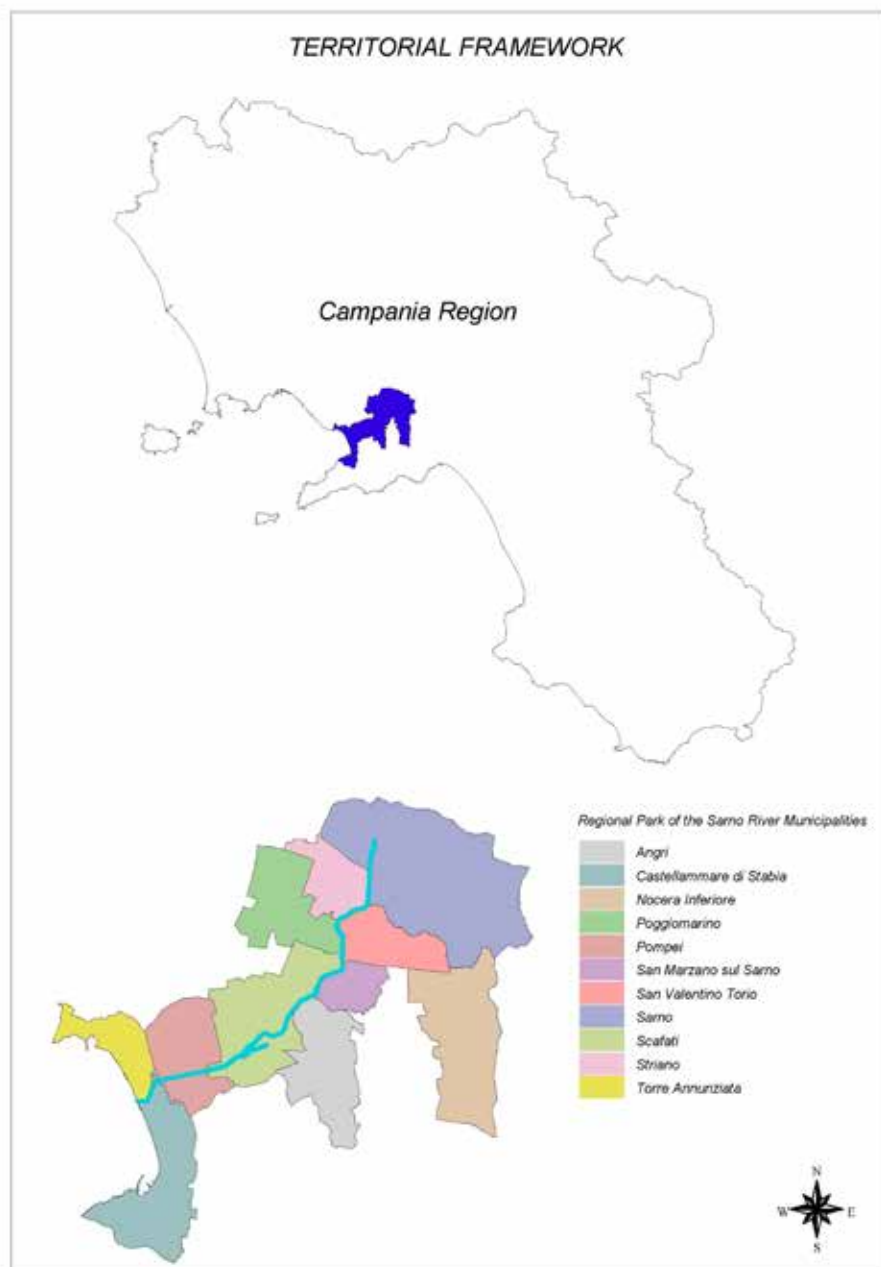
ENVIRONMENTAL NETWORKS FOR ANTHROPIZED CONTEXTS PRESERVATION

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Methodological approach to the environmental networks system (Rossella Franchino)

An approach to the preservation of the urbanized territory necessarily requires carefully identifying the possible interference between the natural and anthropised aspects with the issues related to sustainability of urbanization, conservation of the biodiversity, control of land use and territorial fragmentation. The redevelopment interventions must be carried out with particular interest, among other aspects, to the ecological conservation of the biodiversity in order to safeguard the natural processes that form the basis of the survival of ecosystems. Particular attention should be given to ecological networks, which are one of the tool that allow to carry out redevelopment interventions of the countryside within the context transformed by man. It is therefore obvious that an organic restructuring of the network system that takes into account not only the ecological aspects but also other environmental issues related to the water, air and soil subsystems can be important for a sustainable land management, with the need to safeguard the interests of the species present as well as conserve the biodiversity [1]. Therefore, we propose in the ambit of the interventions of preservation of the territory to reserve an important role to the reconfiguration of the network system, so that, from the integration among the infrastructural, ecological and landscape networks, a new kind of network can be created, that can be defined as "environmental", considering not only supplies and fluxes of material and energy, but also the needs of water, air and ground environmental subsystems Figure 5. These considerations, developed by the author in previous studies, have inspired the research that is reported methodologically in the paragraphs below and that relates to the identification of technological strategies for the preservation of the natural spaces in anthropised contexts with particular reference to improving the ecological and environmental quality. In particular, the study, which is part of the CAMPUS project "Ecoturismo urbano per la fruizione sostenibile dei Beni culturali in Campania"" (Scientific director: prof. Arch. Carmine Gambardella) - Benecon SC.aR.L. was applied to the sensitive context of the territory of Pompei in Campania, which is an area with a high archaeological-cultural-historical value.

Territorial framework (Source: elaborated by R. De Martino)
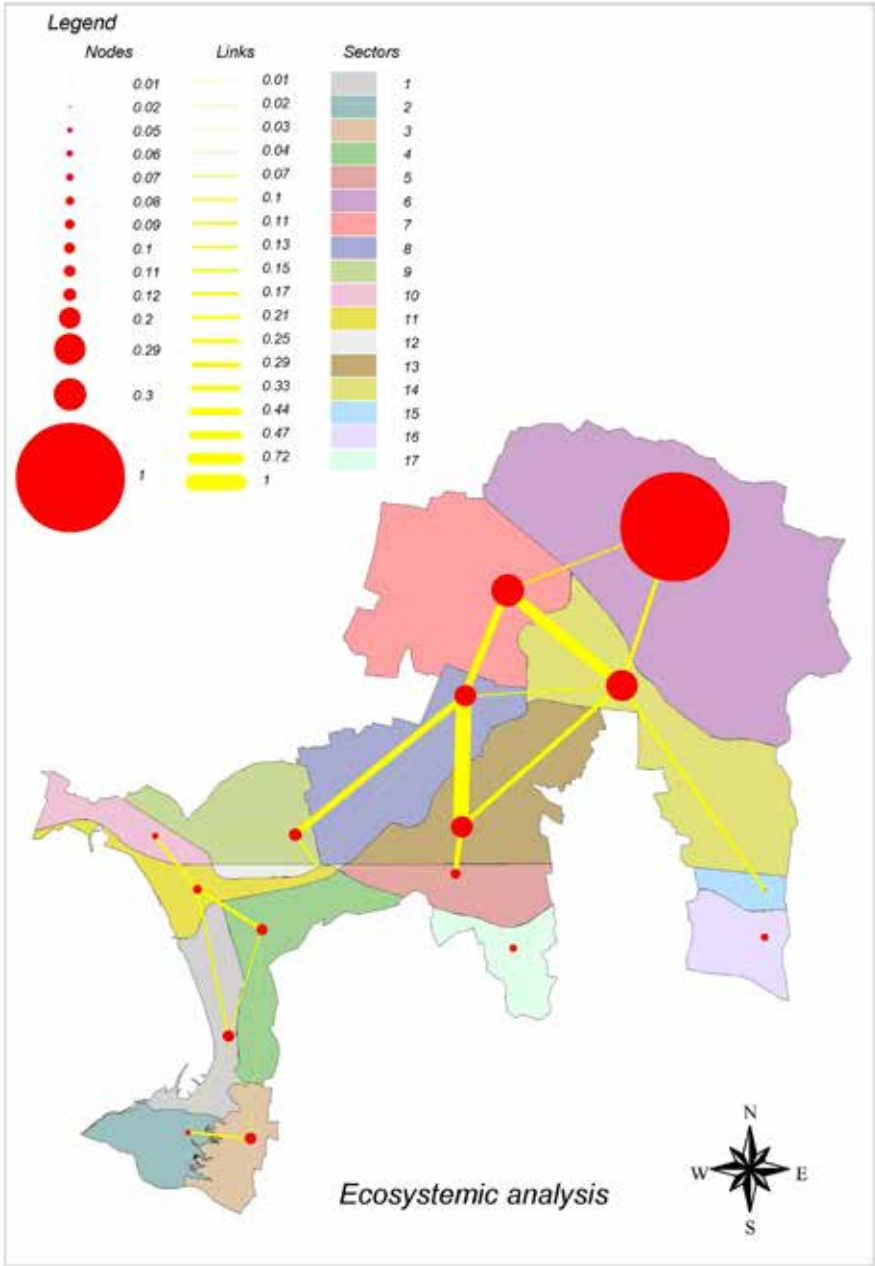
In addition, the context of Pompei is particularly significant for the purposes of this research due to the mass urbanization, which is characterized by natural spaces that have been damaged by anthropisation and intersected by a complex network of infrastructures that have contributed to altering the natural landscape, fragmenting the territory as well as changing the eco-systemic quality of the context as a whole.

The ecological network for the rehabilitation of Sarno River Basin territories (Raffaela De Martino)

The paper aims to describe the methodology used to construct the ecological network for the city of Pompei.

The extension of territory analyzed had to take account a broader environmental system of which the city of Pompei is part. The study was extended infact to the territory of the Regional Park of the Sarno River, since the Sarno, with its tributaries, is an important element of the regional network, as connecting corridor between the National Park of Vesuvius and the Regional Park of Lattari and Picentini.

The methodological scheme for the construction of the ecological network it included several phases:

• eco-systemic/ecological analysis;

• identification of the ecological territorial network;

• comparison of the ecological territorial network with the results of analysis;

• identification (if any) of the environmental improvement interventions on the previously identified network elements.

The ecosystemic analysis Figure 3 conducted is based on ecological indicators and analytical-descriptive methods, already present in current literature and aimed at highlighting the level of ecosystemic equilibrium of a specified territory and the level of territorial fragmentation. The tools used was the Ecological Graph [2].

Identified and quantified the territorial fragmentation, it was necessary then, to assess the territory in question, according to some ecological parameters thus obtaining the starting ecological structure Figure 4.

After the analytical phase (ecosystemic and ecological) the next was the con-

Classes of ecological quality

- B medium-high quality
- C medium quality
- D low quality

Ecological analysis

Sarno River Basin: ecological analysis (Source: elaborated by R. De Martino)
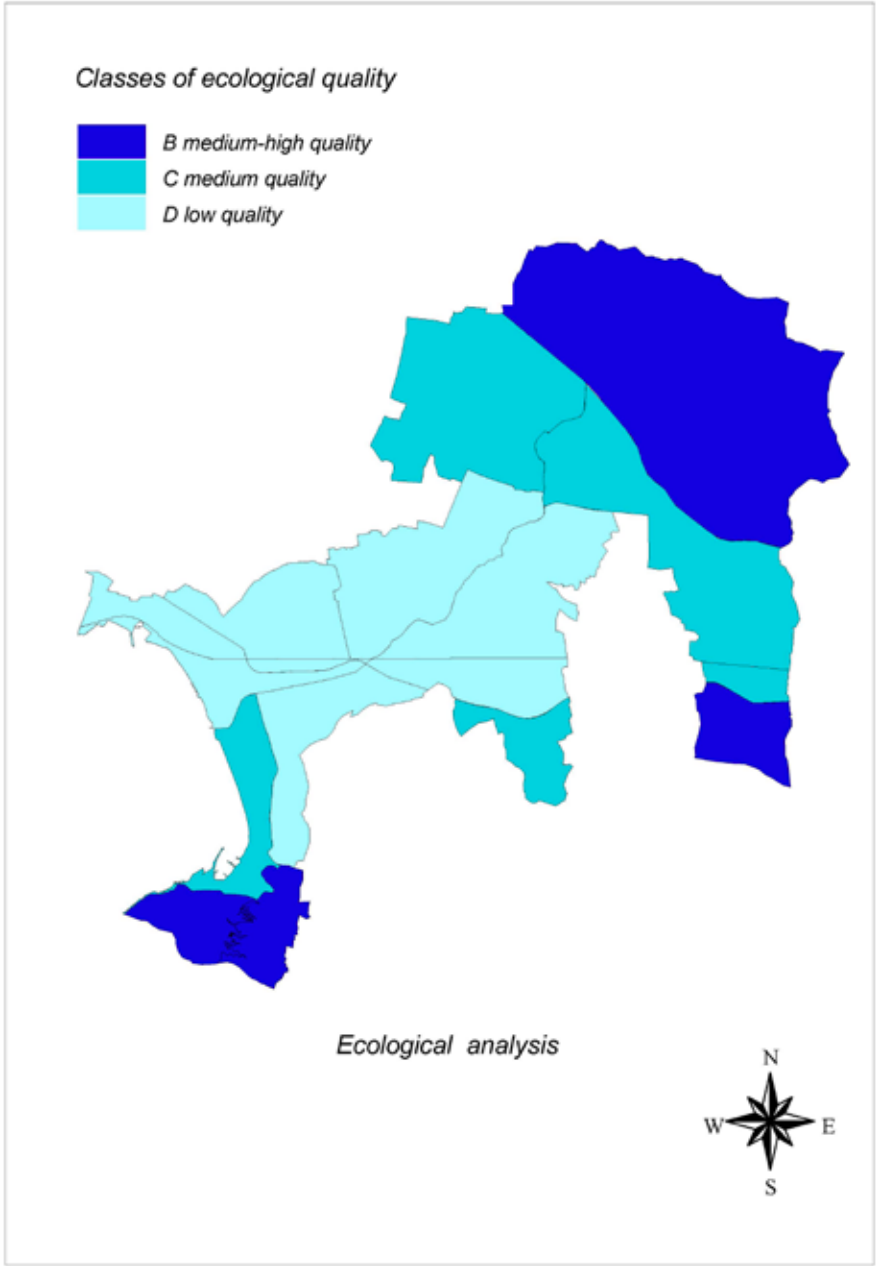
struction of ecological network. This has meant identify the territorial elements able to assume the role of core areas and the most important ecological connections. The connectivity of a system is determined, as well as structural parameters, also by biological/functional parameters that take into account the behavioral differences of the different species on a territory. That's why have been identified four priority species (focal species) and they have been individuated, for each of them, the potential ecological networks. Definitely, the territorial ecological network is given from the envelope of species-specific networks shaped around the particular needs of different species identified as a target [3]. Finally, the method has required the comparison of the ecological network identified with the results of the ecological analysis carried out in the initial phase of the work. It's obvious that for the network to function properly, it is necessary that the structural elements that compose it are characterized by an appropriate ecological-environmental quality. If this condition is not met then it will be necessary to prepare of environmental improvement interventions, in order to implement the overall level of local ecosystems quality.

City's open spaces network: interacting with the Ecological Network (Caterina Frettoloso)

In the study that we are carrying out, my interest focuses on the relationship between the city's open spaces network and the ecological one. The role of an ecological network has already been discussed but what a public space system means and why it is important to design according to this logic is a topic that need some further clarifications.

The way the open spaces are organized in redevelopment interventions must meet specific functional requirements, dictated by the collective life way of life, which is increasingly oriented towards a growing flexibility that does not mean, as often occurs, the lack of a design choice. On the contrary, it means working on the recognition of surfaces and the comfort of spatial elements, in an integrated approach to the project in which the technical and functional aspects are interwoven with social and environmental issues.

The idea of working on a systemic approach to open spaces comes from the sharing of a concept that is "wider and all-encompassing of [open space], [in-

Intersection of road and rail infrastructural network and ecological network
(Source: elaborated by R. De Martino)
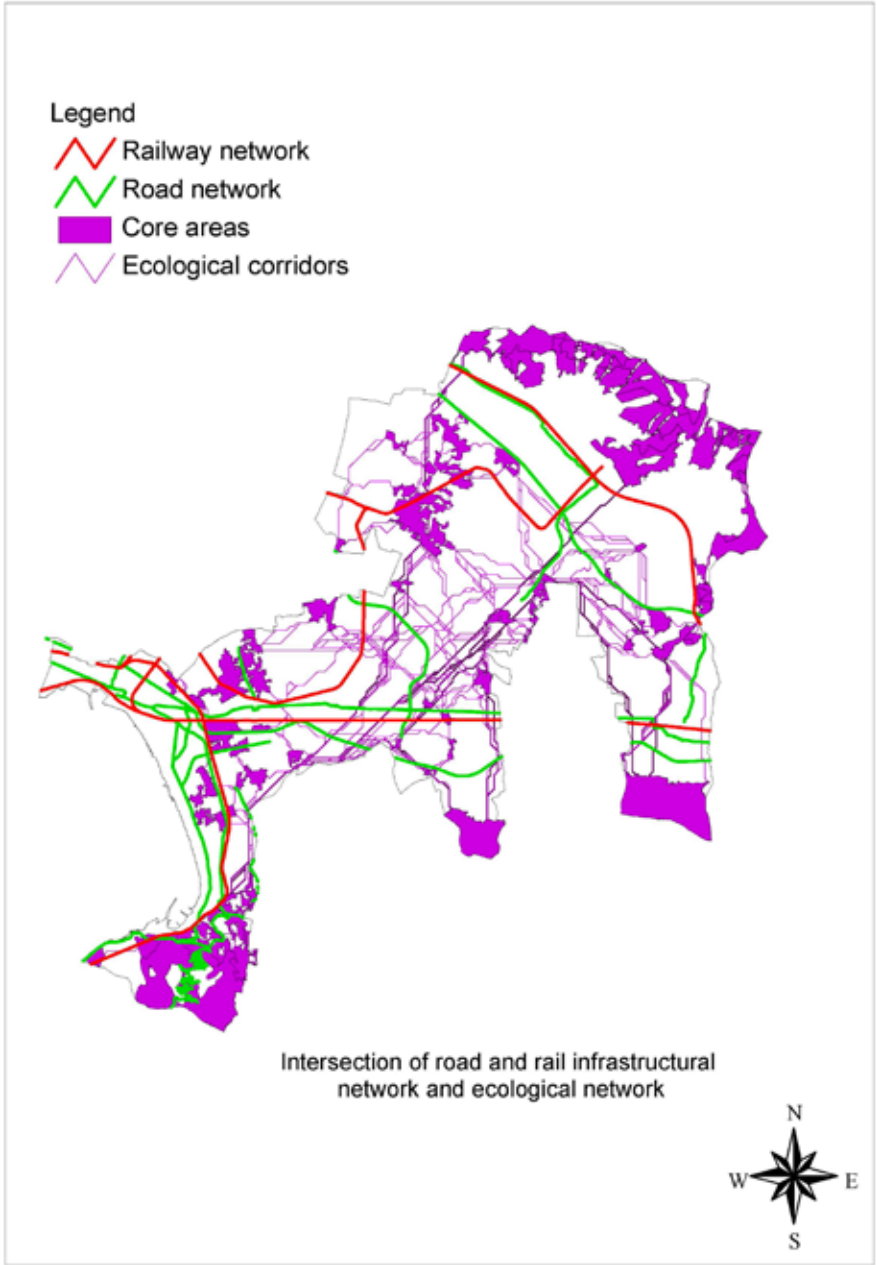
tended as] a continuous network throughout the un-built territory in urban areas: public parks, but also private gardens, urban streets and squares. In this way, the network acts both as a link between individual spaces as well as an engine between buildings and structures, forming the context and frame of each of them and linking the centre with the surrounding landscape" [4].

In the study it would be interesting to understand what kind of relationship needs to be established between open spaces and the ecological network. The environmental quality that characterizes urban areas crossed by the ecological network is from where to start. Considering for the moment only the distributive aspects, two conditions may occur: the first in which the two networks are in a situation of proximity, the second of intersection. In both cases, realizing connective zones between the two systems or considering the areas generated from their overlapping, it will be appropriate to work on the environmental protection of such areas trying to increase the functionality of both networks.

Thinking at the macro level, from a performance point of view, the areas of intersection/connection should ensure the permeability of the soil, contribute to a rational management of rainwater and, in general, mitigate the environmental impact of human activities. A significant aspect is that the maintenance of high standards of environmental quality will have positive effect on the quality of urban life, creating, first of all, more comfortable conditions for outdoor life. The application to case studies appropriately selected could provide many indications for the construction of links between the two networks starting from the environmental and functional compatibility.

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GREEN, armchair by Piero Gilardi.

DESIGN AS ART: THE CASE OF GUGLIERMETTO EXPERIENCE

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What is our relationship with objects?

Our treatment of "truly useful" objects seems humiliating and punitive, their being condemned to perform only the task they were created for. In this utilitarian relationship with objects, it is our emotional alphabet that is impoverished as an effect of the mechanism of "desire, possession, consumption, waste". Objects should, therefore, be freed from the dictatorship of the uniqueness of practical life and be reconsidered as "things". "The thing is not the object [...], but a node of relationships where I feel and I am involved and which I do not want to have under exclusive control", wrote the philosopher Remo Bodei in the essay, La vita delle cose . Objects are "without aura" (Bodei), reflecting a certain "obtuseness" and an absence of depth, which, however, is found in those things that become fetishes for the primitive, with a mana, a spirit that transcends their physicality in a complex system of meanings and images, "leaving each [thing] a residue that cannot be analysed, a bundle of unsaturated bonds and ineffable allusions [...] with what still can still be thought" (Bodei). Obviously, a lot depends on the attitude of man, rather than on the intrinsic characteristics of the object, which becomes, therefore, a thing only through the effect of conferring a sense on it. It is also true, however, that some objects (products) are "predisposed" to remain as such throughout their entire life cycle, from their design and market launch, to their consumption and their death, as is the case for an electronic device. On the contrary, there are objects intentionally designed for an use that is not purely instrumental. "Naturally" they are placed at a crossroads in our relationships, they establish "[...]sense synapses both between the various segments of individual and collective stories, and between human civilization and nature" (Bodei).

In the vast archipelago of Contemporary Design, there is a significant area, present in the 1900s in Italy and elsewhere, which is characterized by the set of products, projects, research and experimentation guilty of alleged derailments from the discipline towards the arts and crafts. We see it still surviving, after the achievements of the 1970s and of the Radicals, hidden in "heroic" efforts that do not want to be put in a corner by an economic crisis that – for the old and new

Pouffe by Diego Maria Gugliermetto. Alessia Micheletti photographer

poor – has dramatically reduced their consumption of "unnecessary" objects, opting for only "what is needed". The "works" of the catalogue of the Piedmontese company Gugliermetto Experience belong to this territory through Design, in very different ways, with the likes of Gio Ponti, projects realised by Fornasetti and De Poli, Bruno Munari, with "talking forks" and the monkey-toy "Zizi", or Philippe Starck with the "gnomes", tables and stools for Kartell. Projects that are different from each other but are united by playfulness and irony.

The chair "Magritta" (1970), designed by Roberto Sebastian Matta for Ultramobile, may be considered among the direct descendants of the works of Gugliermetto Experience, or, more significantly, the "Pratone" (1971) by Ceretti, Derossi, Rosso, made for Gufram, the historical company founded by the Gugliermetto family. These are creations linked together by the choice of the base material, polyurethane, the use of neo-Dadaist and Pop type provocations and the project approach that marks them as "furniture-sculptures".

One of the most significant names of those times is Piero Gilardi, who designed a series of pieces for Gufram that are still in the catalogue, such as "Sedilsasso, sassi" and "Massolo", both works from 1974. Today Gilardi is present in the Gugliermetto team with the armchair "Green", a green polyurethane malachite rock with a real plant in the backrest. Picture it in a home. One may think that the intimate life of the house is celebrated thus, on a stage that reproduces reality like in a theme park, leading its inhabitants to let go of their identity, and to become their own stand-ins.

False space, or "in style", as they say, is likeable because it by transporting beings to distant worlds, in time and space, it slackens the tensions and fears of everyday life; it satisfies, it pacifies, it gives oblivion. This rock, however, with its shiny patina, has another meaning since it is "authentically" fake. Irony is its main ingredient. With his "Green" Gilardi mocks the producers of Kitsch, who offer their customers concrete stools, tables, chairs and lamps, treated to look like the bark of a tree, and destined to decorate gardens already "adorned" with eagles, Snow White and the Seven Dwarfs, ancient Greek columns and white fiberglass virgins. For this reason Gilardi's is a difficult piece, a work which belongs more to the sphere of Art than to that of Design. You can sit on it, but that

NODONE, sofa by Diego Maria Gugliermetto.

is not its mission. Like any contemporary artistic product, Green has the task of confusing, creating a disturbance; it produces a small initial shock that forces rethinking, re-modulation of own coordinates; it forces us to ask questions without giving an answer.

The house that houses it should be that of an intellectual, an artist, a refined man who knows very well how line between good and bad taste can be imperceptible. In all the pieces of this enterprise, but especially those of Diego Gugliermetto, from padding material, usually closed between upholstery fabric and the structure of a sofa, polyurethane comes into the open, bursting out, to become the single protagonist of the domestic sculptures only just covered by very thin coloured "icing". It is the revolt of the pariah, the revenge of those invisible. I refer to its "cream puffs" in which desire insinuates itself, "sinfully", evoked by the beautiful, but even so castigated, photos by Micheletti that manage to convey our initial sense of bewilderment towards an indecipherable "desire".

And between the choice of a cream puff and that of a woman, . . . you choose both. "Now this is how a woman holds the keys to your every desire [...]," wrote Poliziano in the 1400s. Here, in their photographic interpretation, these puffs become refined "double entendres", or, if you prefer, the "rhetorical figures" of an artidesign . There is no lack of the influence of personal and family background, and therefore the thought cannot but turn to the Radical and in particular Pop Art. In fact, the red "nodone", co-signed by Franco Mello, is a clear reference – although unaware (as I was told by Diego) – to the research of Claes Oldenburg, who was known for consumer scale reproductions, and, in particular, the sculpture in Milan, "Needle, Thread and Knot".

Though Gugliermetto is not just the craftman of the group - i.e., of those who not only knows how to use their hands, but do their job well (Sennett) – but also the inspiration behind for this "experiment", Ugo Nespolo is the most transversal of those three authors who moves with ease between Art, Design, Film

Pouffe by Diego Maria Gugliermetto. Alessia Micheletti photographer

and Advertising. He signs a less plastic chair than the other two, less sculpture and more architecture, like those of the two decades of Italian Fascism used as support for the regime's Communication for lapidary, textural writing, with dates, Roman numerals, slogans such as "believe/obey/fight" that are set against a wall of the Foro Mussolini in Rome. Nespolo even seems to use a font that was highly fashionable in those years. But this poem that is a armchair, carved in the back and framed by an inverted arch that ends at the top with two armrests, has completely different references. Here the verse and title of the work, "work/work/work.../I prefer/the noise/of the sea" is a paraphrase of a poem by Dino Campana - Manufacture, manufacture, manufacture - the visionary and Orphic poet who opens our twentieth century, wrote Giuseppe Pontiggia in 1996, locked up for years in various Italian asylums. In the chair for Gugliermetto, Nespolo abandons the colours and the neo-futurist overexcitement of his dynamogene, restorative and energizing works to duplicate in white his monument of San Benedetto del Tronto, white like straitjacket that monumentalizes a free sentence and that transforms an item of furniture into a (synthetic) stone poster.

Today, these furniture-sculptures, deprived of the Radical culture that gave birth to the Gufram phenomenon do not only have to deal with a completely different context compared to that of the 1970s, where the sneer, the game and the provocation were the essential factors that interacted in the cultural, political and aesthetic dynamics of the time; even the anthropology of the Italians has changed, subject, over the last twenty years, to a pervasive and insidious identity theft by videocracy and other powers; its historical background has changed, modelled with hard work and over the years, following the disaster of World War II. Now, prudently, Diego explains that Gugliermetto Experience is not a new brand, but an "experience", which, I say, must also maintain itself through the sale of its works and distribution! So? Paraphrasing Dürer, I say "I do not know what this experience is". Or rather, I do not know where it wants to go.

I think, however, that it is absolutely healthy and beneficial to continue to mix the design project, as these "young/old" Piedmontese do, with intelligent and

Pouffe by Diego Maria Gugliermetto. Alessia Micheletti photographer.

subtle irony that is able to revive the territories of contemporary Design, threat-
ened by the levelling of ideas and by an attitude of designers too often complai-
sant towards the market and entrepreneurs.

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San Francisco, California, photo: Carmine Gambardella

DESIGNING A SMARTER,
MORE SUSTAINABLE SAN FRANCISCO

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San Francisco has been named the "greenest" city in the United States as well as the Cleantech Capital of North America, thanks to the use of information and communication technologies (ICT) to provide smarter and more efficient services to the strategies aimed at the sustainable and informed use of natural resources. For example, reducing energy consumption, improving services and the quality of life for the local community through urban planning interventions aimed at reducing the environmental impact by promoting innovation, while also supporting a sustainable economy with low-carbon emissions. The local authorities have applied urban planning and territorial governance strategies in order to obtain a smart city, where energy efficiency initiatives and programmes are included in a larger territorial planning framework, which extends to the entire bay area of the city. San Francisco is a prime example of a smart city, especially when considering the nine principles of planning for the twenty-first century city, as set out by John Lund Kriken in City Building (2010): 1. Sustainability (consonant with the principles of sustainable development); 2. Accessibility (ease mobility); 3. Diversification (integrating different functional types in different areas of the city); 4. Public Spaces (regenerate natural systems to make cities greener); 5. Compatibility (balance the harmony between functions, public and private spaces); 6. Incentives (regenerate the decaying city and the residual areas); 7. Adaptability (facilitate urban units and positive changes); 8. Density (designing compact cities with an appropriate transport system) 9. Identity (create/maintain a unique and memorable sense of the places). A 2011 report prepared by the Silicon Valley Smart Grid Task Force on the economic development derived from smart technologies in the San Francisco Bay area pointed out that the ap-

San San Francisco, California, photo: Carmine Gambardella

plication of "intelligent" strategies and actions have allowed for an optimization of productivity and energy distribution as well as an increase in employment opportunities. For example, jobs created thanks to the smart grid of the metropolitan area grew by 129% from 1995 to 2009, while other sectors had a job growth rate of only 8% for the same period. The city has a privileged propensity with regard to technological innovation, with one of the reasons being the fact that it is near to Silicon Valley. In fact, a large number of multinational and internet-based companies have their headquarters in San Francisco. The city is the world leader in smart-city projects, with a Wi-Fi network that covers all the areas of the urban fabric. It is worth considering, for example, Market Street, the main street of downtown, with three miles of free Wi-Fi. The city also excels in green and sustainable initiatives. It is a world leader in the recycling of waste. The smartness models have had a natural impact on the urban design, in which the spatial and architectural quality and integration of web-based, ICT and sensoring technologies have produced interesting episodes of urban regeneration and new development. Two case studies, located in the Bay of San Francisco, highlight how the principles of smart city have been integrated with those of urban and sustainable planning: The Transbay Terminal neighbourhood and The Treasure Island.

The Transbay Terminal

The inhabitants of San Francisco have historically taken special care of their city, which is considered unique for its citizens, institutions and buildings that are part of an extraordinary landscape. Not surprisingly, the city, in its continuous changes and transformations through urban planning processes, has often been at the centre of heated debates with the local community regarding the rehabilitation of buildings, neighbourhoods and urban areas that could alter its skyline. This happened regarding the population density increase of existing neighbourhoods. When the redevelopment of the decaying 40 acres of the Downtown Transit Terminal neighbourhood was proposed, the conflict between the representatives of the Local Administration, the investors involved in the ur-

San Francisco, California, photo: Carmine Gambardella

ban transformation process and the residents seemed inevitable. Surprisingly, a widespread public consensus was reached quickly between the different stakeholders, despite the decision to redevelop the neighbourhood with a project that included a high population density. In addition, the project also attributed the neighbourhood a central role in the field of urban mobility (transit-oriented). Public support was facilitated thanks to a project that provided the district with the same living conditions and attractiveness of the existing neighbourhoods of San Francisco with a lower population density. The plan for the new Transbay Terminal neighbourhood was inspired by the principles of smart and sustainable cities. In particular, in the sizing of the population density, the liveability and management of the public parks, integration with ecological networks and slow routes, and in the ability to relate the neighbourhood to the surrounding ones, through connecting pedestrian areas. The creation, on the ground floor of the buildings, of businesses, such as restaurants and pubs and neighbourhood activities was also promoted, establishing a balanced relationship between housing and services for the residents. In order to recover public spaces and green areas, the superelevation of the existing buildings was considered, without, however, blocking out the nearby buildings. The creation of high humidity or shaded areas between the buildings was also avoided. The roads were designed in such a way as to increase the quantity and quality of the public green. The train station was redesigned and upgraded to be able to absorb and handle more flows, integrating road transport with that of the railway. The realization of buildings with several floors was necessary to cover the costs for the redevelopment of the entire neighbourhood, which has a population density of 300 residents per acre.

The Treasure Island Master Plan

In 2005, investors and representatives of the San Francisco Local Administration proposed a Master Plan for Treasure Island, the historic and former Navy base located 2 miles from the city, which covered an area of 400 acres. Due to the limited vehicle access in and out of the San Francisco-Oakland Bay Bridge,

Golden Gate Bridge, San Francisco, California, photo: Carmine Gambardella

the design team proposed Treasure Island as a model for a new urban neigh-
bourhood development based water transport and not only, with it being an ex-
pression of the most innovative principles related to sustainable development.
The key objective of the plan was based on the creation of a community freed
from the idea that each unit should include a parking space. In this logic, spaces
for walking and cycling paths were created in order to promote maximum mo-
bility in the area. It is worth briefly describing the urban expansion history of the
island so as to understand better the development process of the area. Original-
ly, in the early 1930s, a new airport was planned for the island. Subsequently, in
1939, Treasure Island was home to the Golden Gate International Exposition.
The two-year exhibition celebrated the completion of the Golden Gate and Bay
Bridge, with the 30 years following the urban growth after the earthquake, trans-
forming the bay into an international centre in the fields of industry, education,
scientific research and education. Once the exhibition ended, the island be-
came a terminal for the famous Pan American China Clipper sea-plane service
to Asia. From World War II until the mid-1990s, it was the home to United States
naval fleet, with it being used as a port for operations and storage.
In 2005, when a large number of residences had already been converted to
civilian use, the planners faced the problem of transferring the inhabitants of the
old naval base homes to the ones in the new neighbourhood. Another import-
ant issue was represented by the toxic contamination caused by six decades
of military activity in the area. The plan took into consideration the negative
aspects in the district that included toxic pollution, a strong wind from the west,
persistent fog as well as the presence of dangerous entry and exit ramps of the
Bay bridge, connecting the island to vehicular traffic. The planning team tried
to transform these challenges into advantages within the context of sustainable
design. The aim was to transform the island into a pedestrian zone, like a down-
town district of San Francisco and a model for a smart lifestyle. The 2006 plan
for Treasure Island included a residential and commercial district that would
allow approximately 10-20 thousand residents of San Francisco to take advan-
tage of convenient living conditions, with the same population density as other
prestigious areas of the city, like North Beach and The Marina. The density was

Bay of San Francisco, California, photo: Carmine Gambardella

designed with an index of 100 units per acre, with it being sufficient to support the water transport as well as dedicate most of the public spaces of the neighbourhood to a variety of areas, including wetlands to filter out the "greywater", along with walking and cycling paths. A large polluted site was also transformed into a bio-filtration garden. As part of the broader visions and actions of a smart city considered in this paper, the following are the main objectives that have been achieved or are in progress in San Francisco through the use of planning strategies and innovative technological tools.

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Corpus agrimensorum Romanorum, tab XVII

THE REPRESENTATION OF THE MONASTIC UTILITY: PARCHMENTS AND TERRITORIAL IMAGES

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For the category of utilitas, or else the second of the three main options topics of architectural theory Vitruvio, the figurative demonstration assumes considerable importance. This assumption is proved by the large number of architectural drawings that, since ancient times, have been developed with the intent to convey the propensity to clarify whether the system is functional and operating characteristics of a project idea. In the first case through the consistent definition of the typological, as specified by Vitruvio in making explicit of its organizing principle, and in the second case, through the graphical interpretation of the theoretical descriptions about the fortified cities covered in chapters IV, V, VI and VII of Book I and the dissertations on civil and war machinationes, traced in Book X of De architectura libri decem. The combination of the sources found in utilitarian thought of Vitruvio through rereading of De architectura leads to the identification of some strands representative who, over the centuries, have characterized the work of graphic processing of architects and treatise. Specifically, it is undeniable that the theme of the defense of the city in relation to the problems configurational the fortified walls, on the one hand, and on the other the representation of war machines of siege, together with the issue of supply and use of water in civil and military purposes have represented, as a whole, the main stimulus to the development of a specific design utility. A design that has been realized, between the fifteenth and sixteenth century on the Italian peninsula and the territories beyond the Alps, and through an innovative theory of fortifications capable of developing up to the eighteenth century, when the walls of European cities, no longer representing a bulwark defensive, will be demolished by offering their membership site for new industrial functional settlements and both through the publication of manuals and hydraulic engineering in which deepens the study of the techniques of lifting construction materials as well as those related to the exploitation of the liquid masses at rest and in motion. Before delving into the skyline of urban culture Renaissance, it is interesting to introduce some thoughts regarding the functional representation of some exempla architectural and urban pseudo-developed in medieval times. The Corpus agrimensorum Romanorum is, in this sense, a graphic summary and theoretical emblematic for the figurative utilitarian of low and high Middle Ages. The
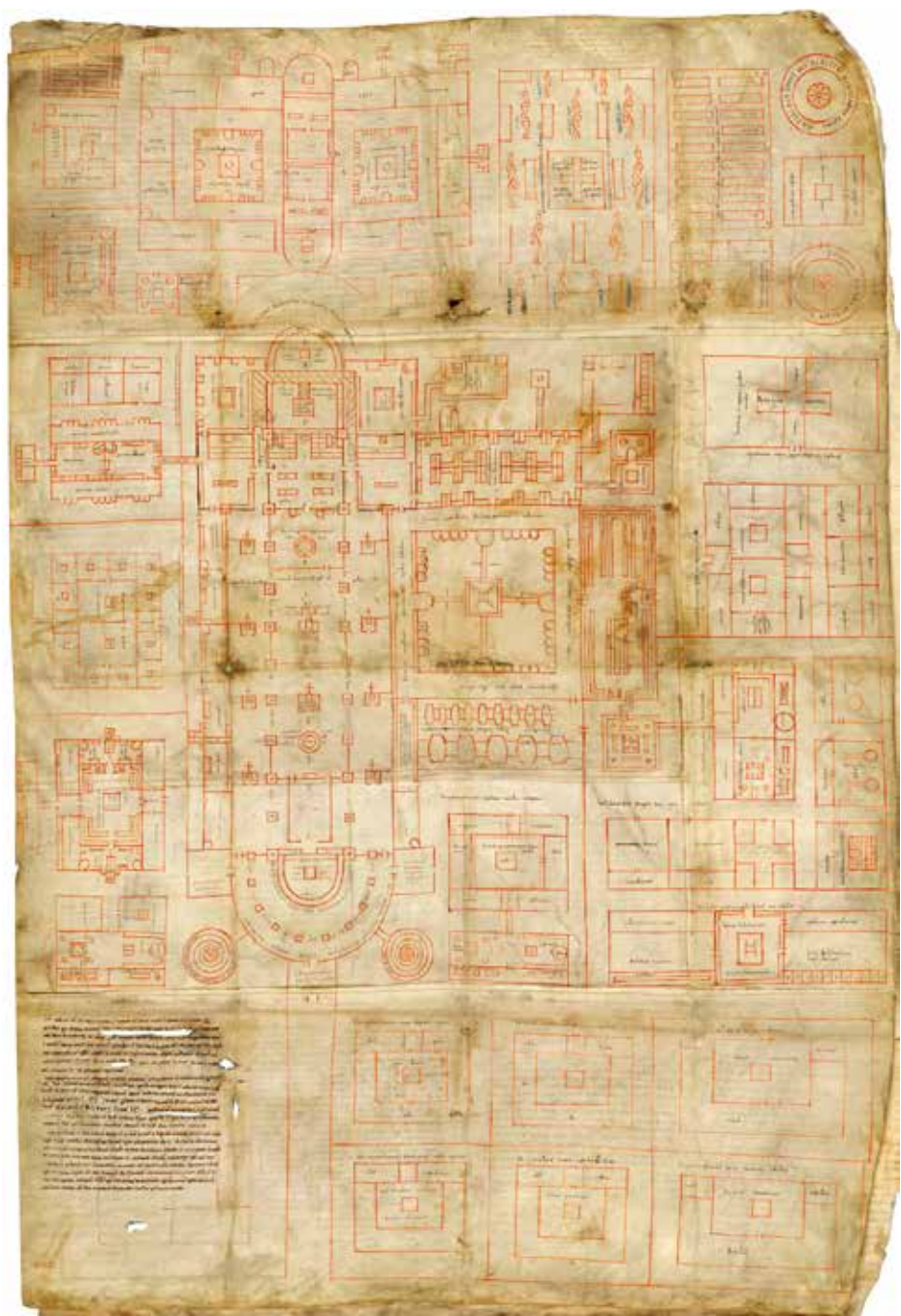
Ideal plant of the Monastery of St. Gallen.

Corpus is a collection of Latin texts with practical information on the topics of borders, of the legal division of land and field measurements. The manuscript in Latin, known as Codice Guelfferbytanus 36, 23 Augusteus 2, is accompanied by a documentary appendix consisting of a collection of drawings elaborated by classical authors depicting practical instructions for measuring the land, for land surveying as well as for infrastructure geometric campaigns. The rationalization rural Roman, as noted, is to join the ends of a territory from north to south and from east to west, drawing two main roads orthogonal respectively called the cardo maximus and the decumanus maximus and dividing the area identified through minor roads, according to a procedure called centuriatio if the land was divided into squares and "scamnatio" or "strigatio" if it was divided into rectangles. The Corpus agrimensorum Romanorum is one of the first documents in which graphics are represented also the first extra-urban aggregations, such as the so-called "domus cultae", founded in the countryside of the Pontine marshes. The fortified communities, the latter, produced by the state of the church in the outlying areas of Rome in order to exercise it tighter controls on political, religious and economic. The rural planning papal initiated by Adriano I until the seventh century, was to place the "domus cultae" in proximity of waterways and link them through new roads maintained always open in order to allow the transport of food from the countryside to Rome. With the passage of time these rural settlements is structured with more through the construction of churches and chapels made within its precincts defensive thus facilitating the establishment of small communities made up of members of the clergy.

The "domus cultae" managed by clergy became important places of territorial control in relation to other major landowners of the period or the noble feudal families and the great abbeys. A miniature of Corpus, from the early nineteenth century, well represents the functional character of the "domus cultae" through specific emphases graphics: first, the presence of the tracing of the ancient consular road that, connecting Rome with Brindisi, crossed the Pontine marshes making usable despite the presence of extensive marshes; also, the presence of centuratio indicative of an ancient care and rural land management, tending to decrease the presence of these wetlands and, finally, the design of
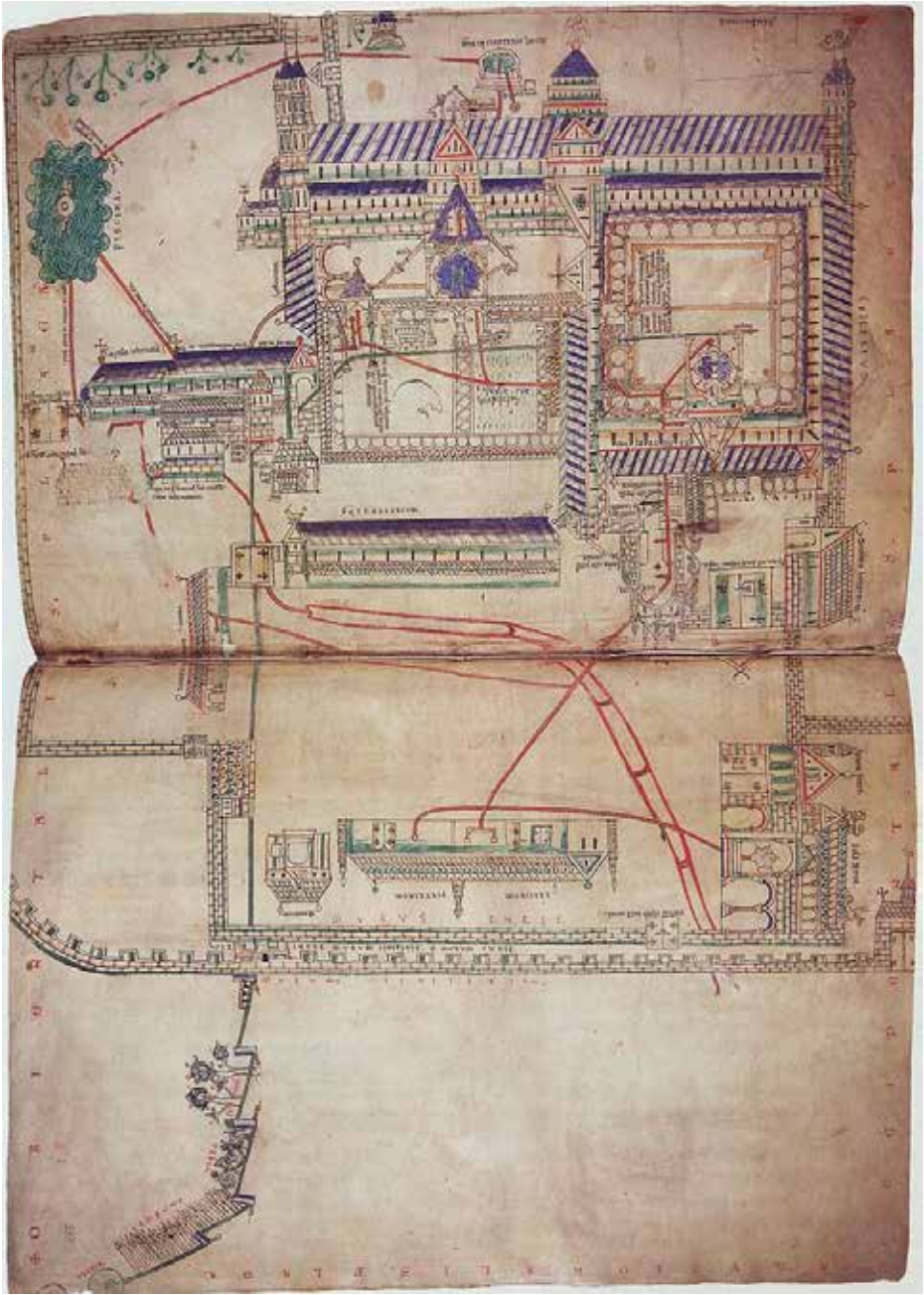
Representation of the Convent of Christ Church of Canterbury

the fortified with high towers and walls continuous enclosing an open space and furrowed a water course which leads into a large water reservoir. All together it is a representation that, to a very concise, illustrates the environmental conditions of small rural communities functional territorial control effected by the Church on the basis of the ancient Roman practice of allotment orthogonal rural suburban: "Manly division of Italian territory was practiced after the military victories of Rome in the second century BC, the oppression by its armed local tribes and the dislocation of military camps which, over the centuries, turned into towns and cities. Usually the land division had its start immediately adjacent of a camp; Imperial policy was to maintain political control over the territory by connecting roads and waterways to administrative centers". The Corpus agrimensorum Romanorum suggests, in fact, also some representations of new administrative settlements, defended by fortified walls enclosing buildings representative of the political and religious power, implanted in the rural context of rationalized scamnatio Roman times underlined, in turn, marked by the presence of road layouts orthogonal to thistle and decumanus. The system of paddocks managed by the Church develops not only in the Italian territory but also throughout the European continent through the construction of abbeys and monasteries that, more often than not, will take the form of citadels whose function is to protect the surrounding area and ensuring, within them, a safe shelter to anyone in need from the outside. Defense systems and the control actually received or completely idealized as documented by the Codex Sangallensis: a drawing on parchment depicting the experimental project of a Benedictine community developed, in the third decade of the ninth century, with a technique of representation "to stretch", essential and schematic, particularly significant not only because it shows how in practice the basic knowledge of architectural design were not completely disappeared after the fall of the Roman Empire, but also for the conventional representations of many rooms of furniture, for many explanatory texts, for clear and precise handwriting, for the mastery with which discusses the various figurative elements in their shape and form. Or representative of a complex system capable of decrypting distribution functions, characteristics of use, accessibility, capacity and mode of separation and connection

between spaces served and service spaces, including interiors furnished by furniture and outdoor spaces characterized by the presence of tall trees stem. The hybrid design for the presence of plant and raised the monastery of St. Gallen in Switzerland proposes so, within the medieval culture Carolingian document as emblematic of a design or utility Benedictine of that mystical and laborious microcosm convent founded on 'carry out daily functions of two different one in the religious type and the other of a productive explicit from the essential programmatic motto "ora et labora". The plant in St. Gallen, drawn commissioned of the Abbot Gosberto between 819 and 826, is a rare graphic document, inscribed on parchment and drawn with ink light red and dark brown, representing forty architectural structures of different sizes three precincts vegetation in the open. The complex structure typological system convent is a design ideal that is proposed as a possible architectural model, built by the monastic authorities Carolingian, to implant and build anywhere in the continent in order to preserve and pass not only the worship of the Catholic religion but also and especially the knowledge of Western classical culture in so-called "barbarian territories" in central Europe. This spiritual and cultural program led graphic diagram of the architectural representation of the parchment of St. Gallen: a two-dimensional reflection of an ideal medieval monastic community closely related to the Rule of St. Benedict and processed in the period in which monasticism was one of the dominant forms of power political, economic and cultural center of Europe. Specifically, the design expresses, for the means of plants and partial reports, the idea of a conceptual program that takes the form of a complex community of neighboring buildings revolving around the large presence of typological cathedral with three naves, conceived as a monument primary, and it characterized by a plant in the shape of a Latin cross. The Codex Sangallensis is, in effect, a design in which the utility medieval explanation of the typological characteristics depicted therein is but the transcript, for the means of architecture imagined, of a conceptual program materialized in the hierarchical structure of the complex convent. A graphic and mental structure that legitimizes its worth programmatic proposals in the absolute idealism of its representation. The fact that the plant of the Monastery of St. Gallen is not de-

signed for a specific time or for a real place but only to define an ideal program of civilization and redemption of barbaric Europe makes this iconographic document exempla an extraordinary design of utility. A utility not only ideal and, at the same time, not only functional: the parchment of St. Gallen represents, in fact, a possible answer to that ideality graphical utility that should always oppose, or at least to balance the reality of functionality. Further testimony of good figurative inscribed under the design utilitas is provided from the fascinating representation of the Convent of Christ Church of Canterbury medieval manuscripts preserved at the section of Trinity College, Cambridge. The design represented on the last two pages of Tripartitium Psalterium Eadwini a manuscript of biblical psalms made in the mid-twelfth century by a scribe by the name Eadwino, illustrates how the general water, loading and unloading, the old convent. With this in mind if, on the one hand, it should be pointed out the interesting descriptive results achieved by drawing through an exasperated use of orthogonal triad of Gothic tradition, overlap between plans, sections and profiles designed, the latter, reversing the plane of representation not just one but two statements of different architectures depicted, on the other hand, it should be highlighted the sophisticated graphical analysis which oversees the operation and distribution of rainwater, white and black in the murus curiae of Ecclesia Cathedralis et PRIORATUS Benedictorum CANTUARIAE. Generally, about the same features of architectural representation, the design of the Convent of Canterbury proposed a busy sequence of statements between their folded ninety, one hundred and eighty or two hundred and sixty degrees, along with the presence of plants such as, for example, those relating to the fountains included in the statements of the halls inside the courts and sections such as that relating to the irrigation canal of the orchard, the vineyard and the area of cultivation outside the murus civitatis provide, as a whole, a deceptive but effective three-dimensional perspective effect. Beyond the specific interest in the particular raids in perspective drawings related to the culture of figuration perpendicular Gothic, the substantial interest for the design of the Convent of Canterbury is attributable to the intricate network infrastructure that surrounds water, connecting the various architectural objects and diversified open spaces enclosed inside the

citadel convent. The decipherment of the water supply is not approachable without deepening the orientation of the citadel convent over the ancient village of Canterbury and, especially, in relation to the River Stour that laps, on the northwest, the area on which it was built. In the drawing of the Convent of Canterbury it is clearly evident, within the same, the intricate tangle of solid lines, red and green, symbolizing the pipelines of the water supply. In addition to these colors, on two sheets of parchment manuscript, it is widely identified only two colors: the one on the lines to stretch, made with brown ink, define the architecture and the children of the convent pergolas, fountains, wells, gates entrance and one in blue featuring chromatically most covers the prismatic towers, steeples hemispherical, double-pitched roofs of the service buildings and the cathedral and of bodies of water or one of the large swimming pool located in the south east of the fence and the convent of the fountains found in domestic courts. From the functional point of view and symbolic the red color represents the path of the pipeline load of clean water; lines in green, conversely, indicate the way the pipes of waste water collection and so-called black or fall through gutters and downspouts, rainwater. In the drawing, infact, it is easily distinguishable double lines of water pipes, connected by cross-connections and colored red, which, after having penetrated the citadel convent below the double wall murus civitatis murus curiae and the external territory north Western, empties into the large pool after the distribution, through several branches, the water inside the buildings and courts. Conversely, parallel to the east side, a green line, symbolizing the main pipe exhaust, after passing under the double wall and passing a path to the waterfall irrigating an orchard, a vineyard and a field of growing outside the monastic citadel juts towards the north-eastern area of the territory of Canterbury. In addition to the technical aspects of setting up the network of pipelines for the supply, use and disposal of water needed in the life of the monastic citadel designer of this medieval graphic documentation has not forgotten the study of the disposal of rainwater and irrigation on their roofs and along the walls of the main buildings and the secondary: the design, in fact, through the almost systematic pattern of blue color on the roof surfaces inclined prismatic towers and halls, and through the dense cross hatching underscoring the arrangement

of rows of tiles of cooked this on pitched roofs with the same color lines proposed a view of the flow of rainwater from the top down. The meteoric water, represented by the color blue, is collected by gutters represented by long horizontal lines drawn under the roofs made and, subsequently, flow into downspouts of fall symbolized by the vertical green lines that surround most of the front of the buildings present at 'interior of the enclosure convent. Other horizontal lines are drawn in green at the base of the buildings and connected with sewerage primary connects, finally, to conduct large disposal channeled into the bed of the River Stour over the defensive walls girdling the citadel convent. The design of the Convent of the Church of Christ of Canterbury is an emblematic utilitas early medieval document in its explicit functions and civil defense designed, on the one hand, through the tangled weave of its water network and, on the other hand, through the simplified linearity of its defensive frame characterized by low walls partially crenellated. The symbolism of the functional design of Canterbury, based on the detailed description of water systems and defensive, anticipates the predominant themes of an operational practice that will win, in the Renaissance and post-Renaissance style, with a peculiar quality graphic and theoretically able to structure a specific and autonomous iconography utilitas strongly related to the teachings of Vitruvius in the book X of De architectura libri decem.
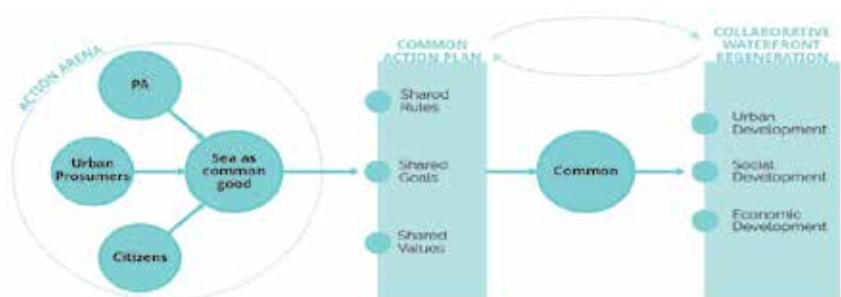
Framework for the collaborative regeneration process of seaside cities

URBAN COASTAL AREAS: INNOVATIVE STRATEGIES FOR COLLABORATIVE REGENERATION

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Urban Coast Regeneration: the Sea from Common Good to Commons

The requalification of urban waterfront is one of the emerging themes of the XXth century urban policy of the seaside cities (New York, Marseille, Barcelona, Valencia, Boston, etc.) which have to face their conversion or requalification, considering the sea and the bordering areas.

In these contexts, some urban-harbor regeneration processes and some projects to transform their waterfronts were realized and implemented through approaches, political choices, projects, actors and different resources [1] [2] [3] [4] [5] [6] [7] [8].

These actions represent one of the greatest opportunities for urban development of these days [9] [10] [11] [12] and they have often provided the occasion to realize wider processes of regeneration in which integrated urban transformations [13] were realized and shared with the urban community, restarting from its "maritime culture".

"Maritime culture" means realizing an overall redefinition of own urban structure starting from historic relation with the sea. This happens through the harmonious cohesion between maritime culture and urban culture [14], that recreates what Konvitz defined "Urban Maritime Culture" [15], which in the past enabled the cities to realize those progresses that led to their urban, economic and social development.

Nowadays we perceive the sea and the maritime culture as leading resources for urban regeneration and local development. We can consider the sea as an "urban [16] [17] common good" [18] [19] [20] for the sake of city and urban community, strictly related to their identity and culture.

In fact, the sea bears those features that Carlo Donolo considers typical of commons, that is: ecological characteristics, inherent qualities appreciated by human kind, qualities of social artefacts manufactured by the human mind, and aspects that are considered valuable from both individuals and humanity at large [16].

The sea as common good entails ensuring its fruition to everybody and the necessity of involving the members of urban community in its care and safeguard, both in decisions and in actions.

Thus, considering the sea as common good can enable the creation of those conditions of "common ground" which Elinor Ostrom [19] saw as fundamental to fulfill the trust, the integrity and the reciprocity between the community members, which recognize some "shared rules" for using the good. A social commons is «the place in which it's generated a collaborative spirit which enables a society to act as a cultural cohesive entity» [20].

This approach may be the key for a cultural revolution in a time when political systems are unable to generate opportunities of development; that is to say the turn from a "vertical" vision (which has already proved to be ineffective), to a "lateral" or "horizontal" vision, which involves a "city consumer" who is at the same time a "city producer" of qualities widespread on territory, who is able with his actions to weigh on public choices. A collaborative city, where "prosumers" system [21] [22] [20] [23] become "urban prosumers" [24], city consumers, connected in a network (virtual or real) become producers of their main necessities and the sustainability of the city, sharing the results and thus increasing their productivity.

An approach of this kind can be recognized in New York City development process; indeed, the city has undertaken an overall redefinition of its urban structure starting from its historic relation with the sea, through the projection of sea toward city [13].

In NYC case study it is extremely interesting the realization in 2011 of a joint action plan (Waterfront Vision and Enhancement Strategy) for the sustainable requalification of the waterfront through the involvement and the participation of urban community, prosumers and associations in defining long term objectives [25].

The plan is divided into two parts: the "Vision 2020. New York City Waterfront Comprehensive Plan", which denotes the long-term goals for the next 10 years, and the "New York Agenda Waterfront City Action", consisting in 130 priority projects to be completed in three years. "Waterfront Vision and Enhancement Strategy" was the result of an intense involvement of citizens and urban community, realized by the Administration both through traditional participatory processes (public meetings, public revisions, etc) and through innovative use of

the ICT.

New York case study shows how it is possible to extend the benefits of the administration on the physical environment of the city. Indeed, institutions have had a significant role in enhancing an urban culture interested in waterfront requalification and public space design, engaging the urban community from the moment of objectives definition, to the phase of monitoring as well as in the continuous proposal of ideas.

The sea has been identified from community and prosumers as common good, a resource, a place where different needs can be satisfied following some established rules. Sea, community and prosumers have become an "action arena". Different parts (horizontal and vertical) have joined together, teamed up, cooperated for common good, have brought to light both factors of conflict and shared asleep values: they have become a community.

Innovative Strategies for Collaborative Regeneration of Seaside Cities

Starting from the analysis of New York waterfront regeneration projects and the framework built by Ostrom to examine the main elements of a collective system, we can think of using the sea not as an instrument of examination, but as a guide to build a collaborative structure for the regeneration of seaside cities [26].

We can consider that the "action arena" is made up of the horizontal forces of prosumers and the vertical forces (from the bottom) of the citizens, and those (from the high) of the institutions, that recognize the value of their maritime culture and tend to identify the sea as common good – a primary resource for urban regeneration, for promoting the processes of economic and local development.

The process for defining a shared vision may be actualized in a shared Action Plan, in which we will define rules, targets and shared values, that is to say the set of rules for the shared use (and the respect) of the sea as collective resource and the waterfront regeneration.

The outcome of this process will become from individuals to community and the sea from common good to common, to promote the regeneration process of the

waterfront in its double value of sea and land and its environmental, social and economics elements.

This could be realized organizing meetings with citizens and civil society, in which communicate and share ideas on the establishment and the definition of rules and procedures, in order to ensure the alliance between the local administration, the community and its civic, economic, cultural and social resources.

To make all this workable, it is necessary to make innovations in organizational structures [27] in order to get ready to rule in a different way together with the network of several stakeholders, through innovative methods and instruments such, to involve and standardize the civic energies of urban community aiming at realizing the regeneration of the metropolitan city restarting from its maritime culture.

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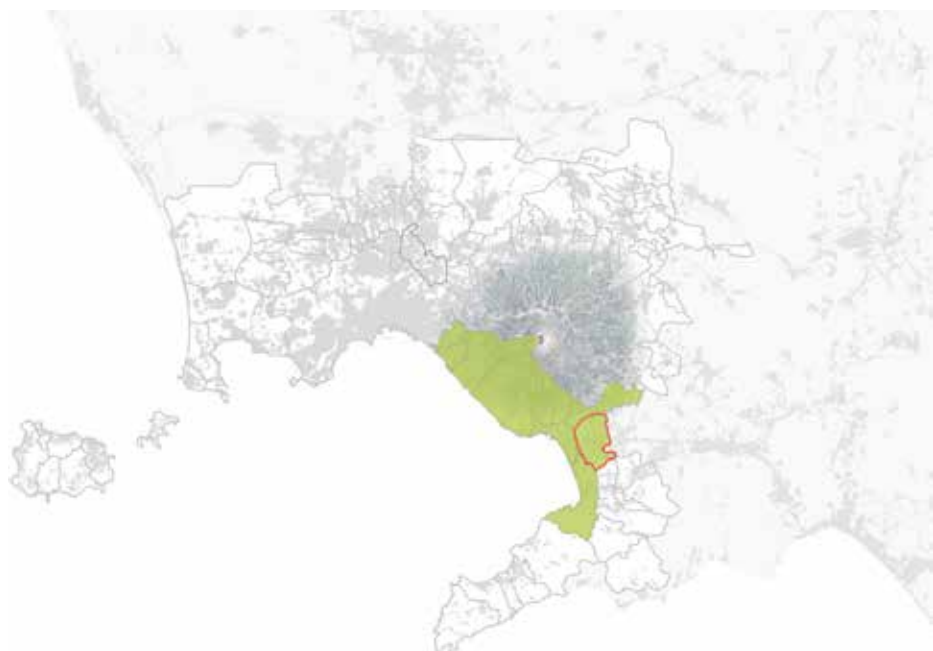
The "F3 Development's Territorial System" in the Metropolitan City of Naples. In red the boundary the city of Pompeii (graphics by Giovanni Bello, Enrico De Cenzo, Giuseppe Guida).

LANDSCAPE URBANISM SCENARIOS FOR A TERRITORIAL SYSTEM

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Introduction

This paper is a part of the research project named "Urban Ecotourism for Sustainable Exploitation of Cultural Heritage" co-financed by Campania Region, European Union and Benecon (Regional Competence Centre for Cultural Ecology Economy).

The research examined the area of so called Development's Territorial System "F3 – Miglio D'Oro-Torrese-Stabiese" of the Regional Territorial Plan, that incorporates the municipalities of Pompei, Boscoreale, Boscotrecase, Castellamare di Stabia, Ercolano, Portici, San Giorgio a Cremano, Torre Annunziata, Torre del Greco, Trecase. This area includes some of most relevant italian archeological site, such as the Unesco sites of Pompei and Ercolano.

To define spatial planning strategies for this fragment of Metropolitan City of Naples, has been extracted strategic points and provisions relevant to the following territorial and urban plans: Regional and Territorial Plan (PTR – approved), Territorial Plan for provincial coordination (PTCP – adopted), all of Town Plans (PRG, PUC), Basin of Central Campania Plan (PSAI). These data were supplemented by ISTAT data regarding population, built heritage, employment, industry, agriculture, tourism.

All data are georeferenced and comparable on GIS. Particular attention was dedicated to the identification of the infrastructural network and accessibility, understood as essential to proposed development and implementation of the region's potential.

The area of the project has been identified as Development's Territorial System "F3 – Miglio d'Oro – Torrese-Stabiese" by the Regional Territorial Plan (a territorial plan drawn up by the Campania Region) that, apart Pompei, incorporates the municipalities of Boscoreale, Boscotrecase, Castellamare di Stabia, Ercolano, Portici, San Giorgio a Cremano, Torre Annunziata, Torre del Greco, Trecase [1].

This area is characterized by high urbanization and population density, with relevant sprawl and illegal housing phenomena and it is innervated by infrastructure and marked by situations of degradation that alternate with beautiful landscape contexts.
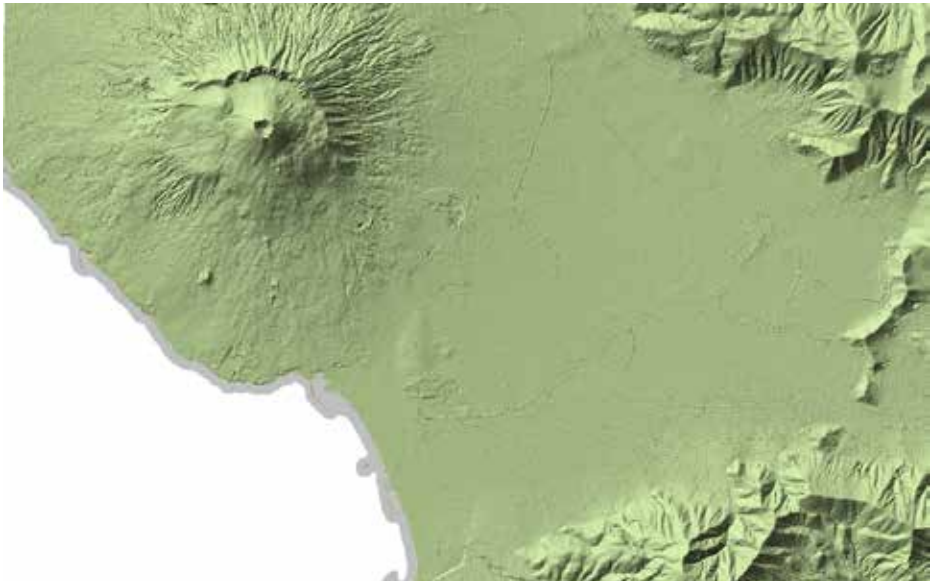
The TIN (Triangulated Irregular Network) (output: Giovanni Bello, Enrico De Cenzo, Giuseppe Guida).

In this essay I'll expose the complex phase of territorial and urbanistic analysis, and some projects of landscape urbanism [2] related to:

environmental recovery and regeneration of degraded landscapes and dross-capes, primarily through the reuse of brownfield sites;

redevelopment and urban regeneration while respecting the principle of the lesser use of the land and the priority of recovery.

The preliminary part of the research has extracted Plans' strategic points and provisions relevant to the following territorial and urban plans: Regional and Territorial Plan (Ptr - approved -), Territorial Plan for provincial coordination (Ptcp - adopted -), all of Town Plans (Prg, Puc), Basin of Central Campania Plan (Psai). These data were supplemented by Istat data regarding population, built heritage, employment, industry, agriculture, tourism.

All data are georeferenced and comparable on GIS, in particular using Google Map technologies and software to share informations and scientific results and representing them on an interactive map.

Geographic Information Systems (GIS) has powerful information processing capabilities, spatial analysis capabilities and visual display capabilities.

Particular attention was dedicated to the identification of the infrastructural network and accessibility, understood as essential to proposed development and implementation of the region's potential.

Was also created a three-dimensional TIN model of the area (Triangulated Irregular Network) (fig. 2).

A TIN is a digital data structure used in a geographic information system (GIS) for the representation of a surface.

A TIN is a vector-based representation of the physical land surface or sea bottom, made up of irregularly distributed nodes and lines with three-dimensional coordinates (x, y, and z) that are arranged in a network of nonoverlapping triangles.

The territorial analysis conducted, besides defining a heritage of knowledge that makes consistent and overlapping data from different sources, have led to the definition of a preliminary strategic diagram, called "The gates of Pompeii" that traces a path along which will move the subsequent phases of the project development.

One of the urban project area, located south ancient Pompei

Urban and territorial planning

As part of a study on the implementation of eco-tourism for the area of Pompeii, urban planning can play the role of background and reference to the necessary territorial changes, but also (and especially) for the protection of beautiful landscapes of this territory, but also as imaginary futuristic tank and programming tools [3].

The larger scale plan that provides standards and rules for the territory of the whole Campania region is the Piano Territoriale Regionale (Ptr), a plan that contains, above all, scenarios, frames and a strategic approach.

To reduce conditions of uncertainty, about territorial knowledge and interpretation of the actions of different institutional operators or of other operators, Regional and Territorial Plan (Ptr) defines territorial and urban planning conditions by Development's Territorial Systems.

These are 49 sectors of regional territory each one with a specific identity in term of economics, cultural, heritage and possible development strategies.

The Development's Territorial System which refers to Pompeii, as well as to other archaeological areas of the site (Ercolano, Oplontis, Stabia), is so called "F3 - Miglio d'oro - Torrese stabiese" this Sts belongs to the type F: "Coastal systems of environmental, cultural and landscaping dominant".

At a provincial scale the referring plan is Piano Territoriale di Coordinamento (Ptc) that only adopted (but not yet approved) by the Città Metropolitana di Napoli.

At the municipal level urban planning needs to be adapted and updated.

Nearly all urban plans of the ten municipalities content in the F3 DTS are dated and contain strategies no longer in line with the most recent economic, cultural and social mutations.

Especially evident is the lack of coordination between the different zoning rules of the plans of each municipality.

The final strategies proposed by this research also suggest and give urban and territorial indications to the municipalities in the definition of new strategies and scenarios for their territory.

Preliminary landscape plan

Mobility network

The infrastructural network of mobility (car, railway, by the sea), is strictly connected with all the development strategies, particularly those related to sustainable and eco-tourism. The Development's Territorial System F3 is connected to the rest of the Campanian region and Italy through a lot of important transport routes.

In detail, regarding the infrastructure, STS F3 is crossed by SS 18 Tirrenia inferiore route, on which connects SS 268 route after passing Boscotrecase, and by A3 Napoli-Pompei-Salerno highway. Interchanges serving the territory are S. Giorgio, Portici, Ercolano, Torre del Greco, Torre del Greco Nord, Torre Annunziata Sud, Torre Annunziata Nord and Pompei.

The railway lines that cross the territorial system are:

- Naples-Salerno railway;
- Cancello-Torre Annunziata railway line;
- Napoli-Torre Annunziata-Sorrento of the Circumvesuviana;
- Torre Annunziata-Poggiomarino Circumvesuviana;

The nearest airport is Naples-Capodichino that can be reached by car, via A3 highway or via A1-A3 highway, along about 17 km from Torre del Greco to Capodichino.

About infrastructural planning there are several priority actions, but the most important are: strengthening and upgranding of A3 Napoli-Pompei-Salerno highway (now almost completed, and from which there are about 800.000 transit input at the exit of "Pompei"), and doubling of the Circumvesuviana railway from Pompeii to Castellammare di Stabia.

Landscape as project

The territorial and urban redevelopment projects, partly produced in the Laboratory of Urban Planning of the Department of Architecture of the Second University of Naples, are intended to regenerate some rural and urban areas on surrounding the large archaeological site of the ancient city of Pompeii. These are three major areas whose requalification may cause new connections to the archaeological site with the surrounding area. This is a territory rich in natural
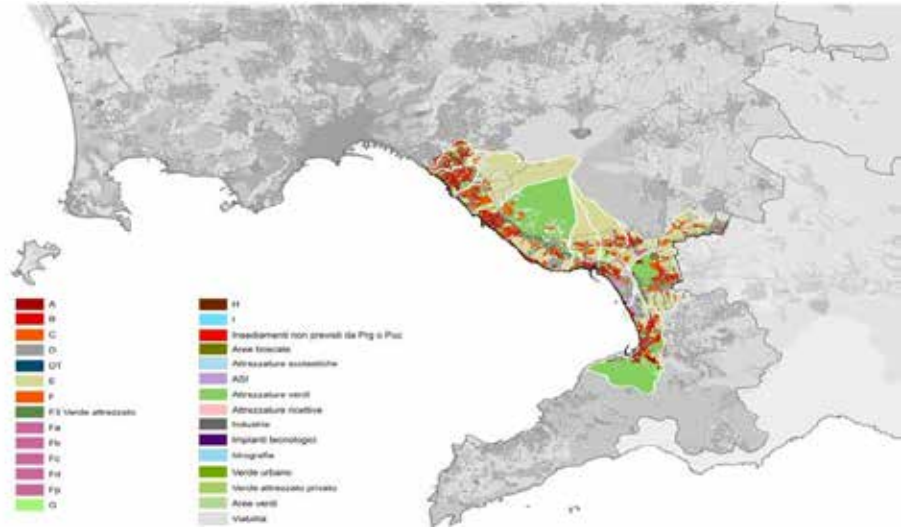
Municipal plans

elements, agronomic and cultural great potential, but forgotten by tourism.
All the landscape projects are characterized by the strengthening of the agricultural plot, of its use and integration of fragments of drosscape and browfields. Particular importance was given to mobility and light systems, giving priority to pedestrian trails, particularly efficient given the flat topography of the area. The new network of light mobility was also an opportunity for the elimination of infrastructural barrier, particularly those relating to rail. The project will eventually use the ancient territorial traces, as old canals, the plot land, the ancient road layout, farms, archaeological traces.

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N°

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Michele Capobianco, Building in Parco Comola-Ricci [Michele Capobianco Archive]

NEAPOLITAN RESIDENTIAL HOUSING HERITAGE

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The Neapolitan post-war condominium as a core issue of urban recovery

A study of Neapolitan architecture of the post Second World War is indispensible in order to take action for its restoration and redesign. However, despite numerous studies carried out in many Italian and international contexts on contemporary architecture of the 1950s and 1960s, only recently has material been published that has closely examined the Neapolitan architecture of this period [1].

In particular, as regards private housing, the attitude of the critics could be described as embarrassed, preferring, as it were, to turn a blind eye to the work carried out in those years [2], which is in fact associated with the "Hands over the City ", denounced in the famous film of Francesco Rosi.

This shortcoming is all the more serious because, as stated above, it is a prerequisite for any intervention on much of the architecture of Naples [3]. Failure to consider the architecture of those years as a heritage to be protected has in effect facilitated its obsolescence. In addition to this, the techniques and materials used most commonly, especially reinforced concrete, have proven over the years to be desperately in need of maintenance and recovery.

To this regard, we are carrying out, with the support of the students of the courses on the History of Architecture [4], a series of studies on Neapolitan condominiums which, perhaps more than any other housing models, urgently require restoration work.

The objective is to make a contribution, as historians, to their critical re-evaluation, with the aim of protecting them. Leaving a more analytical assessment of the various cases to more extensive articles [5], here we will introduce some prominent features of the Neapolitan condominiums within a more general Italian context.

Living in a condominium

The custom of living in a building with shared ownership started in Italy in the 1930s, when during Fascism access to home ownership was facilitated, instead

Michele Capobianco, Building in Corso Europa [Michele Capobianco Archive]

of renting. Full recognition of the condominium as a widespread system became effective only in 1939, when the new urban land registry introduced taxation for a property unit in place of taxation for a building or portion of it, thereby facilitating the transmission of single units [6].

Until then, the most common private collective dwellings were the so-called "houses for rent", where the property remained in the hands of a single subject who subdivided and rented it according to the laws of the market or controlled-price systems. Living in a condominium became a new way of living after World War II, taking advantage of a series of laws issued by the Christian Democrats [7].

The building with "apartments one on top of the other" of different sizes was, therefore, the task given to the architects in the boom years as well as that of the maximum exploitation of land for speculative purposes. It has been shown that the model of urban growth in Italy in the 1950s was one of " concentration spontaneity", devoid in most cases of any level of planning [8], and the buildings in Milan as well as those in Naples or Rome were planning solutions to similar demands. In 1949, while describing his building complex in piazzale Medaglie d'Oro in Rome, Ugo Luccichenti stated: This is an architecture that when you see it for the first time, it may seem easy, amusing or simply strange.

Instead, when you assess the reasons, when you research the components, you find that in that freshness there is a mature solution to the problems that still greatly afflict our cities, which are the reasons why our cities seem doomed to ugliness. And, as always in art, the solution to the problems is all the more valid and specific the less it denounces the presence of the same and the effort that it would take to solve it [9].

This testimony reflects the difficult conditions in which many architects had to operate during the modernization of the country: a system of binding rules and constraints, imposed by the maximum exploitation of land and, therefore, by the largest possible number of cubic metres and rooms to be created.

The great technological innovations of the twentieth century were applied, especially in the South, in a superficial and, for the most part, in a copycat fashion, also for reasons of economics and regulations. Therefore, the majority of the

Michele Capobianco, Building in Corso Europa [Michele Capobianco Archive]

architecture created in those years was none other than the product of speculative activity.

The standardization deriving from predetermined quantities and volumes, coupled with the use of semi-manufactured material made up of industrialized building elements mounted in rudimentary building sites by unskilled labour, were factors that determined that aspect of repetition and homogeneity of the majority of the architecture in those years [10].

If the rules of the market and the simple prefabrication influenced the building production so strongly as to erode more and more the areas of autonomy of the architectural discipline and, therefore, of the design, it is also true, however, that the best architecture of the period was that which took these constraints and transformed them into design opportunities, that is to say, the pressure of heteronomous factors on architecture made it possible to produce an innovative architectural solution with a highly aesthetic appeal.

Within this framework, closely linked to political and economic factors and shared somewhat by the whole of Italy in those years, the Neapolitan situation is far from isolated and is in no way unique. Nevertheless, there are peculiarities of the local architecture; these, however, should be considered, according to this interpretation, as part of a broader perspective.

Typologically the building is made up of an isolated volume on all four sides, of varying heights, and with a tiny central courtyard. It was widely used in Rome due also to the urban morphology of the capital, made up of whole areas with a checkerboard system of divisions in lots.

In Milan, because of the building system in blocks, the small isolated building was not as common as residential complexes, with internal courtyards, joined together to create a continuous row with the same height, which the critics called condominiums, making explicit reference to the property system [11]. In Naples the apartment buildings isolated on all four sides and with a tiny central courtyard began to appear around the beginning of the twentieth century, particularly in the areas of expansion of the old city. Generally speaking, though, until the 1930s the most common residential buildings were multi-storey blocks with a central courtyard.

Michele Capobianco, Palazzo Decina [Michele Capobianco Archive]

The isolated apartment block spread in many urban areas only after the war and was applied according to the rules and the complex topography of the city. According to Pasquale Belfiore, however, Naples, unlike Milan, Rome and Turin, lacked a "typically" Neapolitan private dwelling, the expression of an entrepreneurial middle class, like the examples created in the Liberty period, when the industrial ruling class was emerging [12].

And yet, as sociology has repeatedly shown [13], in the 1950s in Naples, as in the rest of Italy, there was a middle class on the rise that came forward, if not as a entrepreneurs, certainly as a social group that was at the basis of a strong demand for new homes.

For this new middle class the housing model was not only that of Ina Casa, the buildings of speculation, nor was the isolated villa the only choice for the medium-to-high classes, rather it was a particular type of "building" which in many cases was designed according to, once again, a modern code: the condominium.

Michele Capobianco, Palazzo Decina [Michele Capobianco Archive]

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[4] A reasoned analysis of Neapolitan condominiums, currently being printed and the outcome of many years of work started with the students of course of History of Architecture and Design, APIA, which I hold, at the Department of Architecture and Design "Luigi Vanvitelli" (SUN).

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SEGNO DISTINTIVO PER LA PROTEZIONE DEGLI EDIFICI CONSACRATI AI CULTI, ALLA SCIENZA E ALLA BENEFICENZA NONCHÉ DEI MONUMENTI STORICI E OSPEDALI CIVILI CONTRO I BOMBARDAMENTI AEREI.
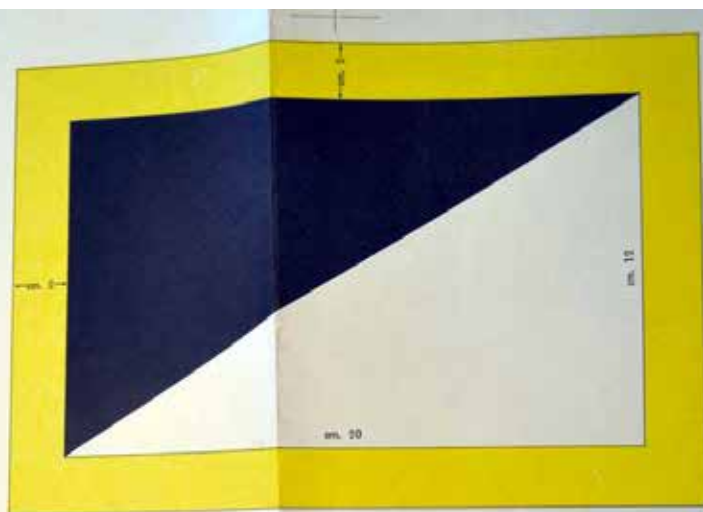
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Hallmark for monuments by law of 17/06/1940

THE NEAPOLITAN ARCHITECTURE DURING THE SECOND WORLD WAR IN THE PHOTOGRAPHS FROM THE ARCHIVE OF THE FIREFIGHTER DEPARTMENT.

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The Archive of the Historical Provincial Headquarters of the Firefighter of Naples safeguards an ample documentation relative to the assistance interventions provided to the population affected by bombing during the Second World War. In addition to a wide collection of contemporary photographs, manuscripts (Reports) are stored in the archive of the officials and non-commissioned officers with documents related to the required work. The images and the data collected during the research are a dramatic chronicle and a documentary proof of high interest in the history of the city of Naples and its main architectures. Among the most debated themes during the conflict there was, in fact, the preservation of the artistic heritage for which were adopted special measures. A circular of the Direzione Generale di Antichità e Belle Arti in 1938 addressed to the heads of the institutions of antiquities and art of the Kingdom established «l'Elenco degli edifici monumentali da sottoporre a protezione in caso di guerra», urging the sending of a list «distinto per provincia, dei monumenti, degli edifici monumentali e delle opere d'arte irremovibili da sottoporre, per il loro eccezionale interesse, a protezione e sorveglianza in caso di guerra» [1]. The modern concept of defense of the historical monuments and the works of art had already found expression in various agreements concluded at The Hague in 1899 and in 1907, but only during the Washington Conference, with resolution of 4 February 1922, was established, as a result of the severe damage suffered by the artistic heritage of some major European cities during the First World War (Including Venice and Ravenna), an international commission of jurists in order to establish rules on the conduct of the air war. The Commission, which met in The Hague in 1922 and in 1923, adopted a common code of conduct, which is the first attempt to set specific rules for the protection of the artistic heritage in the event of war [2]. The report, known under the name of "Regole dell'Aja ("the Hague Rules"), imposed requirements to be adopted, in case of war, for the protection of monuments of great value, an action brought by the Italian delegation, the first one which pointed out the need to get a complete guarantee of safety of artistic goods [3]. The Italian project formulated two new points: first, the creation of an area around each monument in which the State undertook to refrain from the use for military purposes; second, the establish-

Naples, Hallmark over Castelnuovo (Historical Archive of the Firefighter of Naples, inv. B1652)

ment of an inspection system, under the auspices of the neutral states, to monitor the implementation of the commitments made. To this end the art. 27 of the Hague Convention established that in sieges and bombardments had to be taken all the necessary measures to save the buildings dedicated to religion, arts, science and charity, the historic monuments, the hospitals, and that the duty of the besieged was to mark these buildings with visible special signs. Pursuant to this rule, the July 8, 1938 was approved the Italian law of war by the Royal Decree n. 1415. The article 44 sanctioned that, during the bombing, the buildings and the monuments to be protected must be equipped with brands easily visible at a great distance and high share, which would be determined by a decree of the Duce and valid throughout the national territory. In this regard, a decree of the Duce of June 17, 1940 ordered that the buildings to be protected should obtain special hallmark: a rectangle content in a yellow background, diagonally divided into two parts, one black and the other white, to put in the most visible part of the structure. But the first organisms to safeguard the artistic and monumental heritage was born in the United States of America: «Under the chairmanship of Associate Justice Owen J. Roberts, by President Franklin D. Roosevelt, June 23, 1943, and announced by Secretary of State Cordell Hull, August 20, l943», with the aim to identify and locate the major monuments and stores of artwork in the countries involved in the conflict, to prevent the continuation of further destruction [4]. The Commission which managed the protection of monuments, called American Defense-Harvard Group, drew up lists of buildings, the Harvard List, and a manual Notes on Safeguarding and Conserving Cultural Material in the Field that is a guide to First Aid for monuments, libraries, museums and scientific collections endangered by war operations [5]. For this reason, during the war, a military group named The Monuments, Fine Arts, and Archives (MFAA) and formed by curators, scholars, architects, librarians, archivists soon known under the name of Monuments Men was commissioned to identify and protect the European cultural sites, monuments and buildings of artistic interest [6]. The Commission for the protection of cultural treasures in the war zones of the American Council of Learned Societies predisposed about eight hundred large-scale maps, the so-called Frick Maps, of the main cities

Naples, Piazza del Plebiscito, Protection of the statue (Historical Archive of the Firefighter of Naples, inv. B1735)

involved in the war (144 the Italian ones), in which were localized the major ar-
tistic monuments surveyed according to a level of importance defined by the
conferment of stars, with the aim to minimize the damage to the monuments
caused from bombing [7]. On August 20, 1943, the US President Roosevelt in-
stituted a governmental organization, the "Commissione americana per la pro-
tezione e la tutela dei monumenti artistici e storici nelle zone di Guerra" ("Amer-
ican Commission for the protection and the safeguard of the artistic and
historical monuments in war zones"), with the aim to promoting a plan for the
protection and the conservation of works art, monuments and historical and
artistic heritage in Europe [8]. In Italy, on Oct. 25, 1943, it was officially estab-
lished the "Sottocommissione Monumenti, Belle Arti ed Archivi" ("Subcommittee
Monuments, Fine Arts and Archives") which had the task of protecting the Ital-
ian monumental buildings and perform strictly necessary interventions to pre-
vent further damages. The plans for the protection of the Italian monuments
from the damages caused by the air war can rightly be considered one of the
largest works of prevention on a large scale. The protection of works of art hap-
pened in stages: first it was decided to preserve the most significant monumen-
tal buildings, taking precautionary measures such as the protection in situ with
scaffold and packaging, then it was programmed the transfer of the mobile
works in safe shelters [9]. Different systems were adopted for the realization of
protective structures, depending on the monuments. The first one consists of
the construction of a scaffold (usually made of wood, but preferably made of
steel, because the assembly resulted faster and it was not inflammable) rein-
forced with sacks filled with river sand, volcanic sand or seaweed. The second
method considered the erection of supporting walls parallel to the monument.
Finally a third system known as «chests»,, was to form chests with appropriate
measures overlapped and filled with sand or soil. In the Historical Archive of the
Firefighters of Naples are kept documents and photographs that attest the con-
struction of the protective structures in the main monuments of Naples. The air
defense performed in Campania has undoubtedly been one of the major works
performed throughout the country and is mainly work of Bruno Molajoli, called
to direct the Superintendent of Monuments and Galleries of Campania from
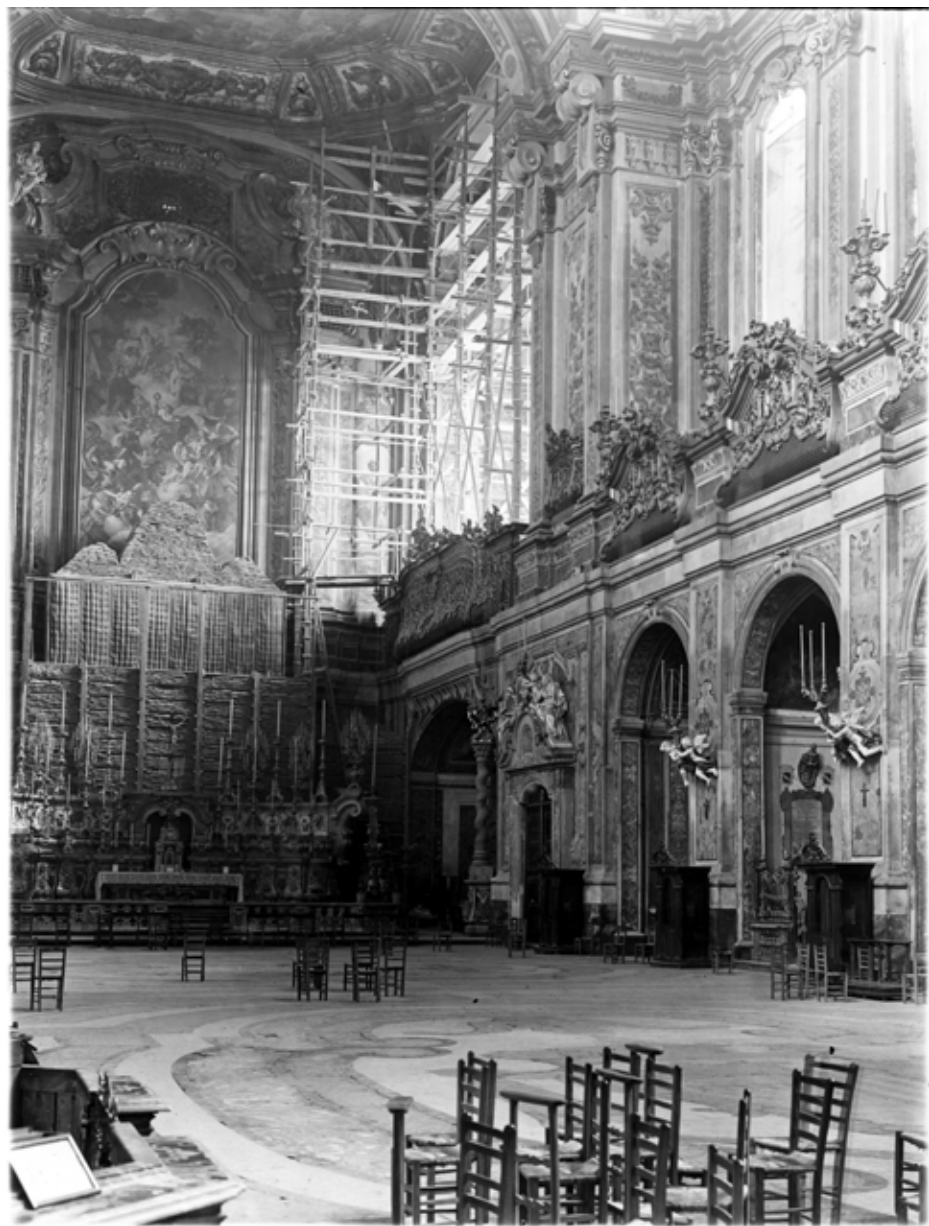
Naples, Chiesa di Santa Chiara before the bombing (Historical Archive of the Firefighter of Naples, inv. B1808)

1939 to 1960. In the crucial phase of the Second World War, Molajoli coordinated an extraordinary plan to protect approximately 60,000 works of Neapolitan art that, destined to secure destruction, were rescued in the convents of Cava de 'Tirreni, Liveri of Nola, Montevergine and Montecassino. For the monumental architecture the air defense work came to fruition with systems of protection in situ of the works of art that could not be removed, because of the size and in many cases for the audacity of the structures. In these cases the protection of the works of art consisted in a casing of considerable thickness from 1 m. to 2.50 m., made of sand bags placed within racks timber, the apex of which coverage was realized with bags of seaweed, while the base was made of a continuous coating with wood boards to ensure a greater resistance to the basement area. The sand used for the filling of the sacks came from the quarries of the Vesuvius area, avoiding the use of sea sand for the fear that the salts contained in it could cause damage to the works of art and to the structures of scaffold. The bags containing the sand were made with fabrics of jute and hemp; for the outdoors scaffold, however, were used bags of vegetable mat with a greater resistance to atmospheric agents. But no system could be fully operational to ensure the roofs and domes of the great Churches against any shots from above, which suffered inevitable damages, as documented by photographs of the Historical Archive of the Firefighter Department of Naples. The protection plans also covered the works of art to protect inside the buildings, such as, for example, the great royal tombs of the Churches of Santa Chiara and San Giovanni a Carbonara, the sculptural decoration of the church of Monteoliveto and Santa Chiara. The protection plans for these works were made with bags of sand and of seaweed placed at the sculpted and decorated sides, so as to avoid the accumulation of excessive weight burdening on the lower parts. In the case of isolated sculptures, to coat the statues was used the cellulose wadding of glass covered with aluminum foil. A special photographic documentation attests the work of protection carried out for the church of Santa Chiara, the largest Angevin church of Naples, until the war adorned with marble, decorations, gilding and painting inserted in the second half of the eighteenth century, for which they were made adequate protective structures able to safe-
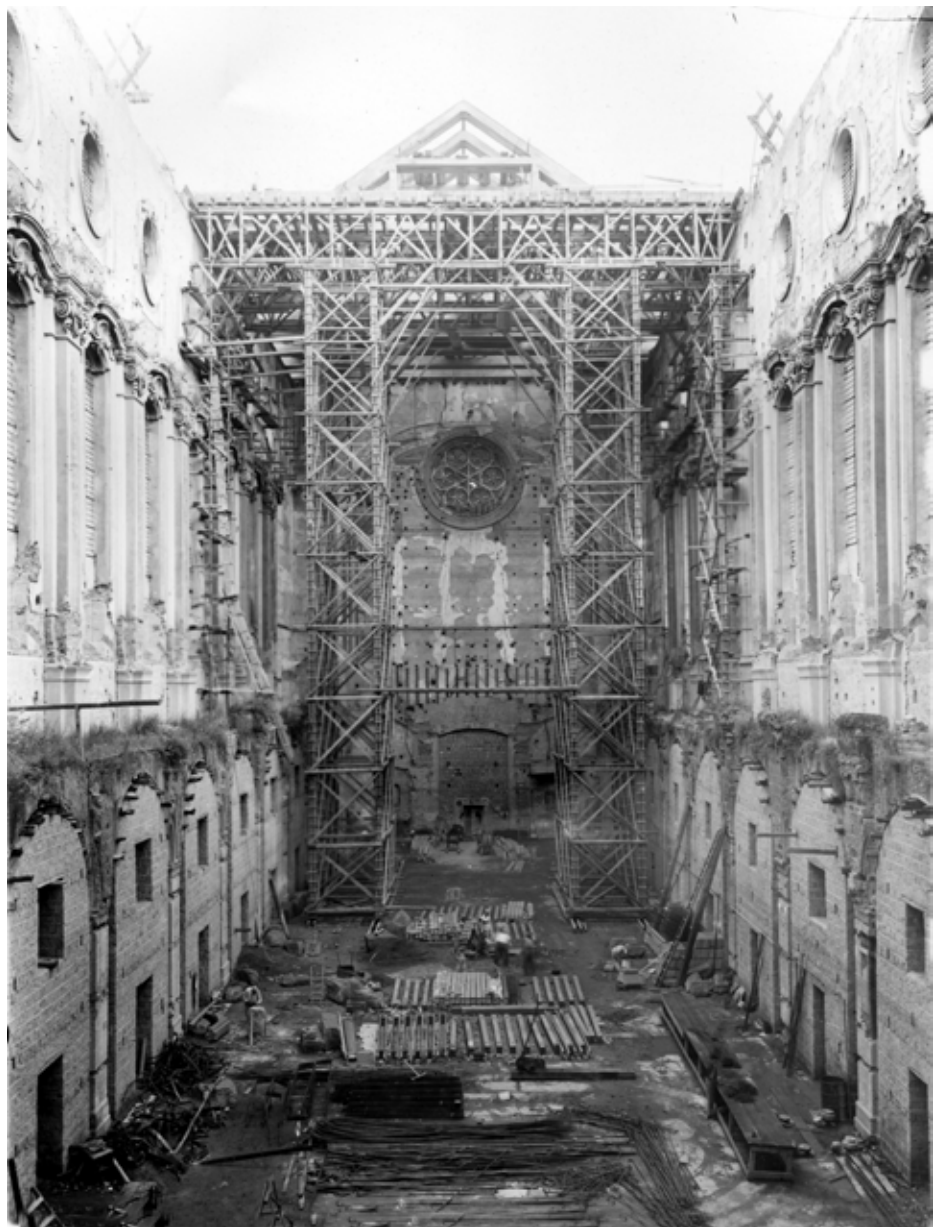
Naples, Chiesa di Santa Chiara after the bombing (Historical Archive of the Firefighter of Naples, inv. B2191)

guard the building during the bombing. But after the fall of an inflamed piece, the basilica suffered the loss of a good part of the eighteenth century decorations superimposed on the Angevin frameworks. The perimetral walls, the core of the main altar, the tombs of the Angevin kings and a part of the upper section of the stucco, survived. The restoration caused many problems especially regarding the choice of the intervention procedure [10]. The Basilica of Santa Chiara was a symbol of the city and the psychological impact of its destruction on the population was very strong. The phases of the reconstruction were complex, especially in the operational decisions, accompanied with methodological discussions that were engaged with a timing dictated by the emergency and strongly influenced by a strong emotional charge. Due to these reasons, it assumed a central role in the history of the post-war restoration. The collection of photos and graphics, stored in the Historical Archive of the Firefighter Department of Naples, document in detail the work of protective armor and anti-aircraft operated in the Church and the state of damage following the bombings, creating a unique source for the study of the Neapolitan architecture.

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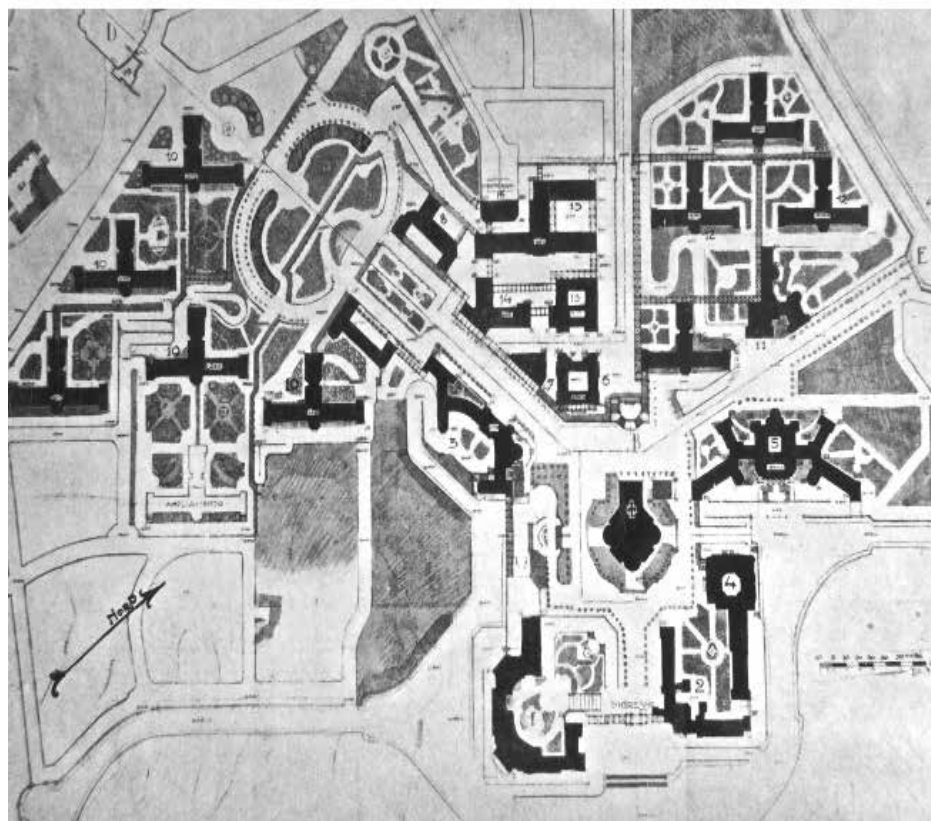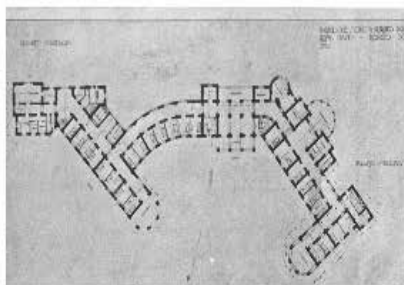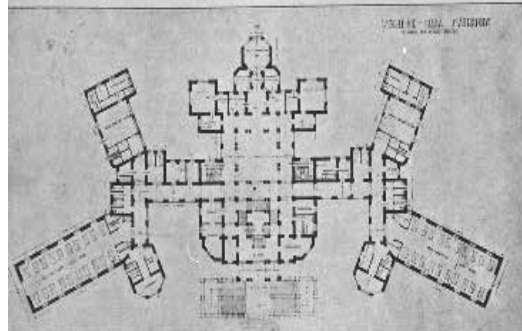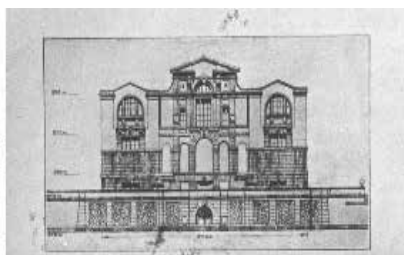
Project of the "Nuovo Ospedale di Napoli" by Vincenzo Fasolo. 1. The Maternity pavilion, plan and perspective drawing; 2. Master plan; 3. The Surgery pavilion, plan and perspective drawing (G. Giovannoni, *Il concorso per l'ospedale di Napoli*, in "Architettura e Arti Decorative", 1928-'29, VIII, pp. 216, 219, 221)

248

CARDARELLI HOSPITAL AND THE THEME OF HEALTHCARE BUILDINGS IN NAPLES IN THE FIRST HALF OF THE TWENTIETH CENTURY: A LONG DEBATE BETWEEN PROPOSALS AND INTERVENTIONS.

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The "Ospedale Moderno di Napoli" [Modern Hospital of Naples], then "XXIII Marzo" [March 23rd], were the possible names for the Cardarelli Hospital, which, in 1927, was supposed to become the largest hospital in Naples, with it being built on the Colli Aminei, on the edge of the Arenella neighbourhood, in a large suburban area, located between the districts of Scudillo and Cangiani, a growing area for medical care infrastructures, characterized by economical buildings, lush vegetation and a healthy air [1]. The project was part of an extensive program to reorganize the metropolitan area, that started at the beginning of the establishment of the Alto Commissariato (an organ entrusted to the president Michele Castelli), which took office in 1925. The urban plan also included the definition of a health centre with specific hospitals, according to the most modern architectural theories, which would be connected to the fabric of the city through new and large arterial roads, and, in particular, with the neighbourhoods of Capodimonte, Antignano and Vomero, which were included in the expansion plan of the metropolitan area. The new healthcare buildings would replace the old and inadequate hospital system, which since the sixteenth century had developed on the reuse of abandoned monasteries and were all located in the core of the city, made up of narrow, inaccessible, chaotic and unhealthy alleys. In this perspective, an announcement was published for the construction of a new "Ospedale Moderno di Napoli" on 27 August 1927, according to a very common practice of those years, which allowed most of the competitive seclections contests to distinguish themselves for a careful linguistic research so as to turn Naples into an interesting architectonic laboratory, where the planning and design theories were confronted in the complex urban renewal program of the Fascist Government. Moreover, it was interesting because it offered the opportunity for a good occasion to discuss the healthcare building in one of the more peripheral and not yet urbanized areas, but even more because the objective was, in this case, to build a complex hospital structure, which was set up as an autonomous health citadel, where it was possible to unite all the branches of medicine and clinical care. The call for tenders, issued by the Alto Commissariato, was organized according to the type of the contract competition, that is: some construction companies were invited to develop projects in which they
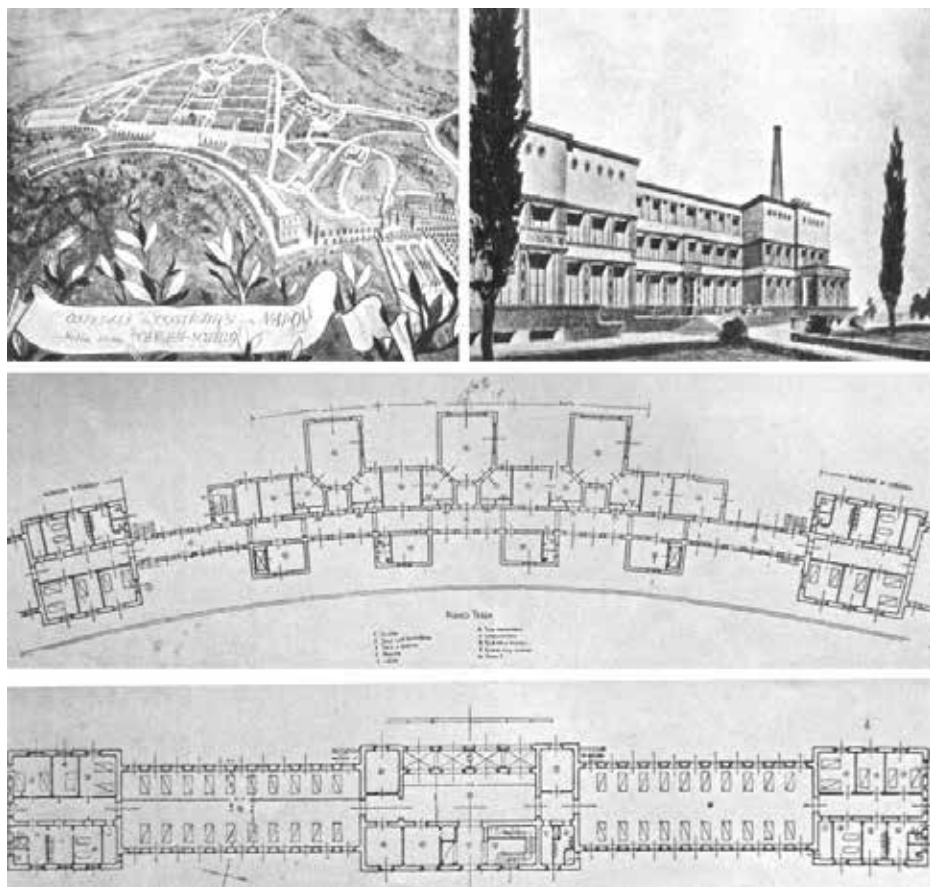
Project of the "Nuovo Ospedale di Napoli" by Mario Loreti and Luigi Ciarocchi. 1. Master plan; 2. The Kitchen, Laundry room and Offices pavilion; 3. Surgery pavilion, plans (G. Giovannoni, *Il concorso per l'ospedale di Napoli*, in "Architettura e Arti Decorative", 1928-'29, VIII, p. 220)

had to indicate, at the same time, the corresponding construction budget [2]. This solution caused several negative disapprovals since it was considered that, bringing together in one place the time of the analysis of the different architectural solutions and their economic evaluations, the greatest risk was to «approvare il peggior progetto perché presentato con un'illusoria offerta favorevole dell'impresa, o di attuare un progetto buono (ma non mai ottimo) a condizioni disastrose» [3]. The seven proposals chosen by the commission, among the many received, were accompanied by reports, plaster models and numerous tables with construction details. Undoubtedly the task required a significant responsibility, made even more onerous by the lack of "survey data". Moreover, it was necessary to study the building and the arrangement of roads connections with the city centre. Although the available area measured approximately 630,000 square metres, all the solutions considered the location of the buildings only in the Northwest area because it was the "highest" and less "steep". Each solution, therefore, suggested an avenue of connection between the structures of the hospital and the new road among the neighbourhoods Cangiani, Due Porte and Arenella. The magazine "Architettura e Arti Decorative", directed by Gustavo Giovannoni and Marcello Piacentini, in particular, dedicated a long article to the problem of the competition, and published the three proposals considered to be the best ones: one by the architect Vincenzo Fasolo, one by the engineers Loreti and Ciarocchi and the one by Arnaldo and Alfredo Foschini [4]. After a preliminary analysis of the functional program, the experts preferred a solution of areas and pavilions separated according to their different uses and distributed on the western well-fenced area. The first two projects show a detailed study regarding the orientation of each medical pavilion; therefore, the ones intended for therapies or for the administrative sectors were exposed to the North, Northwest and Northeast. The position of the hospital rooms, however, were arranged to favour a substantial accumulation of heat in the morning and, at the same time, to shelter the rooms from the prevailing winds that in winter come from the north; therefore the openings were arranged to the East and Southeast. In particular, the project by Vincenzo Fasolo proposed a structure made of sixteen different sectors and, in addition to the hospital pavilions,
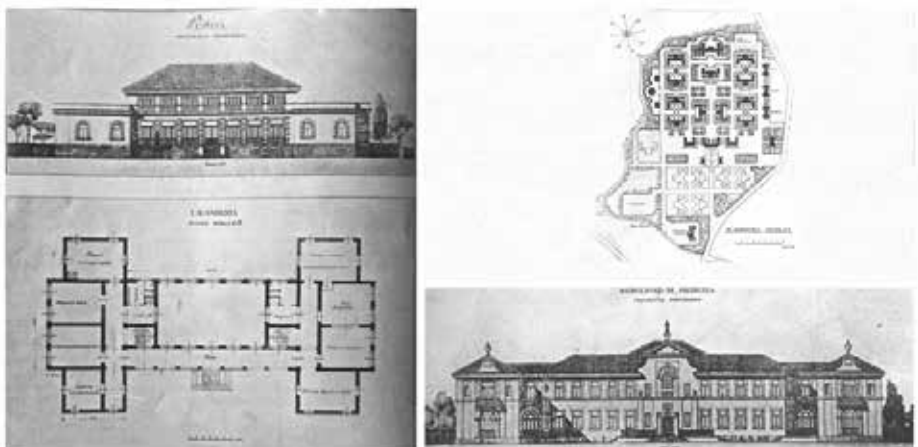
Project of the "Nuovo Ospedale di Napoli" by Arnaldo and Alfredo Foschini. 1. Perspective drawing of the Kitchen pavilion and plan of the Laundry pavilion; 2. Master plan; 3. The Surgery pavilion, plan (G. Giovannoni, *Il concorso per l'ospedale di Napoli*, in "Architettura e Arti Decorative", 1928-'29, VIII, p. 220)

it included separate buildings for the rooms of the administration, research lab-
oratories, the laundry, the kitchen, the wardrobe and the central heat [5]. The
nucleus consisted of a centrally planned church topped by a large dome whose
axis coincided with the main entrance. The compositional criterion was to ar-
range buildings "as a village" to adapt them with the natural shape of the land
and then to isolate them with a high masonry enclosure. In this way, a plan of
masses and perspective scenes highlighted by two large boulevards was creat-
ed, converging on the central square, which respectively linked all the hospital
pavilions to the right and the guest services to the left. The design by Mario
Loreti, achieved in collaboration with the engineer Luigi Ciarocchi, proposed a
symmetrical arrangement of eight pavilions along to a central longitudinal axis,
which connects the large convex exedra of the Surgery buildings with the con-
necting road of the Due Porte quarter, near Cangiani Square [6]. A semi-circle
marked the main entrance with the concave side pointed towards the new link-
ing road. The pavilions – parallel to one another – were divided into two sectors
by the church and by a large building for physiotherapy. An isolated area was
destined to the "contagious" department. The solution by Foschini, however,
was articulated around two perpendicular axes, whose core coincided with the
centre of the main square. The pavilions, aligned along the boulevards, defined
a series of isolated environments and, in the spatial composition, those with a
modest size held the function of scenic backdrops, whose depth was defined by
the higher ones. «Così la simmetria, anziché rendere arido e monotono l'in-
sieme, viene a contribuire alla grandiosità degli aggruppamenti dei vari edifici»
[7]. The layout of the inner rooms had a clear separation of the entrance, the
residence halls or services, all concentrated in the central area, with two large
rooms, located on the opposite sides of a corridor, where 23 patients were re-
ceived. Underground tunnels – addressed to water, steam and electricity pipes
– connected each building, which was surrounded by large fenced gardens. A
ventilation system was also designed, which would have allowed to use the
underground places, in case of need, even for other uses such as, for example,
the storage of food and the laundry, or the mortuary. In the published drawings,
it is possible to recognize the oratory in the western area; it is different from the
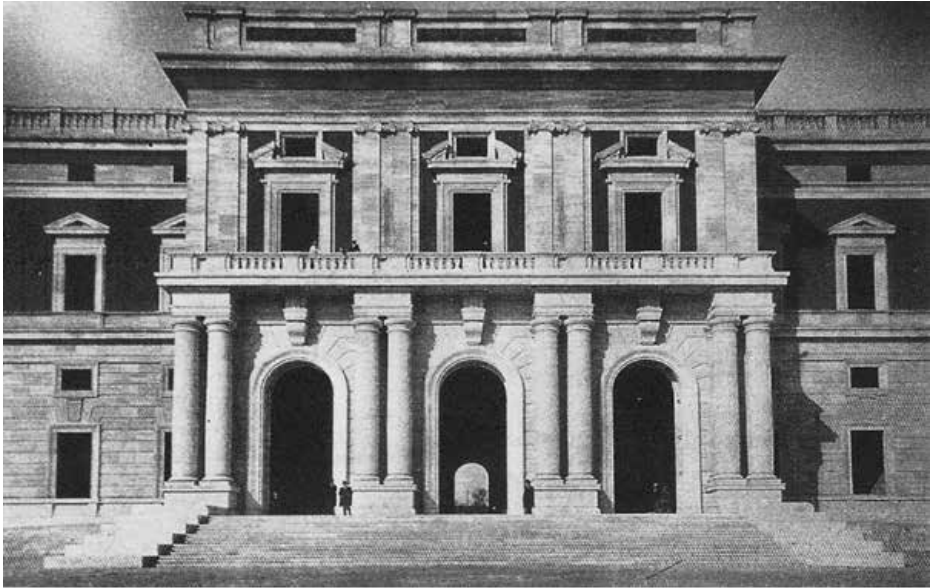
Project of the "Nuovo Ospedale di Napoli" by Arnaldo and Alfredo Foschini. 1. Perspective drawing of the Kitchen pavilion and plan of the Laundry pavilion; 2. Master plan; 3. The Surgery pavilion, plan (G. Giovannoni, *Il concorso per l'ospedale di Napoli*, in "Architettura e Arti Decorative", 1928-'29, VIII, p. 220)

other buildings due to its circular map and because of the different grammatical use of the elements which recall the sixteenth century S. Pietro in Montorio "Tempietto" by Donato Bramante. The planimetric scheme designed by Foschini, tied to the modern language, even if it is blocked by an axial arrangement with eclectic grammatical quotes, recalls the Edouard Herriot hospital by Tony Garnier in Lyons. On 6 January, 1927, the construction of the new hospital "by the State" was ordered by the Royal Charter Law, no. 22 that authorized the spending of forty million to entrust to the winning company of the contract-competition [8]. The architectural competition, unfortunately, had a "negative" result, because, in spite of the attention paid by the critics to the presented projects, the commission did not judge any of them as "deserving of acceptance", especially in regard to the technical-economic study and the Alto Commissariato appointed a new commission exclusively composed of municipal functionaries [9]. In fact, simultaneously with the analysis of the competitor proposals, the municipalities, not transparently, but according to the procedure after the "Legge speciale pel Risanamento" [Law for the cleansing of the City of Naples], the execution was entrusted to the Lucca-Hirsch company and the project supervision to the engineer Ottorino Troyla of the Genio Civile [Civil Engineers Office], with the collaboration of his colleague Edoardo Costantini.

Nevertheless, the results achieved by the participating designers were particularly interesting: «magnifici e veramente istruttivi, tali da segnare un vero caposaldo in questo importantissimo ramo della tecnica ospedaliera e della adeguata sua espressione d'arte [...]; poiché [...] occorre che tutti intendano l'Architettura non soltanto creazione di grandi monumenti inutili, ma soprattutto espressione di temi pratici, plasmati nella forma adatta, ravvivati, anche nelle severe e modeste costruzioni rette dalle norme della tecnica, della scienza, dell'economia della materiale destinazione, da una nota di euritmia e di bellezza» [10]. On 23 October, 1927, the Royal Charter Law, no. 2028, declared the competition as invalid and authorized the execution of the work according to the indications suggested by the office of the Genio Civile. After long vicissitudes, the engineer Troya was dismissed and, in his place, succeeded by the architect Alessandro Rimini, whose plan was then approved by an extraordinary technical-health

sion. The project, with innovative technical solutions, included access roads and the outer road system, the arrangement of the area and the inner road system, the underground connections through tunnels and a modern drainage system. On 24 May 1929 the works began, however, the new and ambitious approach of Rimini caused a significant increase of the planned budget due to the complexity of the technical execution of the construction, and only on 2 June 1942, the excavation works were completed. One year later, the hospital was named "Antonio Cardarelli". The area was delimited by two paths – one downstream and one upstream – and by via Montedonzelli; it was connected to the Vomero neighbourhood through Via Salvator Rosa and Via Scudillo and, with the "knot" of Cangiani, Fuorigrotta and Bagnoli neighbourhoods. The inner arrangement was organized according to a scheme of regular rectangular lots and orthogonal axes «in modo da impegnare completamente ed agevolmente il complesso delle costruzioni edilizie e rendere facili e comode le comunicazioni per i veicoli e i pedoni» [11].

"Antonio Cardarelli" Hospital

Commission. A large square in the valley houses the main building addressed to the management and administration, made of a lower central structure flanked by two lateral "wings", "L" shaped of 25.20 meters and connected to the Church and Oratory by a central longitudinal artery; other paths divide the pavilions, parallel and symmetrically [12]. Giovannoni severely judged the attitude of the administrative organs «uno dei più tristi e gravi fallimenti dei pubblici concorsi per opere architettoniche» and he believed «utile ed istruttivo analizzarne i risultati per procurare che da parte delle pubbliche amministrazioni non si ripetano analoghi errori di metodo, che si risolvono in ingiustizie, in sperpero di lavoro, in ritardi enormi, in assoluto disprezzo ai fini di tecnica e d'arte che avevano mosso l'iniziativa» [13].

[1] E. MANZO, *Napoli e il Regime. La città storica tra trasformazione e conservazione,* in F. CASTANÒ, O. CIRILLO, *La Napoli alta: Vomero Antignano Arenella da villaggi a quartieri,* Edizioni scientifiche italiane, Napoli 2012, pp. 236-249; [2] G. GIOVANNONI, *Il concorso per l'ospedale di Napoli,* in "Architettura e Arti Decorative", 1928-'29, VIII, p.213; [3] *Ibidem;* [4] Ivi, pp.208-231; [5] Vincenzo Fasolo collaborated with professor Ugolini and worked for the company Cidonio; [6] Engineers Loreti and Ciarocchi presented their project with the construction company Calderai; [7] Cfr. G. GIOVANNONI, *Il concorso per l'ospedale...,* cit., p.229; [8] Cfr. ALTO COMMISSARIATO PER LA PROVINCIA DI NAPOLI, ed., *Napoli. Le Opere e il Regime,* Francesco Giannini, Napoli 1930, pp.446-454; [9] G. GIOVANNONI, *Il concorso per l'ospedale...,* cit., p.208; [10] Ivi, pp.221-223; [11] ALTO COMMISSARIATO PER LA PROVINCIA DI NAPOLI, ed, Napoli. *Le Opere...,* cit., p.447; [12] Internal streets of communications were complemented by underground tunnels, posed in the longitudinal avenues, axis on which the entrances to pavilions were opened, and were in axis to Central Avenue. ALTO COMMISSARIATO PER LA PROVINCIA DI NAPOLI, ed., *Napoli. Le Opere...,* cit., p.448; [13] G. GIOVANNONI, *Il concorso per l'ospedale...,* cit., p.208; M. CASCIATO, *I concorsi per gli edifici pubblici: 1927-36,* in G. CIUCCI, G. MURATORE, ed., *Storia dell'architettura italiana. Il primo Novecento*, Mondadori Electa, Milano 2004, pp. 222-224.

The San Francisco Museum of Modern Art, California, photo: Alessandro Ciambrone

LANDSCAPE: ECOLOGY, PATCH, CORRIDOR AND MATRIX

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Landscape ecology is an applied science, originally founded through the interface between geography and ecology. As a highly interdisciplinary science in ecology systems, landscape ecology integrates biophysical and analytical approaches with holistic and humanistic perspectives, through the natural sciences and social sciences.

According to this approach, landscapes are spatially heterogeneous geographical areas characterized by different and interacting patches or ecosystems, ranging from terrestrial and aquatic systems that are relatively natural such as forests, meadows and lakes to large areas of human domain, including agricultural and urban contexts.

The landscape is therefore considered a "complex system of ecosystems", which integrates the events of nature with those of human culture. The concept of landscape ecology was used for the first time in scientific literature by the German geographer Carl Troll in 1939, during the interpretation of some aerial photos of a landscape of the East African Savannah.

He was the first to realize several properties of ecosystems and their evolution towards higher entities that he called bio-landscapes.

He also included that new rules would be needed to study ecologically defined landscapes, and gave them that name.

Today, landscape ecology has an ever wider range of applications, involving both the natural and man-made environments. In particular, it is divided into four main lines of thought:

• geographical: it promotes the study of the landscape as a geographical entity which integrates the various components;

• chorological-perceptual: characterized by the study of spatial processes applied to all levels of scale, where the landscape is defined as a "mosaic", perceived differently depending on the animal, that is species-specific;

• ecosystem-matrix: based on the study of the configurations of component elements, which are divided into patches and corridors, on a landscape dominant, recognizable as a matrix;

• holistic-multifunctional: in charge of the whole of the sub-holistic landscape units defined as "ecotopes", natural and human.

San Francisco, California, photo: Alessandro Ciambrone

Each type of landscape can be related to a base model. Landscape ecology deals with the relationship between the pattern appearing in a given environment and the processes that create these patterns, or simply remain unaffected. The pattern basically concern the structural aspects, and can go from simple to complex. The patch is the minimum structural unit of a landscape; the shape of the patch reflects the process that created or maintained it: usually regular shapes are anthropogenic, unlike the patches generated by eco-dynamic processes which are irregular.

The landscape is made up of different elements, which represent the spatial components. A model known and useful to conceptualize and represent the elements of the landscape in a thematic map is the so-called patch-corridor-matrix model.

This model involves the use of three elements of the landscape, the extent of which define the structure and configuration of the landscape: patch, corridor and matrix.

Patch

The landscapes are made up of a mosaic of patches. Landscape ecologists have used many terms to name the elements or the basic units that make up the landscape, including ecotopes, habitats, components of landscape, landscape units, cold landscape, facies, geotopes, habitats and places. Each of these terms performs the task for which it was created.

As for the identification of the landscape, the patches that make it up are not already pre-established, but must be defined according to the phenomenon being studied. For example, for forest management, a patch may correspond to a reforestation. However, the same patch may be of little interest to an organism. From an ecological point of view, the patches represent discrete areas (spatial domain) or periods (time domain) with homogeneous environmental conditions. The borders of the patch are created by environmental discontinuities, which means changes that are perceived by the body in question and according to ecological phenomenon being studied.

From an organism centred body point of view, the patches can be defined as the ambient units that differ in suitability, or quality, although in practice they

Saint Mary's Cathedral, San Francisco, California, photo: Alessandro Ciambrone

can be defined, in the most appropriate manner, as non-random distributions in environmental units of activity or resources used, as recognized in the concept of the "Response to the grain".

The patches are dynamic and can be observed at different spatial and temporal scales, from a point of organ-centric view, they vary in function of how the body perceives the environment.

A patch, at any scale, has an inner structure that reflects a zonation in smaller scales and the mosaic containing that patch, in turn, it has a structure which is determined by zonation on a larger scale.

Corridor

The corridors are linear elements of the landscape that can be defined according to the structure or the function they perform in the landscape. Forman and Godron define corridors as "narrow strips of land that are different from the matrix that surrounds them.

The corridors may be stripes isolated, but usually are attached to an area characterized by similar vegetation ". The four main functions of a corridor are:

• Corridor Habitat. It is a linear element that allows for the survival, birth and movement of living beings and can be either a temporary or permanent habitat.

• Corridor which facilitates travel.

It is an element of the landscape that supports the survival and movement, but not necessarily reproduction, between two habitat patches.

• Corridor barrier or filter. Linear element that prevents or hinders selectively flows of energy, nutrients and or species (the flows are considered perpendicular to the length of the corridor).

• Corridors that have a biotic and abiotic impact on the surrounding matrix. They are linear elements that modify the inputs of nutrients, energy and/or species in the nearby matrices, and therefore do not change their functionality.

Matrix

A landscape usually consists of various types of elements (usually from patches). Among these, the matrix is the most extensive and continuous, it plays a dominant role in the functioning of the landscape.

Moreover, what constitutes the matrix, depends on the scale. For example, at a

De Young Memorial Museum, San Francisco, California, photo: Alessandro Ciambrone

certain scale, a mature forest can be the matrix with the patches of disturbance embedded inside, but on a larger scale, the agricultural soil can be the matrix and the mature forest be identified as patches inserted in its interior.

It is important to understand to what extent the structure of the landscape is influenced by the identification of the matrix.

If each element is identified as a matrix, it is assumed that it performs the functions designated to it and should not be included as a patch in any other metric that measures the average values of the various patches.

Otherwise the array will dominate the metric that will be used to characterize the matrix rather than the patches contained in it, even if this could be significant in some studies.

Areas (patches) and zoning (patchiness): Levels of landscape metrics

The patches are the building blocks that make up a thematic map. Depending on the model used to form the patches, they can be characterized, by their composition, based on the internal variation.

This can include the media and internal heterogeneity (variance). However in many applications, once patches are established, its internal differences are ignored. The landscape metrics place attention on the spatial characteristics as well as the spatial distribution of the patches.

While a single patch has few fundamental spatial characteristics, a set of patches may have a greater variety of aggregate properties, and the aggregation may be valid for a single class, include more classes or included in a given sub-region of the landscape or distributed throughout the entire landscape. The landscape metrics can be defined on three levels:

1. The patch level metrics are defined for individual patches and characterize the spatial properties and the context of the patches. In many applications, the metrics of the patches are mainly used as the basis for the calculation of many other metrics, for instance, examining the average attributes for each class of patches or landscape; the calculated values for each patch have a low value for the interpretation.

2. The level metrics class considers the patches of the same type (class). During the index calculation, the patch may be related to each other simply by

Transamerica Pyramid Center, San Francisco, California, photo: Alessandro Ciambrone

means of the average values or weighted averages, which give greater weight to the larger patch.

The level metrics of the landscape are integrated above all kinds of patches or classes over the entire range (the entire landscape).

Since the metrics of the classes can be formed by simple or weighted average values, they may reflect aggregate properties of the mosaic. In many applications, the main interest is in the structure (composition and configuration) of the entire landscape.

The level metrics patch represent the spatial characterization and context of individual patches.

The metrics at the class level representing the amount and spatial distribution of a single type of patch can be interpreted as a fragmentation index. The level metrics landscape represents the component of the entire mosaic landscape and can be interpreted roughly as indices of heterogeneity because they measure the overall structure of the landscape.

It is important to interpret each metric in a manner appropriate to its level (patch, class or landscape).

Ferrovia Metropolitana per la città di NAPOLI

PROGETTO LAMONT YOUNG

Clamfer

Lamont Young subway project

NEW PIAZZA MUNICIPIO SUBWAY STATION. OCCASION OF PRESERVATION AND DEVELOPMENT IN NAPLES

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Port and city relation. Evolution and interpretation (F. Tortorelli)

Naples has always been a port city, but with the passage of time, its (relationship) with the sea has been gradually changed according to the economic – expansive nature of the needs that the city has had in its original formation and development between the arc of its gulf on the Mediterranean sea and the arc of its hill territory.

The prevailing longitudinal urban development, east – west, along the coastal area, represented in the 1465 view of Naples, known just as the Tavola Strozzi, is accompanied by the strong transversal penetration of the dock. From the farthest point of the dock, this street leads directly and in a decided way to the heart of the city itself, offering a fascinating view to the castle on the hill, Castel Sant'Elmo, bounded on the west side by the huge Castel Nuovo and on the east side by the historical city, but, above all, it had a fundamental role as public space with a strong identity within the city.

With the passage of the time, however, the place of the relationship between the city and the sea, the interface between the urban space and port space, loses the natural permeability. The separation takes place simultaneously with the specialization of the port functions and the general sectorial characterization of the various part of the city so that they lose cohesion and unity.

This trend was decisive for the decline of the relationship between Naples and its sea, but it has been further strengthened by the subsequent disuse of certain port facilities located along the coast.

One of the strategies to renew the connection of the city with its port is the improvement and increase of physical connections and of transports; within the range of more or less recent actions regarding the area of the Neapolitan urban port, the project for the Municipio square, with all the implications that has had in its implementation phase, is the one on which focusing the attention because of its particularly interesting case.

 In Naples it is not the first time that architects are involved in metro projects, Lamont Young designed a futurist plan for a Neapolitan subway, which actually was never realized. Around 1880 he presented a new plan, complete with ap-

Piazza Municipio Building site

proximately one hundred tables and drawings and detailed an extensive met-
ro network of twelve stations along a 22 kilometer route, and also complete
with passenger lifts to connecting Vomero's area. From the nineties onwards,
through the definition of the One Hundred Station Plan (1994), the Municipality
has focused on the underground network construction and on the new station
realization in strategic points of the city to address the general development of
the city.

The Neapolitan urban port area interpretation proposed by Alvaro Siza Vieira
and Edoardo Souto De Moura in their design for the Municipio station is an
interesting point of view for the theoretical discussion about the development
of the urban port area and it represents a practical example of working on this
sensible part of the city.

Line 1 and 6 interchanges of the Neapolitan underground will connect Municipio
station to the whole city and the port; thanks to its closeness to the Beverello
quay, the Angioino quay, and the station of the harbor, it should be renamed
Municipio – Porto station. In this work, all the questions are tackled together by
a method that could be defined archaeological for its revealing and holding, be-
cause it combines stratigrafically different stream of traffic, archaeologies and
monuments belonging to various city times, mixed integrated facilities and func-
tion with the main goal of a durable public vitality of the city.

An idea of infrastructural project as city reconfiguration, a really public use of
urban history, a reading of the portual area as part of the city is all together in
the general structure of this work.

The city history will be projected towards the future excavating in the urban
past; in a general redevelopment area, the design of planes, the excavations
and incisions will connect the contemporary port with the ancient rear warder
one, overruling the break that is usually placed between the port area and the
city, creating, on the other hand, continuity, both of identity and of landscape.

Lesson Learned by the Piazza Municipio Case Study (F. Muzzillo)
A metropolitan subway construction site is the occasion for experimenting con-
nection between movement habits and perception aptitudes of citizens. Daily
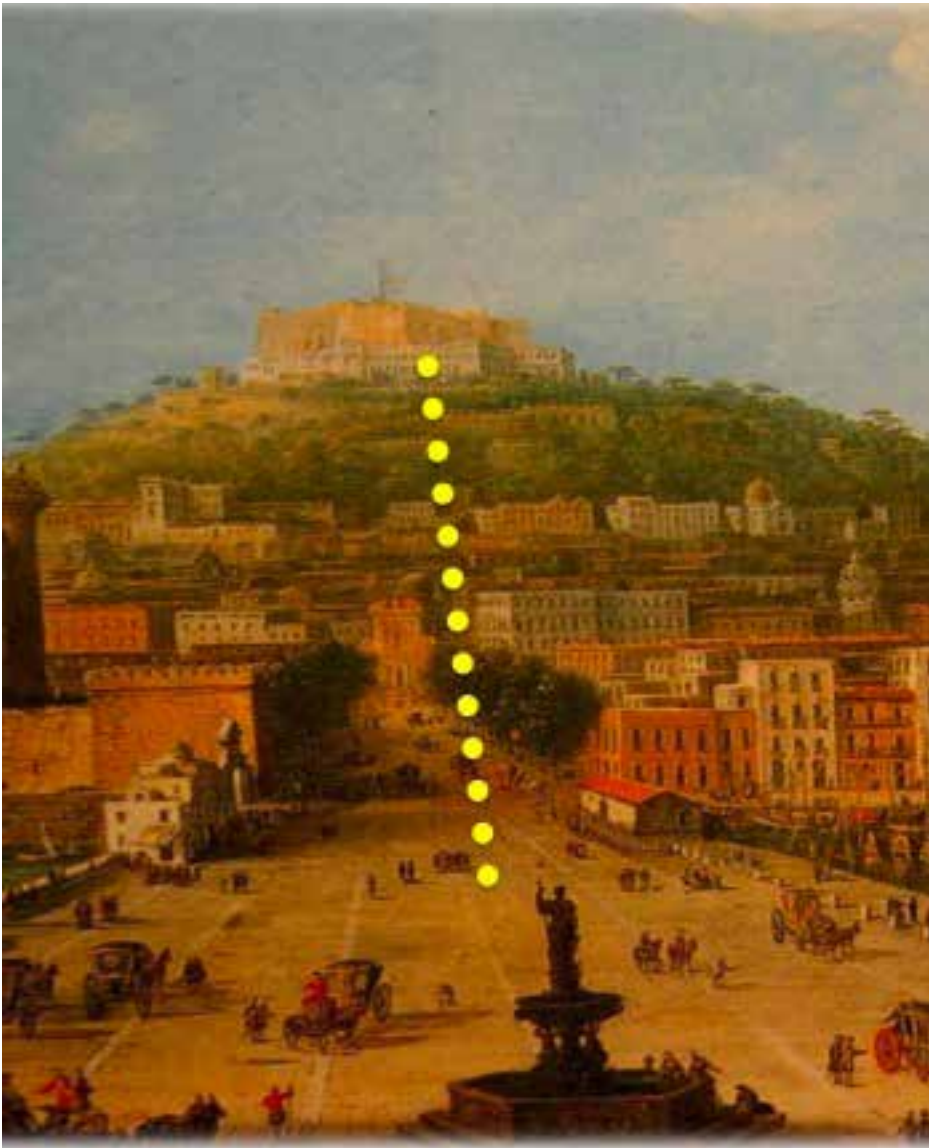
Visual Connections on an antique painting

use of the subway has to been taken into account while designing and the "time of everyday life" may become a specific aspect of the project.

So it is the ideal place in which art can have a role of mediation and it could design places for people, relating needs and human behaviour with an ideal perception of the town as it were a series of connected places in everyday life.

Particularly in the case of Neapolitan Subway it has had the meaning of a complex artistic, architectonic, engineering and economic coordinated work. "An Architecture for People's Senses", this could be the slogan for Piazza Municipio project experimentation.

The presence of different experts has made the project increasingly complex and it has thus been structured as the outcome of intersections of different actors. The coordinated job has made urban variants comprehensible to citizens, succeeding in that way to involve them in the procedures of working.

It has been possible to improve the relationships among different subjects and people has been guided to understand perceptive rules of the environment during the construction phase, trying to pay attention to what was once seen, what they would see at the time in which the working was carried on, and finally what they expected to see in future.

Rethinking to the case study it is possible to stress the fact that a good design process should be based on emphasizing special identity of a place, social community, heritage values and it should be integrated in a common work of various competencies. But not only.

The most relevant point is the emotional comprehension by people of the project in itself, of the role that it plays in the town. Specially during the phase of construction site. Normally, the construction follows in most of its parts the original project. But in this case design process has been varied many times during the successful execution of the project, as the archeological discoveries began to be found.

This is the most outstanding aspect of the site work proceedings and this process has always led to a new awareness of the place itself, to its history and environment. Special surveys have continuously been monitoring the proceedings of works as they were receipted by people. As time went on, construction
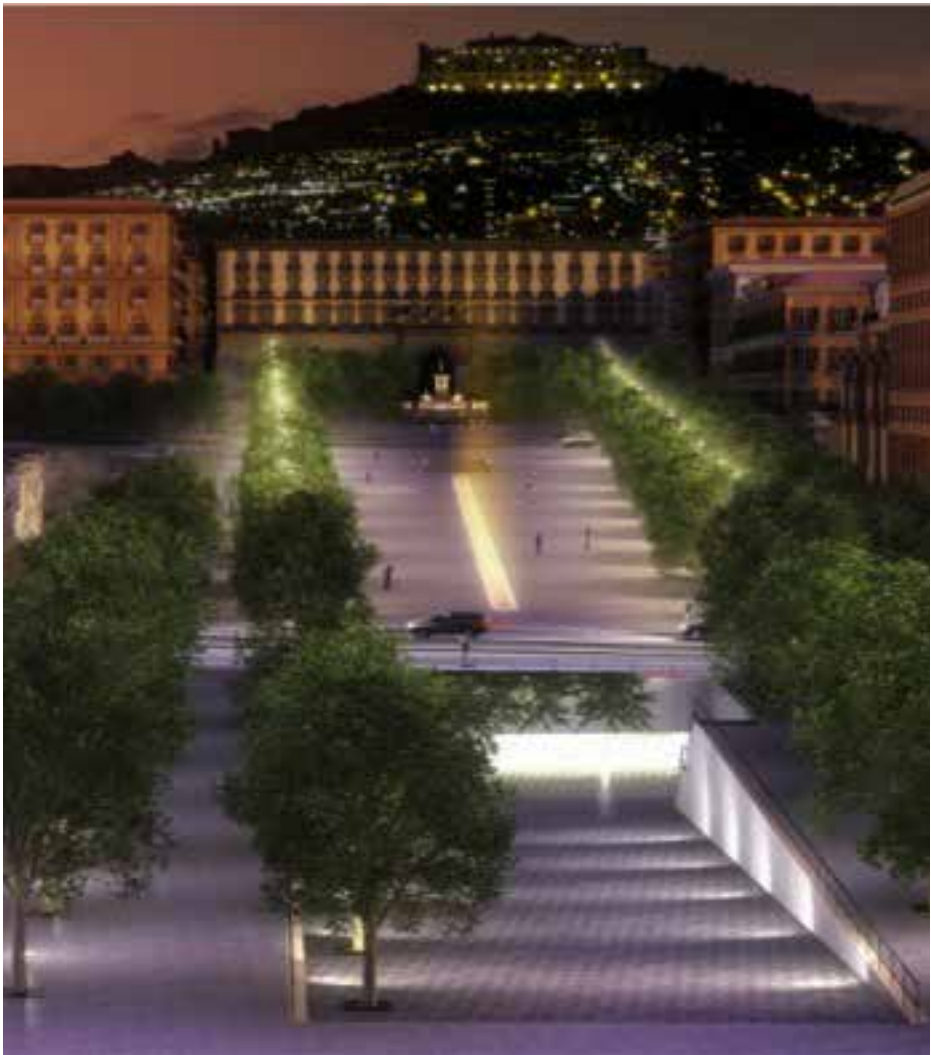
The New Piazza Municipio

area has been qualified by a combination of different habits of using the place, way of crossing, way of perceiving and in this process people continuously were aware of the new progressive archeological discoveries. Moreover the surprise of archeological discoveries between the street level and the level of the trains implied also a different perception of places.

The central position of the project into the town made more participative the debate, even in view of difficulties, like that of water level discoveries. In fact if always the major coast cost in a subway construction site is the excavation cost, in this case the presence of sea water very close to the surface level has increased the complexity of excavation because of the need of freezing the water before excavating.

And that process, while on one hand has been very long, on the other hand has led to the discoveries of antique ships, which will be exposed in the future on the site. We may wonder how to reinterpret this process in general terms. Probably the best way to design new assets is founding a balance with respect to the perceptive rules in order to relate what people want in a framework of variable conformations.

And as in this case architects should have an attitude of humility towards history and environment, proving that they are always prepared to change again the project in order to contribute to let people understand how the place appeared in its antique aspect.

And this attitude can be useful to help improving new project into Best Practices. So a construction phase should retain the flexibility respecting the features of place.

And this approach can be useful for future projects and helps them to succeed in revealing the first character of a place not in the strong accent of architects, but in their humble reorganization of two fundamental aspects which should always been connected: the environmental features of a place and the main features of the daily life of citizens who in this place live.

• A metropolitan subway construction site is the occasion for experimenting connection between movement habits and perception aspects for citizens.
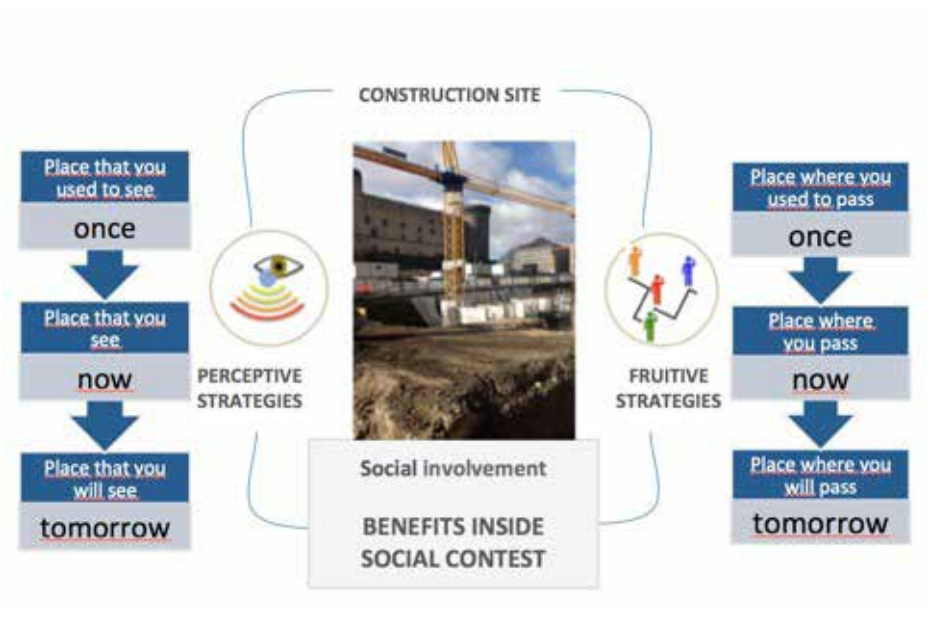
Scheme of citizens' involvement in the project

• It could be a chance for connecting places in an ideal perception of the town

• The strategies are complex and should be integrate artistic architectonic engineering and economic methodologies.

• Special surveys should monitoring the proceedings of works as they are receipted by people

A good design process should be based on the emphasizing of the special identity of a place, the social, community, heritage values should be integrated in a common work of various competencies as in Piazza Municipio Station

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Villa of the Mysteries. Instant views during the capturing laser data outside the villa and in the room of the Mysteries.

THE INTEGRATED DIGITAL APPROACH TO THE SURVEY AND THE GEOMETRIC MODELING OF THE ARCHAEOLOGICAL BUILDINGS. THE CASE STUDY OF THE 'VILLA OF THE MYSTERIES' INTO POMPEII'S ARCHAEOLOGICAL SITE.

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These paper want to offer considerations regarding the technical and scientific phases of the integrated digital survey applied to the Villa of the Mysteries one of the most emblematic archaeological building inside Pompeii's archaeological site the for construction and excavation dating, for historical and artistic importance, for the recent preservation activities. The Villa is named for the paintings in one room of the residence. This space is decorated with very fine frescoes, believed to be painted in the early-middle 1st century. The most common interpretation of the images is scenes of the initiation of a woman into a special cult of Dionysus, that required specific rites and rituals to become a member.

This work is a part of a wider project titled "Urban Ecotourism for the sustainable use of the Cultural Heritage in Campania", directed by Prof. Carmine Gambardella and aimed to improve the technological approach the sustainable Development in high tourist vocation areas. The achievement of these objectives needs multidimensional expertise according to the complexity of the approach planned for this topic, while focusing on Cultural Heritage and Tourism. The knowledge and project activity in the territory of Pompeii was carried out in a metropolitan scale, through multicreteri@ analysis of type implementable and interchangeable. The particular interest to the archaeological sites in Pompei territory, according to an interest in documentation, in preservation and in fruition of cultural heritage, lead to an integrated and accurate 3d laser scanner survey. The results of this activity could be the starting point for many other opportunity in the heritage promotion and safeguard, using ICT platform.

The integrated digital surveying project of Villa of the Mysteries has been more detailed and complex, and despite the detailed preliminary planning, it was in progress adapted to optimise the activities in relation to problems. The scanning resolutions and the expected accuracies of the final model were chosen in relation to the architectural peculiarities, the morphological assets and the historical and artistic frescoes that decorate each single room in the Villa. Scanning activities have been organized in different macro scanning projects, according to the wide and complex plan extension and distribution of the 70 Villa's rooms.
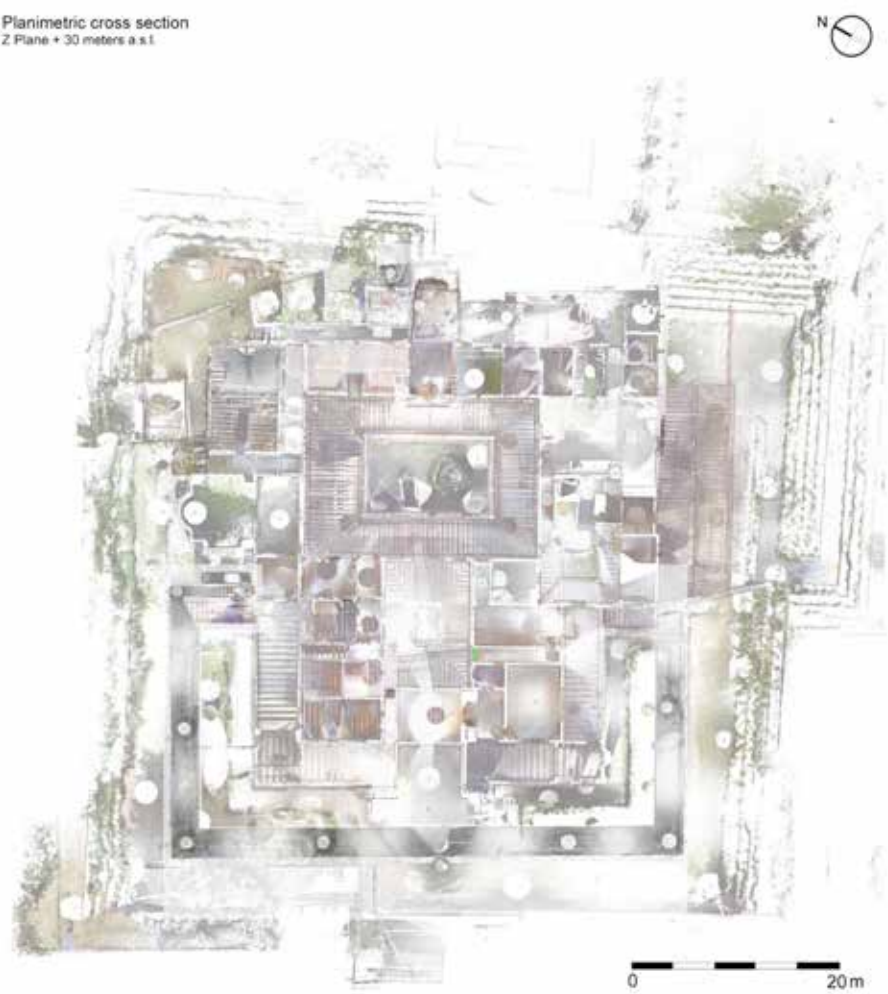
Villa of the Mysteries. The merge of 265 scans made for the survey of Villa of the Mysteries. The image was obtained through sections of polygonal surface (mesh).

The global alignment of the projects was instead assured by the georeferenced topographic network, against which were calculated the coordinates of several 2D targets for each macro-project. The plan setting and the rich wall decorations prevented the massive use of 2D targets, choosing instead spherical one. The spherical target can be gradually moved, when they go out from the optimum scanning radius, and may be so relocated in subsequent areas in the same scan scenario. According to this operating practice, it can scan buildings as complex as the Villa of the Mysteries with only six spherical target; a greater number of these, would only serve to further speed data capturing in site. Scanning activities above described gave back only the intrados of rooms and external walls. There were a lack in the point cloud model because the scan didn't catch the covers' extrados. To complete the Villa's nadir morphology was finally planned a photogrammetric shooting from an UAV platform, whose data were bound to the complete point cloud model by the coordinates of some targets laid on horizontal surfaces, related to the topographical network. The complete point cloud model of the Villa is composed of 7 billion points, acquired during 12 work-days on site (from July to September 2014). The multi-temporal scanning activities allow the comparison during and after the restoration operation to preserve the architectural structure and in particular to preserve the frescoes images.

The following activities to elaborate and analyse the acquired data are focused on the process of interpretation of data acquired with laser scanning technology for three-dimensional modelling. The morphological discretization of the 'point cloud' model in mesh or 'rational' surfaces is a critical operation. In particular the application to archaeological buildings or sites lead to the representation of complex surfaces and geometries according to the damage and transformation of the archaeological heritage, always giving back a great geometrical and metric precision. The survey of an archaeological building makes necessary to operate with equipment and methodology which do not affect the state of conservation while allowing the documentation of the status quo before the execution of any restoration or excavation activities. In particular the integrated survey to Villa of the Mysteries had been realized during the restoration work to survey the difference before and after the complex activities on the building

Pompeii, Villa of the Mysteries. Front section and cross section.

and on the frescoes.

The output of the acquisitions is a point cloud model in real scale of the actual and continuous object coloured with RGB values of images taken by high-resolution digital camera integrated in 3D laser sensor. This digital geometric representation of the object is discrete and has to be transformed into a continuous one: the higher the resolution set to acquire the more is dense the point cloud and then the detail of the representation.

Having the morphology of an object through scanning laser, orientation and mapping of point clouds does not mean having finished its survey: the acquisition phase must necessarily follow the critical processing and elaboration of an huge quantity of three-dimensional data acquired.

The processing activities of these data give us back orthogonal projection of the cloud point model, coloured with the RGB information, similar to an orthophoto with visible and metrical information: the orthophotos processed by the point cloud model and integrated with colorimetric dimension through photographic images were affected inevitably by the character of discontinuity that is specific to point cloud model. This discontinuity in orthorectification phase of the photographic images involves the loss of the colorimetric information in correspondence to the lack of points in the discrete model, specifically in the so called shadow areas.

Digital modelling instead give back, through two different geometric operations, the meshing and geometric discretization from cloud point model. These operations use two different modalities, to interpolate the points of the point cloud model directly into 3D space in order to convert them into geometric elements of higher level (surfaces and solids). By the meshing of the raw point cloud, a digital model is constructed through the semi-automatic extraction of a surface model with triangular mesh, which is the result of the interpolation of the points of the point cloud model.

By the geometrical discretization, the point cloud model is sectioned along parallel planes to coordinate reference systems axis associated with the point cloud itself.

Pompeii, Villa of the Mysteries. Multiple axonometric views.

The discretization of the points cloud through significant plans allows the identification and the determination of the generative geometries of the architecture. The survey activities carried out on Villa of Mysteries offer, for its different spatial and volumetric configuration, material consistency, transformations during the time, a panorama sufficiently wide to be able to trace a method implementable and extensible to other contexts, archaeological or not.

The approach to this building lead to the start of considerations and methodological experimentation for the redrawing of three-dimensional point cloud through acquisitions. In particular, this contribution will emphasize the difference between the methodological approach if the case studies modelling through flat geometries or equivalent, compared to those with complex spatial articulations for which the analysis of the shape represents the first step in the establishment of the redrawing method.

The processing of the point cloud model of the Villa of the Mysteries was carried out both for the survey before the restoration than at the conclusion. In particular, the processing of a double model realized in different timing allows to the comparison before and after, in addition to constituting a document that historically records changes in the building, besides the superposition of the two models and the synchronic reading of changes She occurred.

The acquisition of the point cloud model and the subsequent modelling is the basis of a number of possible processes that the model has to offer, from the validation of the restoration to the structural modelling, the documentation of the heritage to his own preservation.
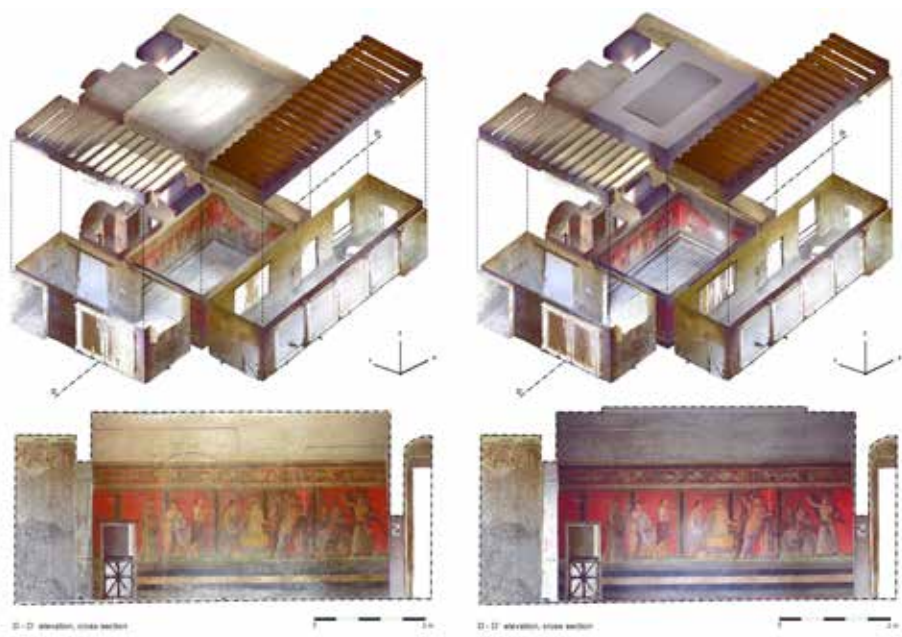
Villa of the Mysteries. The cross section of this figure shows the "Room of the Mysteries" before and after the restoration. In the right image colours of fresco is brighter than before the restoration.

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Expo Milan 2015, photo: Mario Pisani

THE EXPO 2015 IN MILAN

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"The international system of exhibitions, displays, Biennials, scientific events is today dense and pervasive. Since every year in the world, there are new crowds of global planetary tourists (Chinese, Russians, Indians too), it is very difficult to make way in a context of exacerbated competition. [...] why should 29 million visitors be expected to come to Milan in the summer of 2015? To witness a remarkable exhibition on food (whose materials may be viewed in real time on our I-Phones while we go to India or Brazil to study their food policies)? Or to visit the beauties of Milan (no doubt about that, but some doubt on our ability to fight from this point of view the recall of far more aggressive competitors)? It's not a joke: if we do not want the Milan Expo to be a flop, it is crucial that Milan gradually becomes a centre of global attraction on the theme of food".

Tito Boeri, Why 29 Million Visitors should come to Milan for the Expo? [1]

The Expo, held in Milan [2], just outside the city of Lombardy [3], like the other editions carried out in various parts of the globe [4], has without doubt an ambitious goal. To improve human life through environmental sustainability and power on the theme "Feeding the planet. Energy for Life". In fact, it was this very proposal that allowed Italy and the city of Milan to prevail over Izmir and Turkey. The first question that is worth asking is whether this sort of Disneyland or Las Vegas, as it has been described by some critics, is able to respond to the importance of its mission.

For others, it is a Smart City, which covers about 100 hectares.

Inspired by a Roman castrum, with a decumano 1,500 metres long, shaded by curtains that protect it from the sun and rain 80,000 square metres. A sort of large souk that alludes to the relationship between city and country, where food is produced and consumed. And from a 350 metre thistle. All destined to last only a few months. Except for Palazzo Italia, a permanent building.

The initial master plan was drawn up by Stefano Boeri, Richard Burdett, Joan Busquets, William McDonough and Jacques Herzog. Subsequently developed by a team of young architecture graduates from the Politecnico of Milan, assigned to the Planning Office of Expo 2015.

Expo Milan 2015, Decumano, photo: Mario Pisani

Among the requests sent to the participants, there was that of dedicating at least 30% of the space to green, alternating the open spaces with covered ones and use prefabrication with dry technologies so as to make the installation and subsequent removal of the pavilions easier. This resulted in a broad spectrum of hypotheses developed on the theme of the assembly, linked in particular to the technology of the wood. As with the Chinese, Chilean and Japanese Pavilions. Wood is the main material used by Herzog & De Meuron for the Slow Food Pavilion and by Michele De Lucchi for the Intesa San Paolo Pavilion, while Morocco alternated wood and clay.

England, with the pavilion developed by Wolfgang Buttress, presented a large seductive, perforated aluminum sphere, a kind of beehive, synthesis of the relationship between nature and artifice, in an intriguing architectural form.

The rigor of the general layout contrasts the volumetric development with pavilions of different heights, such as those of Spain or the United States. The Italian monumentality stands out, juxtaposed by the large square and the Tree of Life, admirable symbol of kitsch and a perfect copy of one of the examples in the Park of Singapore [5].

In Palazzo Italia, designed by the studio Nemesis & Partners, the winner of the competition that led to the awarding of the assignment, it is easy to identify, together with the echoes of the architecture of Zaha Hadid, the characteristics that distinguish the works result of the star system as a spectacle developed to the extreme consequences, the anxious justification obtained through metaphors, the reduction of the architecture to purely individual expression in an entirely self-referential language. If the work had the specific task of representing the best of the host country, this task has failed, translated, as indicated by the authors, into an urban jungle that fails to exemplify the best input of the initiative. This has been fully achieved by the Austrian Pavilion. A simple gesture reminds us that breath is life and that trees can be our breath, the authors write [6]. The concept is not architecture but the air, generating energy and resources and the whole set-up is designed for the invisible: an experimental space that involves sight, smell and touch centred on the "perception of the breath". The pavilion is transformed into a forest that physically reproduces the climate. The entire

Expo Milan 2015, Chile Pavillon, photo: Mario Pisani

exhibition area, expanded to 560 square metres is transformed into a dense natural forest, for the planting of tall trees, some more than 12 metres high with lush vegetation, ranging from mosses to bushes from Austria.

The Brazilian Pavilion, popular with young people, is by the studio of Arthur Casas and Marko Brajovic that mixes architecture and set design and proposes, through breeding and agriculture, solutions to feed the planet. A large steel portal painted with the colours of the Earth, lined with cork, as an open plaza, encouraging the senses, engaging the people and interacting with them, thanks to a flexible and off-centre network, present in every aspect of the building, evoking the multiple realities of Brazil. The network, which is the horizontality, is capable of producing synergies for individual or collective solutions. Starting with preserving and cherishing the natural resources, such as those from the Amazon rainforest.

The German Pavilion by the studio of Schmidhuber of Monaco. Milla & Partner of Stuttgart designed the content, various media and exhibition construction. The Nussli by Roth was responsible for the realisation, simulating the soft shapes and gentle slopes of the German countryside. Here we participate personally in the amazing solutions that aim to guarantee the power supply of the future, recognizing agriculture as being a traditional element of the landscape of fields and meadows. In a building designed as a slightly uphill plateau we find exposure. Along the path, there are stylized plants, shoots of ideas that climb up the outside by creating a large canopy of leaves shading the large terrace. Unifying element that links the inside and outside, architecture and exhibition. The suspended leaves give the visitor a unique appearance.

Whoever is used to seeing the glass half full has no doubt that the contained traces in the objective identified will eventually settle in the imagination of the high number of visitors expected [7].

The architecture highlights the spirit of our time, instilled with the question of the living planet and the use of its resources, the combined use of the latest technologies that face the global market. The combination of the temporary structures, the design of the furniture, exhibitions of national products and the performance of the food and its preparation, combined with the performances

Expo Milan 2015, Russian Pavillon, photo: Mario Pisani

staged in the various pavilions and open spaces, contribute to the success of the awareness of the theme that, in a process of performing, effectively mixes the original and the copy, simulating here and now what certainly exists, but is found in other places.

It is easy to read in the initiative of its resemblance to a theme park by ambitious goals, unfortunately challenged by threatening shadows that go from the high cost of purchasing the areas to their rehabilitation, the construction of the pavilions to the lack of their conscientious reuse, but also of the areas and the materials used. The presence of numerous sponsors, represented by multinational giants, highlight the glaring contrast to true sustainability. Not to mention the investigations and the arrests that too often seem to be the normal counterpart for any event held in the Bel Paese.

Overcoming the humiliation of this wall of silence that weighs on any event programmed in Italy, there is the desire to mingle with the crowds of paying guests from the morning that invades the space and try to analyze the many attractions that catch the eye of the visitors circulating among halls looking for the one preferred, capable of favoring a sincere awareness.

Expo Milan 2015, Italian Pavillon, photo: Mario Pisani

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[1] Corriere della sera, September 27, 2008

[2] After more than 100 years the Expo is back in Milan. The first exhibition in Italy was held in 1906 and was dedicated to transportation.

[3] Please note that during these months, the following were inaugurated: the renovation of the dock between Porta Genova and Porta Ticinese which brings water to the town centre andraises the Navigli area. The Museo delle Culture, designed by David Chipperfield, informer Ansaldo area. The transformation of an old distillery for the Fondazione Prada by, Rem Koolhaas. Bridges and roads behind the Expo site, the studio Citterio Viel & Partners. The seven towers Embattled farm with 397 class residences due to a pool of Milanese studies composed by Mario Cucinella, Teckoarch, and B22. The schoolof Design and Comunication of % + 1 AA while ending the Feltrinelli Foundation designed by Herzog & De Meuron.

[4] The first edition was held in London in 1851 as a reminder for the large greenhouse, the Crystal Palace, a precursor of modern architecture, developed by Joseph Paxton. It is worth mentioning the Eiffel Tower, ephemeral intervention

in France of 1887, which has become a symbol of Paris. The German Pavilion in Barcelona by Mies van der Rohe, rationalist architecture icon, and in more recent years the promenade of SITE in Seville in 1992. In Shanghai in 2010, it is worth noting the Spanish Pavilion by the studio EMTB that has certainly looked at the current Hall of China.

[5] I refer to those made in the Gardens by the Bay by a multidisciplinary team composed of 10 Workshops, civil and mechanical engineers, by Wilkinson Eyre, designers, and Grant Associates, landscape architects.

[6] Team: Klaus k. Loenhart, Terrain Team, University of Graz, University of Agricultural Sciences Vienna

[7] In Shanghai, there have been more than 70 million visitors. Only 18 million in Hanover and in Seville nearly 42.

Piazza del Campo, Siena.

THE PERCEPTION OF PUBLIC SPACE. HUMAN SCALE AND HISTORICAL CENTERS

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The identity relation with the places of living is related to the perception of spaces, that is the way in which the objective world becomes part of the experience of people, not only with regard to material objects, but also with regard to immaterial values well established in the collective memory of the community settled. Urban spaces are perceived by people in relation to their shape, proportion, location in a visual route. These characteristics affect both the spatial orientation and the way of use of the spaces themselves. The contemporary towns are progressively losing their connotation as spaces with precise functional characteristics, to become fluxes (of people, exchanges, relations, etc.), and are completely plunged into the development of a thick network of planetary communications, which make unnecessary and obsolete the traditional meeting spaces designed for various activities. The public space is a place for meeting and identification of community, for fun, contemplation, support to movement of persons and vehicles, an complementary area to the economic activities and a potential instrument for sustainable development. In the contemporary city are also located new forms of public space less codified and more fluid, as a result of the new forms of social aggregation. The ways and meanings, even symbolic, of the meeting, are less and less expression in the physical materiality of the space to privilege less visible forms of practices, expectations and events. The concentration of people in the areas of consumption, seems to be the main cause of the weakening and impoverishment of the city center. The loss of meaning of traditional urban spaces (squares, streets, public facilities) is attributed to new ways of life, characterized by the increasing mobility without specific geographical references. The mobility of people in its various forms increases the circulation and the areas destined to parking spaces. (Mattogno, 2002). The transformation of the public space is associated therefore to the transformation of the city, more and more composed of fragments of cities, and to the alteration of the intrinsic characteristics of a collective space, which are based on the multiplicity of uses and social gatherings and on the authenticity of the interactions. (Rodrigo Salcedo Hansen, 2002). The peculiar condition theorized by Paul Virilio of citizen of the "city without limits", which loses the references of space and time, is consistent with the new habi-

Piazza Plebiscito, Napoli. Different uses during the time.

tats produced from computerization and globalization. (Virilio, 2004). Numerous psychological studies have shown that the space assumes a precise meaning to the eyes those who live it, influencing also their emotional state. Urban spaces are perceived by people in relation to their shape, proportion, location in a visual route. These characteristics affect both the spatial orientation and the way of use of the spaces themselves. We tend to associate the physical distance not only to the degree of intimacy of our relations, but also to what we feel about a space rather than another: walking through a narrow street in an old town gives us a feeling of intimacy, while among monotonous residential buildings, always identical and far among them, we feel an unpleasant sense of disorientation and insecurity. The distance of a path is not an objective parameter, since its articulation makes subjective the perception of its length, in relation to its variety, richness, and points of interest that are encountered.Even if the view has a major role in the perception of space, beside it the other senses also play an important role: the olfactory, tactile and sonorous dimensions contribute to the recognizability of places, as it is evident especially when you consider the street markets or the fairs and festivals.The perceptive and relational system, through which man interprets the urban reality where he lives, is therefore influenced by aspects of physical and socio-cultural nature. There are dimensional aspects in the anatomical measure of the human species that determine the proportion between the movements of man and the space in which he moves. There are, at the same time, also cultural and psychological aspects that, because of the composition of the environmental context, influence the perception of space: light and darkness, isolation or overcrowding, orientation, saturation of space for the presence of other elements, clarity of information that the city is able to transmit. The perceived city, beyond the characteristics of the perceptual model which focuses on, which can be based on simplification, reproducibility and objectivity, highlights the importance of two main elements. First, the exaltation of the change. The visual perception is a phenomenon of substantial adaptation to the context, finalistic (related to a purpose) and selective. It is dominated from stimuli induced by the change and, therefore, it is sensitive to the evolution in the temporal and spatial dimension. In other words,
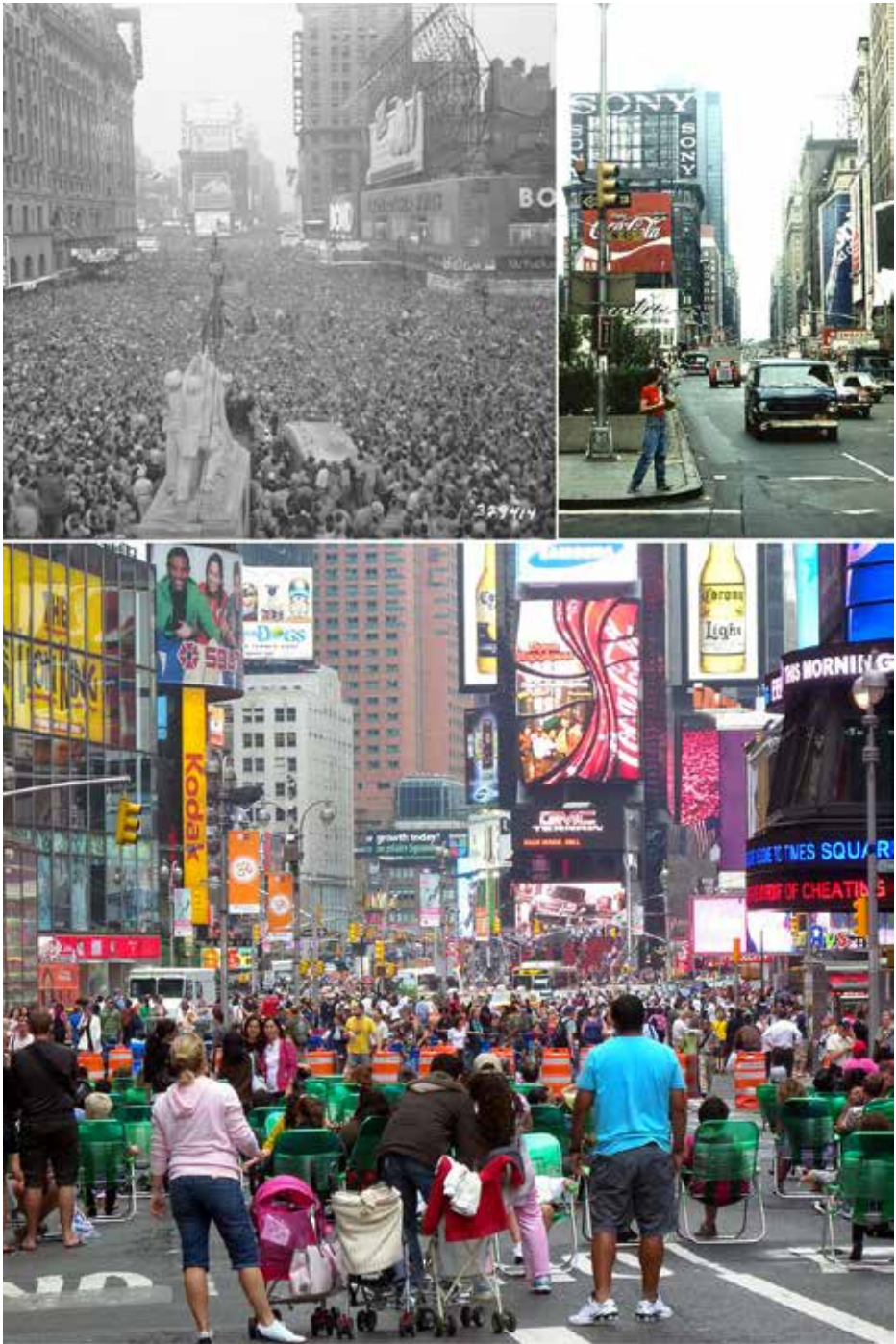
Time Square, New York. With crowd in 1945; with cars in 1977; with green chairs in 2009.

it is sensitive to the movement. Looking for perceptual characters space, it seems to be rediscovering the small dimension, the dimension of the everyday which, according to many artists, can occur especially walking on foot through the streets.Françoise Choay described the history of the western city in terms of change of scale of the urban space and corresponding modes of its equipment. Each period of history, starting from the Middle Ages, is represented by a particular type of urban space, defined by Choay as contact: the urban space of the medieval city; shows: the space of the classical period; circulation: that of the nineteenth century; and finally connection: the urban space of the twentieth century. With these definitions, Choay refers on one hand to different historical periods, on the other to different scales of the city. (Choay, 1969). In contemporary cities, with the loss of urban space as such, social life has shifted to shopping centers and anonymous spaces, while the cities of the past preserved material remains but not primary functions. Meanwhile sometimes the need of meeting spaces powerfully emerges through the request for public space, that is manifested in the great events of square, from Gezi Park to Occupy wall Street. (La Cecla, 2015). Much cue for reflection at this regard are contained in the documentary film The Human Scale of 2012, filmed by the Danish director Dalsgaard and focused on the research of the architect Jan Gehl about the main problems of some cities in the world taken as examples for his studies, for which he proposed solutions always focusing on people and their needs.On the basis of observation of Siena since the 60s, Gehl began to set a method of analysis of human behavior, observing the ways of life and social relations of the people; modes of relationship between people and environment; modes of travelling within the city; modes of distribution of activities. The conclusions taken from his analysis were that the cities to be livable, must be provided with public spaces that can hold and stimulate human relations. In his study, published in 1971, identifies different types of outdoor activities: "necessary activities" as moving to go to work, and "optional activities", such as stop, sit on a bench or at a bar. The first are independent from urban quality, while the latter are closely related to it. "People only engage in optional activities when the place and the circumstances are right, when the settling into squares and
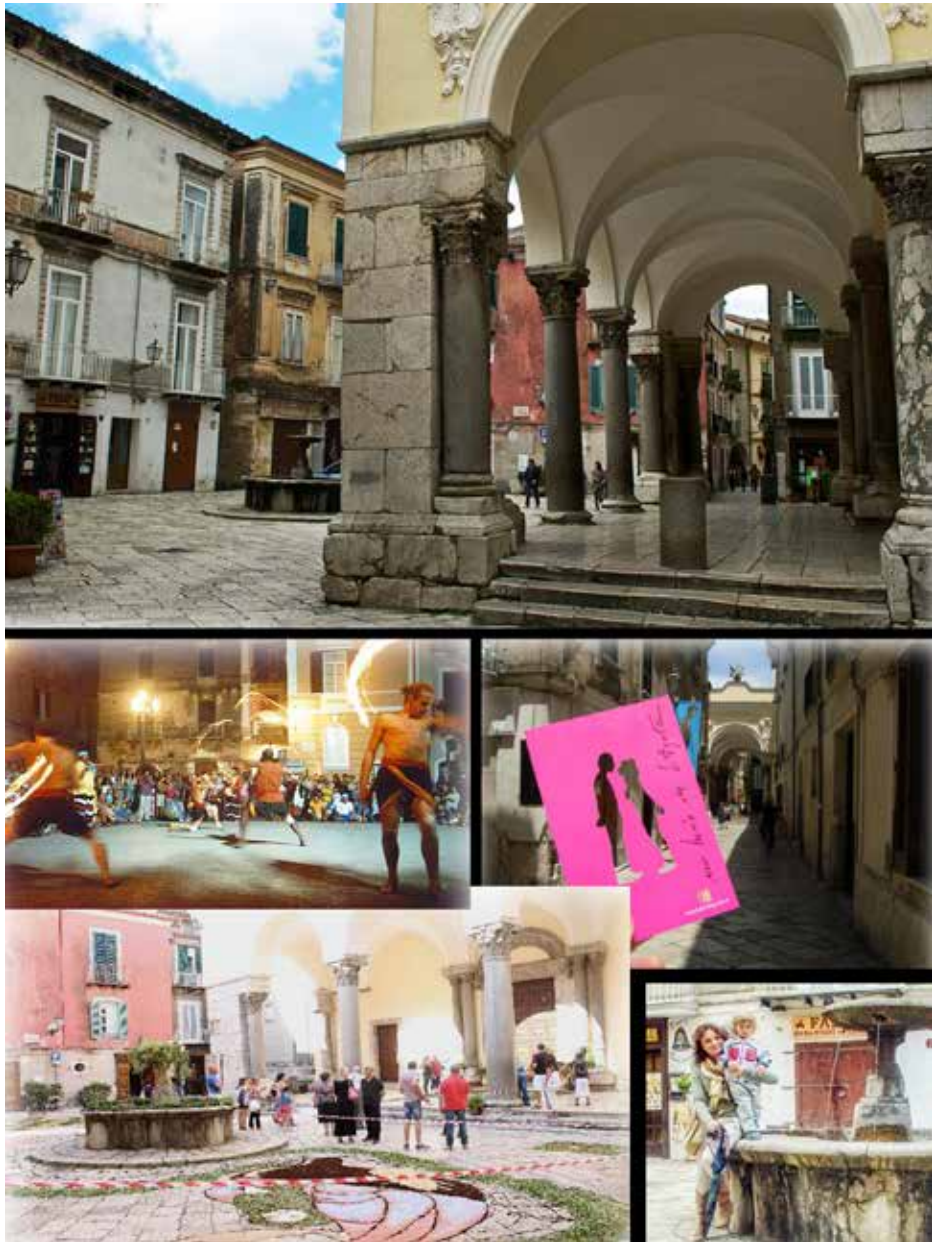
Piazza Duomo in Sant'Agata dei Goti. Fruition of a square at human scale.

spending time in the city is distinctly pleasant". (Gehl, 1996, p. 59). In conclusion, the city needs to be articulated more in line with the needs and tastes of its inhabitants. For this purpose, should be encouraged all the practices of re-appropriation of public space restoring the relationship between city and citizenship, as demonstrated by several projects of requalification of the center with the addition of meeting places, bars, restaurants, shops, which led people to return to frequent and live the public space.

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The sign above the door reads: EDIFICHERÒ LA MIA CHIESA

THE CHURCH OF "SAN PIETRO IN CATTEDRA" IN CASERTA DESIGNED BY MARCELLO CANINO

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The conferment of the historical and artistic value to the most ancient architectural structures by the administrators and by the population is relatively simple, because the old age of a building is usually considered as a sufficient reason to acknowledge its value. Instead, to confer an analogous recognition to edifices built during the twentieth century becomes difficult because, on the contrary, to the "modern" constructions is usually uncritically assigned a negative judgment. However, it must be remembered that the our research activity in the territories of Caserta in the recent past led to the acknowledgement of remarkable architectural and urban structures, conceived and achieved around the half of the twentieth century, previously neglected or underestimated by the researchers. As case study it is presented the Church of "San Pietro in Cattedra" in Caserta, designed by Marcello Canino (Naples, July 3, 1895 – October 2, 1970) professor of architecture from 1930 to 1969 and dean of the Faculty of Architecture in the University of Naples from 1943 to 1952. He flanked an intense professional task to his academic work.

During his successful career he designed and built, in addition to various public and residential buildings and city plans, some interesting ecclesiastical buildings. His first job in this trade dates back to 1932, with the winning participation in the competition for the church of the Maddalena in Messina.

The project of Canino, not carried out, proposed an original interpretation of the basilical space, in which the reinforced concrete structure defined the volumes of the building, drawing a vivid game of cylindrical and hemispherical elements, relatable to the spatiality of the Sicilian Arabic-Norman cathedrals. Twenty years later, in 1951, Canino took part in the competition for the church of San Giovanni Bosco in Rome, organized by the Pontifical Commission for the Holy Art obtaining the third prize among one hundred and one competitors, with the project of a church with a basilical plan, covered by a great dome and characterized by a great trefoil transept.

The architect, during that important competition, experienced composition themes; solutions then adopted in the churches built in the fifties-sixties in Caserta and in the province of Benevento. In fact, in the structure of San Biagio in Limatola (1954-60) and in the church of Santa Giuliana in Frasso Telesino,

built in 1958 after the demolition of the preexisting eighteenth century church, Canino proposed again the same elements from the Renaissance – arches on the facade, ribbed vaults, modular scanning of the wall surfaces with duotone divisions, etc. - already presented in the projects for the church of the Maddalena in Messina and for the Basilica of San Giovanni Bosco.

Referring to future opportunities to study in depth the mentioned churches in the province of Benevento, will now be analyzed the church of San Pietro in Cattedra in Caserta that, with the one of San Giovanni Battista in Naples, can be considered the ecclesiastical architecture of greater significance made by Canino.

The building, inexplicably indicated as "not built" in the monograph on Canino in 2005, is actually located in via Vescovo Natale in Caserta, in accordance with the design. However, there is an evident inconsistency between the dating within 1940 and 1958 attributed to the project in the monograph and the dating of technical drawings preserved at the Technical Office of the Diocesan Curia of Caserta, approved by the Pontifical Commission for the Holy Art during the assembly of May 25, 1966 and by the Civil Engineering of Caserta on October 18, 1968 [3].

It seems unlikely the dating of 1940, perhaps when Canino elaborated the project of an unidentified church in Caserta. It is probable, however, that the design of the new parish structure took place simultaneously with the one of the district Tescione, started from the Technical Office of the Institute Independent Public Housing of Caserta in 1956-57, while its construction can be traced back to the late sixties, when the realization of the new district was in the final phase.

In fact, compared to the graphics project and to the image of the three-dimensional model published in the monograph [2] the bell tower, the baptistery and some other rooms are missing in the parish structure, so that only the construction of the church could be attributed to economic problems, that would justify even the ample time period between the design and execution of the work.

An authentic manuscript preserved in the private archive of Canino, justifies the choice of the elliptical drawing, which allowed him to place the presbytery in order to have good visibility from every point of view of the church.

Other observations by the designer described the articulation of the wall struc-

ture, configured by a series of niches, and vaulted with lunettes, supported by 12 circular pillars, leaning against the interior perimeter of the church.

Apart from the chronology of the building and the reshuffle on the original project, the ecclesiastical building results very interesting because it shows a singular interpretation of the planning theme of the elliptical structure, experimented by Canino himself during the contest of the Auditorium of Rome (1935) and by Marcello Piacentini, with whom he attended since 1920's, in the church of Divina Sapienza in Rome (1947-48).

The comparison with the Auditorium's project could seem forced, both for the different functions and the size of the two buildings, and because, by his own admission, in that occasion Canino had commensurate to the German architecture of 1920-1930, contemplating most of all the Totaltheater of Gropius. However, beyond the clear difference of the languages, the theater of Canino was different from the model of Gropius because it inverted the orientation, arranging the stage on the short side of the ellipse, as he would have done later with the Caserta's church's altar.

Then, the dialectical relationship between empty space and full space of the Auditorium's prospectus – established by radial pillars, that sustain the roofing, alternated to recesses built in the masonry – remembers, even if with different expressive ways, the game of recesses and pillars along the curved perimeter of the building to obtain a chiaroscuro effect.

The jointed wall register of the church of the quarter Tescione represents, in fact, the successful conjugation of an architectural concept of Canino's poetry and recurring in his buildings, which always show wall surfaces very articulate. The comparison with the Divina Sapienza moves, instead, the interpretative speech on Canino's historical flair, never ended, who would get inspiration, as Piacentini did before him, from the roman baroque architecture, at least in the geometrical shape chosen.

Indeed, the harmony between the two buildings seems to be very evident in the features of the architectural space, with the insertion of the major altar at the end of the short axis and the enlargement of the long axis farther the ellipse's perimeter, as well as in the covering of the bricks in view of the outside. Canino,

however, looked for a bigger joint in the treatment of the walls, illuminated and overshadowed at the external by a blind sequence and inside the ecclesiastical hall by the theory of the recesses squared by the slim circular pillars which sustain the dome. About the dome, with its reduced curvature and placed on a proportioned tambour totally windowed, it completes the balanced volumetric composition of the building, interesting for the almost metaphysical nature which seems to alienate it from the surrounding setting.

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APPROACH	VALUE	METHODS
		P.D. 207/10
willingness to pay	Market value Cost value Transformation value Subrogation value Complementary value	
attribute	Use value Non-use value	ACM AHP Electre Evamix TOPSIS
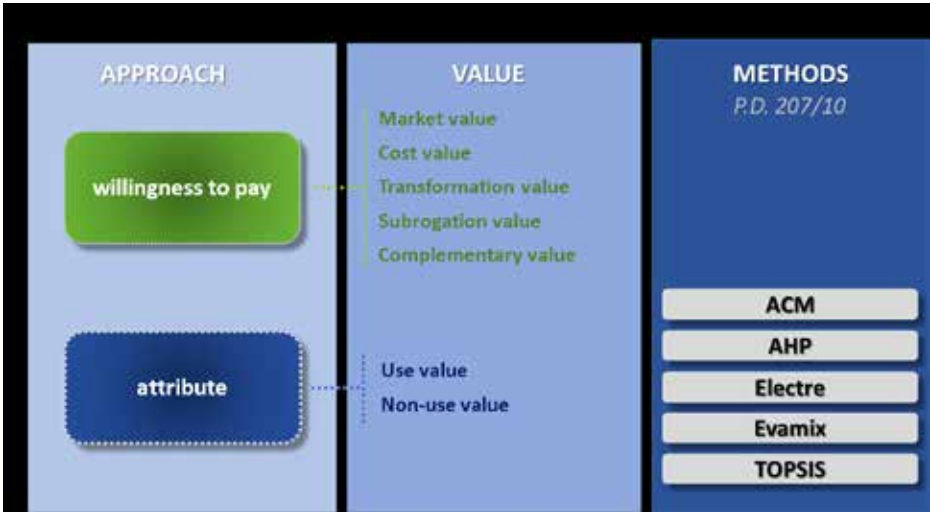
TECHNOLOGICAL DESIGN AND CULTURAL HERITAGE: PRESERVE IMPROVING ENERGY QUALITY

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Introduction (by AV)

According to the strategic-political view oriented to optimize the energy and environmental performance of building, the Cultural Heritage represents a strategic sector. It is largely made up of public buildings with an exemplary role (cf. Art. 5 2012/27/EU Directive), these kind of buildings are often "widen" used by a significant number of subjects. Moreover this type of heritage has the priority in the protection and conservation of historical and architectural characters; in fact, it is drastically limited the typology of interventions that can be implemented on them. According to Art. 3 of L.D. 192/05 as amended by L. 90/13, the only buildings exempted from the decree (falling in the typology referred to the art.136, par.1, let. b) and c) of L.D. 42/04) are those for which the compliance with the requirements could substantially modify their character or appearance, with particular reference to historical, artistic and scenic features. This means that in these buildings the law hopes, anyway, for the achievement of energy efficiency targets, but, identifying technological solutions that can be compatible with the requirements of conservation of the building. Consequently, the need of energy and environmental sustainability also emerges clearly from consolidated contracts. Pursuant to art.83 of L.D. 163/06 and as amended, the award criterion of the most economically advantageous offer rewards the best quality/price ratio and introduces, among the relevant criteria, the environmental characters and the reduction of energy consumption (integration of L.D. 113/07). Starting from the current legal framework on public tender, this paper illustrates the requirements needed for consolidated contracts and the technological solutions can be implemented for a particular type of built heritage: the Cultural Heritage.

The most economically advantageous offer criterion (by FV)

The P.D. 207/10, execution and implementation regulation of L.D. 163/06, about the "Code of public contracts for works, services and supplies," at Annex G which regulates the calculation methods, it identifies the Multicriteria analysis as the assessment methodology of the most economically advantageous offer and it establishes the possibility of using methods such as:

- Aggregative compensator or the weighted sum,
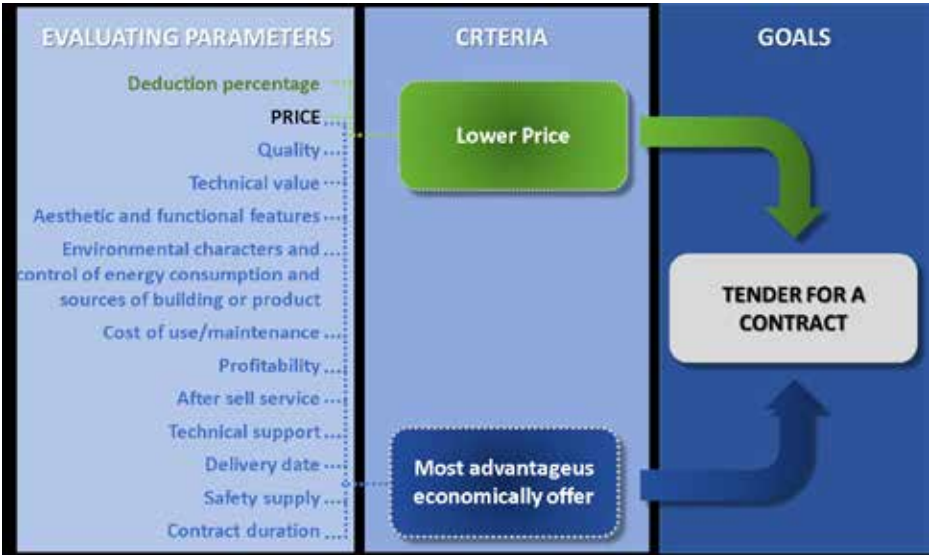
- Analytic Hierarchy Process (AHP)
- Electre
- Evamix
- Technique for Order Preference by Similarity to Ideal Solution (TOPSIS).

The multicriteria methods are decision support systems (MDSS), which help the decision-makers in their choices, streamlining the evaluation process, without imposing choices and predefined solutions. This multidisciplinary approach uses the method of the points of view (economic, social, environmental, technical and administrative) to give a rational basis for decisions based on the evaluation of multiple criteria (qualitative and quantitative), with an associated weight vector, which expresses the political and administrative discretion of the contractor. The MDSS identify which one of the achievable alternatives presents the best combination of the targets, so that it can't be improved in respect of one of its features or attributes (cf. Council of State, Sec V, Judg n. 5583/2011). Each method has its limitations and its potentialities, reflecting the real scenario according to which there isn't a best solution for the allocation of resources. For example, the Aggregative compensator method, the most widely used because it is the easiest to govern, is sensitive to the method used to assign the weightings of the criteria. Instead the Electre method, is independent from the scale of reference values and provides the same results if are maintained constant the differences of the different offers for the same criterion. The second phase involves the formation of the ranking, applying the method provided in the tender documents.

The requirements from the consolidated contracts (by AV)
The specifications for tender consolidated contracts of latest generation provide, in the technical offer, the improvement of energy performance of the building differently from call to call. For example, the call for the Museum of Contemporary Art, the exhibition space and artists' residence of Palazzo Caracciolo of Avellino - Naples (CASE 1), the energy criterion has a relative weight of 20/75 on the total technical bid. In particular, equal importance is given to the utility systems (especially cooling systems) as innovative improvements to

	CASE 1	CASE 2	CASE 3	CASE4
TIMES: design	2	0	2	0
TIMES: works	3	10	10	5
PRICE: technical costs of design	5	0	0	0
PRICE: contract value of works	15	15	25	20
TECHNICAL OFFER: reduction energy consumption	20	55	11	15
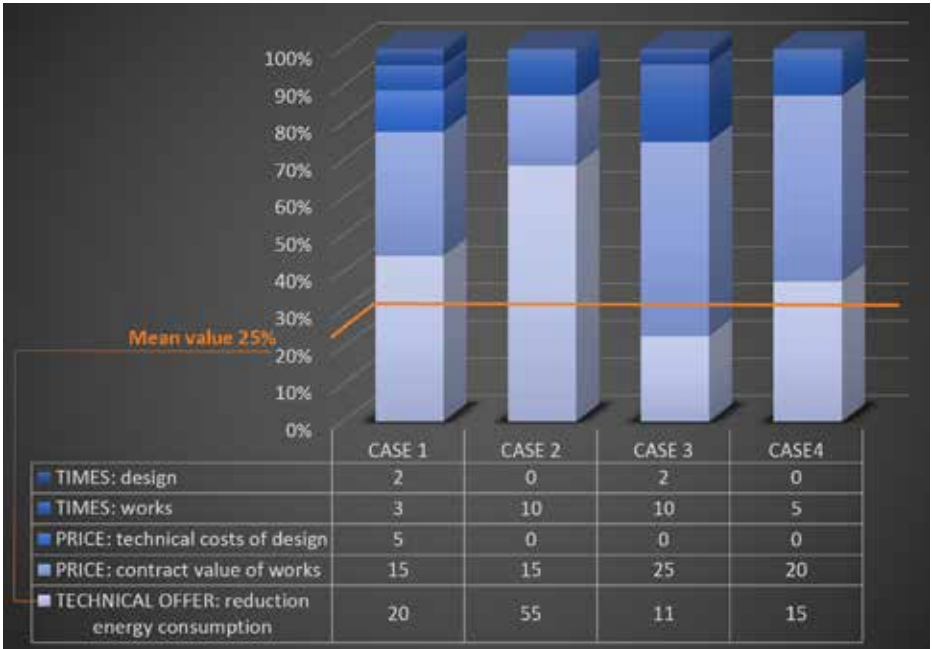
that ones contained in the project based bid and the building's energy performance. In the case of call for the energy efficiency of buildings encumbered by architectural constraint Air Force Academy/Caserma Parisi- Naples (CASE 2), the optimization of the thermal characteristics of the frames (global transmittance) and roof, together with the optimization of utilities choices (lighting, production of hot water and heating) have a total weight of 55/70. In the case of the call for works of restoration and functional reorganization of the complex Mezzocannone n. 16 - Naples (CASE 3), the technical improvements and the technological solutions related to energy savings have a weight of 11/33, although improving indoor microclimate, due to equipment and materials properly selected, are factors expressed within the two evaluative criteria of the works. Finally, the specification of the tender for the adjudication of the work related to the project called "The Gates of Parks" Municipalities of Francolise - Alife - Calvi Risorta - Rocca d'Evandro (CE) (CASE 4), gives 15/75 for the materials, technologies and equipment capable of ensuring efficiency. Therefore, the reduction energy consumption affects on an average of one-fourth of the score appointed to the technical offer. It is relevant for funds earmarked for cultural heritage! It remains to select the energetically efficient technological solutions, implemented in accordance with the historic architectural value of the building. The path to a greater reduction in energy requirements boosts to the identification of technological solutions, also innovative and high-performance materials, they need to be appropriate to the level of expected technology integration in historical contexts and to the instances of the conservation project.

Compatible technological solutions for building envelope (by MC)
In the restoration of a historic building, the stratigraphy choice has to be made to meet the requirements of reduction of energy demand for winter heating and energy requirements for summer cooling and the control of the temperature indoor; respect of the limits imposed by the decrees 26 June 2015 implementing L. 90/13, regarding the requirements for the thermal transmittance of opaque and transparent components; compliance with the limits imposed by P.D. 59/09 for the periodic thermal transmittance, in order to ensure summer comfort and

	Tipo di materiale	Materiale	Spessore [m]	Massa Superficiale [kg/m²]	Resistenza [m²K/W]	Spessore equivalente d'aria [m]
		Superficie esterna			0,0400	
1	INT	Termointonaco Sanwarme	0,030	42,00	0,5357	0,300
2	ROC	Tufo	0,800	1200,00	1,2698	16,000
3	INT	Termointonaco Sanwarme	0,030	42,00	0,5357	0,300
		Superficie interna			0,1300	

Parametri dinamici	Valori invernali	Valori estivi
Trasmittanza periodica:	0,000 W/m²K	0,000 W/m²K
Fattore di attenuazione:	0,000	0,000
Sfasamento:	12h 40'	12h 47"
Capacità interna:	23,642 kJ/m²K	23,828 kJ/m²K
Capacità esterna:	27,426 kJ/m²K	25,880 kJ/m²K
Ammettenza interna:	1,719 W/m²K	1,733 W/m²K
Ammettenza esterna:	1,994 W/m²K	1,882 W/m²K

Thermo-plaster Sanwarme

Tuff
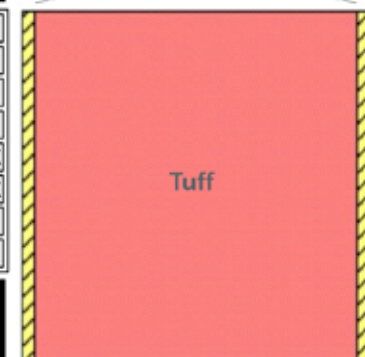
Thermal Transmittance
0,398 W/m²K

3   80   3

86 cm

the requirement of solar control on transparent and the opaque surfaces. Responding to the mandatory legislative requirements, such as the one on the thermal transmittance is not always easy, because the thermal insulation of the existing structures presents many problems. In most cases, in fact, it is impossible to isolate from the outside.

In addition, the realization of a layer of interior insulation with double panel may be incompatible with the presence of frescos on the walls or vaulted.

The insulating material must be selected with appropriate criteria. Firstly, the lower the conductivity is, the lower is the thickness necessary to ensure the expected thermal transmittance.

This is an important aspect considering that the historic buildings have generally already very thick walls.

The technological research has developed high performance materials, such as nanotechnologies that combine amorphous silica Aerogel ™ and reinforcing fibers to realize an high performance product with an excellent thermal conductivity. However, very often the only intervention compatible is to apply a layer of thermal insulation plaster.

In this case, the best feasible solution is to create two layers: outside and inside, so to achieve an adequate performance of the wall even with layers of a few centimetres.

Generally, it is easier to redevelop roofs and floors on the ground, realizing stratigraphy with high-energy performance.

A strategic element for the reduction of energy requirements is the replacement of existing frames, which is an operation compatible with the conservation requirements of building and with the restoration project.

The project, to be effective, needs to pursue multiple goals:
- improve the overall thermal performance of the system frame (profile + glass), choosing solutions that ensure the best performance in terms of thermal transmittance
- meet the article 4 of P.D. 59/09, which provides as an alternative to the pres-

CARATTERISTICHE ENERGETICHE	EN 410
Fattore solare - g (%)	37
Riflessione energetica - ρe (%)	37
Trasmissione energetica diretta - τe (%)	30
Assorb. energetico vetro 1 - αe (%)	24
Assorb. energetico vetro 2 - αe (%)	2
Assorb. energetico vetro 3 - αe (%)	6
Assorbimento energetico - αe (%)	32
Coefficiente di shading - SC	0.43
Trasmissione dei raggi ultravioletti - UV (%)	0
Selettività	1.7

Thermal Transmittance
$0,5 \ W/m^2K$

4 mm Planibel Low-e Energy NT pos.2 - 12 mm Krypton 90% - 4 mm Planibel Clear - 12 mm
Krypton 90% - 44.2 Stratophone Low-e Planibel Top N+ + Planibel Clear pos.5

ence of external screening systems, the use of glass surfaces with solar factor (UNI EN 410) less or equal to 0.5
- not to reduce excessively the solar gain in the winter season(avoiding to use glass with too low solar factor), to not affect the thermal energy demand for heating (UNI TS 11300-1)
- ensure adequate natural lighting conditions
- find solutions that don't significantly alter the façade of buildings, aware of the architectural quality of the area and the architectural constraints and scenic regulations.

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MULTIMEDIAL AND INTERACTIVE GRAPHIC SCENOGRAPHY FOR SAN GENNARO'S HISTORY

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San Gennaro is the patron saint of Naples, martyred in Pozzuoli on 19 September at the time of Diocletian. However, for the Neapolitans rather than Patron Saint, San Gennaro is first and foremost reason of worship, known worldwide so that the inscription placed in the Treasury Chapel in the Cathedral of Naples which recognizes him as 'Freeman, Patron, Defender' of the city.

Nevertheless, when and why the cult of San Gennaro was founded in Naples is still relatively unknown. Little is known about the life of the martyr.

Scientific studies on the remains of his body have resulted in him as being young, 30-35 years old, of average height, with his name also being uncertain – that was apparently Proculus – "Gennaro" seems that it may have been a surname, demonstrating belonging to the Gens Ianuaria, rather than his name. The name "Januarius" was related to those who were born in January, holy month of the two-faced god Janus.

The few existing sources attest the martyrdom of Gennaro around 305 when as the young Bishop of Benevento, he went along with the deacon Festus and the Lector Desiderius of Miseno to participate in a liturgy of the Deacon Sossio. Fate wanted that during the journey, the deacon Sossio was imprisoned for being a Christian.

Upon hearing the news, Gennaro, Festus and Desiderius went to jail to comfort him but were arrested on the same charges. Questioned by the judge Draconzio, they did not denounce their Christian faith and were , therefore, sentenced to death by beheading at the Solfatara of Pozzuoli.

Buried in the marsh countryside near the basin of Agnano, on April 13 between 413 and 431, the Bishop of Naples, Giovanni I transferred his remains to Naples to a catacomb on Capodimonte Hill, subsequently called the "Catacombs of San Gennaro".

In the 9th century, the martyr's bones were stolen by the Lombard Duke Sicone, who claimed them as his, while only a few bones of the skull remained in Naples. In 1480, there were reports of the discovery of the bones of the body at the sanctuary of Montevergine, but the remains of the Saint only returned to Naples on January 13, 1497 and at the behest of Bishop Alessandro Carafa. Since then they have been kept in the Crypt of San Gennaro in Naples Cathedral. Follow-

'San Gennaro' by Massimiliano Bertolino (2009).

'Candida a Januario'.

Januario

'Caos napoletano'.

'San Gennà' by Studio Artémia (2013).

Miracolo totale' by Riccardo Ruggiano (2012-2013).

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326
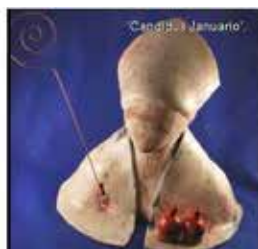
ing his death, how the young Bishop of Benevento (and, therefore, 'foreigner') became the patron saint of the city of Naples is still open to debate, with opinion seeming to place the reasons between the sacred and the profane (Fig. 1).

The oldest sources attribute this role to San Gennaro as early as the first half of the 5th century, with there being an oratory dedicated to him on the site of the martyrdom as early as the 6th century.

The martyrdom of Gennaro is undoubtedly one of the reasons that sees the founding of the worshiping of this young 'foreign' Bishop in Naples. As was in use among Christians of the time, upon being beheading, a nurse, the legendary Eusebia, collected the blood of the young martyr in an ampoule.

Thus, originating the story of passion that has been repeats in Naples for centuries, the miracle of the liquefaction of the blood of San Gennaro, which involves the entire city three times a year: the Saturday before the first Sunday in May (translation of the body of Gennaro from Agnano to Capodimonte and the first miracle); on 19 September, martyrdom; on 16 December, when in 1631 San Gennaro, invoked by the Neapolitans, stopped the lava of the Vesuvius that had reached the gates of the city.

The first Act, which historically documents the liquefaction of the blood of Gennaro, dates back to August 17, 1389. The miracle of the liquefaction of the Saint's blood is a passion and faith that unusually binds the Beneventan martyr to the Neapolitans, so much so as to recognize him as the patron saint of the city of Naples following the Christianization of pagan myths.

The siren Parthenope (which refers to the myth of the foundation of the city of Naples) and the great Roman poet Virgil had been worshipped by Neapolitans as protectors of the city from invasions and natural disasters.

As a result, in Neapolitan, there was the idea of Virgil as a 'Magician' who worked to protect the city. It is therefore legitimate to think that after the advent of Christianity, the pagan myth of Virgil as a protector of the city was transformed into the rite of San Gennaro, a young martyr "capable" of an unexplained miracle, to whom to ask to protect the city from hunger, war, plague and the fire of the Vesuvius.

San Gennaro's role as patron of the city was sanctioned the January 13, 1527

when, in the presence of notary Vincent de Bossis and representatives of the Seats, the Neapolitans signed an official act and one of a kind, "vote of the city of Naples" with the Saint, with the sum of 10.000 ducats for the construction of a new Chapel of the Treasure should San Gennaro had save the city from the plague and the eruption of the Vesuvius.

On that occasion, the Deputation of the 'Treasure of San Gennaro' was founded, a secular institution that is still active today and has today more than 25.000.000 devotees worldwide.At the time of the founding, the aim of the Deputation was to maintain the cult and the Treasure of San Gennaro, a priceless collection of masterpieces (Fig. 3).

San Gennaro accepted the vote, the disasters were stopped and on December 13, 1646 the new 'Chapel of the Treasure of San Gennaro', built inside the Cathedral of Naples, was blessed. In the Chapel, there are the relics of the Saint, the ampoules containing his blood (the largest of which, is dated to the 3rd-4th century, where today there is the miracle of liquefaction) as well as the bust of San Gennaro, in which the bones of his skull are preserved.

The bust, made by goldsmith's from Provence and commissioned by Charles II of Anjou in the early XIV century, was made of gold and silver and coated with precious gems, enamels and decorations depicting the insignia of the Angevin House (Fig. 2). Sacred and profane, faith and secularism have always fueled the cult of the patron saint of Naples so as to establish an unbreakable link between myth and ritual, that returns the figure of San Gennaro as an intangible figure of Mediterranean and overseas cultural heritage.

For the local population, the miracle of the liquefaction of the blood takes on the value of a tangible sign that the Saint endorses their conduct and, to that effect, renews the Pact.

Incitement of the miracle is, both, an act of faith and passion, highlighted by the presence of all the citizens, rich and poor, but especially tied to the image of the procession through the city, with every Neapolitan having established a personal relationship with the patron saint so as to ask in time of need such as serious events, such as their own health or of family members, but also the more profane winning of the "lottery".
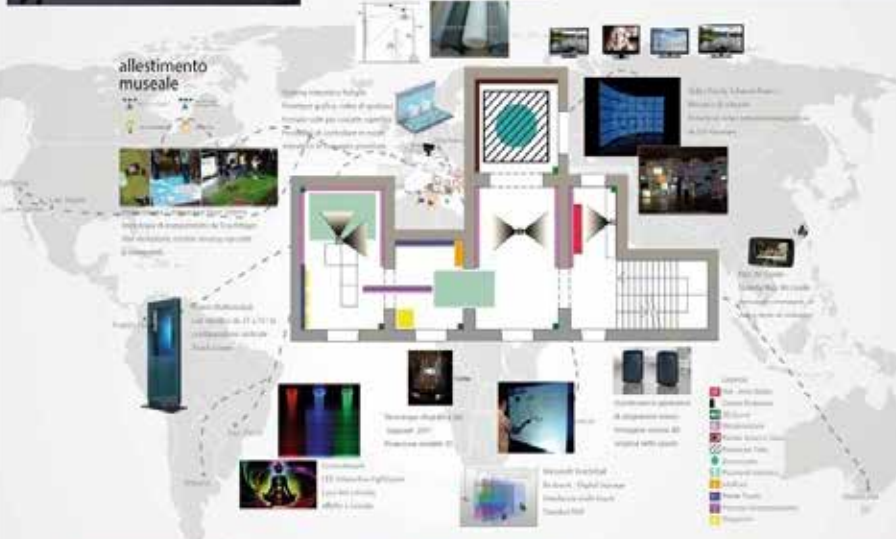
In particular, in the context of the social image of the Patron Saint, the incitement to the miracle is tied to the image of the 'Parenti' (relatives), women who during the miracle sit in front of ampoules and with prayers and rituals, which are handed down from generation to generation, incite the Saint to quickly perform the miracle in order to express his approval and renew their Pact.

Their presence seems to have originated from the multiple contexts: from the legendary female figure of Eusebia; from a blood bond with the Saint due to sharing the surname 'Ianuario'; from the folk tradition of 'trenodia', lamentation or dirge that takes place on the occasion of the violent death of a young man (Fig. 4).

For these reasons, San Gennaro is an emblematic figure that is also interesting in contemporary art (Fig. 7).

In more recent times, from 1800 up until the sixties of the last century, the spread of the cult of San Gennaro even reached overseas. Southerners who, embarked on "large ships", as emigrants to New York, Toronto, Rosario, etc., taking to these foreign lands the last image of their world: that of the outstretched hand of the statue of San Gennaro, which is located at the end of the pier in memory of the role played by the Saint to protect the Neapolitans and their city from the lava of Mt. Vesuvius, it now seems to greet them and bless them on this journey that for many, there will be no return (Fig. 5).

This new protection image of San Gennaro will be an opportunity to build on these "very distant lands" a national identity and a cultural model that has no equal in the world (Fig. 6).

The Museum of "Tesoro di San Gennaro" in Naples collects the testimonies of San Gennaro history. The students of "Graphic Creations" (prof. Ornella Zerlenga, Second University of Naples) designed a multimedial and interactive graphic scenography to tell us everything (Figg. 8-10)

Ornella ZERLENGA

332

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Transamerica Pyramid Center, San Francisco, California, photo: Alessandro Ciambrone

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Alcatraz, San Francisco, California, photo: Alessandro Ciambrone

Transamerica Pyramid Center, San Francisco, California, photo: Alessandro Ciambrone

ITALY AND THE U.S. – HERITAGE TOURISM MAGNITUDE, PROFILE, ECONOMIC, CONTRIBUTION PROMOTION AND CHALLENGES

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Rossella Bicco
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Naples, historical centre: double altar with official and not official cult.

TOURISM AND INTANGIBLE HERITAGE
SOUTHERN ITALY AND NAPLES

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The concept of Heritage has been evolving over time. In particular, in 2003 there was recognition, by UNESCO, of the notion of Intangible Cultural Heritage [1]. Before this moment, the concept of culture was based on the notion of Heritage as material objects characterized by high status of beauty or excellence; after, there was a movement to a more elaborate idea of heritage, that were considered in this complexity.

Immaterial Heritage has connotations in a subjective and social element, that together with the material and territorial part is essential for the creation, but also a re-creation of heritage. Consciousness of ones own immaterial culture could be the key to improve local people identity and consequently values and self-respect. Cultural tourism – intended as a tourism that has also the intent to experience cultural heritage, have to be properly managed. In fact, the tourism and travel industry can bring substantial benefits on both macro and local levels. On the contrary, if tourism is not well managed, it could also degrade and damage, - sometimes irreversibly - the same resource, misinterpreting it's real essence in order to improve a sort of spectacularization [2]. . This is the reason that tourists that have to deal with intangible heritage must take consideration of sustainable development [3].

This leads to the concept of cultural responsibility, that is described as an attitude that should guide human relationships and economic behavior, in an anthropological sense [4].

It is important to understand that protecting immaterial heritage is not a matter of freezing it in his form: intangible heritage has the main characteristic to be a living heritage, and is developed in communities in a spontaneous form.

One of the most characteristic features of intangible cultural heritage is the fact that this kind of local culture is passed down from generation to generation, consequently the concept of intergenerational transmission has to be one of the central points necessary for sustainable development, that need care (because of the fact that just one missing ring in this chain could compromise ancient know how and traditions. This almost happens to the traditional dance in Luang Prabang, Cambodia: the Phralak Phralam dance survival is due to cultural tourism. In fact, after a long time of war and violence this dance ceased in the

Naples, historical centre: particular of an altar dedicated to Purgatory Souls.

early '60, and the dancers and the musicians of the royal court dispersed; in the 1990s just four dancers and three musicians lived in the country. Afterwards, there was a cultural activity in which tourism was an essential part, and actually this ancient dance was restored, with the UNESCO contribution [5]. We could say that in this case there was a mutual support: (a) clever and sustainable tourism did not degenerate the intangible heritage, but created the basis – cultural and economic - for it's restoration.

Art. 16th of UNESCO's declaration on Intangible Heritage consist in a list of cultural expressions that fit the description in (the) art 2nd : are inscribed in the word intangible heritage list four cultural treasures from Southern Italy. These are the Sicilian Opera dei Pupi (an old and poetic puppet's theatre) from Palermo; the traditional cultural practice of grape cultivation in the island of Pantelleria (Sicily), and two practices) from Campania : the Celebrations of big shoulder-borne processional structures, that consist in great festivity in which the man of the community carries some extremely heavy and tall processional frameworks on his shoulers (Nola, Sassari and Viterbo), and Mediterranean Diet (represented by the areas of Soria, Spain; Coron, Greece; Chefchaouen, Morocco; Cilento, Italy) [6].

In this paper we want to highlight a particular kind of typical Neapolitan practice that could fall within the article 2.2.c: social practices, ritual and festive events, that in this particular moment need a particular care, because they are in fact slowly dying off.

We are talking about the strong boundary between Naples citizens and the Dead: in particular, in the old city is still alive a kind of semi-religious communication with the Souls of the Derelicts.

This is not a Christian cult, but it was born in the Catholic church, during the year of the great Plague (1656) that reduced the population of the city to two fifth of the original number of citizens. [7].

During those times there were a lot of corpses on the streets, and a great part of them had no relatives that could pray for their souls- so there was a rise in this cult's activity, when people take care of unknown corpses and bones – in particular skulls – praying for them.

Naples, Santa Maria del Purgatorio ad Arco. Detail of the external decoration.

But, evolving in time, this became not just an act of charity – aimed at preventing their souls being penned in the Purgatory forever – but also a way to obtain more from God.

In fact, these souls – called also "Purgatory Souls"or "Forgotten Souls" – are considered as closer to God than living people, because of the fact that they are in the afterworld. As God was considered to be so far from normal people, and the population of Naples saw the souls in need of prayers to elevate them to heaven, (and so started to pray for them in order that they pray God for living). It was, and is, still perceived as an exchange, but there is a real attachment of the living for the dead [8]. The cult it is evolving in time, and the request has become more and more modern (as to request for the right lottery number) and a great part of iconographic features of the cult and related altars are changing. The same characteristics of the street altars are really particular in Naples: it is not rare to find a great altar with the "normal" cult (as Chist, or Maria, or Saints) up and a little case-altar down (pic. 1), and this contains some little wooden figures that represents the dead souls in the flames (the Purgatory Souls), together with miniaturized skull representing Calvary, and, actually, a picture of the dead (pic. 2). There are also reminiscent of the Neapolitan art of Presepio (the nativity scene set-up), that are clearly visible in the staging of the small statues and of the case, that in the most ancient cases present a theatrical model, as it would be a cave , painted in the red of the hell the lower part, and the bright blue of the sky in the upper, to outline the passage to a better afterlife.

This kind of anomalous cult is visible at present in a church that is situated in the middle of the old town, Santa Maria delle Anime del Purgatorio, an unusual church decorated with the images of human bones (pic. 3). This was the heart of the cult of the abandoned souls, in which the human remains of unknown people were preserved , along with some bones that were considered to be particularly powerful and "operating", that were called with familiar names (as "Lucia").

Another important core aspect of this cult is situated in the northern part of ancient city, in tuff mines that during the great plague were converted into enormous ossuary, the so-called "Fontanelle" cemetery. The particularity of this
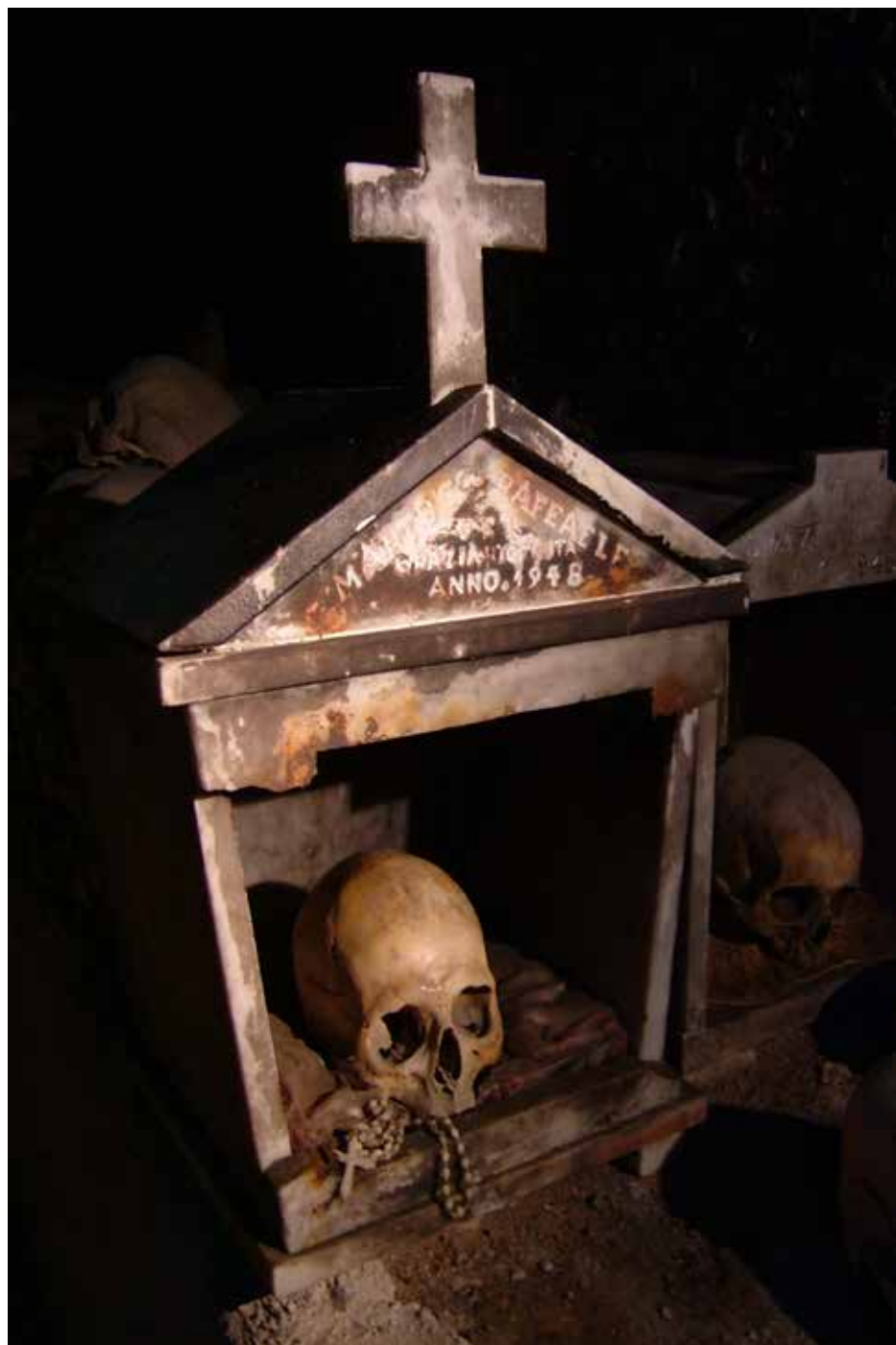
Naples, Fontanelle Cemetery: Devotional Box for a skull (Ph: courtesy D. Maniello Archive; http://www.donato-maniello.com/).

place was in the fact that women from populace were in the habit of choosing a skull to take care of, and bring it "refrisco" (refreshment from the flame of Purgatory), in hope of returned favours from the afterlife []. The skulls that were considered particularly operating had the reward of a wooden case that was a testimony their importance (pic 4, 5).

In 1969 the Catholic Church – under a process of restoration of ritual - denounced this cult as pagan and superstitious. Actually it is tolerated by institutions – that have their eyes on the evidence of continuation - but is prosecuted by the official cult; this is the reason that a great part of altars have been abandoned or subject to vandalism. But it is possible to observe a great resilience, and altars that were vandalized have been restored by some individuals in the community. Moreover, it is clear that something is changing, and this cult is subject to a syncretism with more actual cult, in particular the one related to Padre Pio, a saint that is seen as close to the poor population.

Actually, all these rituals, that form an integral part of the soul of the city of Naples, is transfered by the goodwill of few and isolated ones, and risk extinction. Perhaps, it would naturally convert in a more soft and syncretic kind of spirituality, but is an important immaterial heritage that forms the heart of the city of Naples, and needs to be preserved as a material one. We are not talking about the restoration of altars – that are important, but are just the material manifestation of something that is more profound and deeply-routed - but to recognize this uniqueness to preserve the spirituality that lays down the material manifestation of the cult. In particular, it would be important to lead the population – especially the younger generations - to recognize the Importance of this ancient tradition as part of their history and distinctiveness [8].

Responsible and sustainable tourism could improve the consciousness and awareness of these traditions and increase the possibility of management by the community, that actually is present but, in a certain sense, beyond the boundaries of law .

However, there is the primary need for a first official inventory and catalogue of all the expressions of this particular culture, in order to preserve it. However, it is important that the community do not completely forget this form of religiosity,

Naples, Fontanelle Cemetery: Monumental Altar for the Purgatory Souls (Photo: courtesy Donato Maniello Archive; http://www.donatomaniello.com/)

and there are good possibilities to safeguard it, increasing the sense of belonging inside the community, that must be helped in managing is own culture.

This is one of the most important things in intangible heritage: the institutions, both civil and religious, could help in the safeguard traditions, but a great part of this work is competence of the same human group in which this heritage was born and is part of, that must learn to manage their own culture; we are talking about a living heritage, that as all living things is subject to transformations and development, and this process must be guided by the community of origin. Tourism too - if well managed this with sensitivity, considering the fragility of the evidence that we would like to protect, improve and valorize - and could be the key to be conscious of and have pride in the origins, and instill the idea that this is of great value for the community and his future.

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THE OTHER SIDE OF NAPLES

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The real essence of Naples (from "Neapolis"= new city) lie in its urban pattern, that documents 25 centuries of stratification.

The same volcano that had destroyed Pompeii, has created the ground for the present Naples.

Grown on tuff, on pozzolan, and on the other rocks created by the ancient eruptions of the volcanic activity of the "Campi Flegrei" (burning fields), Naples has always used the stone from its hills and from the bottom of its valleys to grow in height.

The center of Naples is, in fact, the result of the long biography of the subterranean Naples.

The city of Naples is unique because, metaphorically speaking, it has been generated from its same bowels. Its subsoil has always been excavated because its richness of building materials (tuff, pozzolan, lapils, pumice).

The excavation sites and the pits obtained from the extraction have never been abandoned, but were given different uses like cellars or water tanks.

During the third century B.C. The Greeks excavated the first subterranean caves to extract the tuff blocks that were needed to build "Neapolis" but was during the Roman age that began the imposing development of the subterranean network of Naples. Until 1885 the city on the surface has been using 14000 water tanks, connected by a Greek-Roman aqueduct long more than 100 km, that runs almost 40 meters under the street level.

Down there, it's still possible to rad the signs of the working made on the tuff walls to extract the blocks.

The Romans with new excavations in the subsoil of the city complemented the "Acquedotto della Bolla" with the Augustean aqueduct convoying in Naples the water from Serino, (a mountain locality of Mount Terminio, Avellino).

Very few cities in the world can show a subsoil like the Napolitan one.

Today more than 60% of the city is set on a chasm that extended itself on over three millions of square meters.

Many of the discoveries has been absolutely fortuitous; the find of the entrance that is currently located under the church of "San Lorenzo maggiore",placed in the intersection of two main roads next to piazza San Gaetano,(where was set

TUNNEL BORBONICO
CAVE CARAFA
ACQUEDOTTO
GALLERIA DELLA VITTORIA
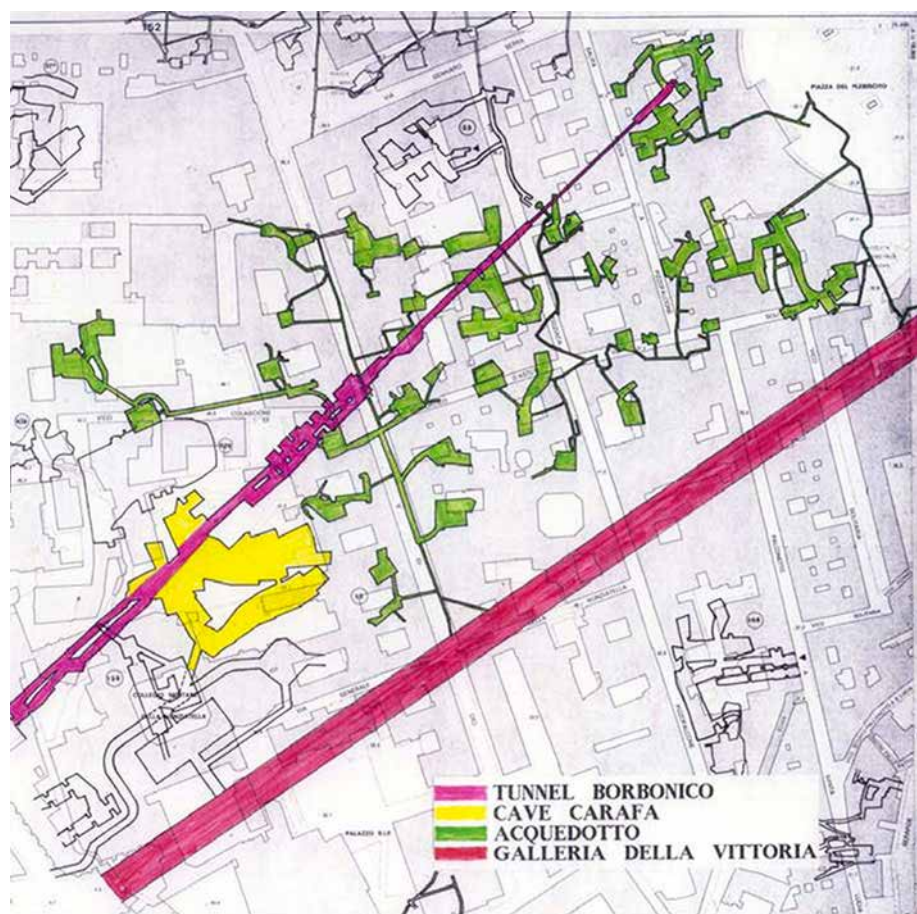
the ancient Greek agorà) can be a good example of that. During the last World War, the church foundations were damaged by the bombing so it was necessary to consolidate them that revealed an underground city with perpendicular streets with the market and the court at the center, clear signs of an evolved civilization. A real "negative" city in the womb of Naples' city center.

 Important to mention is the Tunnel Borbonico (Bourbon Tunnel). In the February of 1853 Ferdinand the second of the house of Bourbon signed a decree where he commissioned the architect Errico Alvino to project an underground passage that, going trough Mount Echia, would connect Palazzo Reale (the Royal Palace) with piazza Vittoria, that was next to the sea and to the barracks. A quick military route to defend the Royal Palace as well as an escape route for the Royals themselves.

The works begun in April, they dug the mountain where is currently set via Domenico Morelli, but, before reaching Cave Carafa , that currently hosts a multilevel parking lot, the Bourbon's workers met incidentally a culvert of the "acquedotto della Bolla" still in full use.

To avoid to deprive the next buildings of their water supply, were realised clever works of hydraulic engineering, that allowed water to pass well below the gallery they were realizing.

After just two hundred meters from the starting point of the excavation, the workers come across other two big water tanks of the before mentioned seventeenth century aqueduct that supplied Naples.

Again, to avoid to deny water to the citizens it was found a brilliant solution: a bridge was build, distant 8 meters from the bottom of the tanks, and walls of tuff were raised to isolate it from other aqueduct access.

The excavation works continued but the tunnel didn't eventually arrived to Palazzo Reale, remaining without exit until World War II.

During the war, between 1939 and 1945 the tunnel and some of the tanks were used as shelters by the citizens, from 5000 to 10000 Napolitans took refuge there. The tunnels and the surrounding areas were provided with electricity and toilet facilities.

After the war, the Tunnel Borbonico has been used as a storage area by the

Council, to store all the objects that were extracted from the ruins caused by more than two hundred bombing raids over Naples.

In addition to the large number of cars and motorbikes,under more than 8 meters of debris, were found statues of different ages, and among them there is the entire memorial stone dedicated to Captain Aurelio Padovani's, an highly decorated Bersaglieri's captain of the first World War.

It can be said that only the 40% of the modern Naples is set on solid ground.

Walking by "via Anticaglia" and entering in one of the low houses in vico Cinque Santi, can be easily found the signs of the presence of the ancient Greek-Roman theatre of Neapolis, swallowed during the centuries by the expanding urban texture on the surface.

The architecture cut and built on the rock express on the surface the richness and the variety of the city's undergrounds.

Spaces, hypogee, culverts and wide tectonic halls closed by vaults of tuff. Spaces below heavily tectonics counterposed by spaces on the top that are structurally rhythmic: yard and courtyard of the residential buildings and of the monumental complexes enriched by the presence of arcades and collonades, representing the characterising building style.

Realizing in concrete a public-private ambiguity that gives the feeling of being in someone else home when walking under a public arcade, like happens entering in Largo Avellino in the S. Lorenzo area.

This place like many others in Naples is the result of the fusion in one structures of two independent buildings both of them realized and finished by their own typical construction style.

This is a very common feature in Naples, where the border between public and private is thin and easily confused. Both the courts present inside the road system of Decumani, and the hypogee in the underground represent a side of the city that is less famous but not less important than the others monuments civil, residential or religious that characterize the urban texture of the historical center of Naples.

This part of the city can be intended not only as historical entity, physically defined in its spaces and in its architecture, but also as the result of a dynamic

and social productive process, that keeps changing with the passage of time. The sites protected by the UNESCO, for their exceptional nature and their richness of unique characteristics, give the most practical example of how the city heritage can represent an important asset, or the main resource, for a territory willing to compete in the global market by accenting the local excellences.

It was only in the 1995 that Naples historical centre has been recognised as human heritage.

The commission decided to include it on the basis of criteria (II), to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design and for criteria IV, to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history, "considering that the place is extraordinary in its cultural value, Naples is one of the most ancient European city,and its urban texture preserve the elements of its long and busy history.

Its position over the Gulf of Naples gives it an exceptional universal value that has largely influenced many areas not only in Europe, but all over the world."

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The Regional Park of Matese, the lake of Matese

THE PROTECTION OF HERITAGE AND THE PROMOTION OF THE TERRITORY

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The research develops a comparative study of documents of different age and origin, whose expressive language shows pictures compared of the territory and the current reality, both played with the detection of the places.

The review outlines the common images of Ailano, Castello del Matese, Cusano Mutri, Faicchio, Gallo Matese, Letino, Piedimonte Matese, Pietraroja, Prata Sannita, Raviscanina, San Gregorio Matese, San Lorenzello, San Potito and Valle Agricola documented by representations analyzed to compared in order to achieve the interpolation knowledge and aimed at the conservation and protection of places from which resource landscape.

The beautiful natural landscape of the Park of Matese offers unpredictable a scene, in which between rich forests of beech and maple trees, between different species of animals and plants of the Apennines, also rare, you can see the springs, caves and lush valleys, together with traces of prehistoric civilization, Italic and Roman.

Of particular charm are the testimonies of monastic hermitages and caves that demonstrate the presence of zones of medieval worship, along with the discovery of small rock sanctuaries.

The research is based on the belief that any action for the protection and enhancement of places can not be separated from an activity based on the discretization of multidimensional knowledge and measurement of assets.

The measure, therefore, is the basis of knowledge and representation of the values of all physical and intangible assets of reality and documentary traces of man in his biological evolution as a function of the environmental context in which they live.

Measure and capitalize the infinite reasons of nature, as we recommended Leonardo, is to recognize the genetic heritage, the identity of places, the founding of the ongoing process of restoration and regeneration as a modification against any notion of transformation: transform involves action dictated only from a technological need for conduct going beyond the limit imposed by knowledge.

The instruments of knowledge allow us a multidimensional representation, in which each component, material and immaterial, returns the territory as a dy-
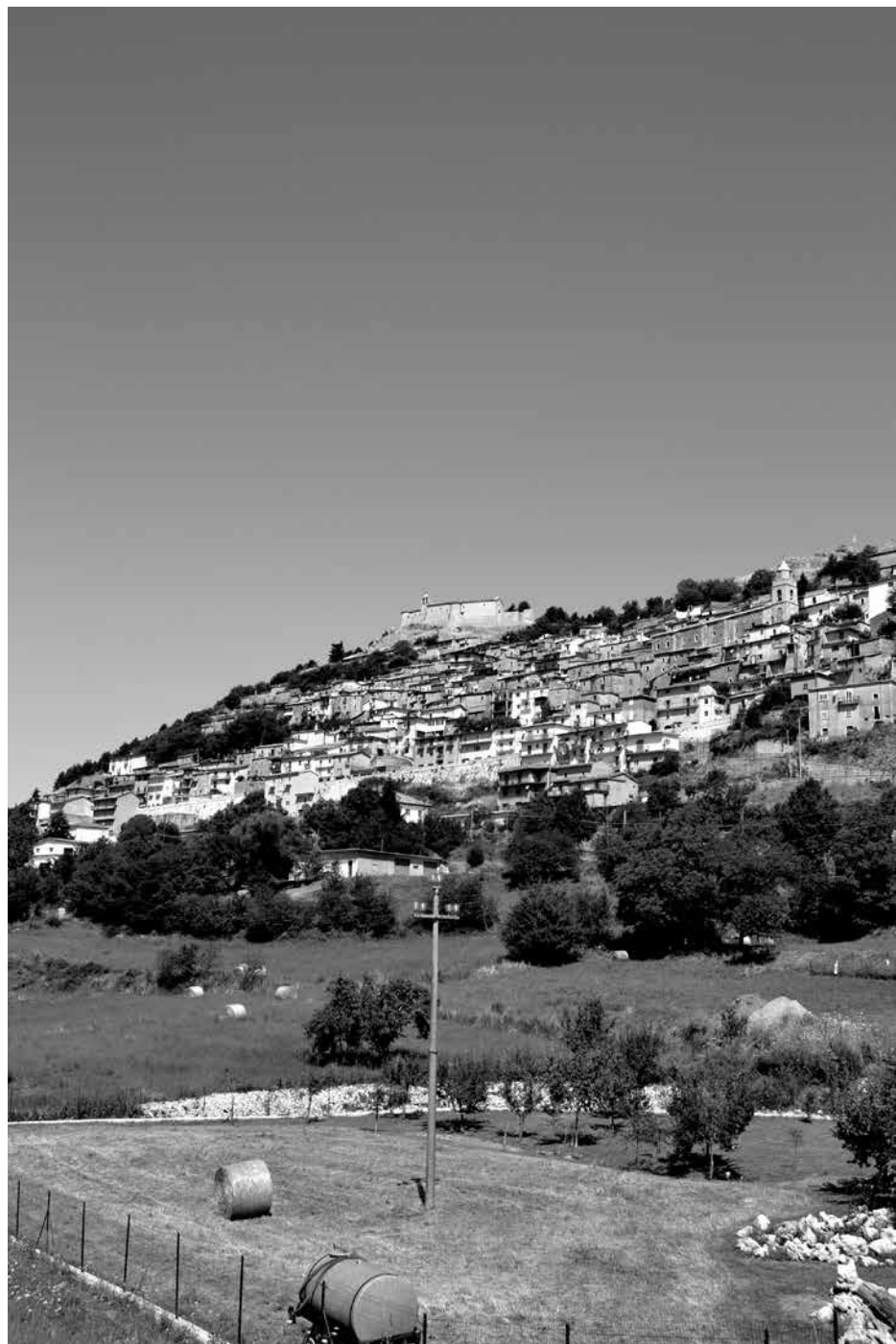
The Regional Park of Matese, the city of Letino

namic entity constantly evolving. The methodological system it is not given by the sum of the individual single-issue knowledge, but from a integral of knowledge that any information is qualitatively and quantitatively itself.

Each point is described by a range of information that analyze the characteristics of material and immaterial triggering an ecogeometric approach that allows you to "measure the complexity", ie to recognize characters founding by reading the signs.

It is the most effective means not only to analyze a territory, but also to program the management calling a hierarchy of actions. In applying this method to the territory of the Regional Park of Matese, analyzing a large and heterogeneous place, where knowledge is consisted of the reading given to the understanding of all the complex aspects that contribute to determining the form, not only as appearance exterior, but also as a carrier of immaterial values related to the history, culture and traditions over the centuries have stamped their marks to the environment by initiating a knowledge of the territory so to speak genomics. The Matese is also a wealth of history, traditions and legends, many of whom still live as an expression of local folklore, closely connected to the daily life of farmers and shepherds. In the villages, perfectly preserved, where you live in a state of tranquility and serenity, but at the same time, you experience the hardships, difficulties and loneliness of mountain life, it is possible to walk through narrow cobbled streets that history: the history of transhumance pastoralism, the story of the robbers after the Italian unity, the history made by the cycles of nature.

This territory is mentioned by Polibio that after describing the plain around Capua adds that it is strong and difficult to access, "and it limited on one side by the sea mostly by high mountains and uninterrupted, through which the hinterland leads to the plain only three steps narrow and bitter, respectively Lazio, the Irpinia and Sannio".

The present vision of the places manifested a homogeneous composition between built and natural environment among their integrated with geological and karst with iridescent colors which overlooks the green forests and propose measures for the protection of economically productive rural villages not devoid of
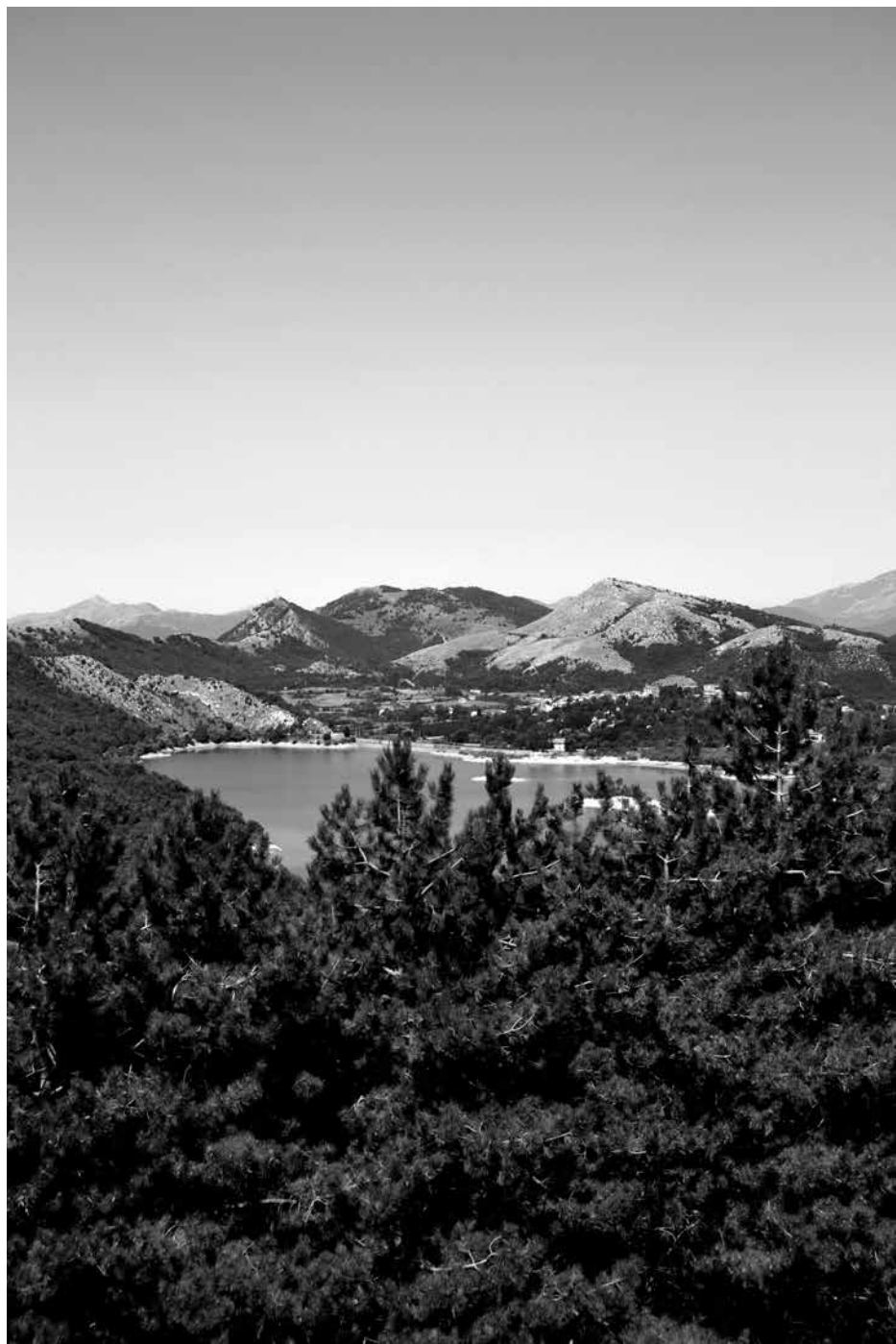
The Regional Park of Matese, the city of Gallo Matese

architectural like castles and convents of sediments of the classical age.

The different formal and aesthetic aspects of nature and the built facing historical reasons of the relationship between housing and facilities designed for agricultural use in the context geographic characteristics and give life to the landscape; designs based on the roots of the natural environment in the cultural life of the region studded with children living in the suburbs architectures prevalent in rural vocation, pursuing an analytical knowledge through discovery.

To graphically document the human environment and natural images are compared aspects of nature such as trees, rocky elements, water sources and structures related to the production of the soil.

The protection and enhancement of the heritage of the Park of Matese, represent a path of knowledge in the luxuriant nature, the far site of the province of Terra di Lavoro, on the border between Campania and Molise.

The Matese Regional Park is a protected natural area of Campania, established by the Campania Regional Law n. 33 of 1 September 1993 and came into operation in the year 2002. the territory mainly includes the mountain massif of Matese and is made up a chain of calcareous mountains mainly located between Molise and Campania, where towering the Mutria Mount, the Gallinola Mount and the Miletto Mount.

The park occupies an area of 33.326,53 hectares along a North – East, South - West, by the valleys of the rivers Sava and Lete, runs for about 50 km up the valley of the Tammaro River, in the province of Benevento.

The lakes and springs represent another important key to the protected area. The presence of three basins on the plateau, the lake of Matese, the lake of Gallo and the lake of Letino resulted in a wonderful natural habitat for wolves and eagles.

The lake of Matese is the highest karst lake in Italy and collects the waters of Miletto Mount and Gallinola Mount and it is important for the abundant flora lake of rushes and reeds of the marshes that make it possible to rest and nest in a wide variety of birds water.

Its relevance is given both by the water, such as power supply aquifers and underground rivers, and to the use of hydroelectric power. The lakes of Letino
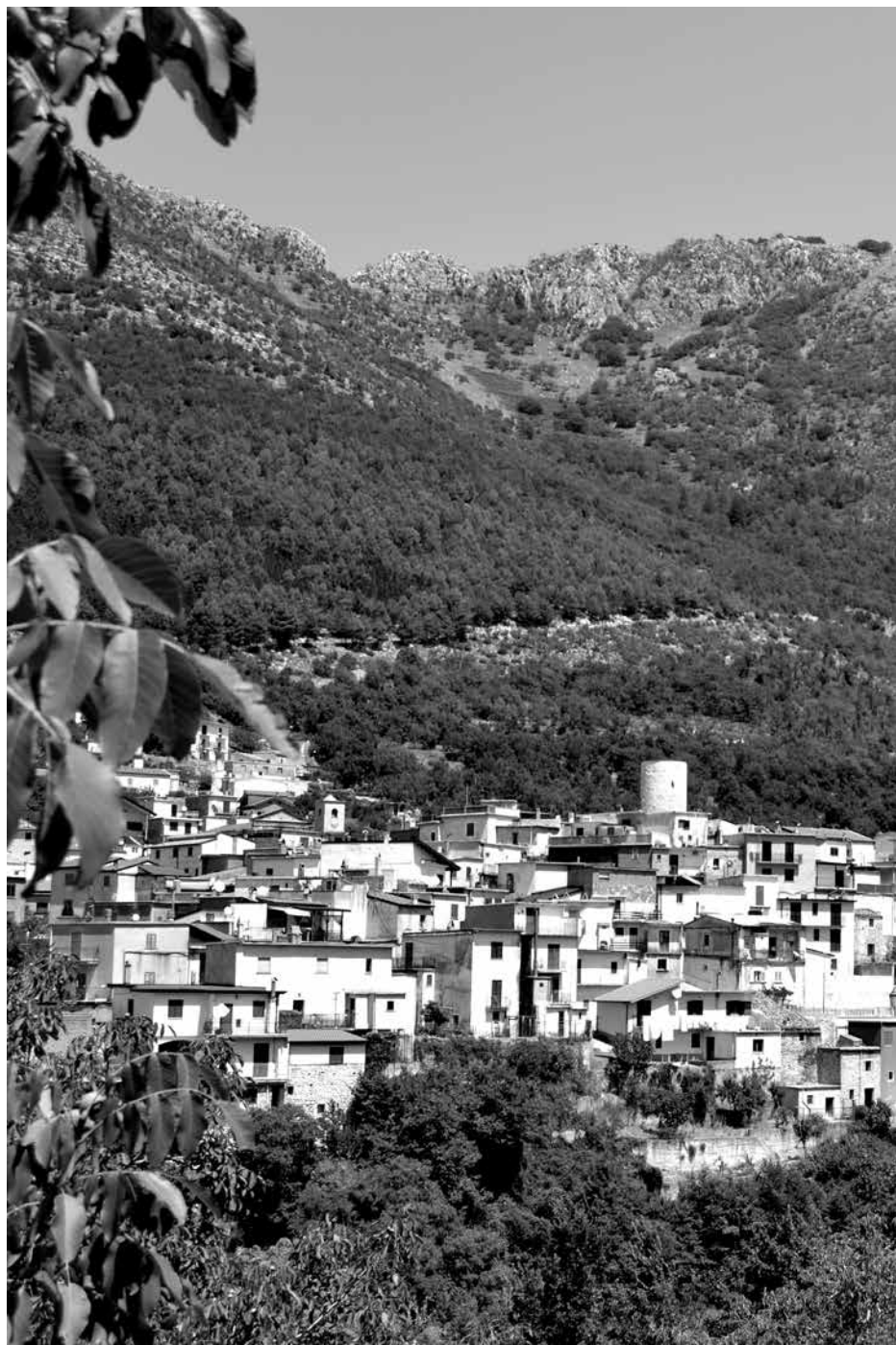
The Regional Park of Matese, the city of Valle Agricola

and Gallo were created by crossing the rivers Sava and Lete and are still used for hydroelectric purposes.

The presence of castles, city walls, towers, fortified villages is characteristic of the landscape of the Matese and offers a fascinating place full of history. Gentle landscapes with lakes from the blue waters which reflect the summits of the mountains, well-preserved historical centers, relations between the Romans and Samnites, led to the designation as a Special Protection Area, in accordance with Directive 79/409/CEE.

Most of the villages still perfectly the ancient medieval structure: access doors, the walls, the mansion, the churches.

One of the most significant examples is the castle of Prata Sannita, built in the twelfth century, perfectly preserved, is part of a small town is still surrounded by its walls and stands on a rocky ridge that slopes toward the river Lete.

The Regional Park of Matese, the city of San Lorenzello

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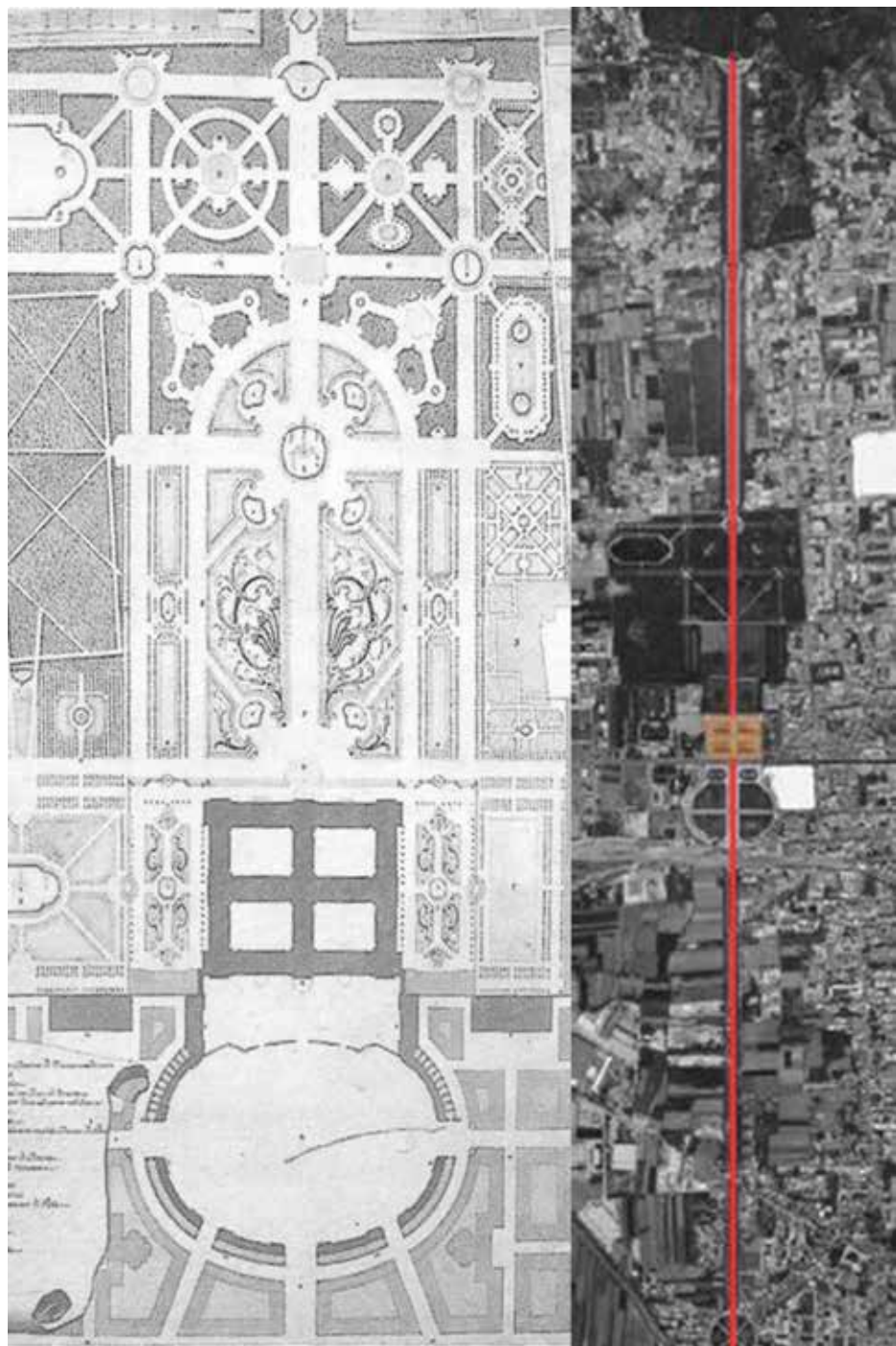
The central axis in relation to the Royal Palace and the surrounding area.

THE ROYAL PALACE OF CASERTA_GREEN PROJECT

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The Royal Park, integral part of the project carried out by Luigi Vanvitelli for the Palace, is one of the site protected by Unesco as part of the human heritage. The works started in 1753 at the same time with the Caroline aqueduct which realization led to the irrigation. The nowadays garden is only a part of the one planned by Vanvitelli because, at his death, his son carried out the project following the father's will.

The Park, as is realized, happens to be divided into 3 macro areas: the central line, the Old Woods and the English Garden. It extends to 3 km in length, with a Nord-South development, on a land of 120 hectares.

Usually considered as another example of formal garden or Italian garden based on the model of the one in Versailles, its basic characteristic is symmetry: the project is marked by geometric signs walking the visitor along its discovery. Planned in deep union with the Palace, Vanvitelli apart from following suggestions derived from the surrounding areas and the preexisting elements, tries to reproduce the rules theorized in its French era, meant as repertory of the King's grandeur. Part of the cultural revolution in the XVII century, when the man lose his centrality, the garden becomes the usual element in the surrounding area, becoming a spot of illusion and representation, in which time and space, manipulated by art, are bended for the customer's will.

The morphology of the site is the first element to deal with, because it is the structure on which the garden can model its shape. In Caserta, unlike Versailles where the garden is patterned after embankments and artificial terracing, the sudden slops due to the difference in levels effecting the area lead to more eye-catching sceneries.

In correspondence to the center of the posterior façade of the palace is divided into two long parallel paths between which a long series of suggestive fountains coming in succession that, through their symbolism, make a link between the park and the English garden.

The main element is the axiality of the installation which is a guide in the main path leading to a privileged view, and with its new view of the world, paths increase, lying outside the orthogonal mash, becoming geometrical signs penetrating the environment , transforming and reaching further nodal points from
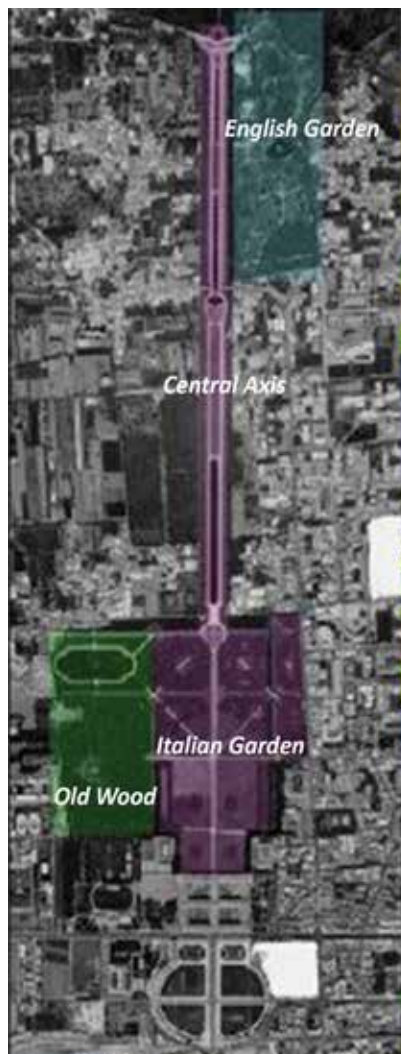
Walk along the central axis of the Vanvitellian Park: Italian Garden_Old Wood_English Garden, ph. Rosalba De Felice.

which other paths branch off as sunburst, in a process which generates nodes involved in the surrounding nature.

Unlike the French garden which shows up only to who is walking it, as it can't count to be seen at a glance of a meaningful image as characterized by a flat land, the Italian garden, in particular the Park in the Palace, leads to capture the entire spectacle from below with the big waterfall in the background, marking the vanishing point.

In the project of the garden in the Royal Palace of Caserta, thought as a unitary body where the palace and the garden seems to be in constant communication, water becomes the main element, providing several use required for the multiple, practical and symbolic, needs: basins replacing green parterres, pools, fountains, fish farms, caves.

The longitudinal line, set up as the line of symmetry of the composition, turns out to be very emphasized. Using the perspective as trick, the garden, as illusion, it is not only spatially extended till the horizon, but even the journey could never and, thanks to the continuous return from a path to another and from an element to another generating a sense of infinity.

The top of the axis which is materialized on the ground from a path, in the first section of the park, and from a water channel, in the second section, is perceptively formed by a specific point, a fountain, starting from one's eye it is free to extends till the infinity, as impossible to reach visually the physical limits of the park.

Caserta was born from a unique planning idea, allowing to keep control and handle the several issues related to the architecture, the art of the garden, keeping a complex vision of the result at the same time. Vanvitelli "approfitta anche del suggerimento della continuazione del vialone al di là del palazzo reale per creare un macro-microcosmo i cui estremi compositivi dovevano essere Napoli e la cascata, per dare al parco un'accentuata assialità".

He uses then a unifying element of his own garden cosmos, that axiality always presents a guide line in the formal garden. That axiality turns out to be "il principio informatore dei principali giardini italiani". After all it would be better to say that Vanvitelli collects italian exemples forgetting the evolution of the style and

Progressive views of the central axis of the park: from the Royal Palace and from the Old Wood, ph. Rosalba De Felice.

the taste. In fact he does not refuse his own time art, but melts French traditional elements with the Italian ones, with the result of obtaining a further evolution of the idea of garden compared to the one codified in the seventeenth century.

Justified by the particular morphology of the area, the water chain is the element which best identify the Italian garden.

The adoption of the central line, in the garden of Caserta, is not, then, a simple return to the French garden, as demonstrated by its reworked version and integration with the Italian water chain, but is also acquisition of an element of strong scenic connotation, fully employed according to the potentiality of the area. In Caserta is theatrically and openly exhibited through the climb on the slop of Mount Briano, so to become the last point vision itself, through the exhibition of the waterfall, which fully expresses the potential of the water thanks to which the realization of the garden was possible.

At half of the walk in the central line, the Old Woods extends on the left, according to the model of the French bosquet. Hidden from the view, like a little forest, it represents a specific episode in the garden breaking the symmetry of all the composition and playing with the world of the fantasy.

One last observation goes to that part of the garden which, even if not present in the project vanvitelliano, it is nowadays integral part of the Park of Caserta: the English Garden.

The entry for the English Garden is at the base of the big waterfall. Strongly claimed by Queen Maria Carolina, suggested by Sir William Hamilton, English ambassador and member of the Royal Society of London, the garden was realized by means of the architect of the gardens John Andrea Graefer, he engaged himself in the landscape and botanic arrangements following the trend of the garden called "landscape" garden, as characterized by spaces as faithful as possible to the nature, and Carlo Vanvitelli's garden, Luigi's son, in charge of the construction of all the architectonic emergences.

Even in this case, the presence of the Caroline aqueduct led to the birth of a garden with strong landscaping values, absolute innovation in the Italian panorama of that time. His work started in 1786 and let the garden to shape itself year by year with plants and seeds located in all the area of the Kingdom of
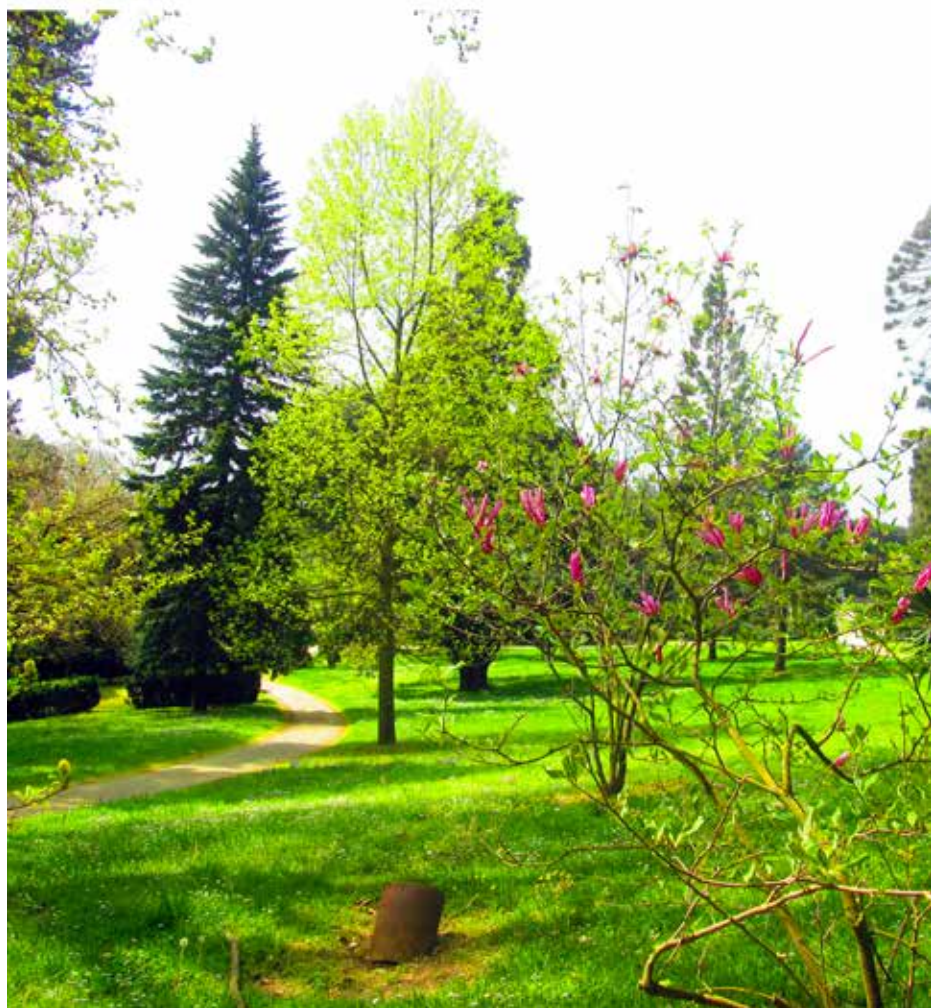
Typical landscape of the English Garden

Naples, becoming a real botanical garden.

It is characterized by the apparent "natural" mess of plants, streams, small lakes, "ruins", according to the rising trend derived from recent excavation of Pompei. Peculiarity of the area, of about 25 hectares, was the abundance of water guaranteed by the supply conduit of the royal park, characteristic which let Graefer to fully express the compositional principles, in full compliance with the rules of the landscape movement. In the landscape garden, the nature itself is transformed in "architectonical" way: the naturalness observed is the result of an accurate artificial transformation of the place.

From the entry of the garden, set aside the fountain of Diana, the presence of the water does not seem to be immediately perceivable: the visitor is actually invited to go to left walking the path uphill which runs along the "ruins" of a Doric temple.

Going up this section, the English garden gets close to the Vanvitelli architecture, involving the structure of the Aperia in the walk, a tank remained unfinished by Luigi Vanvitelli to provide for the needs of the palace in case the aqueduct gets damaged. By now, introduced in the new landscape we are pushed to follow the water flow which, going down the valley because of the gravity, it definitely marks the main elements.

The stream coming from the fountain of the Shepherd stokes, with a partially underground stream, a little lake set right next to it: it is about the so called Bath of Venus, a place where there is a big concentration of elements able to make a viewer feel touched.

The lake where the Goddess reflects her image, the thick surrounding vegetation, the ruins of "criptoportico" artfully recreated to recall the recent archeological discovery of Pompei, the little bridge connecting the two banks, all of them are elements which contribute to create in the visitor a sense of wonder.

The pleasure, of the English Garden, is proof of the feelings belonging to the Age of Romanticism, becoming progressive discovery of a personal emotional journey and of a continuous sense experience.

A Walk through the English Garden, ph. Rosalba De Felice.

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THE ROYAL PALACE in CASERTA

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Charles of Bourbon in 1750 is the king of the Two Sicilies, when he decides to buy by the heirs of the Caetani Acquaviva family, the flat land that is located at the foot of Monti Tifatini.

The cost was important but it was necessary for the realization of a project that the sovereign has long desired to: reorganize the kingdom both in terms of military administration.

This idea of Charles of Bourbon, not only wanted to build a new palace of Versailles, but he wanted to give the kingdom a new capital, far from the sea and the offenses that could come from this, as they did because of the British fleet in 1742.

So the idea of Charles was to create a new city, the heart of his empire. A very ambitious project, for which it needed an architect important, able to be up to the sovereign.

It was the pope -Benedict XIV-who advised Charles of Bourbon to hire an architect from Naples: Luigi Vanvitelli. In 1751 Luigi Vanvitelli presented officially to the king his project that had great approval and consent, two years later, precisely January 20 in 1752, was laid the first stone of the work. However, seven years later, Charles left his Naples and moved to Madrid as sovereign of Spain. After a few years, precisely in 1773 died Luigi Vanvitelli and the construction was not over yet, we think that only in 1847, was completed the Throne Room: the work could be considered accomplished, albeit with some changes from the original Vanvitelli's design , due not so much the death of the great architect, which was succeeded by his son, Charles called in honor of the sovereign, but "diminished interest" of Charles of Bourbon and the commitments that the Spanish distracted by memories and nostalgia of "his" Naples and "his" Caserta.

The Royal Palace, in any case, had as the heart of the new capital built by King Carlo: a modern urban layout, a city-court that could compete with Versailles and was a symbol of prestige of the House of Bourbon-largest for monumentality, for volumes and to the extension.

A city that was growing, hand in hand, around the ancient tower of Acquaviva and their sixteenth-century mansion, attracting locals and especially those of neighboring, ancient House Hirta (today Medieval Village of Casertavecchia).

An urban holding perfectly even today, after more than two centuries from its design, and that still enhances the function of the Royal Palace and its park. The palace , cost an enormous sum for the time: 6,133,507 ducats, and pledged a huge number of workers, including Muslim slaves and prisoners.

Accurate was the choice of materials: tuff from San Nicola La Strada, travertine from Bellona, limestone from San Leucio, pozzolana from Bacoli, brick from Capua, the iron from Follonica, the gray marble from Mondragone and the white marble from Carrara.

The plan of the building is rectangular, with sides of 247 and 190 meters, a perimeter of 874 meters, a height of 41 meters, an area of over 44,000 meters. The inner area is divided into four and with two buildings that intersect at right angles.

There are four large and beautiful courtyards organized so it makes the architecture more fluid and less massive than it might at first appear. The Palace Vanvitelli designed access Napoli equally monumental and majestic, with a large avenue (today Viale Carlo III) who arrives on the large Piazza Vanvitelli, and from what we see, from afar, the facade of the Palace ,. In addition to courtyards and other spaces created by the intersection of the buildings, the Royal Palace comprises 1,200 rooms with 1,742 windows (245 of which open in the front). Also the Palace was to include, in addition to housing real housings troops, administrative offices, chapel, theater: only 134 of the 1,200 rooms, in fact, were destined to the royal family.

The Royal Palace of Caserta belonged to the Bourbon family for over a century: from 1752 to 1860, then became property of the Savoy, now houses the Department of National Heritage Environmental Architectural Artistic and Historical Heritage of Caserta, the Provincial Agency for Tourism of Caserta, the Company of National History, the School of Public Administration, the School of the Air Force NCOs and some service accommodation.

The genius of Vanvitelli is revealed in the architecture of the imposing complex, which occupies a huge space and consists of large square in front of the Royal Palace, the Royal Palace, the Park and the English Garden. As for architecture, the Superintendent Gian Marco Jacobitti - also an architect - notes that

CAPUA

CAIAZZO

BENEVENTO

ROMA

KASERTA

nuovi centri urbani

acquedotto carolino

asse del sistema vanvitelliano

accessi

limiti interni fasce clinometriche

NAPOLI

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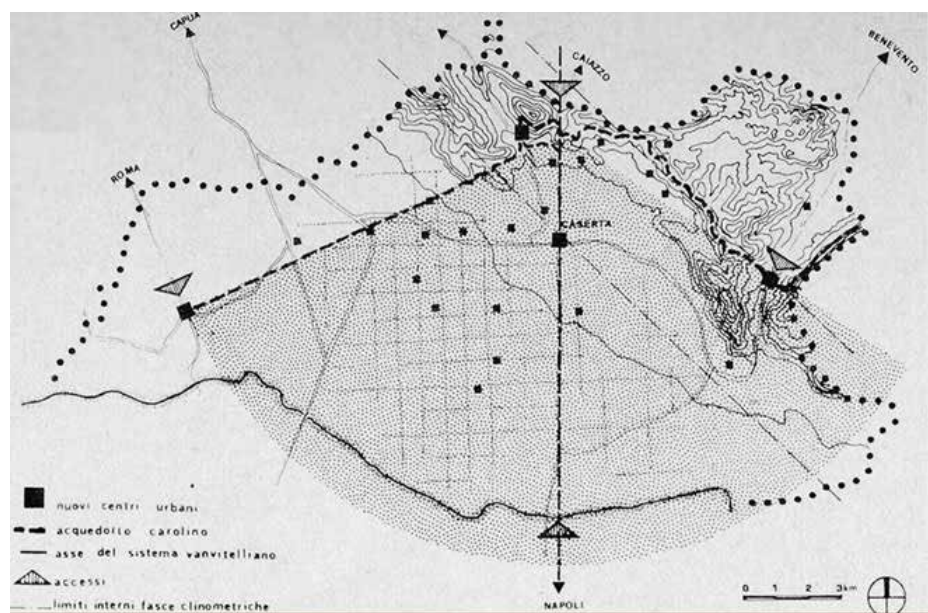
"it is remarkable the continuity of an axis of perspective" obtained through the sequence of the various elements: the Viale Carlo III, the Gallery of the Palace, the Park Avenue , the largest waterfall.

So, again, the architect Jacobitti describes the construction in a work published in 1992 by Editoriale Museum of Rome: "The front elevation of the Palace, performed the part in travertine and brick, consists of a pattern consisting of a horizontal ashlar base and a majestic composite order which serves as closure at the top, an attic made in the traditional way, in small open windows and covered by a cornice topped by a balustrade.

The two corners and in the middle part, the facade is slightly later, highlighting the main entrance and the two ends of the building. The arc movement of the central door is repeated at the top by a niche between open windows with triangular gables and pairs of fluted columns ". Luigi Vanvitelli (Naples, May 26, 1700-Caserta, the March 1773), who had worked for the Papal States and had made in the Marche and Rome works of great commitment, he had inherited from his father Gaspare (the surname, Van Wittel, still in original spelling) love for painting, which had previously been addressed. Soon, however, he developed and prevailed recall architecture, of whom he had a personal vision which had much influence, as a harmonic sense and grandeur, their studies of painting and the memory of the paintings of his father Gaspare.

His teacher was Filippo Juvarra, author, among other works, the Basilica of Superga, the exterior of the Royal Palace of Madrid and the sacristy of St. Peter; and Juvarra inherited classic architecture.

Alone, then continued his studies by observing and measuring carefully the monuments of Rome, inspired by artists Vitruvius and the treatises of the '500 and, finally, performing the first projects: the restoration of the Palazzo Albani and the churches of San Francesco and San Domenico in Urbino.

In collaboration she performed the Aqueduct Vermicino (and this experience will prove crucial for the realization of the great aqueduct Carolino, 41 kilometers long, to feed the waterfall in the park of the Royal Palace).

Although culturally tied to projects Juvarra, Borromini, Bernini, Vanvitelli developed its own original architectural vision, and the position offered to him by

Charles of Bourbon gave him the opportunity to put it into practice in a grand. Reminiscences baroque models of Borromini, Guarini and Bernini that outcrop in the project of the Royal Palace in Caserta not supersede the insights vanvitellian and not disturb the unity of the whole: the uniqueness of the work vanvitellian reveals the strong personality of 'architect and forms the basis of the neoclassical style that will emerge in the years ahead. Sad is the fact that death has caught before he could fully bring to term the Royal Palace and the project of the city of Caserta.

In Opera Museum, located in the Royal Palace, can be seen the original designs of Vanvitelli and have a full view of the work as he had imagined; while visiting the Royal Palace and the Park is required to verify the grandiose were the insights of the great architect.

The park of the Palace makes a beautiful setting in the project of Vanvitelli. Its splendor and its size will proclaim from the entrance to the Palace, when the green appears between the arches of the central gallery: an axial symmetry strongly supported by Vanvitelli, who had conceived for development of kilometers, from great Road with whom he had attached to the Royal Palace Naples. The idea of King Charles of Versailles allowed to compete with Luigi Vanvitelli to think big: just remember that to bring water to the fountains and waterfall, architect dug "wells at depths incredible" (as cited in its by Antonio Marotta), pierce mountains, realizing, finally, the 41 km Aqueduct Carolino.

The company took sixteen years of work, but in the end the park in possession of the body of water needed to live the great waterfall, the many fountains, the Peschiera Grande.

Luigi Vanvitelli, however, could not do the work only started: it was his son Charles, with some modifications, to complete the park as well as the Royal Palace. In 1773, the year he died, the creator had not seen made one of the fountains designed, so that had to be Carlo to be performed by a large number of sculptors statues that had to decorateThe draft Vanvitelli more than two centuries after the laying of the foundation stone is a project still contemporary.

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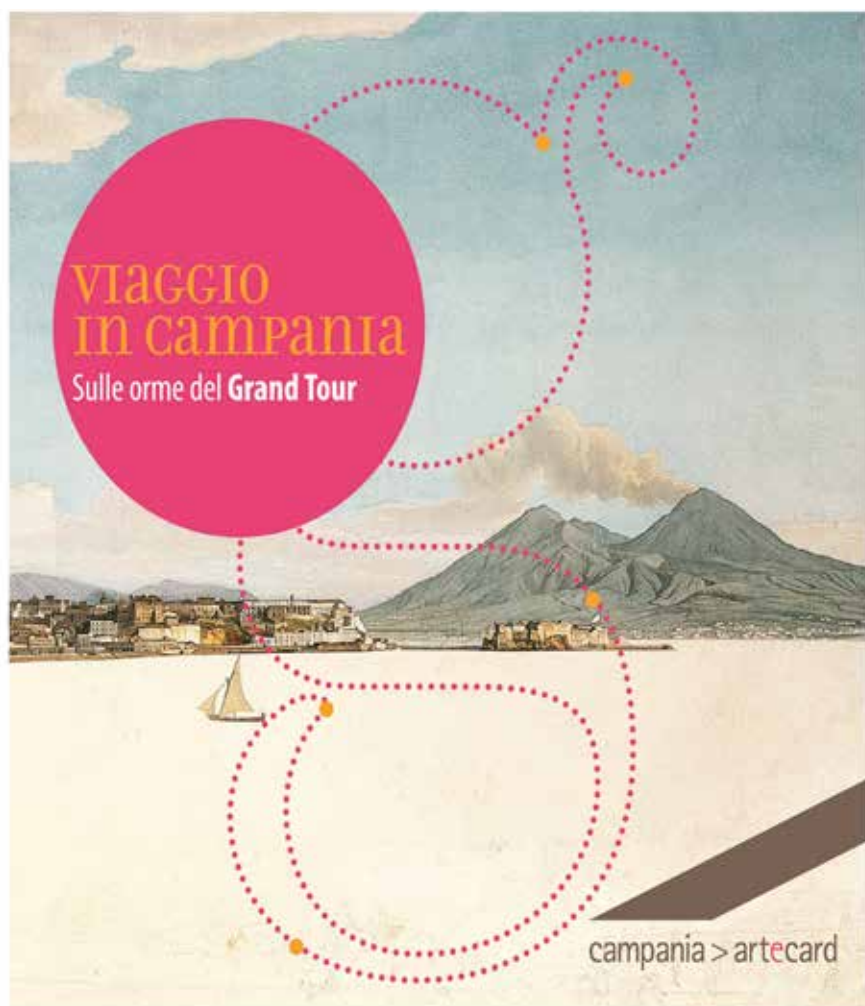
THE GRAND TOUR: A CASE STUDY OF THEMATIC ITINERARY FOR THE HERITAGE TOURISM DEVELOPMENT IN CAMPANIA

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The cultural heritage of Campania stands out for its widespread and layered character, formed by the combination of different types of goods ranging from the so-called "Great Attractors", points of excellence of international interest, up to the "minor" cultural heritage, placed in heterogeneous spatial realities and sometimes not adequately known. In this context, the Campania Region has promoted the creation of thematic/territorial itineraries with the aim of integrating the cultural heritage on the basis of a cultural route able to build relationships between places, to strengthen territorial identity and to broaden the knowledge both of the residents and visitors.

Tourist-cultural itineraries are considered "one of the most interesting tools of the Economy of Culture", to be understood as "a form of connection in a system and a representation as a whole of a series of nodes and segments, according to a unifying cultural theme"[1].

The territorial perspective is obtaining always a more prominent role in the policies of cultural heritage. An action on the cultural heritage which aims to be effective can not be separated from the careful consideration of the territory endogenous resources and of the specific cultural identity of the communities that join together, grow and develop in it. To systematize these cultural resources by building networks is one of the winning strategies to start local development processes. Such networks may be territorial, concentrated on a determined geographical location or, alternatively, thematic, constructed on a specific theme detectable in a more or less vast territory, which can also be constituted by not contiguous areas. In recent years, especially the thematic networks have represented an effective tool for the enhancement of the cultural heritage. In fact, the themes, by identifying transverse elements in the reading of the heritage, can help to organize in an integrated way strategies, initiatives and stakeholders otherwise uncoordinated, for a harmonic and shared valorisation of the cultural heritage, for the joint development of the territory, for a collective usability of the resources and for a global growing of the community.

In addition to the physical accessibility to the sites having a cultural and touristic interest, the thematic paths enable to access and understand the scattered cultural heritage values. In fact, they include also those lesser-known sites, but

404

of considerable cultural value which, if included in the overall system, give an important contribution not only in rebuilding proposals for cultural tourism, but also in promoting local economic development opportunities in inland areas, i.e. those areas away from centers of essential services, but rich of important environmental and cultural resources and with a strong identity.

The thematic itineraries, such as a tool for a dynamic fruition of the territory, if built on local cultural specializations - tangible and intangible - can be the best way to capture the curiosity and desire for knowledge of the tourist visitor, steering it in an intriguing and evocative way to the cultural destination culture to be valorised.

In addition to allow local populations to regain their own identity, these paths can be seen as a valuable tool for promoting cultural tourism, if focused on the key concept of the uniqueness of the territory, which heads for the human need of knowing, seeing and remembering [2-7].

As part of the work plan for cultural promotion, the Campania Region, with the support of the EU and national funds (Action Cohesion Plan, and 3rd final reprogramming - PAC III), has started up and developed the programming of regional initiatives to promote culture with which it wants to strengthen and expand the knowledge of Campania in the Italian and foreign tourist market, through a cultural offer aimed to overcome the local dimension in the capacity of attracting tourists.

With Resolution no. 676 of 12.30.2013, the Regional Council funded and promoted, for the year 2014 and for the total amount of 1,500,000.00 euros, an initiative of great importance, both for the extension of the territorial area considered, both for the complexity of the content.

This was the great thematic itinerary "A journey through Campania: on the footsteps of the Grand Tour", made up of nine itineraries organized in thirty thematic routes that bring into the network more than two hundred among museums, monuments, archaeological and natural sites, that could be visited with an integrated ticket for monuments admittance, events and transports: the Grand Tour Card (two options: 3 e 7 days).

The tours organized from April to December 2014 were the follows: The dream

. 3 - Views of Campania (http://www.famedisud.it/viaggio-in-campania-sulle-orme-del-grand-tour-nove-mesi-di-e-venti-mostre-itinerari-ed-escursioni-per-una-regione-tutta-da-scoprire/)

of Naples; Campi Flegrei: myth, history and nature; Vesuvian walking; A journey through the scents and colors of the Sorrento Peninsula; Capri and Ischia, the islands of the Grand Tour; Along the Golden Mile; The routes of the Via Appia; The Amalfi Coast and the streets of Cilento; The splendor of the Bourbons and the Royal Palaces. The itinerary was enriched by a calendar of events connected to the paths with guided tours and excursions, tastes of typical products, theatrical and musical events, as "Herculaneum, buried Stories", visits and evening shows in Herculaneum, or the nocturnal rise to Vesuvius.

The choice of the theme is related to the consideration that the historical roots of modern cultural tourism can be traced in the eighteenth-century phenomenon of the Grand Tour, with whom the education journey was established in Europe. Therefore, the itineraries take inspiration from a learning - emotional trip type, proposing a new way to visit the region, aiming to rediscover the values of Campania tourism not only in its highest architectural, archaeological, artistic and landscape expressions, but also in the so-called " minor" cultural heritage, which, although not yet fully enhanced, has a significant potential for the development of cultural tourism. In addition, the paths can be enriched with experiences built for visitors in order to increase their knowledge through a direct, immediate and emotional participation to the suggestions caused by the visit to the places and their cultural and natural heritage. It is also possible to add virtual paths to the physical ones, through the use of innovation technologies for cultural fruition. The potentialities of the system are supplemented by the access to integrated platforms, like the Grand Tour card, such as unique tool for the entry to the sites included in the itineraries, facilitated access to related thematic events and for the use of the regional public transport. A system which improves the fruition of the huge existing heritage, and that allows tourists to create a customized trip, following their emotions and tastes.

The Grand Tour project, made by Scabec (Campanian Company for Cultural Heritage), has been under investigation by Isnart (National Institute for Tourism Research), in order to monitor the fruition of the itineraries by the visitors, the tourists' satisfaction for the routes chosen and the use of the Grand Tour Card. The survey involved a sample of about 1,000 Italian and foreign tourists in four
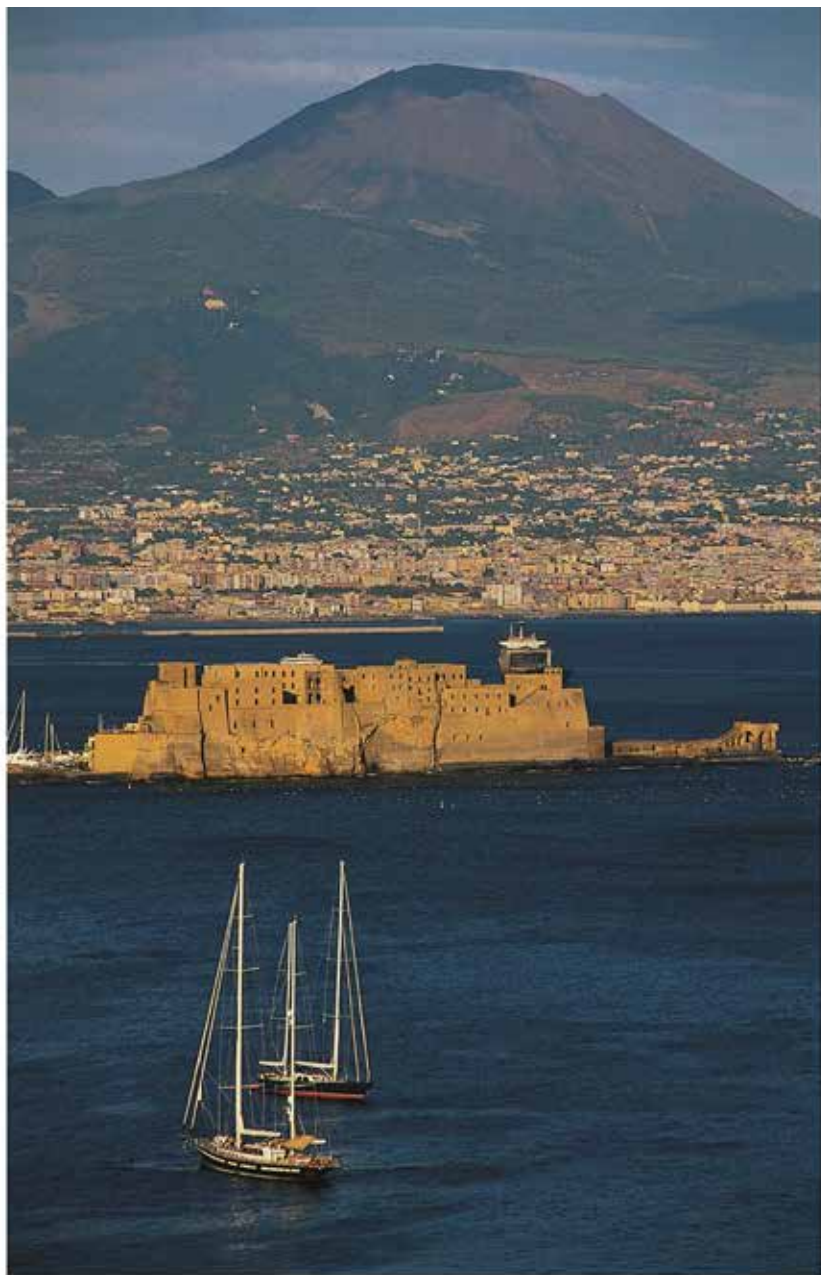
View of the Bay of Naples

cultural sites chosen within the nine routes identified by the project: Pompeii ruins, the National Archaeological Museum in Naples, the Royal Palace of Caserta and the City of Sorrento, and during a nocturnal event: Herculaneum – buried Stories in the ruins of Herculaneum. The interviews were carried out face-to-face and based on specific questionnaires and were made in the months from June to August 2014.

The Isnart Report of December 2014 shows that the main reason of visiting the tourist destinations of Campania is its artistic and monumental heritage, followed by the natural landscape, the food and wine traditions.

Just the cultural offer, the variety and accessibility of museums and sites, is the basis of the tourists' expectations.

The possibility to use an integrated tourist card for accessing the itineraries has most success among foreign tourists. These are, mainly, and in decreasing percentage, French, American, German, British, Australian and Spanish.

The Italian and foreign tourists who have entrusted themselves to the Grand Tour Card to visit the Region are mainly young people between 21 and 40 years old and adults between 41 and 50, with a medium-high level of education. The decision to purchase the tourist card is linked primarily to the cultural offer proposal, followed by the convenience of using a single payment instrument to visit sites and museums and travel by public transport, and the ability to save money and to skip the lines.

For the Italian tourists the positive opinion is mainly due to the proposed routes, the chance to visit lesser known sites, the duration of the card and the integration with the transport cost. For the foreign tourists the most popular element is the proposal of several itineraries among which one can choose, a motivation that has directed toward buying a card for a period of 7 days, for the opportunity to visit two of the nine thematic routes proposed, by favoring an extension of the stay in the Region.

Both Italian and foreign tourists have proposed, for the improvement of the service, the possibility to provide for the users of the card agreements with restaurants or accommodations, to access additional discounts.

The Grand Tour numbers testify an excellent result that portends a wide margin

of growth: 168 thousand ticket entries and about 42 thousand cards sold [8]. The success of the project has led the Regional Council to allocate, with Resolution no. 125 of 28.03.2015, always using the PAC III funds, the total amount of 2,000,000.00 euros for the implementation of the proposal "Travel in Campania: on the footsteps of the Grand Tour - Edition 2015/2016". The new program includes the realization of five thematic itineraries: Music, Crafts, Excellencies of Gastronomy and Enology, Nocturnal routes in the major archaeological sites, all in order to promote the rich and various, tangible and intangible, cultural heritage of Campania.

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Loudovikou Square –presently Kotzia Square- with the now-lost Athens Municipal Theater building depicted on the right. The other historical buildings surrounding the square survive today.

THE ROLE OF MASS TOURISM
IN HISTORIC PRESERVATION IN GREECE

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Growth and Economic Potential in the Tourism Industry

Tourism is not only a massive industry in Greece, but a fast-growing sector of the economy which in recent years has been exceeding projections and offering a bright spot for a country in the midst of a financial crisis. The meteoric growth of the industry is certainly welcome news at a time when almost all other sectors of the national economy have been deeply impacted by the financial crisis of 2009 and are still struggling to recover in 2015. As a basic industry whose export is on the rise, all eyes are on tourism to help pull the country out of deep recession. Consistently ranking in the world's top 20 countries in international tourism arrivals, Greece welcomed 24.3 million international visitors in 2014 when net cruise visitors are included; 22.5 million visitors based on overnight hotel stays alone. 1,2 This figure is double the amount of foreign visitors to the country just 15 years ago in the year 20003 and was a goal that had been set by SETE -the national association of tourism-related businesses- in the fall of 2013 to be reached by 2021.4 Figures for tourism spending appear to be more fluid, the industry's importance in the national economy is undeniable. Estimates for direct tourist spending in Greece range between €10 billion and €14 billion per year in more recent years, while total contribution may by upwards of €40 billion per year, employing one in five Greeks.6,7 Indeed, SETE's plan made public in the fall of 2013 for 24 million visitors by 2021 included a goal of reaching €50 billion in both direct and indirect revenues by that year –a goal that may also come sooner than envisioned.3 The goal of achieving 24 million visitors by 2021 arrived 7 years earlier than planned due to a variety of global and regional developments that positively impacted Greek tourism, including but not limited to: the aggressive expansion of European low-cast carriers such as Ryanair; growth in arrivals from new markets such as Poland, Russia, Bulgaria, Turkey, and Israel; turmoil in cheaper North African destinations which compete with Southern Europe for the sun-and-sea vacationer from Northern Europe; and the recovery of Northern European economies –Greece's traditional markets- such as that of Britain or the Netherlands which themselves experienced an economic downturn due to the global financial crisis. Improving the country's tourist product may also be playing a role, particularly if Greece is to

Corfu's Greek Orthodox Cathedral Panagia Spiliotissa (Our Lady of the Cave) flanked by two vernacular residential buildings that exemplify Corfu architecture. Originally built in Byzantine times, the cathedral was given a baroque façade in 1577. The cathedral contains the remains of Byzantine Empress Theodora (CE 815-867), wife of Emperor Theofilos and mother to Michael III.

compete with cheaper destinations such as Turkey and Tunisia, while not being able to reduce prices any further due to having a higher cost of living and the inability to devalue its currency. Indeed, the World Travel and Tourism Council, the preeminent global trade association for tourism, assesses Greece's private sector tourism infrastructure highly positively, and transport-related public infrastructure (such as airports, ports, and marinas) as in need of investment but adequate for now.5 The Greek state itself analyzed the country's tourism model in the 1990s and 2000s and determined that a substantial reform of public infrastructure and tourism-related investment was needed in order to both attract higher spenders and remain competitive with cheaper destinations on the other side of the Mediterranean.10 Public infrastructure such as roads and airports needed upgrading; cities and towns –touristed ones in particular- needed better urban planning and tighter controls on development; and tourism-related business would need to be up-to-date, including improved quality in hotel construction and design, investment in luxury resorts and golf, convention and conference halls, cruise ports and marinas.

Historic Preservation and National Heritage
Yet, in addition to private sector infrastructure such as hotels and resorts, and public infrastructure such as ports and airports, there also appears to be an important relationship played by the quality and preservation of historic structures in attracting tourism and maintaining a viable tourism industry.   Or, perhaps even, there is a symbiotic relationship between historic preservation and mass tourism; one may perhaps be reinforcing the other. Greece's history is well known and can go without mention: from the Minoan Civilization to the Classical and Roman eras to the Byzantine Empire that lasted a millennium throughout the Middle Ages. Monuments from these periods not only dot the countryside but are also present in major urban centers, most famously the ancient monuments of Athens that date to the Classical and Roman eras: the Acropolis and its associated temples such as the Parthenon; the Classical Agora; the Roman Forum; Hadrian's Library; and the temple of Olympian Zeus. Historical monuments from antiquity are found throughout the country, not just
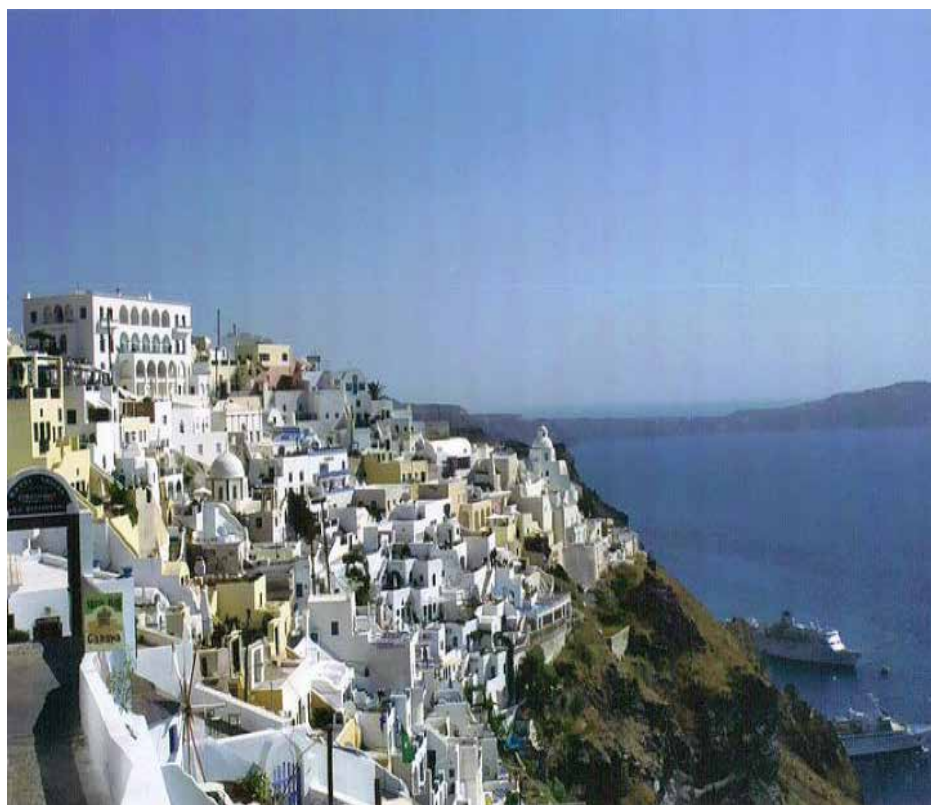
The town of Firá, on the island of Santorini, dramatically situated on a cliff overlooking the volcanic island (not shown). The island's traditional vernacular architecture has been preserved, while new additions have been built to match and blend into the existing buildings.   416

in Athens, but perhaps even more ubiquitous are monuments from the medieval period. While some have become ruins over the centuries and others have been maintained through time, countless forts, castles, palaces, churches, monasteries, and city walls built by the Byzantines, the Venetians, the Catalans, the Ottomans, the Crusaders, and other medieval powers grace the country today. In more recent times, from the onset of the Greek Enlightenment in the 18th century to the present day, monuments from both antiquity and medieval times have been held in high esteem by modern Greek society, and universally regarded as national heritage worth preserving, without needing any economic justification. Contemporary Greek society strongly values these historical monuments without question or controversy whatsoever. However, it is post-medieval historical monuments that have received less attention, and have only fairly recently started to gain appreciation. By the middle of the 20th century, the country had a considerable stock of neoclassical, baroque, beaux-arts, art nouveau, art deco, and bauhaus structures, as well as traditional vernacular architecture in rural areas, and much of this stock –specifically in the largest cities- was demolished in the mid-20th century up to the 1970s, while the country was rapidly industrializing and urbanizing, and housing newly-arrived rural migrants in cities such as Athens, Thessaloniki, and Patras. These larger urban centers indeed saw a loss of much of their historical stock dating to the 19th and early 20th centuries –including some grand buildings such as Athens Municipal Theater on Loudovikou Square- only to be replaced by mundane 1970s office and apartment blocks. The grand theater on Loudovikou Square, perhaps one of the highest-profile lost buildings of Athens, was demolished as early as 1939 by then-mayor Konstantinos Kotzias, after whom Loudovikou Square has since been renamed. Countless other structures in the city center would also be lost until awareness of post-medieval architectural heritage began to rise in the 1980s in Athens and in the other major Greek cities, including Thessaloniki, Patras, and Heraklion.

Historic Preservation as an Asset to Tourism
Subsequently, small and mid-size cities with considerable historic stock sur-

The Historic Centre (Chorá) with the Monastery of Saint-John the Theologian and the Cave of the Apocalypse on the Island of Pátmos (source: UNESCO World Heritage Centre)

vived the era of demolition and are major tourist attractions today, for international and domestic tourism alike. While the country's more recent architectural heritage in the larger cities of Athens, Thessaloniki, and Patras started receiving attention after much damage had already been inflicted, smaller cities that did not experience rapid urbanization, such as Corfu, Rhodes, Chania, Ermoupoli, and Nafplio have much of their historic centers intact, as do the world-famous towns of the Cycladic and Dodecanese Islands where Greece's modern mass tourism industry took off in the 1960s and which many people now identify with Greece. Interestingly enough, the concept of historic preservation as a boon to the emerging tourism industry indeed existed in Greece as far back as the 1960s at least in regards to historic preservation in smaller cities and rural areas that were perceived as more appropriate for mass tourism, but without the term "historic preservation". One study of the then-burgeoning mass tourism industry in Greece, titled "Identification and Definition of Regions in Greek Tourist Planning," conducted in the early 1960s and published in Papers of the Regional Science Association in 1967, identified "Picturesque Villages and Islands" as a pull factor for tourists, alongside "Ancient Greece" and "the Sun and the Sea". The study further identified post-Medieval monuments in Greece, of the later Venetian and Ottoman eras, as being of potential interest to cultural tourists and included this characteristic in identifying regions with tourism potential, alongside capacity (judged by population size of towns and cities), and natural features (such as beaches and bays).8 The 1967 study focused heavily on Ionian Islands region and west coast of Greece which –at that time- lagged far behind better-known Aegean destinations such as Mykonos in tourism. The region is, of course, highly touristed today, with the islands of Corfu and Zakynthos being major tourism heavyweights, but the idea of historic vernacular structures –including attractive architecture that make "picturesque villages and islands"- as a tourism generator began to emerge at least in the smaller cities and countryside, before awareness for the preservation of more recent historic structures became commonplace in the larger cities. Thus a dichotomy existed in Greek society in the 1960s and 1970s with regards to historic preservation: the untouchable, serene countryside, and the urbanizing big city where preservation

was of lesser importance. Against this backdrop, the preservation of small cities and towns with tourismappeal or potential began to take effect before the preservation movement in the big cities. Corfu Town, the capital city of Ionian Islands region –which the 1967 study focuses on- is itself an excellent example of provincial historic preservation in a tourism-heavy region. Corfu Town enjoys a sizeable stock of baroque and neoclassical buildings built in Venetian times, with some additions during brief periods of British and French rule. Having remained well-preserved during the 20th century, even despite German bombardments during WWII, the city was protected by a series of presidential decrees and statutes that passed as early as 1980, and many of its building facades were renovated in the early 1990s in time to host the June 1994 EU summit.9 The Greek state also applied to UNESCO for the city to be recognized as a World Heritage Site, a status that was granted in 2007, Greece's 17th and most recent World Heritage Site.9 The world-famous island of Santorini in the Cycladic Islands is another example of the symbiotic relationship between tourism and historic preservation, especially in small towns and rural areas with immense tourism appeal. Santorini is known for its unique terrain; half the island was blown away by volcanic eruption approximately 3600 years ago during the Minoan era. The resulting shape of the island is a crescent, which forms a circle with the smaller neighboring island of Thirassia. The coast on the inside of the crescent is high cliff overlooking a volcanic island between Santorini and Thirassia. Dramatically situated on the cliff are the towns of Firá, Oia, and Imerovigli, which –due to a combination of their unique architecture and unique setting- have become major tourist draws in the later 20th and 21st centuries. Although Santorini does not yet have UNESCO World Heritage Status, the towns of Firá, Oia, and Imerovigli are strictly protected by regulation and all new construction must strictly copy the existing architecture of the towns.

Conclusion

As suggested by the 1967 study, perhaps it took for tourism appeal or tourism potential to implement preservation mechanisms in Greece's cities and towns for structures that are more recent than the ancient or medieval monuments whose preservation has always been unquestionable. The history of preserva-

tion for structures from later centuries, starting in the serene countryside and charming smaller cities before reaching the large urban centers, certainly suggests that there may be a symbiotic relationship between preservation and tourism in Greece, with one stimulating the other. Nonetheless, the preservation movement is now strong in the larger cities as well, and increasingly, preservation is seen as a part of the overall improvement of the quality of life for towns and cities, and –of course- an inseparable part of tourism development. It is difficult to imagine Greece's large and growing tourism industry today without places such as Corfu Town or cliff-top towns of Santorini, and as the preservation movement has moved on to the larger cities, the country's tourism potential may be enhanced there as well.

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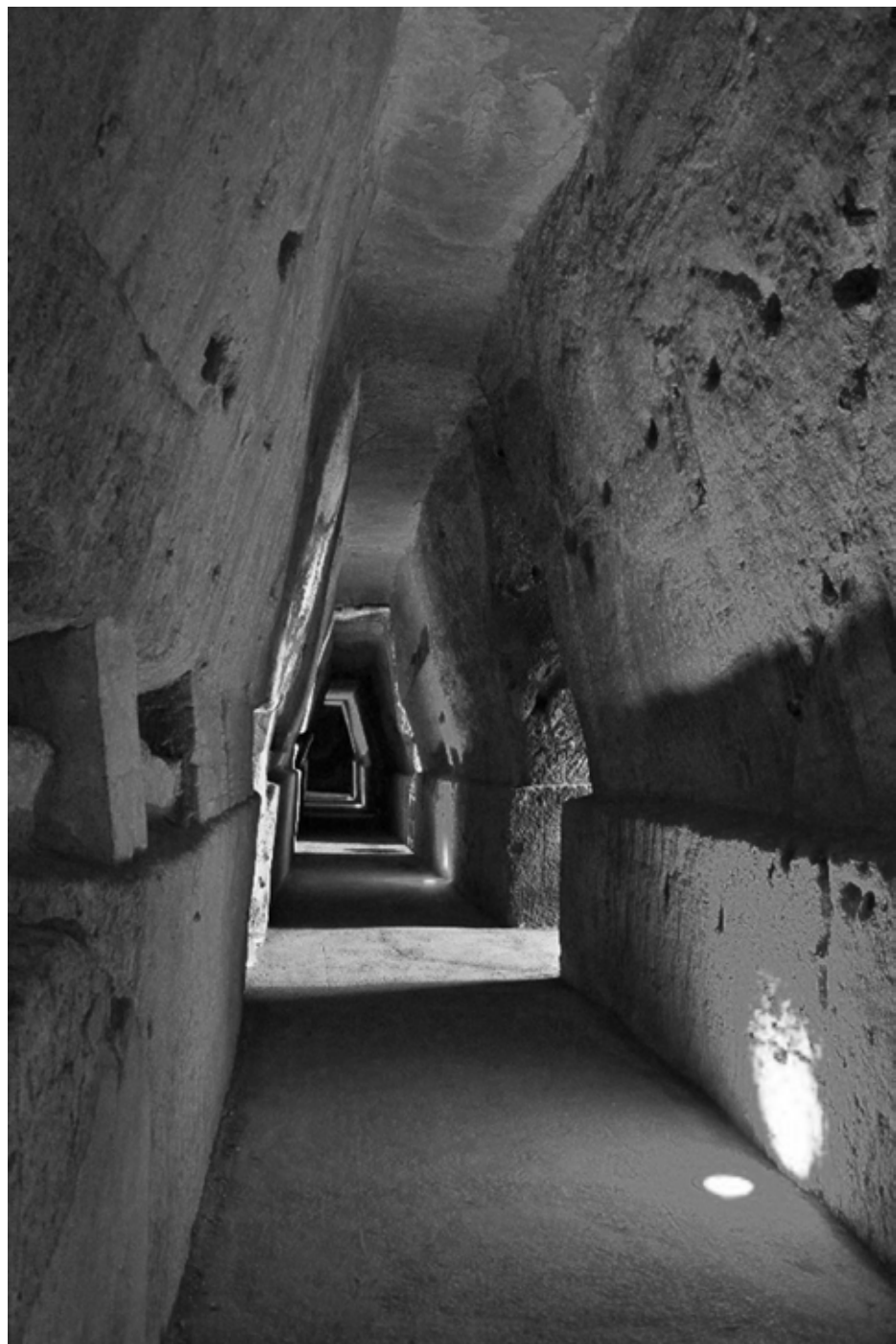
CAMPI FLEGREI: SUSTAINABLE TOURISM BETWEEN NATURE AND HISTORY

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The Campi Flegrei are a wide area of volcanic origin situated to the north-west of Naples, comprising the municipalities of Bacoli, Monte di Procida, Pozzuoli, Quarto and the Neapolitan neighborhoods Bagnoli, Fuorigrotta, Pianura, Posillipo, Soccavo and Agnano.

An area in which the Greeks before and the Romans later had found particularly favorable conditions so as to establish here important urban centers and localize strategic functions.

The name Campi Flegrei comes from the greek "phlegraios", "ardent" and is a clear reference to the volcanic nature of the territory infact are recognizable at least twenty-four between craters and volcanoes, some of which show gaseous effusive manifestations as the Solfatara and hydrothermal phenomena as in Agnano, Pozzuoli and Lucrino.

Geologically the area is a large caldera in a quiescent state with a diameter of 15 km in the main part. Volcanic activity peaked about 40,000 years ago, with the explosion of the volcano Archiflegreo that disseminated throughout the region Campania pyroclastics that gave origin to the tuff, very used since antiquity as a construction stone. The last major eruption occurred in 1538, leading to the creation of a new crater hill, the Monte Nuovo.

In the collective imagination the Campi Flegrei are represented by landscapes of great beauty, already destination of the itineraries of grandtourists of the eighteenth century.

In reality the entire Phlegrean area is characterized today by strong contrasts between the mythical image of the pleasant place and the existing urbanistic-environmental conditions: archaeological park on one side and the other illegal buildings, protected nature and waste dumps, volcanic risk and high population density, sustainable tourism and environmental and cultural degradation. Tourism, taking advantage of the large number of natural and cultural resources of this area, could take a leading role for the local economy, but it, except the island of Ischia, is a marginal phenomenon.

It would be desirable, therefore, the realization of a particular form of tourism that is at the same time, tool for economic growth and environmental protection. Among the resources in the area, great importance has the archaeological her-

itage. The biggest urban center of the Campi Flegrei, Pozzuoli, was the main commercial port of ancient Rome for links with the Orient, until the construction of the artificial harbor of Ostia.

In Pozzuoli there are still numerous monumental buildings from Roman times, including the ancient Macellum, today called "Tempio di Serapide", the "Tempio di Augusto", transformed into the cathedral of the city and recently restored, great thermal baths, stretches of Roman roads, large necropolis monumental, such as the necropolis of via Celle and two amphitheatres which the "Anfiteatro Flavio" is the third largest in Italy.

The Lake Averno, placed in a volcanic caldera off for its strategic location, was used in Roman times, along with the nearby Lake Lucrino, as military port of ancient Rome, called "Portus Julius".

The legend says that the lake Averno was the entrance to the underworld described by Virgil in the sixth book of the Aeneid in which the hero Aeneas goes.

Another important place of the Roman era is Baia, holiday location of the Roman aristocracy and several emperors who built here luxurious villas and thermal complexes whose monumental halls, now ruins, are improperly called "Temple", as those of Mercury, Venus and Diana.

In Baia were invented the "suspensurae" to keep warm the thermal rooms and were experimented new architectural solutions for domes, built then on a larger scale in Rome, for example in the Pantheon.

The remains of the city are visible in part at the archaeological complex of Baia, while another important part of the ancient town is submerged by the sea because of bradyseism: for this the Gulf of Baia was declared a marine protected area and established the "Parco sommerso di Baia".

The ancient Misenum instead it was the seat of the praetorian fleet of Emperor. Miliscola beach still retains in its name the memory of the training that Roman sailors held here, "militum schola".

Of the ancient military village was discovered the "Sacello degli Augustali", rebuilt in a room of the Archaeological Museum of the Campi Flegrei. Among the most representative monuments is the "Piscina Mirabilis", the largest cistern ever built by the ancient Romans, which supplied of drinking water the Roman
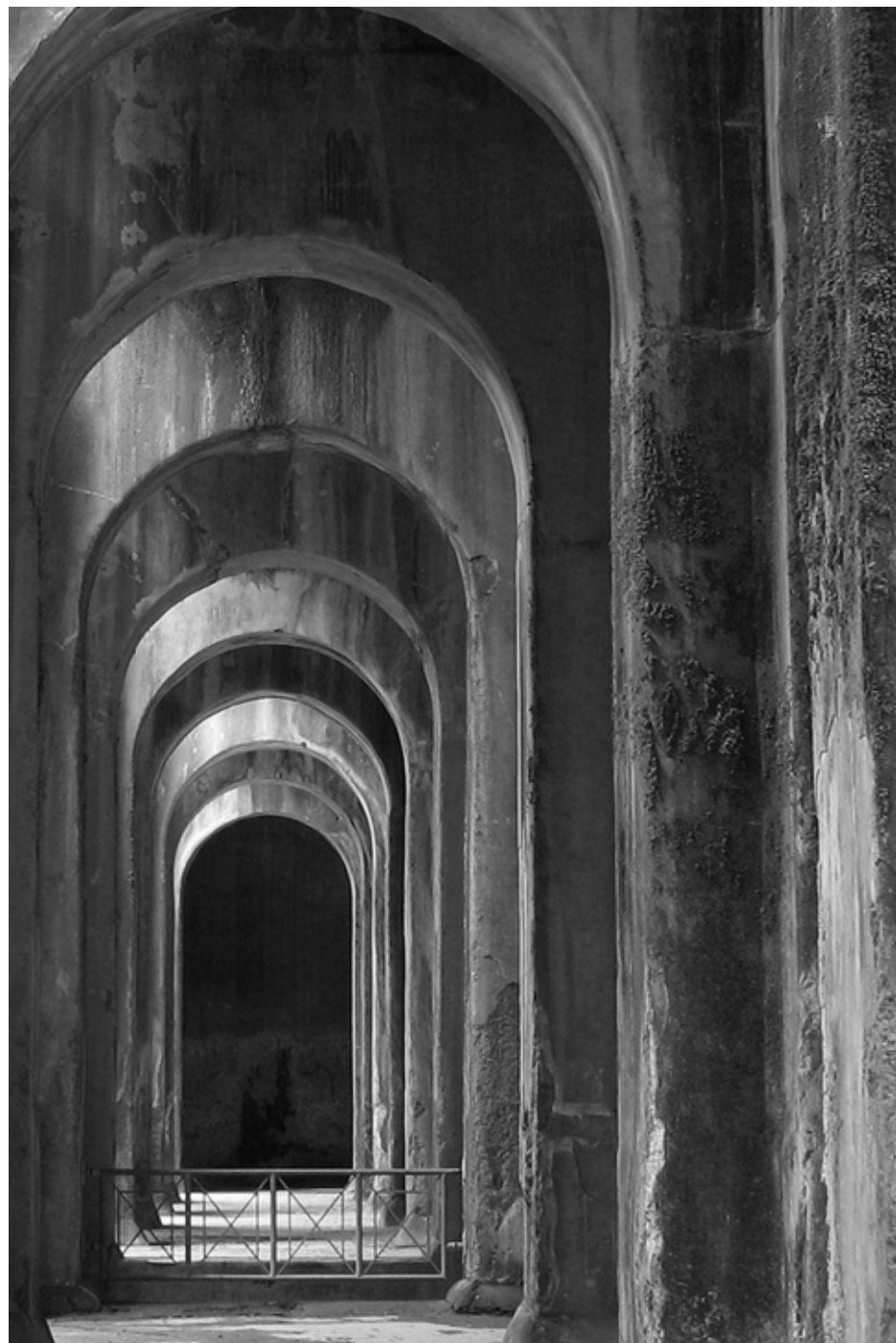
military ships in the port of Miseno.

Certainly great importance had the city of Cuma, the oldest Greek colony of Magna Grecia, famous because the seat of the oracle of the "Sibilla Cumana". Of the ancient city, still partly buried, you can visit the lower part of the Roman period, with the area of the Forum and its public buildings, the Roman Crypt, the acropolis with the "Antro della Sibilla" and the temples of Apollo and Zeus and the Arco Felice, a monumental arch bricks of Roman era built in cutting that the Romans did in the hill, through which the ancient road Domiziana entered into Cuma.

In addition to the exceptional archaeological and cultural resources present in the phlegrean area, two other important resources with strong tourism potential are the seaside resource and the thermal baths.

The tourist use of the seaside resource one side is favored by the presence of a magnificent sea and mild climate of Southern Italy, on the other, specifically, from being nearby to the metropolitan area of Naples.

This proximity could be a strong tourist appeal that, following an intelligent policy development, attentive to the restoration and preservation of the quality of coastal and sea, could be an effective instrument for the realization of a sustainable development plan extended to the entire phlegrean area.

Besides the sea, an additional factor of touristic propulsion consists of the thermal resource that few other regions in Italy may have.

However, only some of the many spas distributed between Agnano, Bagnoli, Pozzuoli and Bacoli, different by type and accommodation capacity, are actually used for tourist purposes.

Most sources are deficient in support infrastructure that can increase the development and then convert their only therapeutic usability in tourist-therapeutic usability.

The strong potential tourist attraction, enclosed in the cultural, environmental, seaside and thermal resources of the Campi Flegrei, to become a real opportunity for sustainable development, requires an environmental restoration, a comprehensive planning of tourist services, a usability strategic system.

It would be appropriate to begin with a strategic control of urban sprawl, which
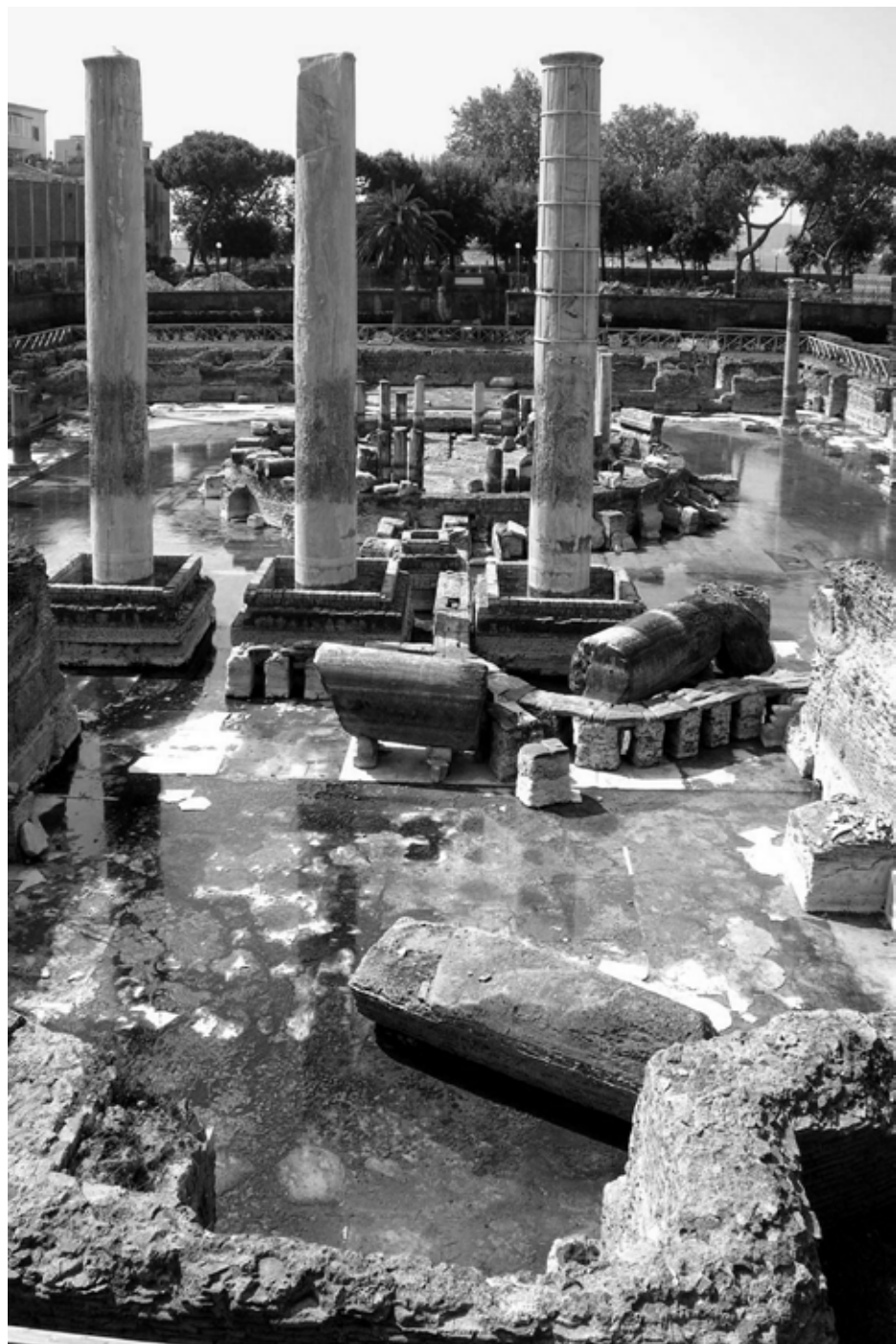
concerns both the protection of the natural landscape heritage that sustainable tourism development, since neither the territory nor the tourist infrastructures seem to be able to tolerate the strong human pressure of the last years.

The proximity to the metropolis of Naples is the main cause of the recent building expansions, mainly determined by the demand coming from the residential town, favored by a good accessibility of the phlegrean area and by living conditions certainly better than those of the municipalities that extend in north of Naples .

In the absence of adequate planning tools, the entire phlegrean area has become the subject of speculative actions with consequences often irreparable in terms of landscape and environment.

Speculative phenomena in addition to the damages produced in the past decades by an erroneous policy of industrialization that had located the largest factories on the coast, as evidenced by the presence of Ilva in Bagnoli and the many factories that are encountered along the costs proceeding from Pozzuoli to Bacoli.

It would also need a renovation of the hotel facilities with an offer of higher level supported by those additional services, currently absent.

For many of these hotel facilities the tourist accommodation is a secondary activity compared to the restaurant activities.

Another area to be improved for the promotion of tourism redevelopment is the transport sector in phlegrean area: despite its good access to individual municipalities and communication with Naples, is rather limited the accessibility to places of potential tourist attraction.

The lack of adequate reception facilities and promotion of tourist image of the area connected to the numerous environmental and social problems have progressively reduced the attractiveness of the phlegrean area.

Although it is clear that the main objective of the local administrations and the competent offices should be the cultural and environmental regeneration of the area, it becomes important to study a concrete intervention strategy.

In this act of intervention must necessarily be included the enhancement of environmental and archaeological resources, the improvement of systems of con-

nection and transport, an adequate urban planning, the improvement of quality of accommodation facilities, the creation of historical and cultural itineraries and the creation of tourist packages that attract different types of visitors.
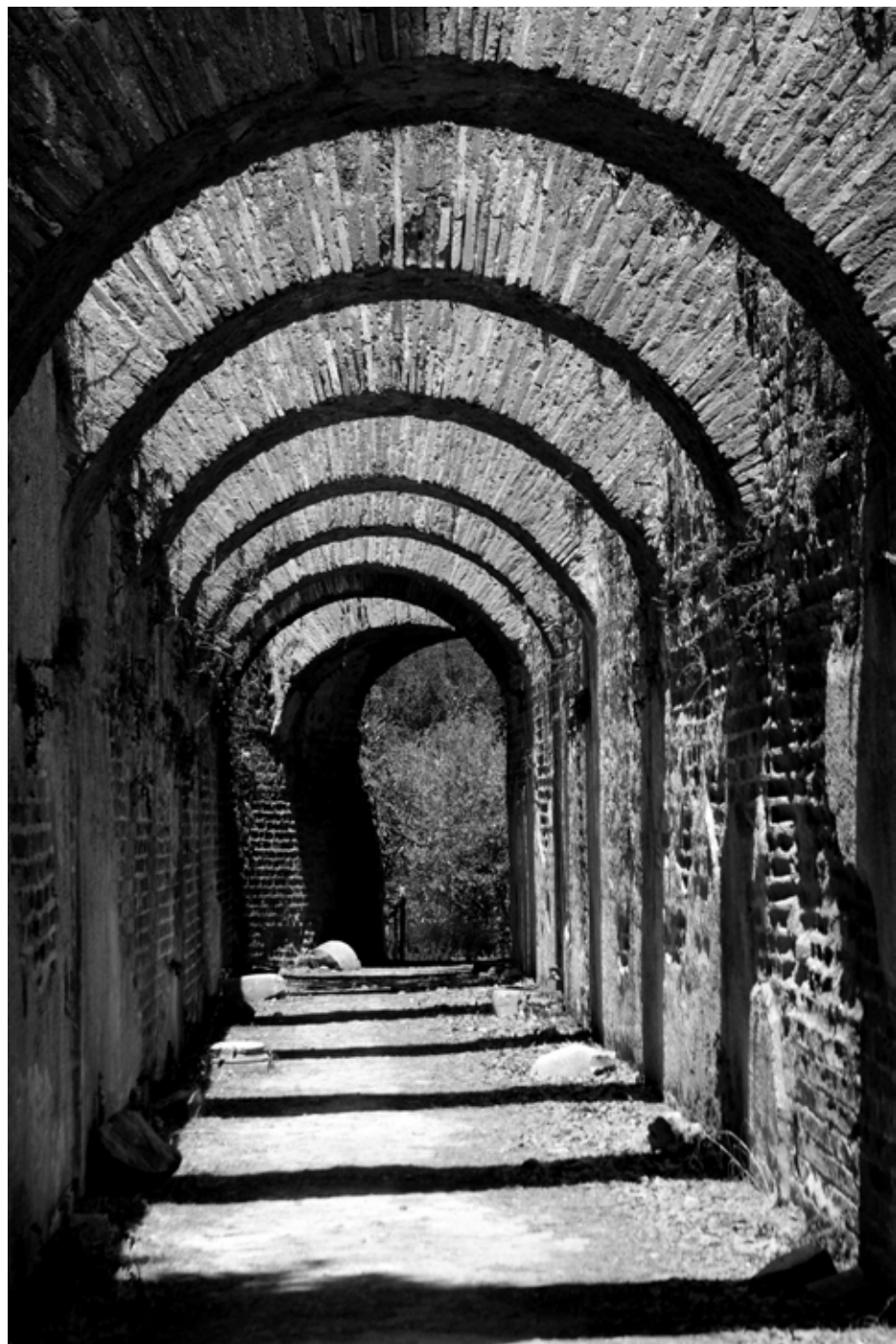
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Traditional clothings, San Leucio Silk Museum, Caserta, by Raffer, Flickr, 2011

INDUSTRIAL CULTURE AS HERITAGE: THE CASE OF THE CAMPANIA REGION IN ITALY

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What is industrial heritage?

Industrial heritage includes not only the mill and factories, but also handcrafts and traditional engineering skills. Mines, Roman aqueducts, production towns, canals, irrigation systems, railways, bridges, transportation types and power engineering technologies can be shown as industrial heritage.

The biggest share of industrial heritage belongs to the Industrial Revolution Era and unsurprisingly most of these industrial sites are located in Europe, the heart of the Industrial Revolution. Even though majority of industrial heritages emerged in 19th and 20th century, our industrial heritages reaches far beyond prehistoric and medieval times [1].

Industrial heritage stores a lot to say about human history. It shows technologic progress, changing material use, and social class system such as men's and women's place in the society and labours' conditions.

While engineering, architecture and town planning are some of the tangible aspects of industrial heritage; embodied skills, memories, and social life of workers are some of its intangible heritage [2].

How does the Industrial Revolutin Contribute to Our Heritage?

The Industrial Revolution created a major milestone in human history with dramatically changing every aspect of human lifestyles.

The Industrial Revolution started in the mid-1700s in Great Britain when machinery began to replace manual labour. Organic fuel wood based industries replaced with fossil fuelled, coal industries and major changes followed. Beside technological developments, social topics such as sanitation and life longevity also had undergone some changes [3].

The industrial revolution did not always serve for good. It also showed humanity's power of destruction such as dramatic increase on depletion of natural resources and demand for energy. Industrialization is a significant stage of human history and start point of industrialization can be recognized well back into ancient times through archaeological sites.

The Industrial Revolution that left the most significant marks on cities' appearance which is considered as cultural landscapes.

Traditional clothings, San Leucio Silk Museum, Caserta, by Di Cocco Luca, Flickr, 2014

The worst impact actually came with deindustrialization; structural and technological changes left behind disused industrial spaces, abandoned industrial complexes and disappearing skills.

This fact is creating the negative perception of industrial architecture and industrial urban landscape as unpleasant memories [2].

Therefore, one of the tasks that industrial heritage management and urban development strategies consider is reusing these abandoned industrial buildings and factories as well as maintaining disappearing skills.

Due to the lack of research, industrial heritage tourism is not very well defined. However, today there are three different categories that industrial heritage form.

First category consists of a complex comprising factory or factories complete with workers housing and related buildings and infrastructure.

Second category is industrial heritage sites which can be found as industrial museums. The last category is a very special category of industrial museums that aims to replicate industrial heritage complexes as it is original.

The largest example of this type in the world is the UK's Beamish – The Living Museum of the North. Worth to note that there are not many examples of this type in the world [4].

Industrial Heritage in Italy; Particularly in the Campania Region

ERIH [3], outlined 48 industrial sites in Italy, three of them also on the UNESCO World Heritage List, which are Crespi d'Adda (inscribed in 1995, Lombady Region), Belvedere di San Leucio Complex (inscribed in 1997, Campania Region), Rhaetian Railway (inscribed in 2008, Italy and Switzerland).

Six out of forty eight industrial heritage sites on ERIH's list takes place within Campania Region. These are: Belvedere di San Leucio (Caserta, UNESCO World Heritage Site, 1997); Palazzo Fuga, National Railway Museum, Galleria Umberto I, Museum of Weapons (Napoli); Paper Museum (Amalfi).

Belvedere di San Leucio is an industrial heritage site which is located in Caserta and also inscribed on the UNESCO World Heritage List in 1997. Now beside a functioning silk factory, San Leucio is also a living silk museum with some original old looms and machinery that show all the phases of silk production.

Its outstanding interest is the idealistic principles that underlay its original con-

Traditional clothings, San Leucio Silk Museum, Caserta, by Raffer, Flickr, 2011

ception and management. San Leucio resort was a place for pleasure and a royal hunting preservation. Later on the complex was transformed into a water-powered silk production factory in order to meet high quality silk fabric need of royal families [5].

The factory holds a unique example of workers right given by the King in 18th century. In 1789, San Leucio was declared a Royal Colony consisted of 214 people population and had its own law for providing safe environment.

The law also provided compulsory education, wages based on merit and the foundation of a charitable fund for the aged and handicapped people.

The town prospered by time; other factories were built near the existing ones, more machines were bought and internal regulations for the factory were issued. Subsequently, it turned into an industrial community, full of silk weavers. The fame of the products exceeded national borders. The houses terraced along two rows and show the regular geometric plan. San Leucio aimed to employ the most advanced technologies known in Europe at the time within an integrated factory, from spinning to weaving, dyeing to tailoring, which was quite unique in late 18th-century Europe [6].

Nowadays many factories are active in San Leucio, exporting the village's art of silk to international scale; to elite foreign clients as the Buckingham Palace, the White House, the Quirinale Palace and the Palazzo Chigi [7].

Industrial Heritage Management

There are several main issues that industrial heritage management is facing such as insufficient awareness towards our industrial heritage, undervaluing its connections with memory and identity, lack of interest and knowledge about our industrial past. industrial heritage sites usually does not serve for regional tourism instead it usually consists of a single factory, machinery, mechanism or construction and thus sites do not include accommodation and other domestic services which tourists would like to be offered [4].

Over the past decades, research, international and community cooperation have greatly contributed to a better appreciation of the industrial heritage.

Policies concerning industrial sites have shifted gradually from destruction to

Traditional clothings, San Leucio Silk Museum, Caserta, By Raffer, Flickr, 2011

preservation. In 2003, The International Committee for the Conservation of Industrial Heritage (TICCIH) and ICOMOS recognized a reference text to guide protection and conversation of Industrial Heritage sites.

Joint ICOMOS–TICCIH Principles, known as the Dublin Principles, "the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes" have adopted by the ICOMOS General Assembly in 2011. Priciples are: "I Document and understand industrial heritage structures, sites, areas and landscapes and their values; II Ensure effective protection and conservation of the industrial heritage structures, sites, areas and landscape; III Conserve and maintain the industrial heritage structures, sites, areas and landscapes; IV Present and communicate the heritage dimensions and values of industrial structures, sites, areas and landscapes to raise public and corporate awareness, and support training and research" [8].

Adaptive reuse and functional restructuring of industrial heritage is used as an inspirational source for new developments [9]. Regaining skills, creation of new work areas, depopulation and regional planning can be shown as socio-cultural, economic and environmental benefits of industrial tourism [10].

Traditional weaving machines, San Leucio Silk Factory, Caserta, by Mauromaori, Flickr, 2013

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Capua, photo by Ludovico Mascia

A COMMUNICATION PLAN FOR THE LANDSCAPES OF THE VOLTURNO RIVER BETWEEN CAPUA AND THE TYRRHENIAN SEA.

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The multi-disciplinary research linked to the critic reading of the cultural and landscape representation of the Volturno River between the City of Capua and the sea, includes five municipalities: Capua, Santa Maria La Fossa, Grazzanise, Cancello e Arnone and Castel Volturno. The Volturno River - the main waterway of Southern Italy for both length and cultural importance - through all five municipalities and was the gateway to the hinterland for those who, coming from the sea, intended to advance inwards up the Casilinum port (current Capua).

The author analyzed cartographies at different territorial scales documented by bibliographic sources, and interviewed the principal stakeholders of the territory through site visits and photography's reports from June 2014 to January 2015. These tools of analysis allowed to survey the cultural heritage as well as landscape and immaterial heritage. In particular the photographic survey and the landscape analysis are linked to the history, the traditions, the agricultural productions, the archeological, naturalistic and cultural emergences of the territory.

The analysis included the negative elements such as landfills and illegal buildings, which contributed along the years, to compromise this area of Ager Campanus defined the Garden of Europe by travelers of the XVIII Century.

Despite this negative aspect, the landscapes of the Volturno River are beautiful and they can became a resources, not only aesthetical, but even economic for the economic development of the territory, for example, through the creation of cultural and tourism routes.

The author proposes a cultural and tourism plan of communication for the area under investigation, which is the result of the analysis about the following thematic cartography: historical, rural, flooding, contemporary and urban landscapes.

The methodology of this research is linked to the principles of the multidimensional and multidisciplinary analysis [1]. This is intended as a propaedeutic phase of knowledge for the project.

Monuments, landscapes, architectural art crafts, through this methodology, are analyzed, interpreted, discretized by the integral of knowledge – the different disciplines of studio – which are not limited to measure the formal and geometric aspects. These disciplines extend to the intangible assets and are able to

Capua, photo by Ludovico Mascia

give indications on historical, environmental, social and cultural contexts where the object of investigation was born and configured.

The author believes that in the discovery of local identities and genius loci and in the enhancement of the human capital of the territory that one can search the signs able to stimulate actions of preservation and valorization of cultural heritage.

These actions are intended as part of a collective project and process, coordinated and concerted among the institutions – at different territorial scales – as for examples the public bodies, universities, research centers and local communities, represented by the principal stakeholders of the territory.

If history is intended as knowledge, thus it is memory. This concept is at the base of each project for a plan which respect the contemporary needs of local communities. Starting from this preamble the author proposes a plan of communication, which searchs in the roots of history a message of innovative promotion for the territory.

Landscape of history.

The Volturno river crosses two cities rich in history: Capua and Castel Volturno, respectively upstream and downstream (sea) of the area under analysis.

Capua is a city built on a bend of the Volturno river, founded in the middle of the eleventh century by Lombard Count Landone I. It rises surrounded by walls on the banks of the Volturno river on the site of the ancient Casilinum port. It take its name by the ancient city of Capua, which occupied the area of the city of Santa Maria Capua Vetere.

Among the principal architectonic emergences: the 'Reale sala d'armi', the 'Chiesa di S. Angelo Audoaldis' and the 'Castello delle Pietre'.

The three monuments are located in a symbolic point of Capua, Piazza dei Giudici, where is situated the City Council and the Church of Sant'Eligio.

Castel Volturno takes its name by its 'Castle' and the Volturno rivers. The historic center lies on the river's left bank in the last curve before it meets the Tyrrhenian sea.

Capua, photo by Ludovico Mascia

The city carried out the function of emporium, it collected and was the market center of goods produced by the entire lower basin of the Volturno. It was a forced crossroads for those who wanted to advance from the sea to the inland until the port Casilinum on the Volturno and hence the ancient city of Capua.

The rural landscapes.

The historical identity of the province of Caserta is marked by activities related to the land and in particular to that of agriculture.

The landscape of 'Terra di Lavoro' has been, over the centuries, careful and conscious expression of peasant culture that, despite the industrialization and the illegal construction of the last sixty years, allowed the territory to fit into a system of excellence's production.

This rural landscape, if properly enhanced, would encourage the provincial economy linked not only to agricultural production but also the food, wine and cultural routes, which are oriented to authentic experiences outside of mass-tourism.

Since the end of the sixties to the present day it has been spilled in the province of Caserta hazardous waste without any authorization that have generated numerous illegal dumps.

The deteriorating situation is due not only the illegal disposal of waste but it is also related to the exponential growth of buffalo's factories.

Despite a state of deterioration due to environmental pollution and the uncontrolled building expansion since the end of the II World War until today, there are numerous evidences of excellence for the agricultural heritage of 'Terra di Lavoro' (province of Caserta), preserved through products of: Protected Designation of Origin (D.O.P.); Protected Geographical Indication (I.G.P.) and; Controlled designation of Origin (D.O.C.) [2].

Flooded landscapes and contemporary urban landscapes.

The floods of the Volturno River, when they occur, cause many damages, also due to the fact that a lot of buildings were constructed without any legal authorization in hydrogeological risk and flood areas.

Capua (surface 30 square km, 18.853 inhabitants) is a city full of historic buildings, of artistic and architectural assets, characterized by ancients gates and

Capua, photo by Ludovico Mascia

internal courtyards (cloisters or).

Between Capua and Castel Volturno, on the river axis taken into account, there are three other urban realities closely connected with the life of the river: Santa Maria La Fossa (surface 29.5 square km, 2,722 inhabitants), Grazzanise (surface 47 square km, 7,085 inhabitants) and Cancello e Arnone (surface 49 square km, 5,290 inhabitants).

The three municipalities are characterized, in most cases, by simple constructive types, such as linear buildings of maximum two or three floors, with a gate and courtyard.

These building types, in fact, are functional and appropriate to the needs of local populations, mainly related to work activities of agriculture and livestock.

Castel Volturno (surface 72 square km, 24,183 inhabitants) has, in its historic center, constructions' types including buildings and small buildings with two and three floors (mono or multi-family) and examples of courtyard houses, with two or more housing units and common central courtyard.

In the last 40 years many buildings were built on the margins of the river, most of them are abusive.

Landscapes of beauty.

The town of Castel Volturno is characterized by fourteen kilometers of luxuriant Mediterranean vegetation, twenty-seven of continue sandy coastline and it has a surface of seventy square kilometers.

The Volturno River runs through the city, which has been a crossroads for those obliged to reach the Casilinum Port (current Capua) and then to Capua (actually named Santa Maria Capua Vetere).

Among the natural beauty, of great environmental value, the author highlights the Oasis of Variconi and the area of the Regional Natural Reserve 'Foce Volturno-Lago Faciano-Costa di Licola'.

The first is one of the most important wetlands of Campania for the functions it performs in the life cycles of many species of migratory birds and for the presence of some species of rare plants.

The second covers the twenty-seven kilometers of beaches of the coast and

Capua, photo by Ludovico Mascia

includes Sites of Community Importance (SIC) and Special Protection Areas (ZPS). Additionally it includes the Lake of Patria.

The Eco-park of the Mediterranean sea, offers unique emotions with its landscapes and natural trails thanks to its lakes of brackish water (about 60 hectares on the left bank of the Volturno). This is an area in which private structures for holidays, leisure and tourism are very well integrated in the environmental landscape. Along all the Volturno River there is a natural integration between the urban landscape of the five municipalities and the water axis, with outstanding views, especially in the city of Capua where the river protects and embraces the city.

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The Restoration Construction site of the Trevi Fountain, Rome

THE CONSTRUCTION SITE FENCE AS A TOOL TO PROMOTE CULTURAL TOURISM: TRADITION VERSUS INNOVATION

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The difficulty of planning cultural interventions in a systemic, integrated and sustainable key, can be made easier through an accompanying action whose methods, tools, skills and professional experience able to enhance the design and management quality and effectiveness, in the cultural field in all the phases of the asset life.

The restoration construction site means many things: historical investigation, ability to acquire new information during the work, research capacity, it means education, employment opportunities, but through the innovative approach which considers the construction site as a knowledge showcase, it can be transformed in an added value of the building itself.

The great historical restoration areas were the "art construction sites", spaces that today could be revisited and proposed as "paths of knowledge".

The "art construction sites" are the places where innovation, experimentation, research and technology create a potential which deserves to be supported and enhanced.

They can be conceived as "cultural-tourist" channels, which contribute to the culture dissemination in the territory of art, in the most critical phase of cultural heritage: the construction site.

Therefore, the construction site of the cultural heritage can be conceived as a laboratory for innovation, creativity and for creation of professional roles too, in which skills intersect crafts, and all together can be public.

Planning and promoting action for a development based on the fruition of cultural heritage may seem a paradox in the temporary and ephemeral phase of a construction site, because it creates uncomfortable situations, a reduction in terms of services offered to tourists, and an increase of obstacles to the use of the item concerned.

The "art construction site", conceived as knowledge showcase and as a tool of enhancement instead of devaluation of heritage, aims precisely to overcome in our culture the widespread perception of the construction site as a purely negative element.

Therefore, it is necessary to move from "purely technical design of construction site" to "construction site design as a system of knowledge", more coherent and

The Restoration Construction site of the Trevi Fountain, Rome

integrated in the social and economic development strategies of the territories. The implementation of measures aimed to overcome the construction site discomforts, and the communication of "what and how" is being realized, is a very efficient strategy to increase the positive perception of the transformation.

This is proved by the strong increase in demand for activities in this field. Infact, the signs of new trends to exploit the yard just as time to further enhance the object of the work, are found in many local realities, but especially in metropolitan areas.

The increased awareness of the communities hosting such plants, encourages initiatives which are meant to reap the benefits of a strategy in contrast with the negative idea of the maintenance and restoration construction site.

More and more often, the tender notices for the restoration of art-historical works, require to reduce the negative visual impact generated by the plant on the context, through the adoption of appropriate mitigation measures: dedicating particular attention to the bounding elements in order to ensure the decorum, and use tools to start a creative and original process of participation, promotion and communication, in the implementation phase of the transformation.

Methods, processes and projects for the enhancement and management of cultural heritage are characterized by an overall weakness of efforts to spread knowledge of restoration sites and, consequently, a low efficiency / sustainability of interventions in the field of cultural heritage.

The crossing of these limits is based on some essential prerequisites:

• the knowledge and awareness of the social and economic value of cultural resource also during the construction site phase;

• the ability to develop management plans able to ensure over time the economic sustainability of the interventions and the greatest ripercussion for local development;

• the activation of a virtuous public-private partnership;

• the involvement and participation of citizens in all the definition phases of the project objectives and the monitoring results.

For the enhancement of the "good" during the work phase it is necessary to implement design strategies which aim not only to the primary objective of pro-

The Restoration Construction site of the Trevi Fountain, Rome

tection and conservation, but to the promotion of knowledge, valorization and monitoring of results too.

In this connection a comparison between the operational phases for the management of a traditional construction site, and those relating to a "smart" construction site for the cultural assets has been shown.

Usually, for a traditional restoration construction site, the management plan is only limited to the implementation of the Conservation Plan (protection, recovery and maintenance of quality), while the management plan for a "smart" restoration construction site must be divided into at least four levels.

Infact, besides the Conservation Plan, it is necessary to add: the Knowledge Plan (research and studies), the Valorization Plan (fruition, new cultural production, communication) and the Monitoring and Evaluation Plan (check the status of implementation, impact, relevance flows).

In addition, the research contribution illustrates the comparison between two real different fence systems of a traditional restoration construction site and an "innovative construction site", with the aim to highlight the positive and negative effects of the two different ways of conceiving and organizing the transformation space.

In the national context, the "construction site show" – still in progress – for the restoration project of the Trevi Fountain in Rome, is an extremely interesting example of innovation and sustainability.

The fence system has been realized with transparent Plexiglas panels. It is possible to enjoy the Fountain from a new perspective thanks to a clever organization of the didactic construction site.

Therefore, a real suspended walk can be taken above the bath. The panoramic footbridge allows tourists to follow in person and as real protagonists the works of the symbol of the Capital.

Furthermore, two screens have been installed along the fence system, in order to show authentic and historical images about this Fountain.NThe main aim have been to contain the inconveniences caused to beneficiaries, to attract new ones and to hold high the exposure and the usability of this historical monument during the whole duration of the works. Thus, the operational phase of the res-
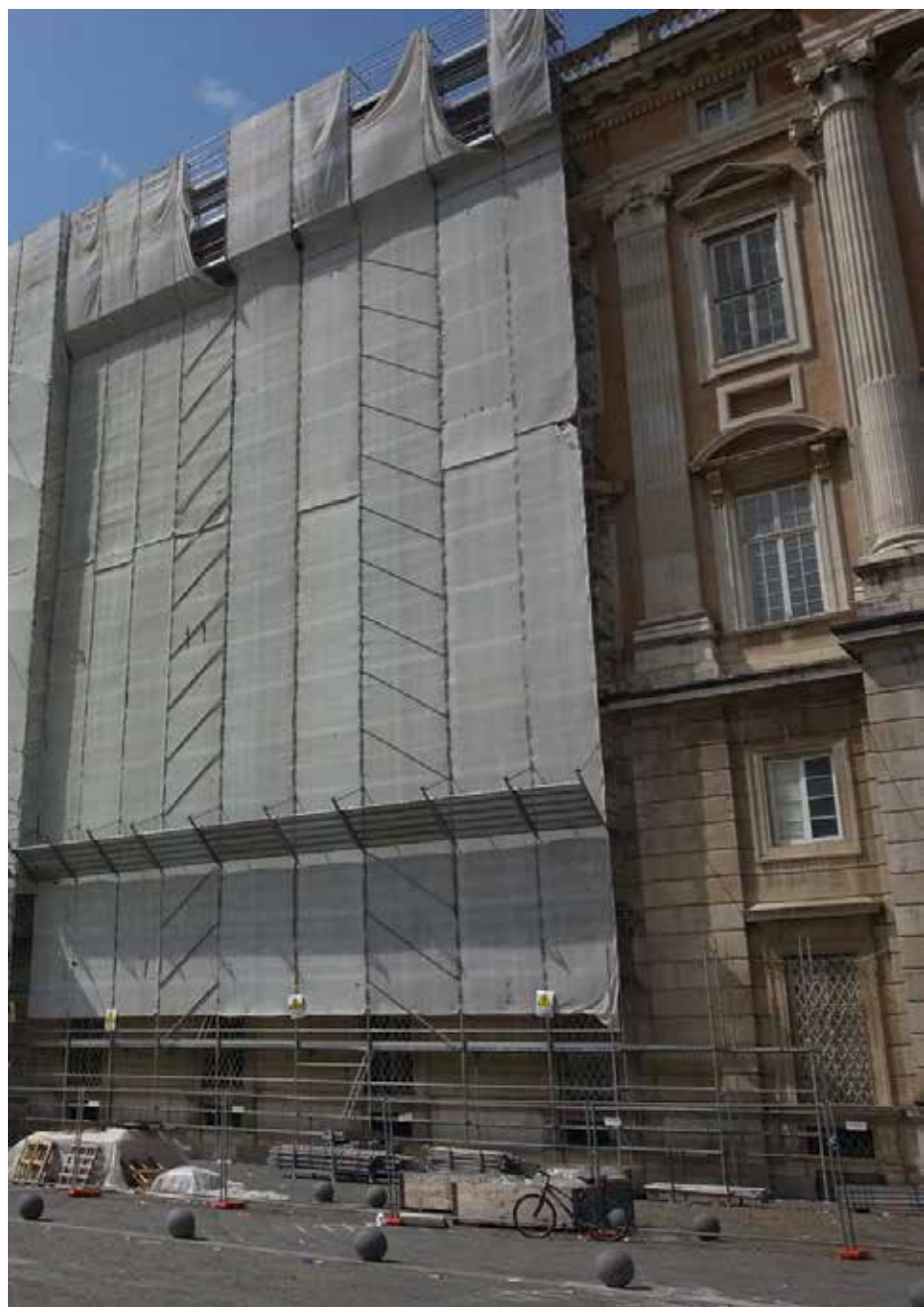
The Restoration Construction site of Royal Palace façade, Caserta

toration has become an opportunity: an "open-air" construction site, an artistic show to live, where the public is part of the scene.

The intervention, which had initially aroused no little concern for the negative impact on tourism, actually has obtained the opposite effect.

The result has been to attract on site a greater number of users than usually. The "innovative" construction site has attracted an average of 1200 people per hours.

On the contrary, the construction site for the restoration and maintenance of the Royal Palace in Caserta, which is also still in progress, represents an example of a traditional restoration construction site.

This plant, in elevation, since it is a multi-storey façade, consists of a conventional scaffolding system, which does not incorporate any decorative or communication element.

This system prevents that it can be used as an attraction element, but in this case, it is a perception and fruition obstacle of the historic building.

Consequently, this hasn't led to an increased demand of tourist flows, which in fact remained unchanged, compared to the usual standards.

The delimitation system of the construction site, whether it be a plant in the ground or in elevation, plays an attraction role towards the user involved.

Target audiences are all those actors that revolve around the system of restoration, art and tourist fruition: from the culture and education systems to the tourism and hospitality ones.

Secondly, it is aimed at a wider audience of people interested in art and culture, be they residents, tourists or city users.In this perspective, the construction site is not only the moment necessary to ensure the protection of the artistic and cultural heritage, but it is a device to increase the visibility and promotion of good.

Conceiving the construction sites as "knowledge showcases" is an opportunity for territorial marketing; a path which can be an economic development key, a system of re-launching of the offer for business, art and cultural tourism.

The Restoration Construction site of Royal Palace façade, Caserta

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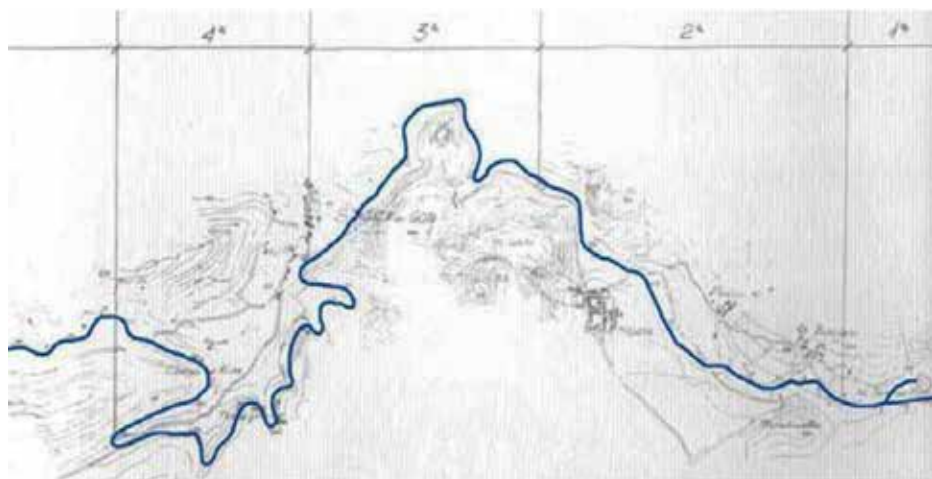
1. WATER PATH: FROM THE SOURCES TO THE LONGANO MOUNTAIN
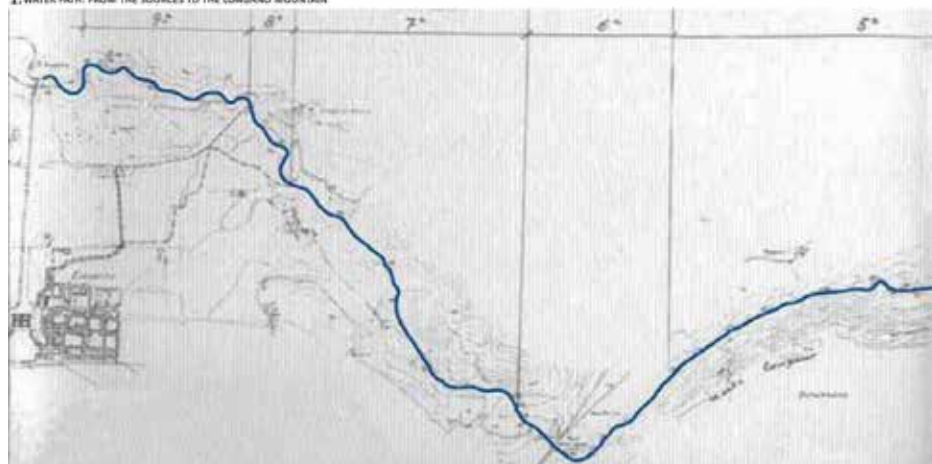
2. WATER PATH: FROM THE LONGANO MOUNTAIN TO THE PALACE
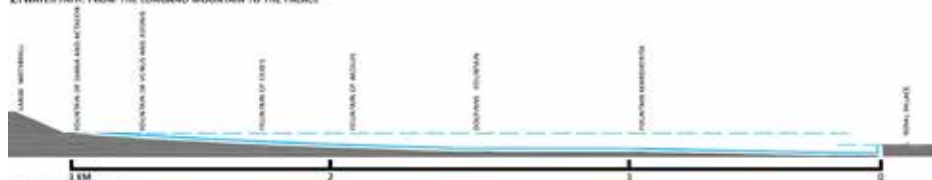
3. LONGITUDINAL SECTION

4. HYDRAULIC MACHINES

THE ROYAL PALACE AND THE WATER DESIGN

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May 7, 1762, was organized in preview the "Show Safe Water". The aqueduct to bring water to the Palace was almost ready, and that day, for the first time, the Court would see the water gushing from the mountain Garzano. The road ahead was of 39 km, the altitude was quite low, only 51 meters, but the architect had really believed, and, with the help of his loyal assistant, the architect Collecini, on the trail of the ancient Julius aqueduct, that served the city of Capua [1], taking advantage of the wonderful sources of Fizzo at the slopes of Taburno, had passed, with many difficulties, valleys and mountains. The experts were sure that water would never come, however, after more than four hours of waiting, the incredulous looks of all the guests in front of that large gush of water perfect, clear and transparent, it's paid off all the sacrifices, the doubts and vicissitudes that had accompanied him on that project so extraordinary. Following, his son Charles would complete his work, ushering in the big waterfall and the English Garden in 1786 and concluding an extraordinary work of hydraulic engineering built in just six years at a cost of 700,000 ducats (now 12 million euro), a figure far less than that spent on similar Roman aqueducts. These water architectures, as well as the park, are strongly inspired by the French Garden at the side, with its laws of symmetry and its visual perception that turns into infinity, and the other to the Baroque conception of the cosmos, with its aspects of theatricality, wonder and illusion [2]. Staircases, fountains, statues, balustrades set the pace and the central geometrical axis materializes just across the water, which thus becomes the key element manipulated differently according to the many requirements, now basins, now tanks, now fountains, now fish ponds or caves, so as to surprise and accompany the visitor along the way [3]. The Park arises in short as the last link in the "chain of water" that from Villa Lante onwards has profoundly influenced the art of gardening. In it, as in Villa d'Este, in Tusculum Villas Aldobrandini and Ludovisi and in the Palazzo Farnese in Caprarola, the common matrix is the abundant presence of water, which in various forms, fills the garden of life. In his project Vanvitelli would recover right the existing plant, the "Old aqueduct", from the source of Casolla which, however, was enough only for the functioning of the existing fountains and gardens. When they were later found two other sources, that of Jupiter, high 39 palms

1. THE CHAIN OF WATER VIEW FROM THE LARGE WATERFALL

from the duct, and that of Fontanelle, 138 high palms, he was able to increase the water supply, but only for the needs of the yard. So he went, between 1751 and 1752, with many inspections, to find the most suitable and abundant sources. And increasingly moving away from Caserta, finally he came to Mount Taburno, from which flowed jets clear and abundant, like the Fizzo, the Rapillo, Marano and Peschiera [4]. Found the water, he began to organize the work. The construction was so divided into three parts: from Fizzo to the Mount Ciesco, from it to the Mount Garzano and from there to the Royal Palace, organizing more teams of workers, who simultaneously proceeded to carry the different parties, coming together, with the supervision and the skill of the Vanvitelli and his assistants, to a work uniform in all its parts and to the exact slope at any point, as it was established on paper. And so, starting at 254 meters above sea level, with a slope of about 1.5 mm per meter of path, the water from the top of the mountain, with a jump of 80 meters, falls below the tank of Diana and Actaeon, which in turn represents the first major storage basin to distribute water to different areas of the Park, the English Garden and the nearby town of San Leucio. From the same tank, it begins the main pipe that provides water to all subsequent fountains, through a system that makes all independent of each other, and, though apparently seems an uninterrupted flow, it is actually possible to close each individual fountain without interfering with the others, thus enabling easier maintenance. The last storage basin is the Fountain of the Dolphins that distributes water to the area below the Park and the Old Forest. Unfortunately, Vanvitelli died, none of the nineteen fountains had been made, and with the evolution of taste and society, Carlo, following a line of thought inaugurated by Patturelli, felt completely separate from the paternal designs. Actually, another school of thought believes that the imprint left by his father was so strong that he could not be anything other than the perpetrator [5]. However, both in the original project of the Declaration, both in the one actually made, there is a very strong symbolism. In fact the first project is inspired by Ovid's Metamorphoses, because the fountains around the central axis reproduce the myths related to the love and transformation. West fountains of Venus and Diana, at the extremity of an arm that are opposed sources of Adonis and Actae-

1. SUCCESSION OF TANKS

2. TRACE OF THE "IULIUS AQUEDUCT"

3. PATH ON THE AQUEDUCT

4. INTERNAL PATH OF THE AQUEDUCT
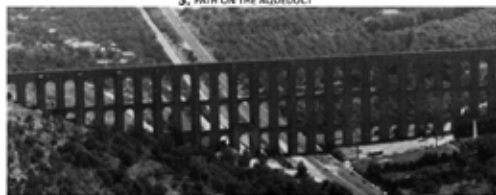
5. CAROLINGIAN AQUEDUCT

6. SOURCE FIZZO
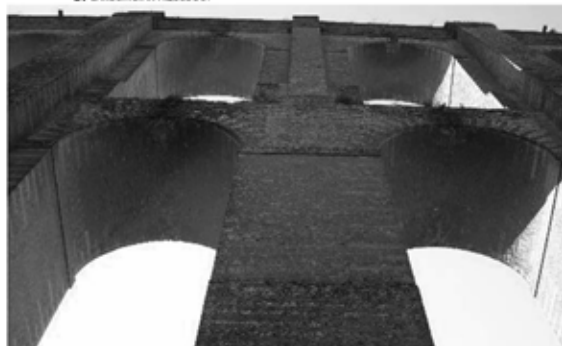
7. DETAIL OF THE ARCHES

on, the young men beloved by them, to the east we find a succession of couples : Vertumnus and Pomona, Love and Psyche , Narcissus and the Nymph Echo; in the center the large fountain of the Royal Court of Neptune apt to enhance the sovereign power and advance the statues of Hercules and Pallas, representing the strength and the wisdom. In the current park instead you can see three major areas: the Cental Axis, the English Garden and the Old Forest, and in each one the water takes on a different role. In the middle, taking the example of Andrè La Nôtre, our architect deforms basins to fit on the slopes of Mount Briano, and then the water is in constant motion, like a perpetual fall from big waterfall. The first large fountain that can be seen at the beginning of the park is the fountain Margherita or fountain of the "Canestro", a strong French-inspired, with a simple circular basin and a small jet coming out of a basket. According to sources, this was to be the fountain of Neptune, so it has been deduced that the first is the result of later interventions, that have enriched it with statues of Apollo and the Muses, thus detaching it completely from the myths depicted later . In fact the real beginning of the water path is with the Fountain of the Dolphins, where the path splits losing the perfect central view of the Park. Also called "Gully", this basin extends for 1800 palms and along 100 palms. The water gushes from four holes and gaping gorges of the three dolphins. From it there are three pipes: one arrives at Peschiera and Castelluccia; the second comes to the Palace; the third serves as an outlet for the overflow. At one time you could enter the cave behind, the wall of which you have been expertly excavated openings to admire the landscape according to precise optical cones. Following the fountain of Aeolus, the most dramatic and compelling fountain, with a semicircular polygonal behind and two side ramps to overcome the height difference. The visitor finds himself captured by this scene where Eolo, instigated by Juno, unleash the fury of the winds against the Trojans, while twenty-eight statues of Winds emerge from the caves unleashing the storm. The next fountain of Ceres consists of a number of tanks made to the need to adapt to a steeper slope, just as it does for the fountain of Venus. Each jump is accompanied by a different face on the balustrade and the water, at each passage of altitude, generates froth and jets with thanks to a surface "scales" in the first

1. FOUNTAIN MARGHERITA

2. FOUNTAIN OF VENUS AND ADONIS

3. DOLPHINS FOUNTAIN

4. FOUNTAIN OF AEOLUS

5. FOUNTAIN OF CERES

6. NYMPHS AND CUPIDS

7. WATERFALL IN THE FOUNTAIN OF AEOLUS

8. FOUNTAIN OF DIANA AND ACTAEON

9. ADONIS AND THE BOAR

case and "wave" one in the second. And if Ceres appears surrounded by the Nymphs with, on both sides, the reclining figures of the sicilian rivers Anapo and Arethusa, Venus is in the act of begging the beloved Adonis for not participating in the hunt, to avoid the tragic fate that it awaits him, while in the other side the boar is lurking. The culmination of the Axis is finally represented by the fountain of Diana and Actaeon, he already turned into deer. These two groups of sculptures that face in a semi-elliptical tank not more concave as that of Aeolus, but convex. Two by two the fountains close, in form and symbolism, a pattern which, according to many aspects, can be treated as a poetic quatrain A-B-B-A [6]. In the second part, that is in the Old Forest, the water in absolute stasis. "Peschiera Grande" is a basin 106 meters wide, 270 long and 3 meters deep. Originally it was probably a site where the young Ferdinand was practicing for the naval battles, but today, denied any possibility of enjoyment, it represents only a small lake in the quiet. Finally, the third area, the English Garden, water is the main source of all the feelings and emotions that can be perceived. Upon entering, the presence of water is felt immediately. We have to go before an avenue tangent to the "Aperia", an old cistern that Vanvitelli had planned in case of failure of the aqueduct, and, at the end of the avenue, you are in front of the fountain of the Pyramid, now no longer working. From here you get to the Fountain of the Shepherd, the true beginning of the water flow, in fact from here lies a small lake that culminates in the famous Bath of Venus. In it, the goddess, just out of the water, is reflected in the lake, and, among the dense vegetation, the ruins of the portico, the small bridge between the two sides, becomes the star of the typical picturesque corner that surprises and captures the visitor. From the small lake originated a river that runs through the garden and after two jumps share, form, in the lower flatter, a new largest lake, where the final stage of a beautiful and unforgettable journey of the senses.

1. FOUNTAIN OF THE SHEPHERD

2. ARTIFICIAL LAKE

3. THE CIRCULAR TEMPLE OF THE ENGLISH GARDEN

4. THE WINDING PATH OF THE WATER

5. BATH OF VENUS

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A TAXONOMY OF
TRANSITIONS

racial / ethnic
self-identification
in chicago
in the year 2010

white ■
black ■
asian ■
hispanic ■
other ■

the black lines show
chicago's official
community areas.

each dot represents
twenty-five people.
here, hispanic is
exclusive of other
categories.

block-level data
from the U.S. census.

scale 1:200,000

http://www.radicalcartography.net/index.html?chicagodots
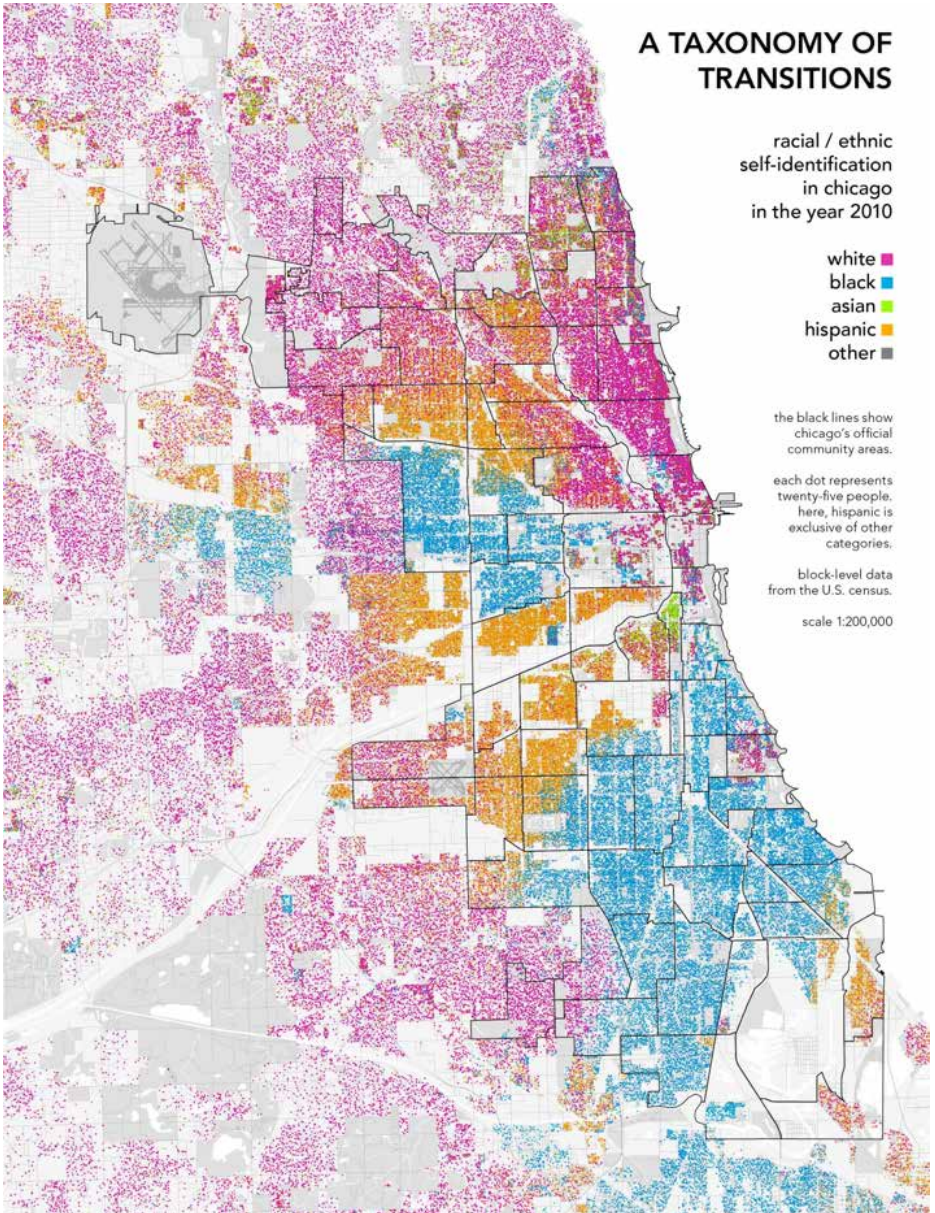
HISTORIC PRESERVATION IN CHICAGO

Evan ROBINSON

The city of Chicago has been called the city of neighborhoods for its unique neighborhoods that divide the city. These neighborhoods create distinctive divides with race and class throughout the city. The north side of the city historically and currently being predominately upper class and white and the south side of the city being predominately African-American. However the divisions are much more expansive and dynamic than being black and white. There is the Hispanic neighborhood of Pilsen on the south side of the city, however as the demographics of the city have changed and grown the Hispanic neighborhood has grown larger. There is a Chinatown along with a Greek town as well as a Ukrainian Village (Figure 1). Many of these neighborhoods have changed and struggle with their identity with building use changes and along with the demographic changes. This struggle is evident in Wicker Park that once was a working class neighborhood that was quiet and today it is one of the trendier and younger neighborhoods of the city with buildings turned into lofts, restaurants, and bars for recent college graduates. This type of change of use of buildings in these neighborhoods creates a conflict for preserving and protecting historic buildings. Historic buildings and districts also faced the issue of becoming areas that become more destitute and no longer the fashionable and influential areas they once were, allowing the buildings to fall into disrepair.

The history of historic preservation in Chicago was affected by the National Historic Preservation Act (NPHA) of 1966 much like most of the nation. There was an agency to protecting historic buildings and areas that was created in 1957 called the Commission on Chicago Historical and Architectural Landmarks (Landmarks Ordinance). This committee was originally founded to be an advisory board to recommend which buildings in the city were important or significant. It was not until 1968 after the 1966 NHPA that the city council gave the board power to recommend which buildings could be protected by law (Landmarks Ordinance). The Commission was also given the power to review building permits on historic buildings to determine the effects of construction on the landmarks (Landmarks Ordinance). Since the 1960's the Commission powers have been changed much. In 1987 an economic hardship provision was added for owners to be able to build on a landmark because denying a permit to them

would create an economic hardship for them and the building would no longer be used (Landmarks Ordinance). The Commissions name was also changed to a shorter Commission on Chicago Landmarks. As of 2011 there 296 designated individual landmarks and 53 landmark districts created by the Commission (Landmarks Ordinance).

The Charter of the Commission on Chicago Landmarks goes into great depth of their goals for protecting landmark buildings and why it is done. It was created to "identify, preserve, protect, enhance, and encourage continued and rehabilitation of [historic] areas" (Landmarks Ordinance). The charter goes on to state that the Commission goals for the protection of historic buildings are to create civic pride and preserve the quality and character of individual neighborhoods (Landmarks Ordinance). This protection of buildings will also encourage public art and will prevent urban blight (Landmarks Ordinance). The Commission on Chicago Landmarks powers is mainly created through the control of permits on building (Landmarks Ordinance). They are responsible to conduct a survey of the city to identify historic areas or buildings (Landmarks Ordinance). Once surveying is done the Commission must educate the public through public hearings, create and install plaques for the buildings, and publish literature that details where and what the historic properties are located (Landmarks Ordinance). The Commission has the power to review permit applications for construction and decide whether the construction affects historical properties and then advises on how to proceed to preserve the historic site (Landmarks Ordinance). It is also the main agency that researches and proposes sites to be considered on the National Historic Register List (Landmarks Ordinance). The majority of the power of the Commission is the ability to affect the permit applications when they affect historical properties and it is impressive that they are included in the permit application process. Along with the Commission on Chicago Landmarks the city of the Chicago provides incentive to protect and preserve historic properties with the Class L Property Tax Incentive. This incentive is applicable to all types of owners including commercial, industrial non-profit and residential buildings. The owners can have their property tax assessment reduced for a twelve year period, if they "invest at least half of the value of the landmark building in

an approved rehabilitation project" (Class L Tax Form). Although this incentive reduces taxes it is not a tax freeze program the Class L Property Tax requires the property to be continually to be reassessed (Class L Tax Form). In order for a building to qualify for the Class L Property Tax it must be a designated landmark by the City of Chicago, the owner needs to invest at least 50 percent of the market value to the upkeep and rehabilitation of the building and the rehabilitation must fall within the Standards of Rehabilitation of Historic Buildings by the Secretary of Interior (Class L Tax Form). This tax incentive is similar to the federal property tax incentive that also requires owners to invest money to preserve the building (Listokin et al.). The federal tax code is more expansive in how it rewards historic preservation whether it is through income tax credits, property tax incentives or non-tax aid (Listokin et al.). This depends on what type of building and what the owner is willing to invest in it to receive benefits for preserving the historic property. The manner in which the Chicago Commission on Historic Landmarks operates is a result of what NHPA created in 1966. The NHPA created a system that was decentralized to decide what historic sites are important and created State Historic Preservation Offices (SHPO) to survey, protect and regulate historic sites within each state. Then within each state city and towns were able to create their own historic offices to determine what was important to protect. The New York City Commission and the Chicago Commission both arose in the same time period during the 1960's with the New York City Commission being created in 1965 a year before the 1966 NHP Act because of the destruction of Penn Station. Similarly to Chicago the New York City Commission goals are to protect historic structures for the people's culture and history while increasing real estate, civic pride, and strengthen the economy (NYC Landmarks). The size and history of these two cities provide them to have very similar systems to protecting their historical structures. Chicago did not have the same tragic start their Commission however both were created within a couple of years of each other and gained power and influence through the National Historic Preservation Act of 1966. Recently there has been a challenge to the Chicago historic landmark law on the legality of Commission's landmark ordinance policy. Two residents in Northside neighborhoods challenged the right

for the Commission to make their neighborhoods Chicago Landmarks (http://www.nytimes.com/2009/03/24/us/24landmark.html). The residents challenged the law claiming the rules for the commission were too "vague ambiguous and overly broad" (http://www.nytimes.com/2009/03/24/us/24landmark.html).They think the Commission has overstepped the bounds of its power and is using landmarks to prevent neighborhoods from changing at all. This case went all the way to the State Supreme Court in Illinois making national headlines in 2009. It was not until the fall of 2013 that the court ruled on the side of the Commission on Chicago Landmarks stating that the city landmark ordinance was not too vague or broad (http://articles.chicagotribune.com/2013-09-26/news/). However the court did grant the plaintiffs the right to appeal their neighborhoods being landmarked, stating that landmark ordinance was unfairly applied to them ((http://articles.chicagotribune.com/2013-09-26/news). This court case had larger ramifications historic preservation law throughout the United States because the Chicago Commission laws are very similar to so many cities across the nation. Had the court ruled against the Commission it could have created a dangerous precedent for overturning historic landmark laws in U.S. cities. The plaintiffs although claimed not to want to eviscerate historic preservation laws, however they would have inadvertently done so had the court sided with them. There would have been developers lining up court cases across the U.S. to claim the city historic landmark commissions were too big and broad, and would use the precedent of the Chicago case for their justification. Luckily this was not the case and the court ruled against the plaintiffs and historic preservation law was protected. The Chicago Commission court case is an example of a failing of historic preservation law because there was a clear failure to communicate to the public reasoning and educating of why the area was historically important. It is not enough to be able to preserve historical properties but public education and input is just as important as designating a buildings. Most buildings that are designated are privately owned and if the owners are not informed of the importance of preserving them, the buildings will not be as well protected or preserved. The Commission on Chicago Landmarks needs the public to understand the importance and impact of their work to be truly effective.

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Miami Modern/Biscayne Boulevard Historic District
Source: http://www.miamiherald.com/news/business/biz-monday/67qkh/picture2969325/ALTERNATES/FRE-

HISTORIC PRESERVATION IN MIAMI, FLORIDA

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Executive Summary
• Miami, Florida is a dynamic city that has recently began to strengthen its historic preservation mechanisms
• Miami 21, the city's zoning code transition to a form based code has had some effects on historic preservation, although the full impact remains to be seen
• Miami's Transfer of Development Rights (TDR) program has yet to be widely adopted due a combination of regulatory and market factors
• Recommended actions to improve historic preservation mechanisms in Miami include strengthened public-private partnerships, more policies supportive of TDR and a more aggressive historic preservation department

Miami History

The area that is now the city of Miami was originally settled by Tequesta Indians prior to Spanish settlement. The area experienced limited growth from the colonial area into the 1800s. Settlement and development began to take off with the arrival of Julia Tuttle and the Brickell family in the 1870s. Henry Flagler's Florida East Coast Railroad reached Miami in 1896, transporting greater numbers of visitors and potential residents to the area.

In 1896 the city of Miami was incorporated and experienced rapid development and a real estate boom through the early 1920s. The popular architectural styles at the time were Spanish eclectic and Mediterranean revival. In 1926 a major hurricane devastated the area, destroying thousands of homes and sent the city into a depression before the U.S. great depression.

 Miami saw one of its largest population waves starting in 1959, when the aftermath of the Cuban Revolution led to waves of immigrants from Cuba and other Latin American countries, forming enclaves within the city, such as little Havana. According to the 2010 U.S. census, 70% of the population of the city of Miami is Hispanic or Latino

The city was hit my another major storm, Hurricane Andrew, in 1992. The storm caused widespread devastation, but the city has rebounded and is experiencing a development boom once again. As of 2013, the population was approximately 417,650 and the median household income was $30,375. (U.S. Census Bureau 2013)

Bacardi Building, Miami Modern style, Miami, FL

Miami's Historic Preservation History

Miami adopted an Historic Preservation ordinance in 1982. Although it was a late adopter it did not differ substantially from previous ordinances. As of 2015, there are over 100 designated sites in the city.

Miami's first master plan was first proposed in 1915, although at the time the city was unable to afford the cost of the plan, which was $1,500. Support for a formal zoning ordinance grew throughout the 1920s and in 1934 the city's first zoning ordinance was adopted by the city commission. Notably, the ordinance was amended around 5,000 times until it was ultimately repealed in 1960. New zoning ordinances were adopted in 1960, 1982 and 1990. In response to the inefficient and "hodge-podge" nature of the over-amended 1990 zoning ordinance, the City of Miami decided to take a new approach to zoning in the city.

Miami 21, the new form-based zoning code, was adopted in 2010. This code was a major departure from traditional Euclidean zoning, where uses are separated, to a form based code where use is secondary to transect design guidelines. Transects in Miami range from T3 (sub-urban) to T6-80, the densest Urban Core Transect. A revised Chapter 23 Historic Preservation ordinance reflects changes in the zoning ordinance and provides new mechanisms for historic preservation in the city.

Miami's Historic Preservation System

Chapter 23, the city of Miami's historic preservation ordinance outlines the process for designating historic resources, districts and archaeological sites and zones based on the following criteria: "only if they have significance in the historical, cultural, archaeological, paleontological, aesthetic, or architectural heritage of the city, state, or nation; possess integrity of design, setting, materials, workmanship, feeling, and association; and meet one or more of the following criteria: (1) Are associated in a significant way with the life of a person important in the past;

(2) Are the site of a historic event with significant effect upon the community, city, state, or nation;

(3) Exemplify the historical, cultural, political, economical, or social trends of the

Downtown Miami, Brickell Avenue Source: "Brickell Avenue aerial 20100211" by Averette - Own work. Licensed under CC BY 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Brickell_Avenue_ae-rial_20100211.jpg#/media/File:Brickell_Avenue_aerial_20100211.jpg

community;

(4) Portray the environment in an era of history characterized by one or more distinctive

architectural styles;

(5) Embody those distinguishing characteristics of an architectural style, or period, or method

of construction;

(6) Are an outstanding work of a prominent designer or builder;

(7) Contain elements of design, detail, materials, or craftsmanship of outstanding quality or

(8) Have yielded, or may be likely to yield, information important in prehistory or history"

The criteria listed above are not significantly different from the criteria used by the federal government historic preservation legislation. Proposals for designation may come from anyone on the historic preservation board, the mayor, city commission, any city department or agency, as well as "any interested citizen, organization, agency, association, board, or business entity." Following this proposal, the owner is notified, then a designation report is prepared. Then after giving notice a public hearing is held and the historic preservation board then approves, amends, or denies the designation.

If the owner of the property wishes to undertake any new construction or alterations, a certificate of appropriateness must be granted from the historic preservation board in order for the property owner to proceed.

In terms of financial incentives for owners of historic properties, any improvements made on a designated historic property are eligible for ad valorem tax exemptions from city taxes on the value of the improvements. Improvements include restoration or renovation/rehabilitation to the property's interior or exterior. The value of the tax exemption is then calculated by the Miami-Dade Office of Property Appraisal. The granted exemptions are valid for up to ten years following the exemption covenant between the city and the applicant. This program was instituted in 2007, and includes properties listed in the national register of historic places or a "contributing resource" within a historic district in the Nation-

al Register of Historic Places. The same framework applies for properties listed in the Miami Register of Historic Places.

In 2010, the City of Miami introduced the Transfer of Development Rights program (TDR) into its historic preservation ordinance. The TDR is designed to preserve properties in the Miami Modern (MiMo)/Biscayne Boulevard Historic District. Contributing and non-contributing properties in this district are all restricted to 35 feet in height. In order to incentivize designating properties historic within this district and keeping the area's historic character, property owners may sell their unused air rights to property owners in a receiving district. The TDR clearly defines eligible properties in the sending area and the receiving area are transects where an increase in intensity from the underlying zoning is allowed. In terms of transects, the historic properties are located in the T4 -O or the T-4 R and the receiving properties are located in T-6.

Transfer of Development Rights Evaluation

The creation of a TDR is a step in the right direction for historic preservation in Miami, although there are aspects of the program that could be strengthened. Preserving Miami: An Evaluation of Miami's Transferable Development Rights Program, provides a thorough overview and critique .of Miami's system. As of 2013 there has not been any TDR transactions in the city, but property owners have been granted certificates of transfer. The author analyzes elements of successful TDRs and identifies four characteristics indicating success which include "receiving areas customized to the community, strict sending area development regulations, ensuring that developers will be able to use TDR, and simplicity."

The author recommends several specific changes in order to strengthen the ordinance and encourage actual transactions. These include making transfers based on density instead of square footage, creating a municipal TDR bank and creating an official website for the TDR program.

These are well-informed suggestions and all serve to highlight the need for the city of Miami to better market the benefits of TDR to developers. In addition, the city should work to produce a transparent and up to date online resource cataloguing the potential gains for both developers and historic property owners.

This information is crucial, as increased historic property preservation can be a 'win-win' for the city, in protecting a treasured historic district, the city can also encourage economic growth and development in its downtown core.

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San Francisco, California, photo: Alessandro Ciambrone

ITALY AND THE U.S. – PRESERVING SACRED STRUCTURES – SPECIAL ISSUES IN PRESERVING HISTORIC CHURCHES AND SIMILAR RESOURCES

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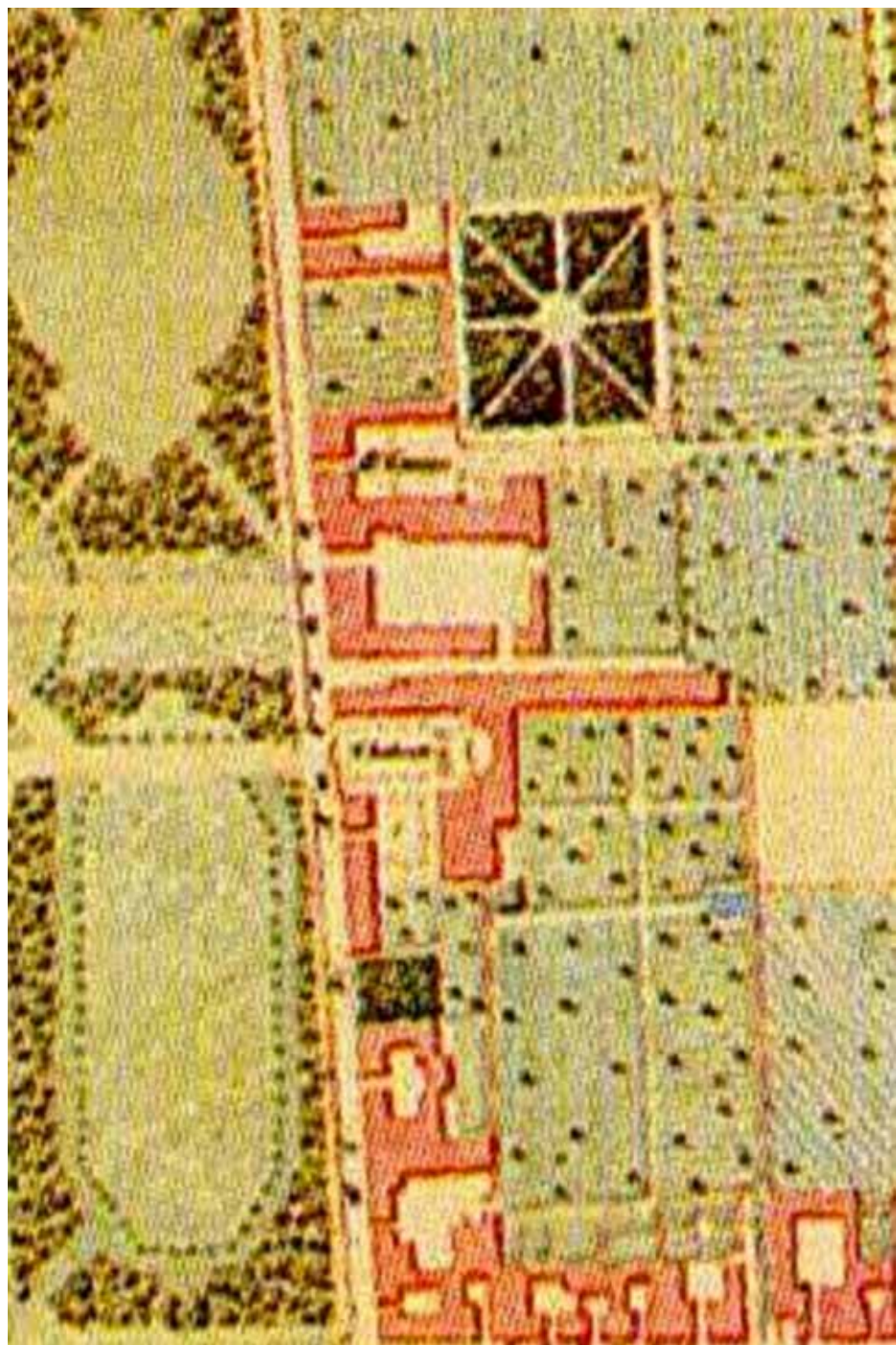
THE KNOWLEDGE AS TOOL OF PRESERVATION

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Italy has always been known as the cradle of history, the centuries of its geographical position at the center of the Mediterranean has whetted the envy and the desire to win by the biggest powers of all times, so the Italian territory had numerous invasions and influences that created a historical and cultural heritage of ephemeral value.

We do not recognize the treasures we possess, and for this reason don't protect its as we should.

The preservation, from Latin Preserving mans save and keep out of harms physical or moral damage, protect with defense measures and work required. Interventions that aim to apply preservation should be carried out through knowledge, only real means for the heritage recognition and preservation that belong to us, and very often we do not recognize its as such.

Knowledge must be applied upstream, to be used as a scientific and empirical, method which aims to recognize, attributed to a well its material value and / or intangible.

Among the immense beauty of our national territory we will analyze the contemporary reality of the Caserta city of, in particular the church of St. Anthony known architectural example of Pietro Valente.

This church is proposed as a clear field of experimentation and stratifications, a place of reflection articulated to help you locate the elements that characterize the work as a whole and in its parts.

Investigate means to dissociate and reassemble the parts, put them in relation to each other, understand the element's nature of the elements, an operation which must be conducted in a holistic knowledge structure that allows to deepen the specific issues of individual items without forgetting their relationship with the context.

Knowledge then is made with consciousness and objectivity, we are not talking of an interpretation, but a collection of data that have as its goal to transcribe the reality of good object of study, leaving aside all subjective influences.

Therefore the aim must be to the natural but complex function of the protection and preservation, on a territory like Italian, where too often the historical realities are left at Inc. passing of time, thus handing our heritage to a malicious fate.
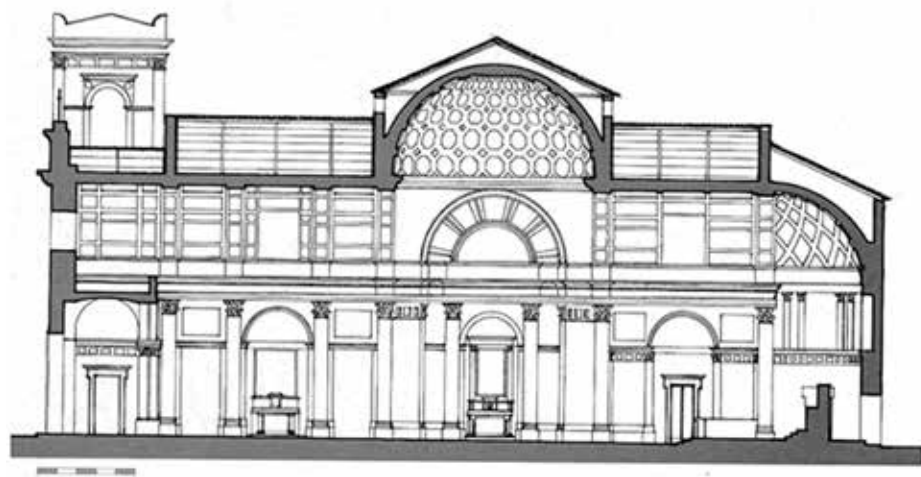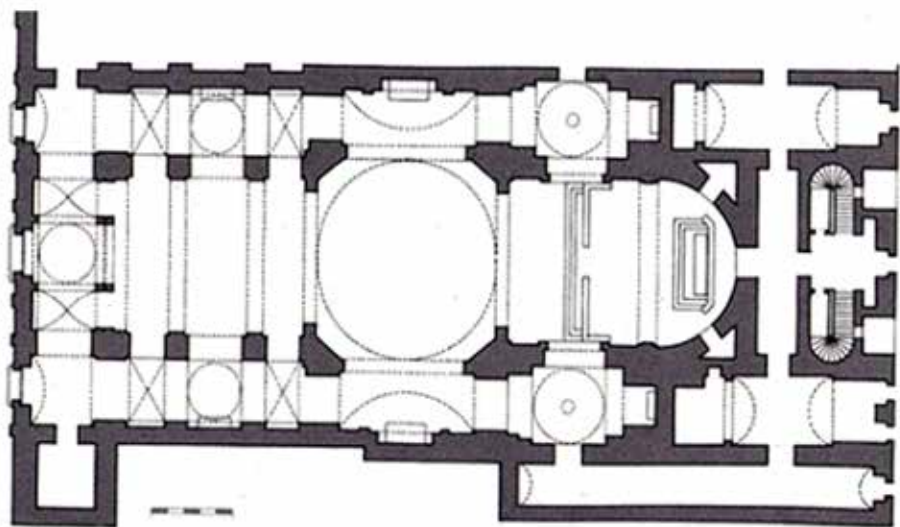
You can not protect a heritage if you do not know, if you do not respect and know the past will lose the future, so any preservation work must be based on knowledge.

The most appropriate instrument for the preservation is knowledge.

The first step towards knowledge is to know the history, the second step is to make it current and understandable for all, the third is to transform all the information we have in an analytical tool and apply actively for the project of protection and processing.

There is no quality project without analysis, there is no analysis of the history and the history of a building is based on the quality of its preservation, the quality and quantity of information give us the identity of a well and the whole process is a good example of preservation.

Only after the knowledge you can draw significant interventions aimed at ensuring fairness regeneration generational full of culture, to a subject as important as the preservation of sacred structures.

Caserta's area is full of architectural elements of symbolic value, telling the passing time, the sequence of events that led to the formation of the character of places, tracing the path of their power.

The church of St. Anthony as is known, but not all, is an example of the technical drawing of P. Valente finds himself in the church of St. Anthony; said building is located on the pre-existing stratified over time.

It is assumed that the first group goes back to the church, initially dedicated to Saint Catherine of Alexandria, before was assigned in 1575 to the convent of the Friars Minor Conventual of Count Giulio Antonio Acquaviva owner of the Caserta's state1.

The convent underwent numerous expansions between the XVII and XIX century. When the complex became part of the Royal Administration Site of Caserta, it was intended you Liguorini2 Fathers; in 1732 Alfonso Maria de Liguori founded the Congregation of the SS. Redeemer.

The Congregation had a major role in Bourbon period, the Redeemers, they had the role to restore the values of Catholicism, which was looking for a firm foundation culture Restaurazione3.
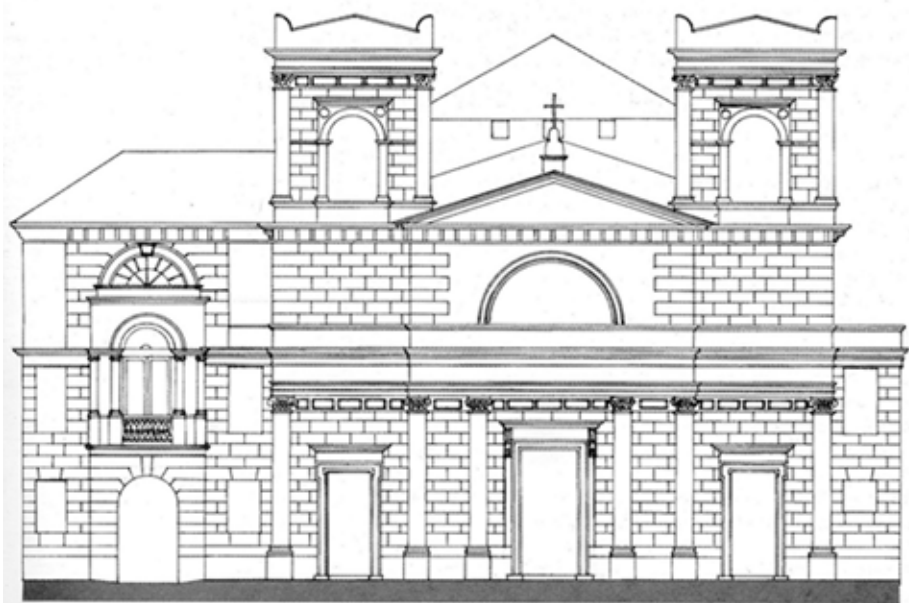
In 1824 the new Redemptorists took possession of the Congregation, a preservative by the will of the Sovereign, the dedication to Sant 'Antonio.

The first works of rehabilitation of the complex were directed by the architect Giovanni Giuseppe's Gaiso, while the "marble worker" John Cali devoted himself to the marble structures.

The progressive growth of the community of Liguorini needs further expansion; in 1843, the rector of St. Anthony requested the intervention of the Sovereign4. For this action, the architect Pietro Valente was called.

The structure was redesigned without welding between the central and the longitudinal and denied the set of cross plan greek5.

In 1848 on the eve of Pentecost, though not complete was inaugurated the new church designed by Valente.

While addressing significant discounts flights from the Fathers, the church was completed.

The last contribution to the church of Liguorini Valente will be the realization of pulpito6.

The earthquake recorded between 1980-81, caused the disconnection between the longitudinal body and covering the frame, the vaults of the church presented numerous injuries both in terms of time and support in plaster became detached7.

The sixteenth-century model has a configuration of a Latin cross, with nave predominant on the side.

As of the transept planimetric complaint paradigm Vignola, where contains the full development of the factory in a recianglyfigure8.

In redesigning the Valente does not work in a welding plant and central longitudinal trim denies a Greek cross of the transept, placing it as a continuation of the nave, the manager accepts the longitudinal interior space.

The expansion, planimetric and elevation of the span intermediate determines within the same aisle, creates an expansion transverse introducing a pause on the path to altar9.

Past and present merge in signs and symbols on a territory, it is through these assets, although this is not always tangible, but is full of information just waiting
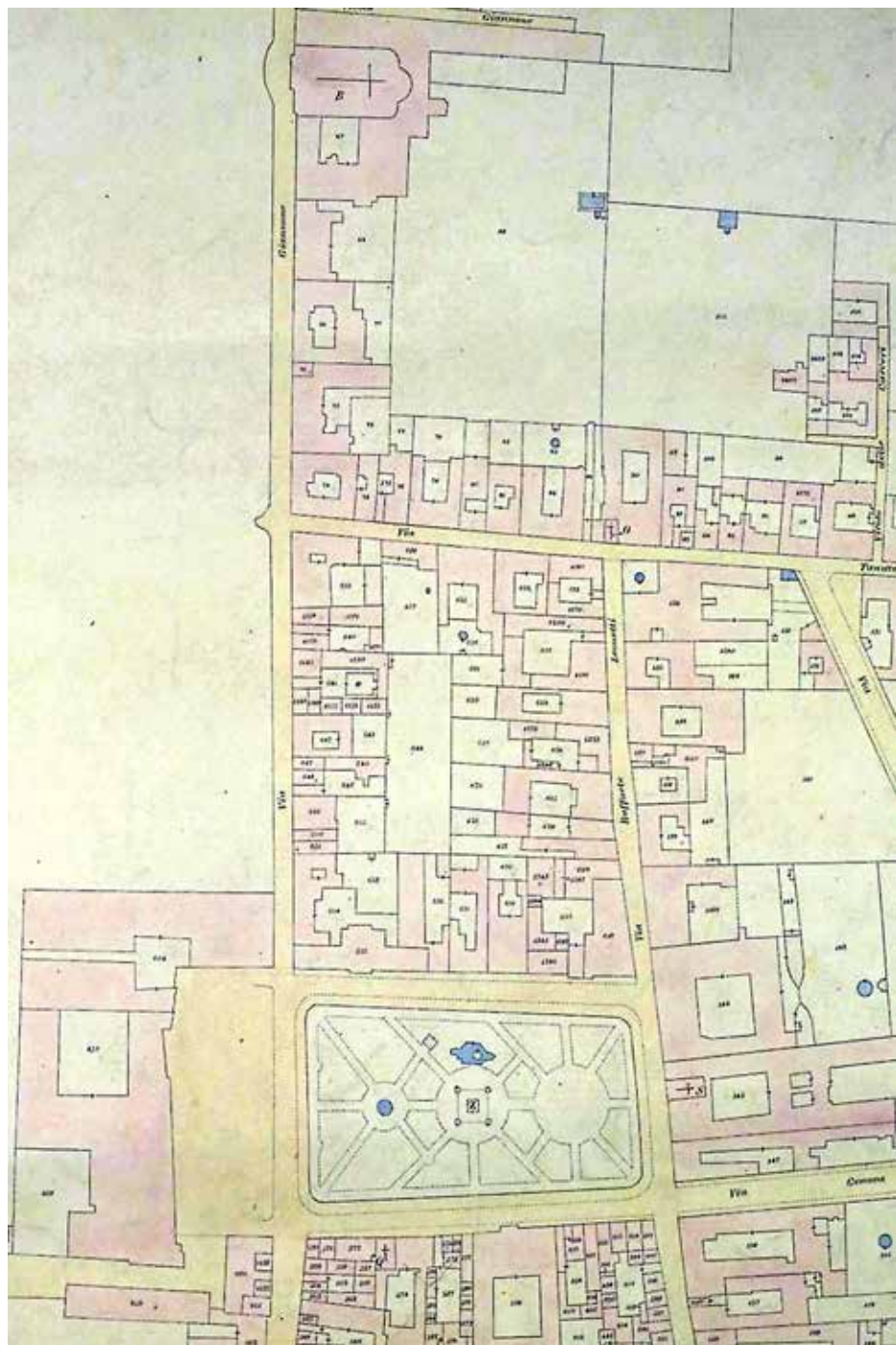
to be read.

Analyze, design, know an area or a portion of it is never easy, unless you have a method, a tool suitable for the purpose.

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Overview of the complex.

The "Abbazia della Ferrara"
In the territory of Vairano Patenora (CE).

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The municipality of Vairano Patenora, in the province of Caserta, extends in the Volturno valley, between the regional park of Roccamonfina-Foce Garigliano and the Matese Massif. The town is home to many archaeological evidence such as the "Aragonese castle",the fortified walls punctuated by 14 cylindrical towers with sloping base and numerous religious buildings.

The "Abbazia della Ferrara"
The Cistercian Abbey of Ferrara (fig. 1), located at about 3.6 kilometers from the town on a hill and placed at 253m above sea level, falls in an area dominated by the Volturno river. The building was erected in 1171, at the behest of a monk coming from the Abbey of Fossanova, on an estate donated by Riccardo Do Sangro, as reflected in a document dated 1193. The building was completed after eight years of work with the solemn dedication of the 23 November 1179. On the name "Ferrara" are two hypotheses set by Scandone: the first is that it derives from the surname of the monk of Fossanova who built the Abbey; the second hypothesis, the most likely, is that the title came from "range of Ferrar-ia".The religious structure (fig. 2), located along the route of the Via Francigena along the stretch Presenzano-VairanoPatenora-Alife, experienced a period of great importance in the first half of the thirteenth century under the management of the Abbot Thaddeus and under the support of Frederick II, who stayed there on several occasions. After the management of Abbot Thaddeus, followed a period of strong moral and economic decline of the structure; in fact in 1461 were appointed the so called "abbati commendatari" thus giving off the last phase of life of the abbey (fig. 3). After its suppression in 1807, the building became a farm and this change of function led to the reorganization of the structure, thus changing its original appearance. At present the abbey is in a state of ruin and the danger of collapse is very obvious; further damage to the building were gone by the recent earthquake that struck the area in December 2013 that has worsened the religious structures, now at risk of collapse. In this regard, especially in the absence of an archaeological excavation, the study of ancient and modern documentation is very important for the knowledge of the history of the religious building. The study of the existing literature revealed various sources

Detail of the structure

of fundamental interest for the understanding of the historical and architectural building. Very interesting in this regard is the description of Pietro De Martini "tabulario" (1660):

"Abbatia della Ferrara …tiene sua Chiesa grande con molti altari, campanile con tre campane grande et clausto con cisterna grande in mezzo con celle sopra d'esso et altre commodità…a lato del quale Convento ci sono più giardini con frutti verdume et agrumi con fontana d'acqua perenna abonnante con vigna separata…"

From that description suggests the majesty of the abbey emphasizing the work of monks dedicated to prayer and work of fertile fields that surrounded and still surround the building.

More information can be obtained from a report dating back to 1613 and published by Giuseppe Angelone, which allows us to clarify some aspects of the structure in that time period:

«Il titolo della Chiesa Abatiale è S[an]ta Maria dell'Assunta detta la Ferrara. […]Nella chiesa vi erano anticam[en]te molti Altari de pietra […] ma al presente sono distrutti, et non c'è rimasta nessuna inscritt[io]ne, né memoria. L'Altare maggiore de pietra è stato distrutto. […] Un altro Altare sta in una Cappella al lato destro della Chiesa in un luogo remoto, che vi si ascende per certi scaloni, et questa è detta la Cappella dell'Annuntiata, et havea pure l'Alta-retto all'antica.[…] Fra l'altre Capelle distrutte ve n'è una, che la dicono del Rè,et non vi è altro che un'Altare distrutto, con un'effigie di rilievo, che mostra essere di Rè, ma guasta, che non se ne può ben discernere.[…] Quanto alla struttura della Chiesa è grande, et decente al-l'antica con Nave, et due ali alli lati, l'ali sono a' volta, et la Nave a' tetto, questo tetto ha bisogno d'accomodamento, perché sta molto guasto, et piove, et una delle ali a' man destra è cominciata a' rovi-nare, che n'è cascato un buon pezzo, et il resto minaccia ruina inmodo che ha' bisogno di presto riparo; è poi la Chiesa luinosa, le vi-trate che vi erano anticam[en]te sono destrutte, che poco vestigionon'è rimasto, non ha' pittura se non in alcuni luoghi ove anti-cam[en]te erano le Cappelle, et hora sono quasi a' fatto destrutte,che non possono descernersi. Del organo v'è rimasto solo il segno ove stava anticam[en]te in piedi della Chiesa nell'ingresso sopra la porta. Il Choro è dietro

Detail of the structure

l'Altare Maggiore decentem[en]te aco[n]cio di avole d'abeto, fatto per quello che dicono dall'Ill[ustrissi]moS[igno]r Card[ina]le Ant[oni]o Carafa b. m. Pulpito non v'è, né di pietra, né amovibile, n'anche Confessionarij. L'Imaginedel-l'Altare maggiore è della B. Vergine de rilievo, con l'effigie di S.Bernardo alla destra, e S. Martino alla sinistra depinte nella ta-vola, et questa è conveniente. Croce in nissuno degli Altari ve n'è.Il Campanile è una torre di fabbrica, et vi sono tre Campane grande […]».

By reading these two documents we can deduce a lot of informations:

- The church is dedicated to St. Maria Assunta, also known "St. Maria Assunta la Ferrara";
- The church had many stone altars, many of which are already being destroyed in 1613 (year of the report mentioned above);
- There is no trace of the main altar, also in stone;
- There is evidence on the existence of an underground chapel located on the right side of the church; this chapel had an ancient altar and was known as the "Cappella dell'Annunziata", now called "Cappella di Malgerio Sorel";
- It has also witnessed the presence of a disused chapel called "Cappella del Re";
- The church appeared divided in three naves: the largest has a roof covering, while the two aisles have a vaulted roof; the remains of ancient organ are visible above the front door, while the choir was located behind the main altar;
- Also it underlined the lack of "paintings" and the presence of a sacristy charac-terized by the presence of an ancient inscription with a dedication to St. Martino;
- It is also visible a wooden altarpiece on the high altar: this work is characterized by the representation of St. Martino, the Madonna Assunta and St. Bernardo.
- Has also witnessed the presence of a bell tower in masonry with three bells.

Through this description it is clear the state of degradation in which already in 1613 poured the famous abbey. The recent and careful studies conducted on the ecclesiastical buildind allowed to speculate on the construction phases and on the long life of the abbey (Vitagliano, 2014).

Very interesting is the "Cappella di Malgerio Sorel" that it preserves an important fresco on the south wall, dating from the late thirteenth century: it is represented

Detail of the structure

the funeral of Malgerio Sorel, a Norman feudal lord and a falconer of Frederick II of Svevia, which in old age gave his feuds abbey and became a monk.

For its historical and artistic value, the Board of Directors of the Capasso Antonio bank, with Board resolution of 24 February 2010, It decided to finance the restoration work of the fresco, led by the architect Filomena Capriata of Alife. Restoration operations were necessary even to walls that now, living in a precarious situation; it would be very important the beginning of archaeological investigations, which would contribute to the understanding of the various phases of construction that affected the building since its construction, and of new restoration activities that will allow the use and importance of the site.

Conclusion

For the importance of the site, the realization of an archaeological park could represent an excellent means of protection, conservation and enhancement of an ecclesiastical building of great importance (fig. 4). The realization of the archaeological park has as its main purpose the public use of the property through the collaboration of archaeologists, architects and managers of the Park. For this reason, the park should be placed in the landscape mosaic that surrounds him to bring out the balance between the historicist, archaeological and naturalist features. The realization of the archaeological park can be the basis for an outdoor site-restoration workshop where the collaboration between research institutes, public and private, may represent a starting point for the knowledge, conservation, and fruition of the site (fig. 5).

Overview of the complex.

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MATILDE SERAO AND JANE JACOBS, PROTO-PRESERVATIONISTS

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Italy and the United States are two countries with a similar concern for historic preservation, but different mechanisms to achieve it. However there is a means of preservation that both cities share: the writing of two women, notable authors and prototypical preservationists. Although separated by 60 years and 4,392 miles, they challenged major urban planning initiatives in their writings to preserve essential elements of their cities' culture.

Matilde Serao, a journalist who lived and worked in Naples between 1890 and1927 opposed the "Risanamento," an urban plan imposed on Naples by Agostino Depretis, future Prime Minister, in response to a cholera outbreak. [1] Her essay, "Il ventre di Napoli," captured the urban design, culture and architecture of Naples as it existed then. In the chapter, Gli altarini, she wrote of religion and superstition, in particular, the icons—portable shrines—that were carried in procession through the city, which gave their names to churches, that still stand today*: "Nel colera del 1873, più mite certo, ma sempre vivissimo, nei quattro quartieri popolari, fu portata in processione la Madonna dell'Aiuto ai Banchi Nuovi, la Madonna di Portosalvo a Porto, il Gesù alla Colonna, della chiesa nel vicolo dell'Università. O che memoria labile abbiamo tutti!* (Emphasis mine.) [2]

*Special thanks to Luciana Abate, Rosaria Parente and Vincenzo Cirillo for their identification of the relationships between the icons and the churches, and the current status of the churches.

Despite Serao's efforts, the Risanamento did take place: "Plans were at once made to pull down all the worst slums, and as these lay between the centre of the town and the railway station, a wide street was constructed." [1] Corso Umberto I is the road that isolated the port from the historic center of the city. [3] One church, Santa Maria di Portosalvo, was particularly affected by this isolation.

"Santa Maria di Portosalvo stood vigil over the sailors' quarter of the city, a part of Naples that has disappeared, overwhelmed by years of urban development... What is now via Marina…was not even there until the Risanamento…Santa Maria di Portosalvo is now…closed and abandoned, a 16th-century island in a

San Lorenzo Ruiz. Modern Babel http://modern-babel.blogspot.com/2013/08/sohobroome-street.html

sea of modern traffic and architecture—a ruined reminder of another age." [4]
There is a plan to revitalize the church as a "stella maris"— a church/cultural center. Should that fail, Matilde Serao's writings may become the most powerful reminder of the importance of this church.

Roughly 70 years later in New York, Jane Jacobs followed in Serao's footsteps. An author and activist, she wrote the book The Death and Life of Great American Cities. In an article in Fortune Magazine, where she introduced the themes she later developed in her book, she articulated her opposition to the Le Corbusier-inspired concept of urban renewal:

All over the country civic leaders and planners are preparing a series of redevelopment projects that will set the character of the center of our cities for generations to come. Great tracts, many blocks wide, are being razed…What will the projects look like? They will be spacious, parklike, and uncrowded. They will feature long green vistas. They will be stable and symmetrical and orderly… They will have all the attributes of a well-kept, dignified cemetery…These projects will not revitalize downtown; they will deaden it. For they work at cross-purposes to the city. They banish the street. They banish its function. [5]

She elaborates on the function of the street:
"The user of downtown is mostly on foot…He needs assurance that the street is neither interminable nor boring, so he does not get weary just looking down it. Thus streets that have an end in sight are often pleasing; so are streets that have the punctuation of contrast at frequent intervals. Georgy Kepes and Kevin Lynch, two faculty members of M.I.T., have made a study of what walkers in downtown Boston notice. While the feature that drew the most comment was the proportion of open space, the walkers showed a great interest in punctuations of all kinds appearing a little way ahead of them–spaces, or greenery, or windows set forward, or churches."(Emphasis mine.) [5]
Her activism thwarted plans to eliminate Greenwich Village to make way for Robert Moses' Lower Manhattan Expressway (LOMEX). But it was a battle she had to wage again on behalf of Father Gerard Lamountain of the Church of the Most Holy Crucifix on Broome Street. She described how she had to fight both

for, and against, the church: "Father Lamountain of Broome Street came to see me…he had been fighting the expressway [that] would wipe out his street, his church and the homes and shops,..of his parishioners…he knew that the West Village fight had been won and he thought that maybe some of these seasoned fighters could help him… It was quite clear that…the wide roadway through Washington Square…was either an access or an egress point to the expressway…That was being planned in the usual way by Moses. He would do part of a highway without showing its implications. And then sooner or later, to the horror of many people, it became clear what these disjointed pieces added up to…So I agreed at least to go to a few of Father Lamountain's meetings ...Father Lamountain was the leader of this battle... And he had been going to be what you might call the master of ceremonies for our side at the hearing, introducing each speaker against the expressway, and giving a kind of running narration… The night before the hearing he called me up and said that he had a very ill friend up in Massachusetts somewhere that he had to go to… And that he would not be able to appear at the hearing. My heart sank…it was a long time before I heard what had actually happened. He had been called to the archdiocese headquarters behind St. Patrick's Cathedral in midtown… he had been told that he had to withdraw from this [due to the churches ties to Robert Moses]…Furthermore, he was not to let anybody know that he was withdrawing because the Church had ordered him to. So, in effect, he was not only ordered out of the fight at this crucial moment, but he was ordered to lie to his colleagues. And he really had no choice." [6]Despite the interference of the Church, Jacobs and Father Lamountain did save the building, the street and the neighborhood. "While this modest romanesque church is architecturally unremarkable it is nonetheless significant as it was one of the major planning/ rally points for the battle against LOMEX. ... Following the defeat of LOMEX the two planted a tree out in front of the church, which stands to this day." [7] The Church of the Holy Crucifix is now decommissioned. Today it is a chapel. "After a decade of lobbying…the archdiocese establish[ed] a chapel…its services are designated especially for Filipinos. To become a full-fledged church, a chapel must show that it is economically stable and has a regular congregation. San

Lorenzo Ruiz is nowhere near meeting those criteria. That is because… very few Filipinos live in Chinatown…Father Diaz is struggling to pay the bills. And paradoxically, not only are worshipers sparse—they are not even necessarily Filipino. One regular at daily Mass…Gilda Cianci, 91… was a regular at the church that occupied the site on Broome Street, Most Holy Crucifix, which for decades served the neighborhood's Italian-Americans. But she is not dismayed by the fact that the chapel is for the Filipino community. "I come to church to praise God," she said. [8] The future of the chapel is uncertain. Its continued ability to punctuate the streetscape depends upon the strength of revitalization in the Lower East Side of Manhattan in the future. In conclusion, we know that legislative and financial mechanisms have the power to preserve. Here we have seen that literature does as well. Two churches cited by Serao and Jacobs—in Naples and in New York, respectively—still stand. However, they stand in great need of congregations. In my opinion having a purpose is the best mechanism of preservation. Securing purposes for these two churches can ensure that the writing of Matilde Serao and Jane Jacobs, evocative though it is, will not become the only evidence of them in the world.

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The basilica after the August 4, 1943 bombing.

MATERIAL AND MEMORY PRESERVATION: SANTA CHIARA IN NAPLES

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The city of Naples is one of the oldest cities in Europe and its old town told through its architectural heritage, arts and culture, the long history of a city that was able to change deeply through the centuries but, at the same time, has managed to keep alive its peculiarities. The Basilica of Santa Chiara is one of the most examples how they have been significant the alteration in Naples.

The Basilica of Santa Chiara in Naples is one of the many works which during the eighteenth century was radically altered: as we used to say, according to a current diction, it had been transformed into a theater instead in a ecclesiastical classroom, because it becomes the maximum expression of the Neapolitan baroque, by Domenico Antonio Vaccaro and many other artists and architects. It happens that all the high gothic windows are divided into two, assuming the form of a baroque window very low with an oculus at the top. The trusses are hidden with a "incannucciato vault", a false vault which is decorated with gildings and frescoes and all the chapels are rescheduled with the stucco. From the pictures we can understand how is radical the transformation from the fourteenth-century church.

In the picture which shows the view to the baroque altar, built by Nauclerio hides one of the few elements which had escaped from the baroque remodeling where there is one of the angevin tomb where some of the greatest italian fourteenth century sculptors of the have worked.

The view to the front shows the choirs and the stucco and paintings arrangement. In this context, on August 4, 1943 during an allied bombing of the port's city, the church was hit by a piece arsonist.

A piece with phosphorus falls on the basilica, ignites the trusses and from that it triggers the destruction: for days its spread a fire that causes, as evidenced by the pictures documentation, extensive damages.

If you compare the picture of the current state with the image of the eighteenth-century church the modification is really impressive. The structure in which the church has been restored which survived only a few fourteenth century fragments of frescoes, the roof in reinforced concrete painted wood color and the floor of Ferdinand Fuga largely rebuilt, shows certainly a hybrid (fig.1). One important thing is focus the attention on the fact that this operation's type

The basilica how it looks today after restoration.

was repeated thousands of times for so many italian monuments where it was repeated this: a monument with complex stratifications, at some point he lost them because rebuilding often meant to privilege the oldest and rarest part's monument.

The illustration of the example of Santa Chiara before and after the bombing and post restoration is undoubtedly the emblem of a historical period and feelings that the artistic heritage's destruction has aroused (fig.2). But what remains of the event's memory and of the configuration's knowledge before its reconstruction (fig.3)?

The cultural heritage of the Basilica of Santa Chiara, didn't have to run out only in the preservation of its materiality but it should be realized completely only on condition that the cultural and knowledge and its memory can be returned to the people.

Noting how the development of technologies and network connections not only has generated significant transformation of communication models and fruition, but also the mode of knowledge construction, this contribution has moved through the most recent experiences working on the interactions between the real and virtual space. A new technology useful to create an interaction between the visitor and cultural object through a simple and economic system is the use of smartcodes which are simple images through a specific readers, they can provide you different information. Their application in the basilica, would favor the interaction between tourist and cultural object by setting up a sort of virtual museum where to create a emotional story using   two-dimensional codes that are associated with information and news related to the history of the place (fig.4).

A new way to see and learn the places's history is to get out of the museum's logic intended as a symbolic container of places, situations and events. The modern alternative to the classical museum is "living the country" because just living an artifact or an old town it is preserved. The public is curious to history but often the classic museum, intended as container, looks like a monotone and boringplace. Starting from the territory, seen as pastdeposit's traces, you can first recognize and decipher them, understanding their meaning in the context

The basilica's nave.

of local and establishing a relationship with the historic fabricswhich they are included.

The cities retain many testimonies of the different moments of their history. Sometimes they are buildings which were deleted from subsequent events, transformed or converted to other functions. Rediscovering these places, often forgotten and sometimes unknown, can help ourselves to re-read the historical events of the local community we are part, reconstructing, through memory the identity. We must therefore try to interrogate the memory of places.

From the tourist's view point, the impact with the real dimension of the places causes some interest in his story, stimulates the connection between the present and the past that is unknown, and causes things tangible and visible in a time dimension that must living, with the aid of other sources.

In this particular context, the semacodes technology findsa fertile ground for the promotion of cultural heritage.

This work's intention is therefore to create an emotional history in the old center of Naples using the two-dimensional codes which they are associated to information and news related to the history of some people who lived in that particular historical and social moment. The use of tags in the old town center, represents a kind of invisible post-it, readable by a mobile phone and a special software.

How can technology increase the places visibility and understanding that attracts many people?

This was the question behind the idea, which originated this project. The Cultural Heritage begins to be a good attraction for tourism. Tied to this consideration, the spontaneous question was the one linked to such cultural heritage located in Naples. The use of tags, combined with the creation of an emotional history, represent the solution and the answer to the questions raised previously.

This technology application in the particular cultural context of the historical center of Naples finds an easy application fo the churches valorization (fig.5).

In addition to the large presence of ancient portals, and open stairs, Naples has got even churches and palaces that are located throughout the urban fabric. A census and the creation of G.I.S. inherent Naples monuments would allow,

SMARTCODE'S STRUCTURE

- Positioning/Orientation
- Format Information
- Timing marks
- Version Information
- Spacing
- Alignment

Smartcodes structure.

therefore, the creation of guided tours in order to enhance the historic center and in particular the numerous stone portals and residential staircases.

The work related to the implementation of the application of G.I.S. and semacodes study resulted in a planning phase and the choice of places to be exploited through the use of two-dimensional tag.

With the smartcodes application in Santa Chiarachurch, you will be able to read the information directly on the phone. The idea is to create a web page available in mobile version through the decoding of a smartcode specially inserted in some areas of the church. Tourists equipped smartcode reader can activate the software and decode the smartcode. Within seconds he receives on its display all the information relating to the cultural property who he is visiting. A further advantage of this technology is that it can "connect" to a physical object also of videos and sounds. The next application will be to be able to link the basilica with the video of his story or another video of explanation. Thanks to technology SmartCode, this will be possible: just convert a smartcode a link to a video on the web. The benefits derivable from the visitor are manifold. The most important is to further understanding of the places visited in the town center. Furthermore, the visitor is encouraged to visit since intrigued to try and read smartcode present within the urban fabric. For tourist information center instead the use of this technology would allow a greater revenues from the rental of equipment for visitors without such mobile player. With a small investment, the tourist information Centre could predispose to rental some specimens of PDA with the software pre-installed, ready to use.For tourist guides instead it would be useful to have a Tablet PC to make it more understandable to tourists the topics discussed. The Tablet PC would play the same function as the mobile phone but would be much more useful for decoding information from smartcode having available a much larger screen. This technology is starting to developing more and more in today's world but in the cultural sector has still found little diffusion. A further advantage of this technology is the fact that it is a technology accessible to all and without any cost.The key's idea is which an asset is preserved only if fully detected, documented and given back to the community through the knowledge and memory of places.
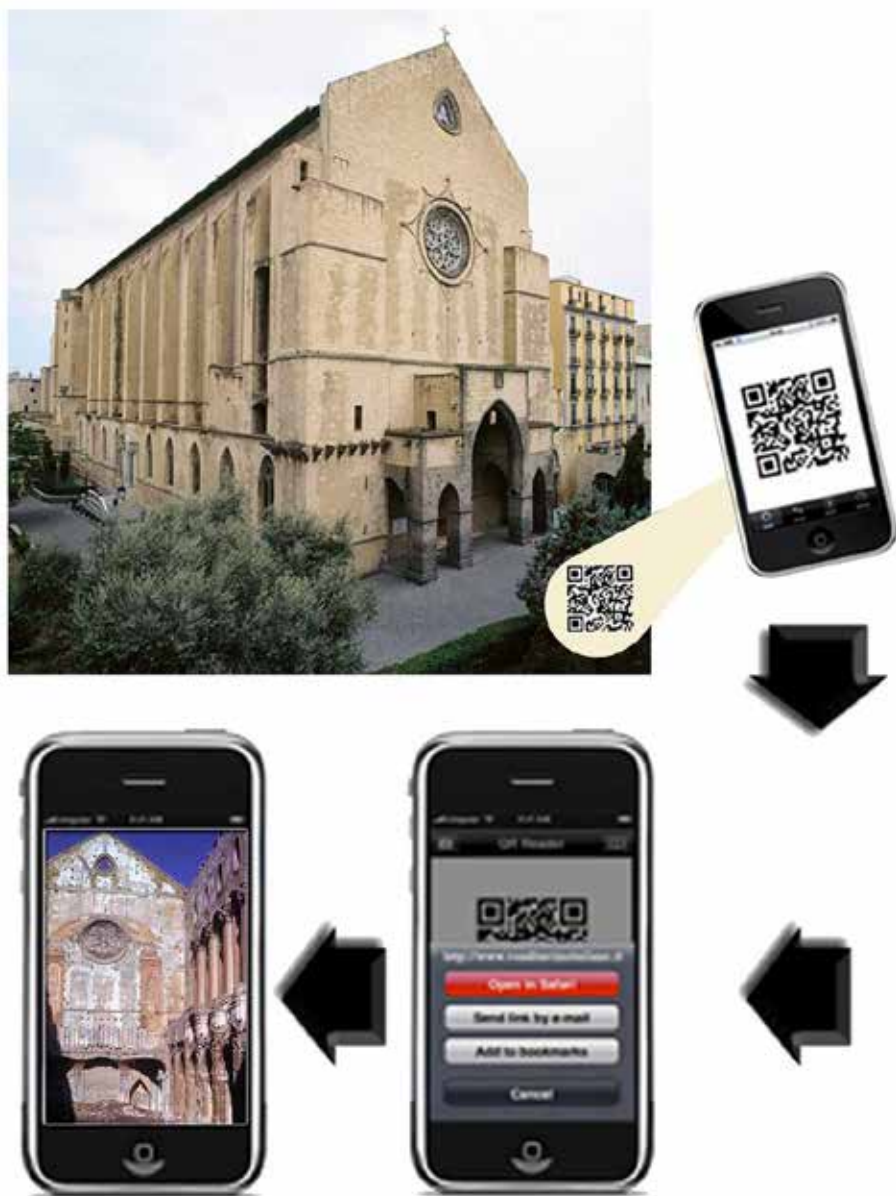
Smartcodes example application in basilica of Santa Chiara.

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Camigliano. The Cave of San Michele (©Margherita Di Niola).

THE CAVE OF SAN MICHELE IN CAMIGLIANO BETWEEN LANDSCAPE, ARCHEOLOGY AND VALORIZATION.

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Landscape.

In the northern portion of the province of Caserta, north of the river Volturno, there is a vast land area, known as the Ager Calenus, which in Roman times formed the suburban territory of the city of Cales.

Today, the occupation of the caleno territory in ancient times is evidenced by numerous archaeological sites identified in the current municipalities of Camigliano, Bellona, Vitulazio, Pastorano, Giano Vetusto, Pignataro Maggiore, Sparanise, Rocchetta e Croce and Calvi Risorta thanks to many archaeological researches.

The municipality of Camigliano is the furthest point north east of the Ager Calenus; located at the foot of the south western foothills of Monte Maggiore, its territory consists of a valley surrounded almost entirely by hills: Monte Pozzillo, Monte Ragazzano and Monte Castellone north, the so-called "Colle" to the east and the Monte Tutuli south.

At the southern foot of Monte Maggiore there is a limestone cave known as "Grotta of San Michele" as in the XVII century it was used for the worship of the Saint of the same name (fig. 1).

This is a site of strong symbolic impact and where spectacular landscape and archeology complement each other, a place for meditation, intended to leave the viewer strolling in these places feelings of peace and inner well-being.

Access to the area is via a steep climb, between specimens of different plants and shrubs, leads to a first terrace, where remains of Roman period structures are preserved and from which you can enjoy an astonishing view on the Piana Campana and the neighbor mountains.

A staircase carved into the rock will come to another path that framed, in a very suggestive by thick vegetation leading to the heart of the cave where, in addition to the impressive cave you can see the chapel dedicated to the Saint.

The cave, probably karst, is formed from an upper opening to the west to form "inverted funnel" from which hang many stalactites and a downstairs very broad and deep set, that you can access through a path to slides and rock alternated. From the time of this flow, through a gentle sound, incessant drops over the years have led to the formation of natural pools currently functional to the col-

Camigliano. The wall in opus reticulatum with terracing function (©Margherita Di Niola).

lection of water.

Archeology. In the XVII century the cave was destined to the cult of San Michele Arcangelo, as still attested by the presence of a canopy arched blue set against the eastern wall of the cavity.

This structure, a square plant about 3,50 m high, welcomes a modest altar topped by a painting of San Michele, accompanied by a second fresco depicting the Virgin and Child with San Michele wielding the sword with his right hand, while with the left one holds the thread with which weighs a soul.

The occupation of this site, however, dates back to a time even older, in particular in the Roman times, when the area received an imposing villa of the Roman period, identified by many local scholars with the so-called "Villa Camilliana" held in Campania by Camillo Fabato, pro-stepfather of Pliny the Younger [1].

The presence of a villa is now shown by structures in opus reticulatum and opus mixtum placed on axis with the cave [2].

The walls are partially readable because of the strong state of degradation of the area and of amendments, made to the implementation of modern stairway to the cave that has greatly upset the topography of the site.

Particularly, in the western part of the wall it is visible, built against the mountain with terracing function, characterized by facing in opus reticulatum that will keep for a maximum height of 1,50 m and width of 10 m.

The pieces of tuff, rather irregular, measuring 12x12 cm and shall be implemented with extensive use of the mortar in the joints (fig. 2).

Not far from this, instead, in the eastern sector the remains of a rectangular cistern (fig. 3) (4,70x7x3m) interspersed by three buttresses are preserved, made on the side placed against the cave at a more or less regular distance [3].

The walls are built in opus caementicium and are characterized by chains with angular bricks facing in opus reticulatum alternating rows of brick. In most points, it is still recognizable a thick layer of cocciopesto, preserved more in the junction between the edges.

Though divided by a modern road, the structure appears to be closely related to a plot of trapezoid located south of this and that extends through terraces sloping towards the plain.

Camigliano. The Cave of San Michele (©Margherita Di Niola).

In this area it was possible to detect large quantities of pottery fragments (Glazed pottery, Italian Sigillata, Eastern Sigillata, ceramics in common use, amphorae and opus doliare), mixed with tiles and numerous pieces of square shape tuff concentrated particularly in the first two terraces.

To interpret the original structuring of the site, it is possible to make a comparison with the neighboring and best preserved Roman villa of Bellona in the area of Madonna degli Angeli [4] precisely articulated in a series of terraces, with the location of the cistern higher than the villa, which comforts the assumption that the area had previously hosted a villa with cistern.

The choice of an area in connection with the cave, it is not fortuitous, because this represented a valuable water supply essential to the life of the site, as well as a wonderful scenic backdrop often typical of Roman villas.

Valorization.

The site of San Michele was the subject of an valorization project in July 2014, UPDATE #04 Camigliano, conducted by the architecture firm, sa.und.sa architects of Salvatore Carbone and Sara Omassi and funded by municipality of Camigliano.

Purpose of this project was the redevelopment of the site of San Michele, through attractive elements that could facilitate the use of the site from the citizens [5].

The work, which lasted five months through information campaigns, meetings and workshop activities, involved the active participation of citizens in order to develop the final design.

The format adopted by the group of designers was to Update # Urban Upgrading Processes; using instruments of Brainstorming of the Wolrd Cafè and of the Focus Group, furthermore questionnaires to collect data on the use and perception of the area and direct inspections on the site.

Data from these activities established guidelines and self-construction design workshop held in late July with the collaboration of seventeen students from various Italian cities.

They have identified two points that were the subject of intervention: one of contemplative character of the surrounding plain, the other of symbolic nature,

Camigliano. The wall in opus reticulatum with terracing function (©Margherita Di Niola).

targeted to the main focus of the site: the cave.

The work led to the creation of a small architecture with the function of viewpoint (fig. 4) made in point of maximum perception of the surrounding hills and the construction of "a place that can amplify the landscape perceptions by creating a place for prayer and meditation.

The result was Mi-ka-El: a place linked to religion, in biological symbiosis with the rocky walls of the cave, with the old chapel of San Michele, and the brightness of the oblique and powerful way and with the prevailing silence sometimes broken by dripping stalactites" (fig. 5).
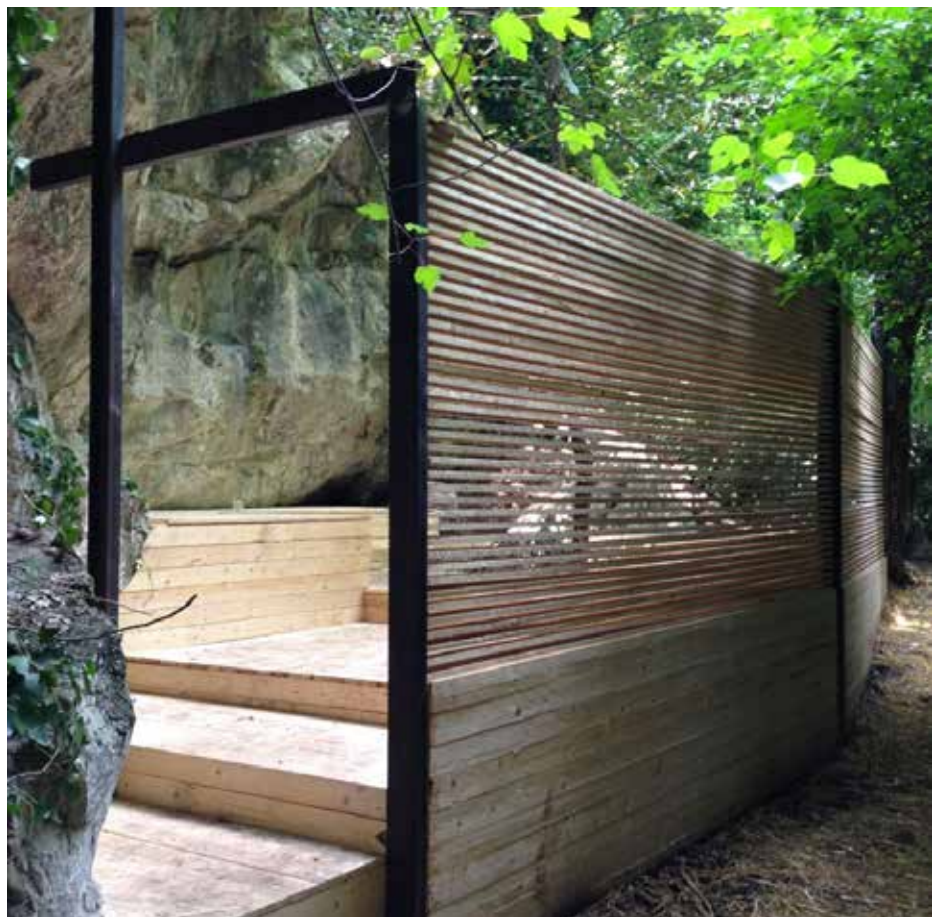
Camigliano. The Roman cistern (©Margherita Di Niola).

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[1] Ep. VI, 30. The major proponent of this theory was Antonio di Cesare, author of a manuscript of 1777 (Notizie istoriche intorno al villaggio di Camigliano) currently kept in the Library of the Museo Provinciale Campano. Although there was no direct evidence of such witness and given the vagueness of the information provided by the source it should not be overlooked, however, the striking similarity with the topònim of the village.

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[3] In comparison with the characteristics construction of the structure having a function of similar terracing it is interesting the cistern located in S. Angelo in Formis, at the foot of Monte Tifata: QUILICI GIGLI, Stefania. I dintorni del Santuario con il Monte Tifata. In Carta Archeologica e Ricerche in Campania. Fascicolo 6: Ricer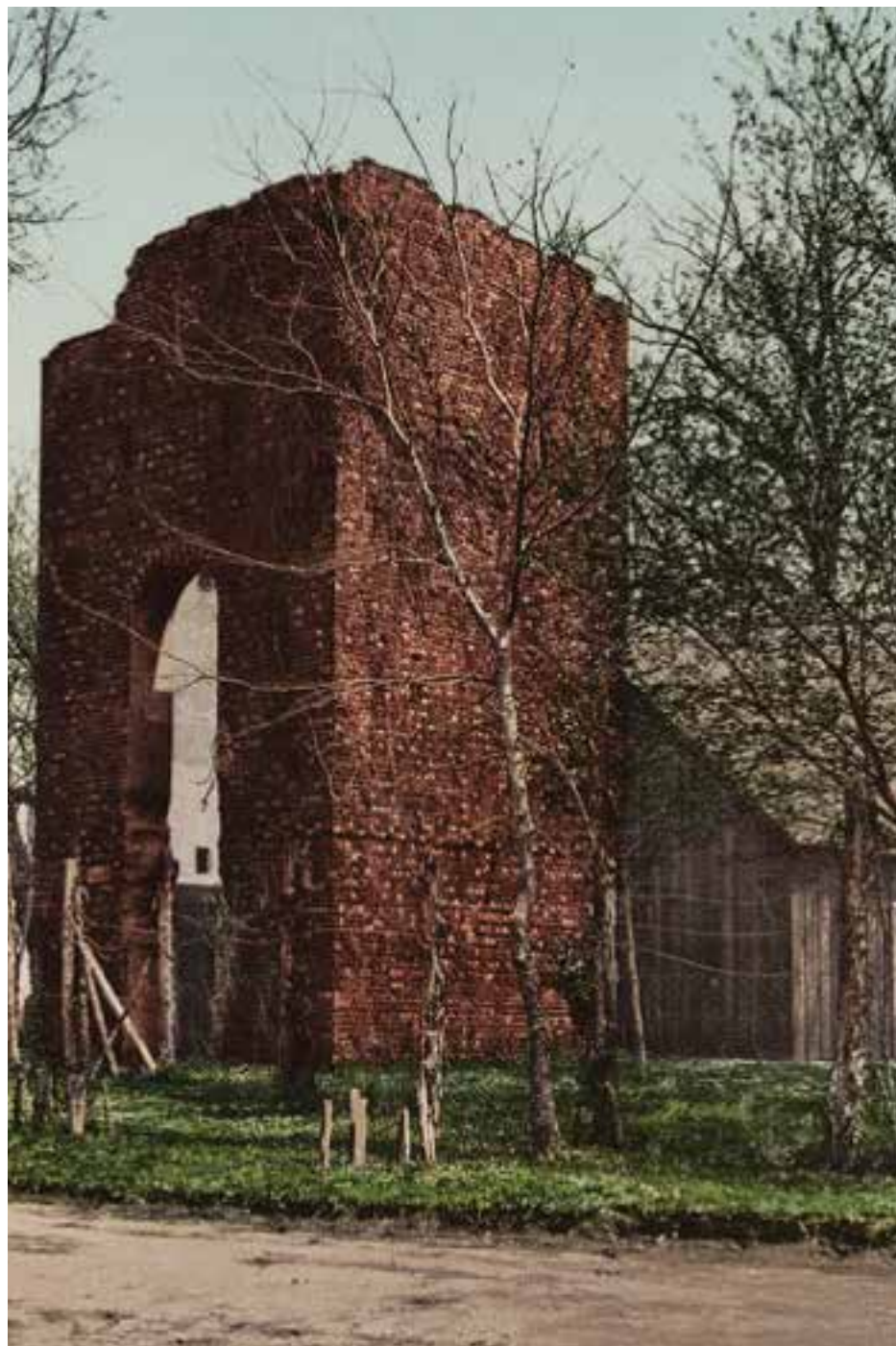che intorno al santuario di Diana Tifatina, ATTA, suppl. XV, 6, 2012. Roma: «L'Erma» di Bretschneider, 2012, pp. 168-169.

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Jamestown Church before its restoration

THE ROLE OF RELIGION AND HISTORY IN THE PRESERVATION OF RELIGIOUS SITES

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Religion has long been a source of pride and passion, many times to a large degree. The influence of religion on a country's history around the world is unparalleled, with this statement applying to the religions of the world in general, not just Christianity. However, in America, which is a majority Christian, the large presence of the religion influences the preservation of the religious buildings in the country, playing a key part in preserving and restoring old buildings to serve as historical monuments and functional places. It is important to keep in mind, however, that it is not only important to religions to preserve structures such as these, it is also important to a country's historical value and timeline to denote periods by their cultural and religious influences. America's first exposure to Christianity came with the voyage of the pilgrims, before it was even America. These people traveled from mostly England to the new world, later known as America, to escape religious persecution for their beliefs. When they arrived, they sought to establish make shift churches as places of worship so they could carry out what they could not do before. The oldest church still standing here is Jamestown Church, a Presbyterian church built in 1617 in Jamestown, Virginia by the Europeans who migrated to these lands. The church was in poor shape after 1750, when it had been abandoned, and continued to be so well into the 20th century. Around that time, a restoration of the church took place, restoring it to its former glory. Without such an influence of the Christian faith still existing in the country today, however, this would not have been possible. The denominations of the faith all want to be recognized and have their importance. Restoring the church was a way for the Presbyterian denomination to establish their place in the history of this country, with such an old church in the history of it being brought back to life. Currently, America identifies as 78.4% Christian, proving that the plight of escaping Europeans greatly influenced the outcome of the majority religion in the country now. In turn, many churches have been built and destroyed in the history of this country, either due to natural disasters or religious turmoil. To preserve the ones that stood hundreds of years ago, or even more recently but were in bad conditions would be preserving part of the history that has passed, allowing us insight on what was happening at that time, or showing us what was important to the citizens in that period. Even now,

Jamestown Church now

many denominations of Christianity are adamant about their differences from other denominations though in a general picture, they follow the same religion. It is important to them to establish a cultural and religious identity among the mounds of other followings of faith, and to restore buildings belonging to their beliefs allows for that to happen. Minority faiths in this country are also an important representation, but because of their shorter history with the country, their buildings of worship are fairly newer and don't require as much historical preservation to be applied to them. Culturally, however, people of these faiths make up an important portion of American culture, since nothing is truly "American" and only a mix of various other culture's influences, such as the cuisine here. For the non-Christian immigrants here, their places of worship allowed them to meet people of their faith and similar cultures so that they could find people they belonged with, or shared similarities with and not feel alone in a place that is fast paced and consistently moving. Similarly with churches, they are used as a meeting place of people with similar beliefs and values, sometimes used a cornerstone in communities for coming together or spreading word among citizens. Another example of a church being restored is the oldest church in Italy, St. Peter's Basilica. Originally constructed in about 320 AD, the church has seen many years and many different weathers in its time. Every so often, repairs take place, with one large-scale one taking place in 1985, with the last one being 350 years prior. The basilica is the main focal point in Vatican City, a heavily visited Catholic pilgrimage spot. The church contains the body of St. Peter underneath it, who was killed for preaching the Catholic belief and also the first pope. The spot is visited by millions every year, and a center point of the Catholic faith. However, due to its long history since being built, the basilica wears from weather and time and requires reparations. The Knights of Colombus, a Catholic charity organization, organized reparations and restorations of the church, which took two years to complete. In this time, the outside of the church was cleaned and fissures in the stones were repaired, as well as stainless steel supports being installed in the 13 statues on the façade of the church. As stated above, many religious organizations step in to repair churches of their faith, with this being a large example of it. It is part of their identity and their

Jamestown Church now

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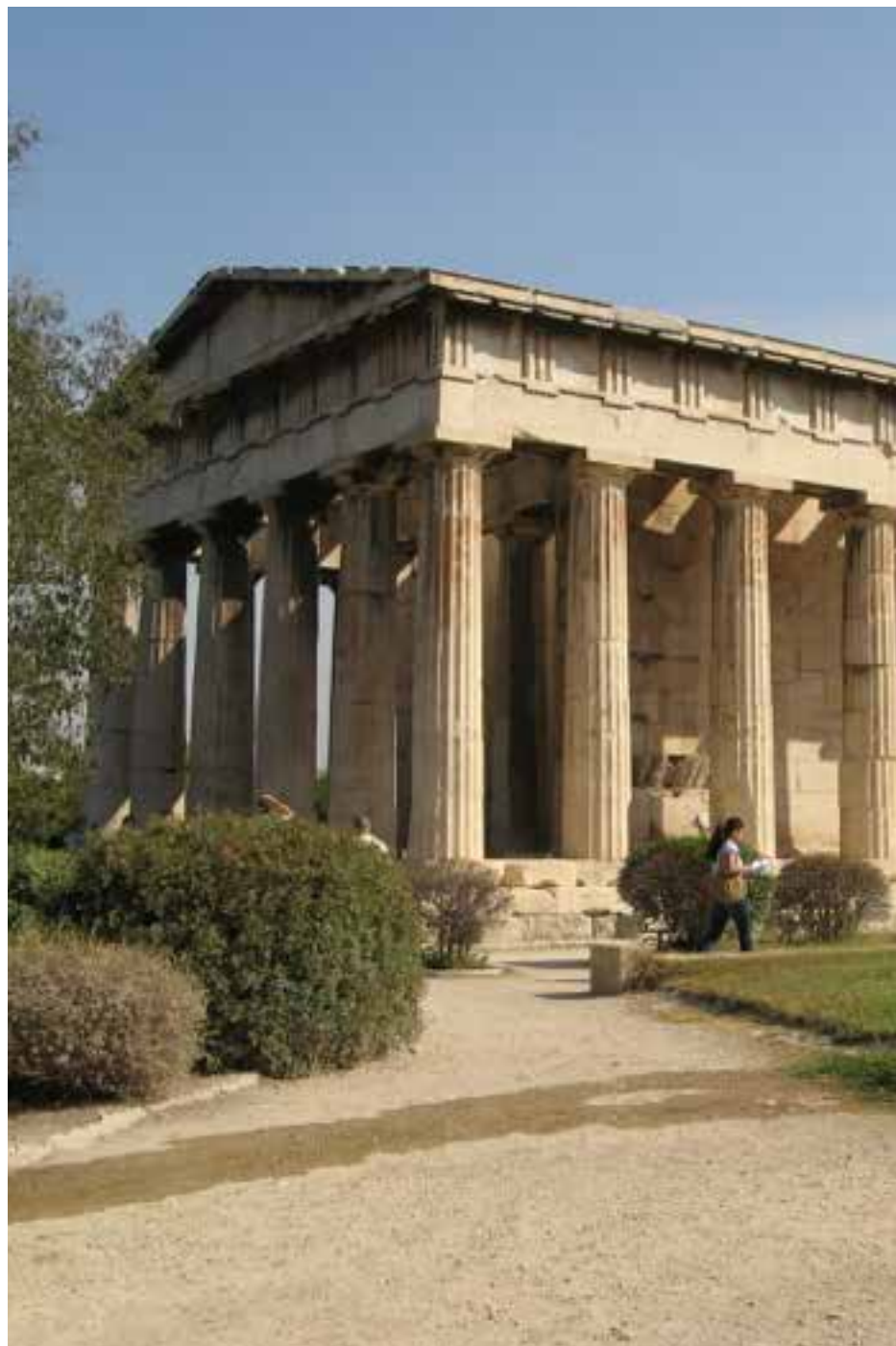
faith and as such, they feel as if they should take care of it. Religious places are important in human history since every country has a majority religion to which they belong, whether they are active in that religion or not. Humans have long looked for explanations, whether through monotheism or polytheism, to explain things they did not understand. At sacred places they gathered to worship whatever it was that they believed in, or ask them for favors or protection. Ancient sites like this are key in understanding the thought process and cultures of times long ago, such as ancient Greece. Currently, the country as a majority belongs to the Greek Orthodox Church, making up about 95% to 98% of the population. In ancient times however, the Olympian religion was the dominant one, consisting of many gods and goddesses to whom people were devout. Though Greece has officially followed Greek Orthodoxy for a large amount of its history now, the people of the island are proud of their past culture and take great care of buildings used during ancient times. A good example of this is the Temple of Hephaestus located in Athens, Greece. The building of the temple started in 449 BCE but was not completed until 415 BCE, and dedicated to Hephaestus, the god of craftsmanship and metal working. Later on in its history, it was converted from a place of Olympian worship to being used as a Greek Orthodox church from the 7th century well into the 19th century. They effectively converted a building from another identity of their culture and repurposed it for a more modern use for themselves, preserving the culture that was while allowing that one at the time to flourish. The building itself is very well preserved, and it is clear that a great amount of care went into keeping it this way. As pictured above, the temple is very well preserved after almost 2000 years of being built. This is largely in part because of the citizens of Greece taking care of this temple because without it, it would look much like the Parthenon or Temple of Poseidon. It can be stated, however, that the excellent condition of the temple is due to it being used extensively as a Greek Orthodox church in later years, since people do not want to attend church in a ruined building, thus prompting its upkeep throughout the many years of its existence. The ties of the importance of a country's history and religious preferences are key in preserving ancient religious and more modern religious sites.

THE ABBEY OF SANTA MARIA DI MELANICO: HISTORY AND PROPOSAL FOR RESTORATION

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Introduction

Santa Croce di Magliano is a municipality of about 5000 inhabitants in the district of Campobasso, placed 11- 12° longitude E and 41-42° latitude N., on a hill 600 meters a. s. l., East, the ancient sheep track passes on the highest part of the town, it led the pastures from Celano to Foggia, here it is possible to enjoy a beautiful coast landscape, Colonna suggests: this mountain is a spur from West to East, leading to the Adriatic coast, and it goes towards a wavy soil and then it marks the extreme East border of the district of Campobasso giving way to the wide valley of Capitanata."

The town limits border East with the territories of the district of Foggia, instead inland limits of Molise are: Rotello N-E, Montelongo N-W, Bonefro E, and San Giuliano di Puglia S. The municipal territory extends on 54.63 square kilometers and it is marked by several rivers like the Tona brook that during the VI century b.C. as a non secondary route to the Fortore introducing to the Campanian material culture and to import materials like Bucchero clay, in a territory with a prevalent Daunian culture , the channels Santa Croce and Covarello tributaries of the Fortore representing its east border .

In this context the benedectine abbey of Santa Maria di Melanico is located.

Morphological aspects of the territory of Melanico

The territory of Melanico is characterized by a strong flat morphology with terraced alluvial sediments composed by variable gauge sandy gravel .

It is possible to distinguish several orders of terraces overcoming few meters of gauge. They show wide slopes, pronunced on the left side of the river Fortore; in some cases there are visible erosion phenomenonIn the detected area there are lithotypes attributable to the development of the bedrock (Plio- Pleistocene clays), fluvial sandy gravel sediments and inconsistent and heterogeneous covering sediments , formed by brown sand and sandy clay covered with black soil with high humic content ; and therefore slope deposits (pluvio – colluvial sediments).The detected area is situated on the left bank of the river Fortore; it reaches a height of about 120 meters a.s.l. The area of the district of Melanico looks like a sub flat area, formed by discordant terraced deposits on Plio -Pleis-

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tocene clays of Montesecco, sloping about 5-8 ° South- East.It concerns the development of the substratum formed by sandy clay and compact yellowish clay marls, with barely noticeable stratification sometimes with macro fossils.

The lithographic situation can be presented:

- Superficial layer of vegetable soil mixed with rounded calcareous cobblestone
- Sandy gravel clay floods of the second order of terraces by fluvial origin, little or partially cemented;
- Sandy marl clay, outcropping along the bed of the river Fortore and valley engravings form the basic sediments. For what concerns the superficial hydrography, the valley is marked by a natural draining net, South- East oriented. There are no rivers but just thin engravings pointed towards the Fortore river bed. Their incision has unearthed the geological formation of the basis of the Plio -Pleistocene clays of Montesecco. Instead for what concerns the subsoil hydrography , the entire zone has no ground water of considerable importance, but just some seasonal stagnation in gravelly- sandy pockets , in which were implanted wells (Fig . 1) .

Melanico Abbey and its territory . History

The epigraphic material, discovered near the Masseria Abbey in Melanico (Fig. 2), attests the human presence since the early imperial age; three important gentes maybe the owners of the territory villae rusticae shows their productive power already in this period. The epigraphy mentioning the gens Tillia of the tribe Aemilia (Fig. 4, n. 1) is walled in the main facade of the Masseria Abbey incorporating the ancient cenobio ruins. It is a limestone slab (L. 61 cm; H 88.5 cm) broken on the left and on the right; it is composed by six lines and the letters have a height ranging from 7.4 to 5.8 cm. There are triangular punctuation marks in shape with the vertex facing downwards:

L(ucius) TILLI] VS C(ai) F(ilius) AEM(ilia tribu) TRASSA CENT(urio)[…]
C(aio) TILLIO FRAT[RI] […]
C(aio) TILLIO PATR[I] […]
OBINIAE L(uci) F(iliae) M [ATRI] […]
CASRTICIAE L(uci) F(iliae) P[…]
L(ucio) TILLIO L(ucii) F(ilio) FILIO[…]

It is possible to read: Lucius Tillius Trassa centurion, son of Gaius from the tribe Aemilia (he did) for his brother Gaius Tillius, for his father Gaius Tillius for his mother Obinia daughter of Lucius, for Castricia daughter of Lucius, for Lucius Tillius'son. This family is perhaps linked to that of Q. Tillius Sassius, frater arva- lis , who died in 91 AD and mentioned in the arbitration of Campomarino . This character is traced as originating from Histonium, but apparently has close links with Larinum. The inscription dating between the first and second centuries AD. Another inscription referred to a very important gens was discovered nearby the Masseria Spinaceta, in Melanico too (fig. 3). It is a limestone parallelepiped stele with vertical reddish veinings with a broken frame. It is high 79 cm and the gauge goes from 9 to 12 cm, letters have a range of 3-4 cm.

D(is) M(anibus)
VIBIE C(ai) F(iliae) CAPR=
IOLE L(ucius) SESTIVS
L(ucii) PHILADELPHVS
CONIVGI BENE=
MERENTI ET SIBI
FECIT

It is possible to translate: to the Manes Gods. Lucius Sestius Philadelphus did for his meritorious wife Vibia Capriola daughter of Gaius, and for himself .

The surname Philadelphus is a hierarchical name that probably indicates the servile origin of the character. The stele is dedicated to him and his wife who belonged to the gens Vibia.The funeral abbreviated formula appears after the middle of the first century AD.Another inscription from Melanico (Fig. 4 n. 3), found in the nearby Masseria Abbey is referred to another relevant imperial family: the family Neratia; the inscription is on a small sandstone slab preserved at San Biase .

D(is) M(anibus)
EPICIETO TABU=
LARIO NERATIA
SOTUSA CONIUG(i)

It is possible to translate: To the Manes Gods. Neratia Sotusa (dedicates) to her

spouse Epicetus Tabularius.

It is possible to deduce that Epicetus and Sotusa are two unknown nomina and the epithet Tabularius assigns to the extinct the profession of scribae.

This inscription dating between the II and the III century AD for its formal aspects. Last entry found in Melanico it remains only a fragment of the upper part (fig. 4 n. 2); it is engraved on limestone (H. 40 ; 1:34 ; 9 cm) and looks like a truncated pyramid containing a relief that consists of a stylized head of a child with a hint of a bust , surrounded by engraved ivy leaves

(C) ALLIST[O]

?

From the transcript it is possible to read: To Callisto.

Unfortunately, the poor state of preservation of the slab doesn't allow to reconstruct the text which is kept only for the part where the name of the extinct is mentioned. In fact, even if it is impossible to reconstruct the text, it can be said that it is a funerary epigraph from its symbolism. The name is also of Greek origin, this could be a timeline marker as these " free men " were widespread during the early Christian period . As evidenced the four tombstones are dated between the I century AD to the early Christian period; also, the presence of these relevant families (Tilli, Nerati and Vibi) indicates the importance of the whole area of Melanico. These gentes are the landowners leading the large rustic structures that were presumably scattered troughout the territory of Melanico.

The Abbey from the Middle Ages to the Modern Age

Tria reports that Landulf and Pandulfo, Lombards princes of Benevento, rebuilt the abbey of Melanico in 976 . Masciotta, on the basis of this evidence , assumed that the birth of the abbey of Melanico would be linked to the arrival of the Lombards in Italy in the sixth century and it was later granted to the Benedictines . Since there are not documents proving the existence of the abbey over the centuries before the X, the above quotations leave many doubts. Referring to the acts and documents that we have received the speech of Masciotta and Tria can be justified in part, in fact in a confirmation diploma of the territories

of Melanico to the Benedictines made by Roger II of Altavilla , the grant by the princes of Benevento Landulf and Pandolfo is mentioned ; therefore in this act, issued in 1135, the king declared to recognize all the possessions of the abbey of Santa Maria di Melanico, and it was declared a legal independence of the monastery which could grow both economically and territorially with any type of donation made by the devotees , the princes or popes . Bucci also refers to the rebuilding of S. Maria in Melanico but it did not take the Abbey structure yet, but the recognition of territorial possessions allowed the construction of villas, country houses and whatever else had been helpful to the development of the rural area . The above mantioned abbey did not arise as a monastery , but , according to Bucci, it developed initially as a " grangia" (or barn) , with a very specific military purpose; in fact , the construction of these buildings on the main roads and on key points (like the ford on Fortore , the river that marked, the boundary between the Byzantine territories and the Lombards between IX and XI century) was to check points of access to the territory and to exploit them in defense – offense mode in case of war . Returning to the question of concessions and benefits maintained by the abbey, they were valid until 1181, the period when the Norman political reorganization invalidate the acts and the diplomas at the expense of the Benedictine order, rescheduling concessions in favor of the secular clergy. From now and then many abbey complex turned into local churches under the jurisdiction of the diocese, these centers lost all their administrative power on their territories and were included in a directorial order that is the territorial diocese, furthermore they were taxed . This political decay also struck the abbey of St. Mary of Melanico, which became part of the diocese of Larino and taxed, according to reports from the papal seal of Lucio III, for totidem Bizantios, et porcum unum, et arietem unum . A few years later, in 1185, the abbot John, in agreement with the Bishop of Larino Peter, asked Wilhelm II said "the Good" to have the confirmation of the privileges granted by Roger II of Hauteville in 1135 . Actually, the documents referred to Melanico identifying the building are not found before the ninth century, furthermore in this period the already mentioned breve recordationis records the existence of a curtis ad Melanicu and not of an abbey, in fact documents proving the existence of the abbey of Santa Maria di Melanico begin from the XII century with a

diploma issued by Ruggero II d'Altavilla and then continued with all the above mentioned documents and diplomas.

In the second half of the thirteenth century, in a seal of Alexander IV the annexation of the Abbey of St. Mary of Melanico to the Cistercian Abbey of Santa Maria di Arabona of Manoppello is mentioned ; after 1456, following the disastrous earthquake that shook central and southern Italy, the building was abandoned by the Benedictine monks.

The local historiography brings us back to the seventeenth century, when Cardinal Orsini built a small church on the ancient abbey and, after being elected pope in 1724, he gave the estate of Melanico to his niece Mundilla Orsini.

Conclusions

The present activity in the area of Melanico in the territory of Santa Croce di Magliano (CB) in Molise, shows traces of occupation of the territory since the first imperial age, the presence of different powerful gens like the gens Neratia, shows the political importance, as well as the agricultural one in the territory in question. The Benedictine abbey in the early tenth century reiterates such importance that, in this specific case, had a territorial control function on the limes of the river Fortore, historic border between the Byzantines and the Lombards.

The building was built with a clear intent, to control the ford on the river and it was part of the territorial organization of the Lombard period.

These structures were also erected along the sheep tracks (like the Benedictine abbey of St. Helena in the countryside of San Giuliano di Puglia -CB) and their link with the surrounding territory also acted as a unifying for scattered populations in the most remote places of the kingdom.

Today the building is in complete architectural decay, abandoned to the surrounding countryside, but it is still a dominant figure that for centuries monitors the old boundary.

The building could be used to house a youth hostel. The rooms would be adapted to rooms, dining hall and kitchen used as a kitchen and dining room for guests and the chapel would become a center of tourist attraction.

In all this, there should be a structural rearrangement of the entire building that appears precarious in the consistency of its structures.
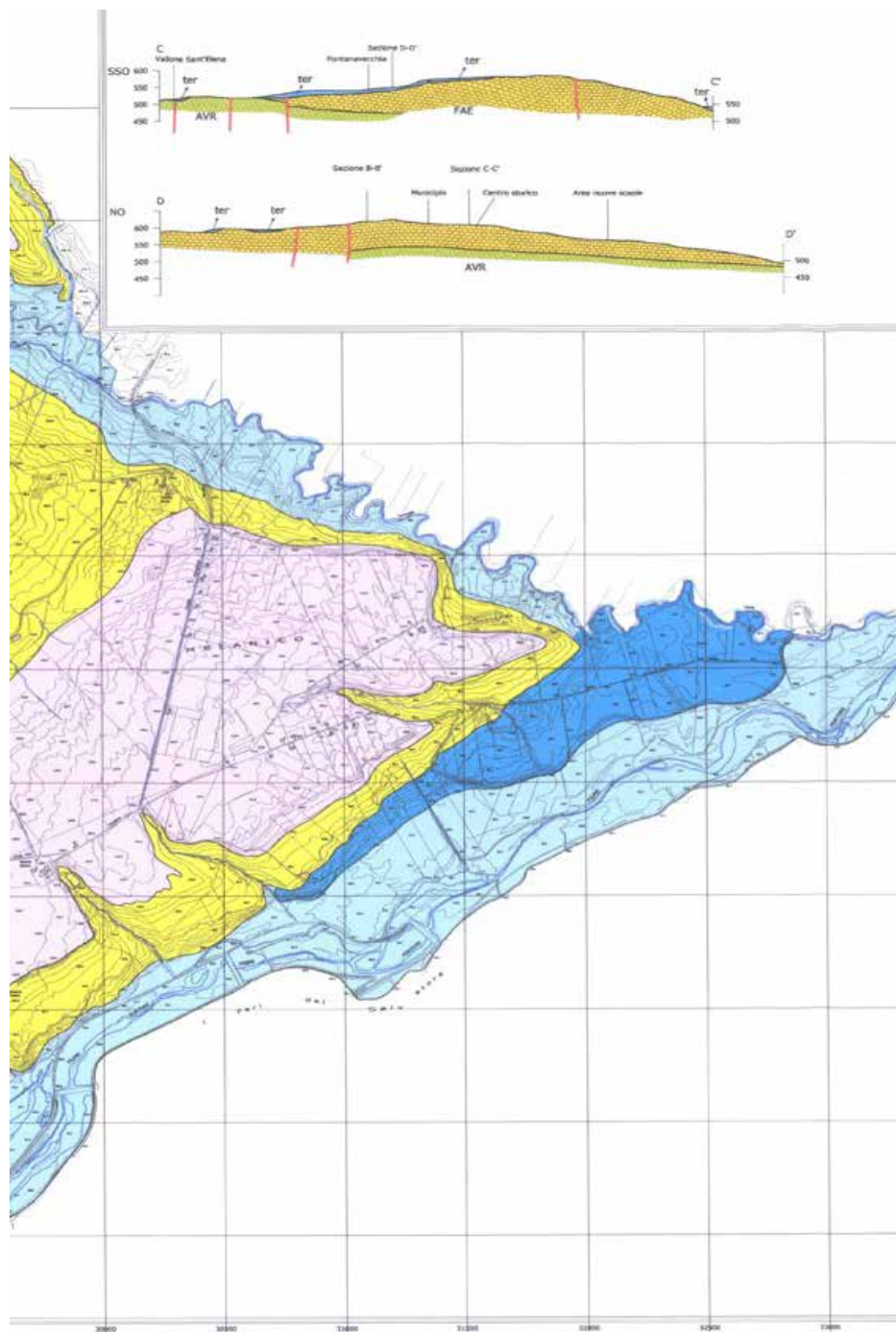
The destination of choice for this building would be compatible since it already lost the function of sacred building since the nineteenth century.

The building has several functional characteristics adaptable to a reception center for young people. The re-utilization of the construction however allows a continuity of life without affecting disastrously on it. Also, being inserted in a rural context, it would allow young people to get close to the farm life and to spend pleasant days in contact with nature.

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PRESERVATION OF ARCHITECTURAL AND ARCHAEOLOGICAL HERITAGE IN NAPLES: THE COMPLEX OF SANTA CHIARA

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The Monumental Complex of Santa Chiara was built between 1310 and 1328 by will of the monarch Roberto D'Angiò and of his wife Sancia from Maiorca. The Sovereigns wanted to build a Franciscan citadel to accommodate the Poor Clares in the monastery, the Minor Friars in the adjoining convent and to build the great church with the bell tower and the famous majolica cloister.

The aim was to provide Naples with a magnificent church to induce devotion to the Real Family and to have an appropriate building for the royal tombs.

Despite being in the middle of the old town, the citadel is isolated from the surrounding urban context by a wall boundary , accessible through two portals: a main door on Benedetto Croce Street and a lateral one on Santa Chiara Street. The main entrance is a few meters from the pronao that gives access to the church.

The walls of the building were realized in tuff, a yellow volcanic stone, while piperno, an harder and more resistant material, was used to build arches, frames, jambs and the entrance porch.

The structure presents a single nave over eighty meters long and about forty-six meters high, with nine chapels on every side: each of these is overhung by a tall arched window to light the central space.

The appearance of the fourteenth century church radically changed due to the Baroque reconstruction which took place between 1742 and 1769: the interior was completely covered with plasters, marble and gilded wooden decorations. Many paintings and frescoes were added in the great nave, some of these are works of the famous Neapolitan painter Francesco De Mura. Between 1761 and 1763, the architect Ferdinando Fuga took charge of the reconstruction of the marble floor, still present today.

This "new" look of the eighteenth century was strongly criticized by scholars of the nineteenth and early twentieth centuries because they judged it as too rich and heavy.

On the 4th August 1943 an air raid hit the complex of Santa Chiara seriously damaging the church: incendiary bombs rapidly transformed the religious building in a mass of flames.

Paradoxically, the system used to preserve the works of art from the bombings

3

4

2

1

1m   5m

1. entrance hall
2. archaeological room
3. thermal baths
4. cloister

worsened the damages: wood boards and wickers filled with sand covering the altar and the tombs stoked the fire and worsened the damages caused by the collapse of the wooden ceiling and the fusion of lead plates covering the church. The fire burned for six days.

The vaults, the paintings and the frescos were destroyed and many decorations were reduced to pieces. T

he Poor Clares saved some works of art and important religious objects. Other fragments of artworks found among the ruins were gathered in a warehouse of the monastery, until they were exhibited in the museum.

A significant restoration of the church began immediately after the end of the war.

It was necessary to intervene as soon as possible because (at that time as today) Santa Chiara is one of the most representative monuments of the city of Naples and it symbolizes the identity and the memory of the citizens.

For a long time, restorers and historians discussed regarding how to intervene on the building: the possibility of keeping it in a state of ruin was excluded, either because nobody wants to give up its function as a live place to meet, and because the tuff can be easily damaged in contact with the rain.

It was therefore decided to proceed with the restoration according to the Gothic style that had been made visible again by the fire that had destroyed the baroque plasters that covered the original structure over time.

Then the roof was rebuilt with visible structures in reinforced concrete, these reflected the shape and colour of the old trusses.

This intervention, even if not correct from the theoretical point of view, was the easiest solution in the post-war period in which it was not possible to obtain so much wood of such large sizes.

For the roof covering, after trying with shingles and tiles that proved ineffective, the current coated copper plates were realized.

The gothic walls were restored as well as structural elements, like pillars and arches, and decorative elements, like the rose window in the facade. As far as possible, also Angevin tombs were recomposed. On the 3rd of August 1953, ten years after the fire, the church was re-consecrated and reopened.
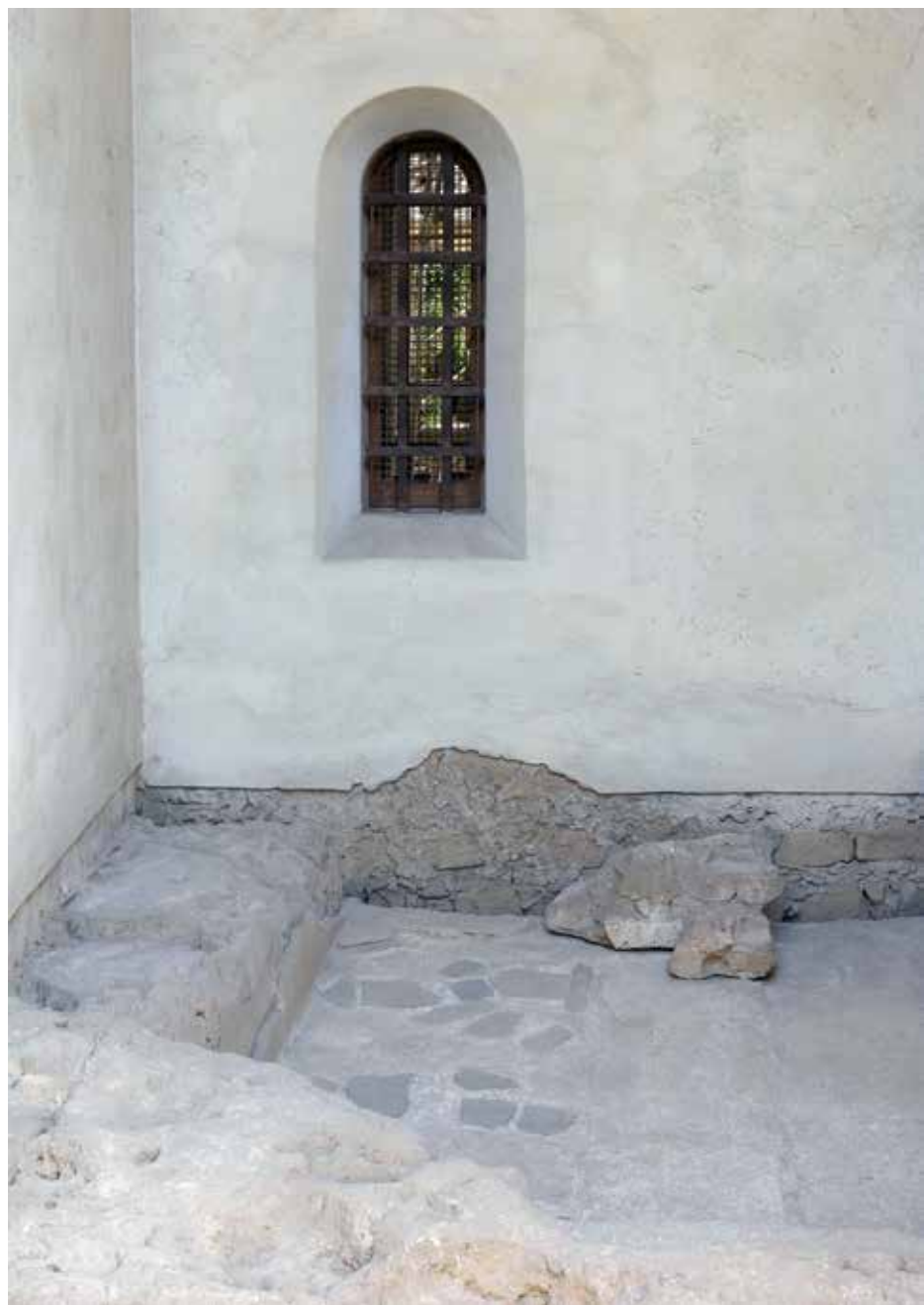
When at the end of 1951, the works to repair the church started, another important revelation was made: fortuitously some ancient walls were found behind the cloister, with their associated ducts and a tunnel in opus reticulatum.

So a thermal complex, dating back to the first century AD, was brought to light. In the planimetry one can distinguish a northern part of the complex, where there is a spacious rectangular room identified as a room for bathes of fresh water called Frigidarium.

While on the west side, there is the swimming-pool, which includes part of the old Acqueduct.

This one was realized of reticulate brickwork made up of rectangular small blocks of tuff and it confirms the importance of this thermal complex. The rest of the aqueduct seems to be in the west side, but only small fragments have survived and they are mixed with later more recent wall structures.

The relationship between archaeology and the city often results complex because it is necessary to accord contemporary urban development with the intention of enhancing the archaeological heritage found.

In fact, the excavation is not really concluded until it is re-inserted in the new context, completing the city's appearance. Great urban excavations, in fact, can't disregard the urban project.

In the case of the complex of Santa Chiara, the archaeological area found is not particularly extensive and it is contained within the Franciscan citadel, therefore it is already protected as a site of great historical and cultural value.

As you can see from the planimetry, it is possible that there are additional findings under the floor of the cloister: but obviously, given the enormous artistic and cultural value of this element, which is one of the most representative of the city's historic centre, the possibility to continue excavations has been ruled out.

The comparison that the archaeological area has continuously with the monastery and the cloister is multifaceted because the beauty of the structure, on the one hand, leads visitors to discover the whole complex, while, on the other hand, it obscures the importance of these findings.

The operations of recovery, enhancement and conservation of the thermal complex required the intervention of several offices of the Superintendence of

Naples: the Superintendence for the architectural and environmental heritage, the Superintendence of Cultural Heritage and the Superintendence for the Historical and Artistic Heritage. Each of these institutions has involved architects, engineers and archaeologists in order to prepare all the necessary documents (metric surveys, photographs, measurements) to monitor the various phases of the excavation.

The last step was the museum layout of the excavation, which since the 26th of May, 1995, is open to the public.

The area is accessible through a wooden walkway, which constitutes the tour route of this space, and that is supported by lightweight steel retaining structure.

The same typology of white steel frame, made of iron tubes bolted one to another, defines a system of punctual pilasters that support the covering. This last is made of a double steel frame, with a secondary structure in wood on which are fixed polycarbonate fretted boards to protect the traces from the atmospheric agents.

At the intrados of this system white sheets are hooked to shade the area, limiting the excessive temperature rise and create a diffused enlightenment, making the so-called "archaeological room" pleasant even on sunny days.

Today this area is a precious testimony for the reconstruction of the history of ancient Neapolis and for an overall interpretation of the layers of the historical area.

The ancient centre of the city, continually proposes situations where architects have the responsibility of relocating these archaeological sites in the contemporary Naples in new terms, with great awareness of the historical value of the testimonies.

To recover these settlements, which are continually being discovered, means involving them in the life of today and tomorrow.

I conclude by quoting the historian Cesare de Seta, who introduces his historical research on the origins of Italian cities, identifying in the reconstruction of events as the first step to understanding the growth and development of a city. "When we approach history, we do it in the first place to understand, with all the

intellectual honesty of which we are capable, how things actually went".

In this sense, archaeological persistence, which characterizes the territory of many Italian cities, provides a useful witness and a precious memory of epochs lived, maintaining an inevitable relation of consequentiality between urban phenomena that has occurred over the centuries and putting in continuous reference the archaeological ruins with the historic and contemporary architecture.

The understanding of the various stages and processes that have marked a place, are the foundation of knowledge of the culture and civilization that has inhabited it.

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Legenda

Chiostri e giardini

Perimetrazione centro storico_impianto cardo-decumani

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0 0,25 0,5   1
km

560

PRESERVING SACRED STRUCTURES: READING CARTOGRAPHY AND GRAPHIC SIGNS

Rosaria PARENTE

PHD student, Second University of Naples, Department of Architecture and Industrial Design "Luigi Vanvitelli", Aversa (CE), Italy

The preservation of the sacred buildings is a very important theme for Italian cities that have the peculiarity of being layered cultural values and formal unique. In order to preserve the memory of what was, literary sources and mapping are an instrument of great value.

The mapping may be, in fact, intended as a tool of representation of the territory as document analysis and recognition of what has been lost; read the cartographic sources means questioning of urban ancient paths and shapes to compare with the current situation.

The historical maps provides information useful for the study of the territory and for its correct modification.

Read the Past Through historical maps and compare the present with modern orthophotos and satellite images can represent a valid tool for the interpretation of the territory.

Rebuilding ancient layout through the tools of cartography, detection and aerial photos exploiting the ancient literary sources provides an important step in the direction of preservation.

Representing an urban center in a particular historical period gives a snapshot of that time and then preserve the memory of that place. If you compare ancient representations with the current situation you can understand the transformations that occurred over the centuries in a particular territory.

In order to verify the situation in this moment of complex of Santa Chiara in the historical center of Naples for comparing the initial geometric layout inferred on the ancient city of Naples and the current extrapolated from the latest orthophotos it was necessary to find the historical maps.

Before of this action it was necessary to know some historical information about this complex of Santa Chiara.

The church of Santa Chiara was founded in 1310 following the order of the Poor Clares.

The various changes made over the centuries for various situation, also related to natural disasters, have also affected the Great Cloister and remained almost unchanged medieval Franciscan cloister, adjoining the former convent of the Friars Minor, which hosts since 1937 the nuns cloistered.

Legenda

Luoghi Sacri
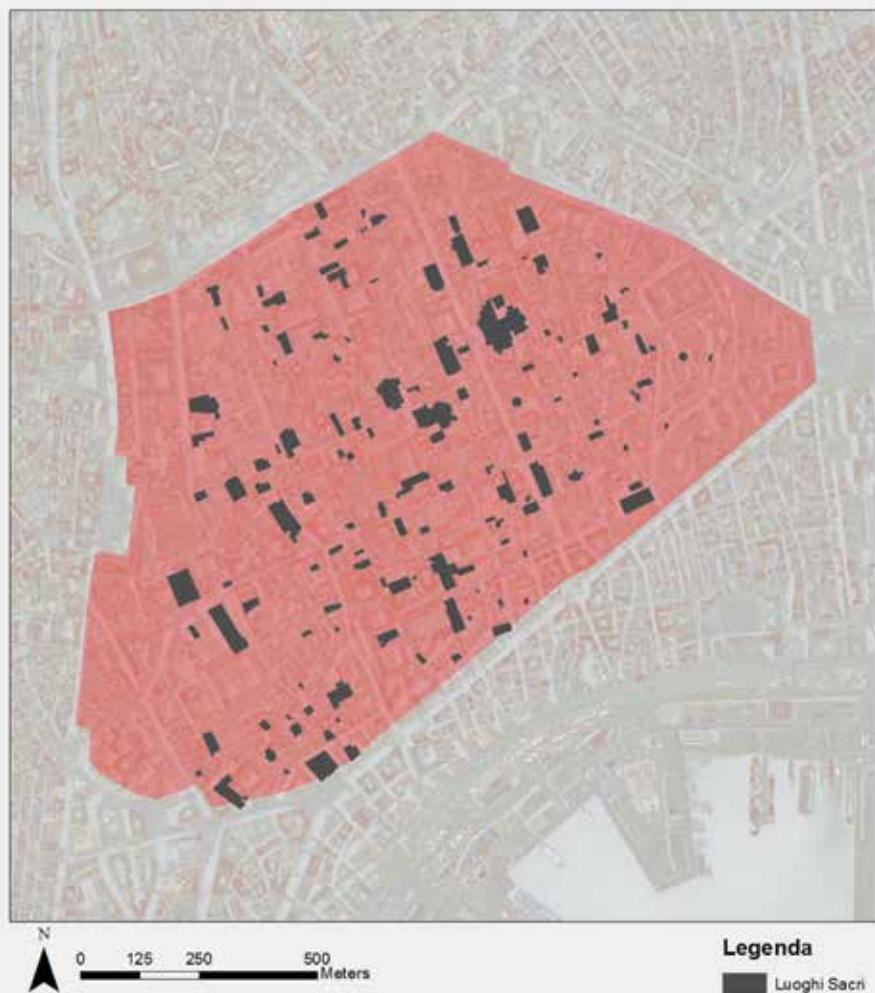
Nowdays, on the ground floor of the cloister of the Poor Clares there is the "museo dell'opera di Santa Chiara".

Then I focused my attention on Mappa topografica della città di Napoli (Carafa Duca di Noja) and Pianta della città di Napoli (Schiavoni).

It is a map designed for the city of Naples, in 1872, under the direction of Professor Federico Schiavoni. On many of these specimens were subsequently drawn the most important projects of transformation of the city, between the end of '800 and the first half of' 900. Among them there are: the rehabilitation of the neighborhoods on the track of today's Corso Umberto, the formation of the district Saint Lucia, the new districts Vomero and Arenella.

Cartography "Schiavoni", named after its initiator, formed over a long period, the base map of the City of Naples, as evidenced by its use, until 1940.

The bibliographic sources about the basilica and the monumental complex of Santa Chiara, are not earlier than the second half of the sixteenth century.

The case study of Naples and in particular of Santa Chiara was very interesting because it is a place permeated by a strong religious component that connects past and present.

The center of Naples is a mix of different cultures that have taken place over the centuries; reading of historical maps in comparison with satellite images can ride in the discovery of traces and signs, memory of what there is it is not longer there.

The ancient city of Naples, already shaken in the past by noble families that replaced without a precise plan the pre-existing building with large and sometimes ugly buildings, the clergy who turned entire islands of the route of the foundation town with impressive convents.

Naples is a city whose development is characterized by chaos and congestion for the dramatic growth in building took place all time with disconcerting elevations, demolition, motivated by hygienic sanitation and vehicular traffic, with reconstructions designed academically and conservative, with thinning that tended to isolate the monumental buildings, altering the unity of places dedicated to excellence in public and private magnificence.

Equally significant is the preservation of a frieze, a capital, a finely carved stone

Drawing graphic signs and layout of the past
Pianta della città di Napoli (Federico Schiavoni)

with which compliance has the flavor of discovery, the finding suggests that the historical digression fantastic artist who is its author or his provenance.

From reading mapping it is possible to understand those changes that have occurred over time; but the focus of this paper is aimed also to the system of protection that has taken place over time and especially during the Second World War.

It is obvious inability of the tools used until then, so it is clear the need to look for new ways to ensure an exact preservation; it comes to innovative methods such as those useful for the dissemination of codes and software to manage information relating to the goods in question.

The armed conflicts are the main cause of the destruction and damage of world cultural heritage. Precisely for this reason, the Aja Convention of 1954 provides for a distinctive sign, described in Article 16 to be used repeated three times in a triangular formation to report the cultural heritage placed under special protection.

This however was not enough years before, in 1943, when the artistic heritage of Naples was severely damaged, some churches were no longer rebuilt, sculptures, paintings and frescoes, paper documents irretrievably lost forever, the State Archives was also bombed, despite the preventive measures taken by the internationally recognized codes, like the great white and yellow triangles drawn on churches, museums, buildings of interest, castles and hospitals, deliberately ignored by the Allies.

On that day Naples suffered the most emblematic loss monument, Santa Chiara. We have to look at continuous degradation of the historic city leads to contribute to the struggle for the recovery of historic centers.

The preservation of cultural heritage has often been conceived idealistically, as of the cultural struggle against the economic interests, without understanding the roots of their crisis. T

he action of protection has been reduced to a passive that crystallizes the state of the monuments and accepts the degradation allowing speculation on the rest of the territory.

The texts as the works of Matilde Serao also support the operation of knowl-

The complex of Santa Chiara on Ortophotos of Naples

Interior view of the Basilica

edge the past for example in the case of Naples; I focused my attention on "altars" that Matilde Serao wrote in her "Il Ventre di Napoli" and maybe she intends whit this the word "aedicules".

The theme on the archeology of the lost churches living in the literature is very interesting for the problem of preservation. If you combine the cartography and literature you can obtain a depht knowledge and proposed a method of preserving of heritage. Analyzing cartography and the urban context in which churches are collocated you can notice in dense urban centers and understand the modification occurred in the time.

However, the unique character of the historical center of Naples is the layering of cultural values. Also Benedetto Croce wrote some of the most wonderful pages of history on the center of Naples that is an emblematic point of the city. His physical appearance has changed over time is a result of the bombing during the war and because of the work carried out after the war.

The craze to isolate Santa Chiara has produced the slaughter of the building corner with Piazza del Gesù which deprived the city of eurythmy developing in one of his most beautiful baroque square. Also the retreat of the portal of the enclosure of Santa Chiara and the similar killing of factories in the south and west sides of the church tower cleared the shops, pizzerias, bookstores that once made it so distinctive. It is therefore evident the adoption of forms of protection and preservation more effective as those of the past have not played their full role.

In conclusion the research was an an opportunity to recognize the value inherent in the memorial maps can pass roads, building types and urban areas and thus preserve a snapshot of a place in a particular moment.

The zenithal airborne survey is an important tool for the examination of territory and for the visual individuation of archetype up to its decomposition into parts.

The knowledge of an area is a preliminary and essential action to the proper management of the territory itself.

The research is a necessary tool for the knowledge; it is a kind of survey not only "geometric-descriptive", but it is an instrument for the real knowledge of the building or the area under investigation. The drawing is an arbitrary convention

Naples, Cloister of *Santa Chiara*

that once accepted it is able to communicate with the observer and it is also a great element of communication.

One cross marked on a map can indicate the presence of a sacred building. This approach is not easy with the ortophotos, because an expert eye is necessary.

Every method of representation communicates a particular message with the most appropriate means and every observation is also the product of an individual way of perceiving and communicating.

We can't assign to the drawing the unique mission of document typology that can only record any historical transformations-formal, but rather a strategic role to properly manage the knowledge of a complex system, every work of architecture that can be re-established and represented.

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HERITAGE AND INNOVATION. ADVANCED TECHNOLOGIES FOR THE PRESERVATION OF ARTIFACTS IN SACRED PLACES

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Preserving cultural heritage is a general concern and the use of not-invasive techniques to protect and conserve ancient materials (in sacred places) is an important challenge.

The present work is intended as a contribution to propose new technologies for the deposition of protective coatings preventing degradation of ancient tiles. (artifacts in sacred places). Specially, we want to investigate the possibility, with tecnologies Ion Plating Plasma Assisted, to apply not-invasive and reversible coatings for the conservation of historical ceramic tiles with strong chromatic valence, which is an important part of our artistic and cultural identity.

Different ceramic supports have been utilized for the tests: an ancient tile of the XIX century and contemporaneous production tiles, all characterized by strong chromatic valence and by a mixed porous and glazed surfaces. Preliminary tests with two plasma treatments (treatments with TiO_2 and SiO_2) were carried out on contemporaneous tile samples in order to find the optimal processing conditions.

The TiO_2 treatment has generated colour change on the surface of the coating, while with the SiO_2 coating we have found a value of transparency close to uncoated glass and a value of reflectivity optimal.

The ancient historical tile was used to finally test the optimized process with SiO_2. We are trying to characterize SiO_2 in order to achieve better results.

Introduction

Preserving cultural heritage is a general concern and the use of not-invasive techniques to protect and conserve ancient materials is an important challenge. Serious surface deterioration effects in environmentally exposed ancient pavements glazed ceramic tiles arise both from mechanical abrasion due to the tourist passage and for the development of micro-organisms (algae/fungi) within the pore system.

Exfoliation   often follows from biodegradation processes that are particularly harmful since leading to the decorated glaze severe damage [Bibliographical References 4].

The use of traditional organic resin spray coating or wax treatments may par-

tially reduce the problem but they seriously alter the tiles chromatic aesthetics. Cleaning and conservation of these ancient cultural handcrafts, therefore, need surface process applying innovative non-invasive techniques.

The present work is intended as a contribution to propose new technologies for the deposition of protective coatings preventing degradation of ancient tiles. The development in protection treatment in which the introduction of an IPPA process by thermal source [Bibliographical References 2,3] seems to be very promising with respect to process using traditional organic polymeric coatings. The growing demand for multi-layered thin film deposition opens new applications for sputter technology. The deposition of highly strength oxide layers such as SiO2 and TiO2 used in this study, has turned out to be rather satisfactory innovation of great practical significance in several field of application.

The use of such techniques in the area of historical heritage conservation is proposed in this study.

Testing procedures - materials and technologies

Two surface coatings procedures were tested and compared on the contemporaneous tile surfaces: a traditional treatment using two acrylic resins spray coating and an Ion Plating Plasma Assisted deposition of a nanomeric TiO2 and SioO2 protective film.

Organic resin spray coating

Four fragments were cut from the same tile and two of them were spray coated with traditional acrylic resins characterized by low and high strengths, respectively. One fragment was not treated while the forth one was plasma coated. The traditional organic resin coated tile fragments were compared with the as received and plasma treated ones.

Ion Plating Plasma Assisted (IPPA)

The two devices used for Ion Plating Plasma Assisted deposition with magnetron sputtering source and thermal source were composed by a high-vacuum chamber containing sources of Ti for sputtering source and SiO for thermal source attached to a magnetron sputter source, powered by a direct current (DC) is shown in Figure 1. In the chamber, along with the samples, a gas mixture of argon and oxygen was introduced.
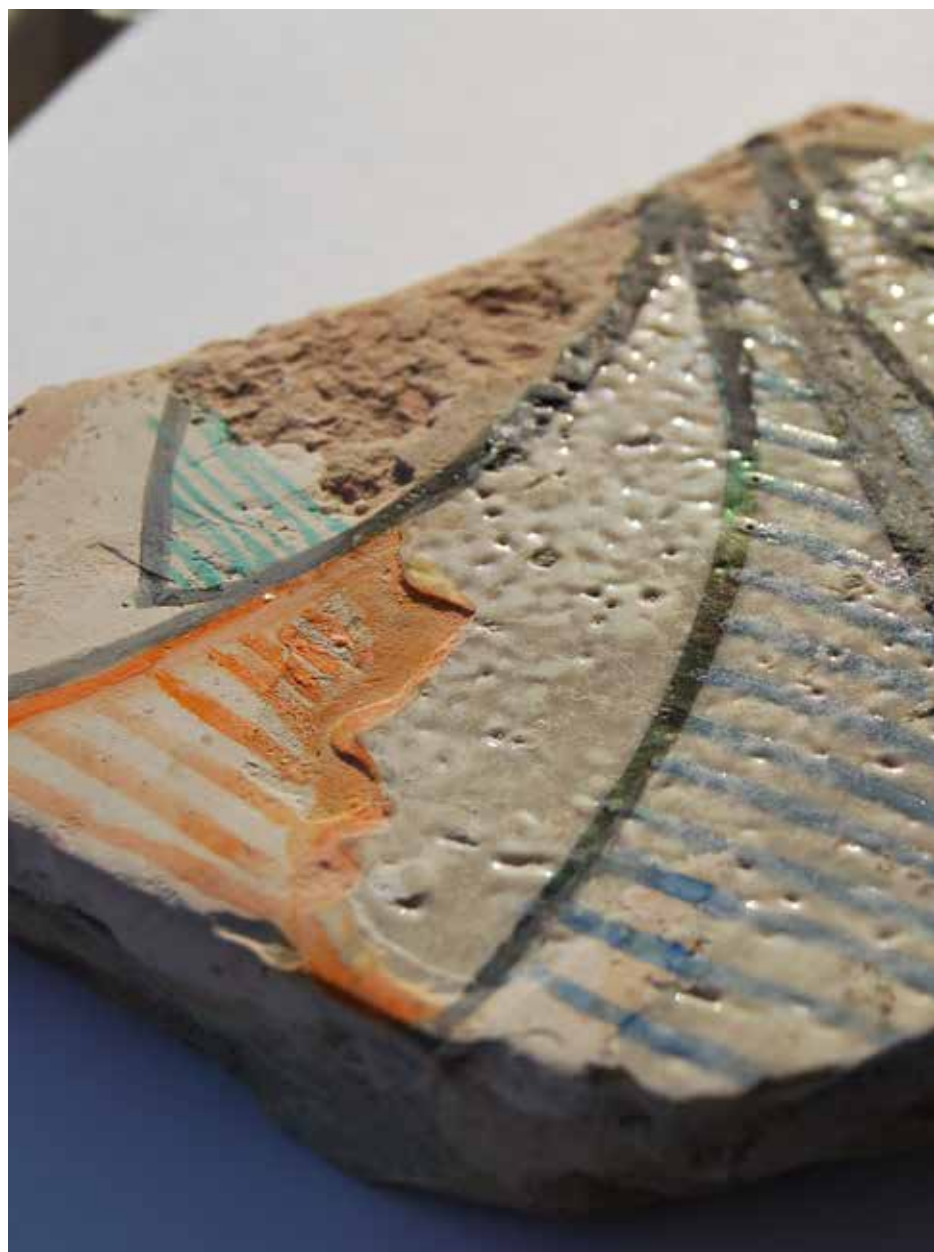
The percentage of ionized depositing material Titanium or SiO particles emitted by the DC powered magnetron sputtering or thermal sources, are accelerated by a negative bias produced by a radiofrequency electric field (RF) applied to the substrate holder. Such radiofrequency produces a plasma in the process atmosphere, which produce a ionization of the depositing materials and produces an ion bombardment of Argon and Oxygen on the growing film [Bibliographical References 2-3].

Testing

The first test was carried out by ION PLATING PLASMA ASSISTED Figure 2, source by magnetron sputtering with atmosphere. Argon P.R.I. 7,0X10-5 mbar, PRAr 3,0X10-3 mbar, PRO2 closed PRN2 closed; The treatment has generated discoloration on the surface of the coating.

Result: thin protective film, transparent, not-achromatic

Deposition SiO2 (silicon dioxide RI 1.46) by ION PLATING THERMAL PLASMA ASSISTED from source, Figure 3, (reactive bank), with evaporation of SiO2.

Result: thin protective film, transparent, achromatic, abrasion resistant

Conclusion

Two to recent advances on plasma deposition technology [1,2], it has been possible to define innovative efficient treatment for the preservation and protection of glazed and porous surfaces of historical ancient tiles of SiO2 deposited by IPPA process.

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The five hundred domes of Naples

SACRED TOWERS IN NAPLES: ANALYSIS OF THE SACRED VERTICALS IN THE HISTORICAL CENTRE

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Sacred towers

Naples has many sacred structures, almost 338, only in the historical centre that is protect by UNESCO.

The sacred structure was the culminating point of the architectural production, in every centuries, the best task for an architect.

In every eras the architect searching the best technical solutions for the building, many pains was occurred for the constructions. In Naples, the church was a singular building, a monument, as necessary tool for the identity of every urban landscape, as illustrated by Aldo Rossi in the book "The Architecture of the City" published in 1966[1].

This high numbers of sacred structures have a great social impact in the course of centuries[2]. These buildings have a consistent volume weight. Most of the churches in Naples, as in other cities, have a vertical element that soars the structure.

The propensity to up is always the aim to establish a connection between Earth and Heaven, generating a relation between temporal spaces and divine bright spaces.

Usual procedure in the course of history with symbolic structures as the tower of Babel, the Pyramids, bell tower of gothic cathedrals, domes and skyscrapers[3]. It is easy to read this phenomenon in Naples, the city centre is a mass, slightly carved by historical alleys, where stand out towers and domes of sacred structures.

A volumetric element with various meanings, practical before symbolic, in the tower there was the bell to call the crowd to celebrations. It is not possible to study Naples only by plan, it is necessary to analyse the volumetric development of the historical centre.

This phenomenon is not present if we look the city of New York, where contemporary towers becomes a usual practice, without distinction of the functions, the high-rises becomes the only solution due scarcity of soil. A contemporary San Gimignano, where churches are confused between the anonymous steel and glass towers.

photo by Marco Russo

Belfry of the church of San Pietro a Majella, Naples

Sacredscrapers in Naples

The bond between sacred buildings and height have deep roots. In Naples as in Italy, from centuries this concept is tied to the construction of sacred structures. In the Neapolitan city, we find a strong bond between religion and cult of saints. High constructions presents in the historical centre simbolize this connection, between Heaven and Earth. One of the ancient examples is the belfry constructed on the major decumano, the tower of the Church of Santa Maria Maggiore at Pietrasanta was built in the XI century. It was built on a roman temple dedicated to goddess Diana, most of the construction materials came from pre-existent roman buildings, today clearly visible from the stones included in masonry. Interesting also the first dome of the city[4]. In the 1510 started the construction site of the Church of Santa Caterina in Formiello. The thin dome represent the first in a long series, indeed in Naples there are many domes. Naples is defined the city of five hundred domes. The connection between heaven and earth thickens in the years of Counter-Reformation. After the Council of Trento in 1545, the Church wonts to show its power and prestige with exterior splendour. With the seal of 18 July 1564 promulgated by Pio IV, new sacred buildings and structures occupy cities, especially Naples. Near the end of Italian Renaissance, we witness the birth of an interesting architectonical trend still visible, the steeples. Several vertical elements was inserted in strategic points of the city, like machines of religious propaganda for spread cult out of churches. Temporary structures built during processions by wood, chalk and papier-mâché[5], it solidify in stone materials becoming eternal. Pioneer of this new trend is the knight Cosimo Fanzago[6], architect and sculptor that with his Neapolitan realizations, as the spire of San Gennaro, invent an art template, which will have international influences. The earthquake and the eruption of the Vesuvius in 1631 contributed significantly to move the iconic image of the city from the walls protected by the fortifications, whose symbol was Castel Sant 'Elmo, to airspace infinite, framing the gulf. Destined to become a classic the Grand Tour of the artistic literary onwards.

Steeples of San Gennaro in the Plaza of Riaro Sforza, Naples
by Giacinto Gigante, 1849

The city climbing to the sky: New York

"At one moment you have nothing around you but "buildings." They scale the very heavens with their eighteen and twenty stories.

The architect who built them, or, rather, made them by machinery, gave up all thought of colonnades, mouldings, classical decorations.

He ruthlessly accepted the speculator's inspired conditions, to multiply as much as possible the value of the bit of earth at the base by multiplying the superimposed offices."

These was the words by the French novelist Paul Bouget[7]. He describes skyscrapers of cities of new world, before the end of XIX century. New York like many of american cities, it has developed by a democratic urban grid.

Dumbs parallelepipeds[8] occupy entire the surface of the city, result of an uncontrolled extrusion upward. It best represents American talent. The form was chosen for its economic and practical benefits, it is the manifest of entire built in Manhattan.

The temporal articulation is clear only by materials, from stone or bricks to contemporary structural glass. Many of buildings are perceived as anonymous, boxes with glass cladding built due steel structure in a short time.

The absence of historical architectural references, it represents a lack for many American architects.

Sacred monuments widespread in Europe were substitute by office or residential towers, as the sparkling Empire State Building. A real American monument and a nostalgic image of New York not filled by skyscrapers. "European" monuments like Trinity Church built at the beginning in 1697, passes to the background and the classic design that develops upward disappear.

The Trinity Church was the taller construction in New York until 1890 with the realization of New York World Building; it is clear in many etchings of 1846. Not being able to stand out, the monuments show their identity through another element, the urban void.

Inevitable consequence of the churchyard of the historic European constructions, widespread in the city of Naples.

Concept imported in some of recent and contemporary monuments such as the

Statue of San Gennaro on the steeples, Naples

Guggenheim Museum by Frank Lloyd Wright, the Seagram building by Mies Van Der Rohe and the One World Trade Center in the site of ground zero by David Childs.

Interesting the ironic vignette of 1907, made by Albert Levering, showing the building of Trinity Church incorporated in a residential tower. The concept to stretch upwards, largely successful and visible in Naples, today it is not readable in Manhattan. In American fabric, the man is lost in a sky filled with glazed windows.

Architecture of power

A comparison between the cities of Naples and New York is impossible. The two cities have different scales. You cannot select an item and add it surgically into the urban fabric of the other. Perfectly represent two different types of cities. The first is a historic city and the second is a contemporary metropolis.

Naples with the scale of man, New York with the scale of the machine.

The vertical elements that distinguish the skyline of Naples, characterize various district, a value to be preserved, avoiding or dosing carefully inserting new volumes.

The failed experiment with the plans for the business district or the skyscrapers of Cattolica Assicurazioni are proof of how this type of building cannot and should not be inserted into the historical fabric of Naples[8].

This phenomenon is even more evident in rural areas, where buildings are smaller and the effect of the sacred towers greater. Evidence of this phenomenon can be observed in other European historic cities like Madrid. I

n the Spanish capital city the skyscrapers represent the economic power of the banks, becoming new points of reference in the skyline.

The royal capital suffer the presence of these glass volumes. Probably the economic crisis and scarcity of economic resources "saved" the city of Naples. Ensuring the ratio between built, monument and man. Ensuring a fruition of the city unchanged over the centuries.

The towers in every city are expression of power [9], be it religious, economic or political.

Trinity Church in Lower Manhattan (1931)
photo by Irving Underhill

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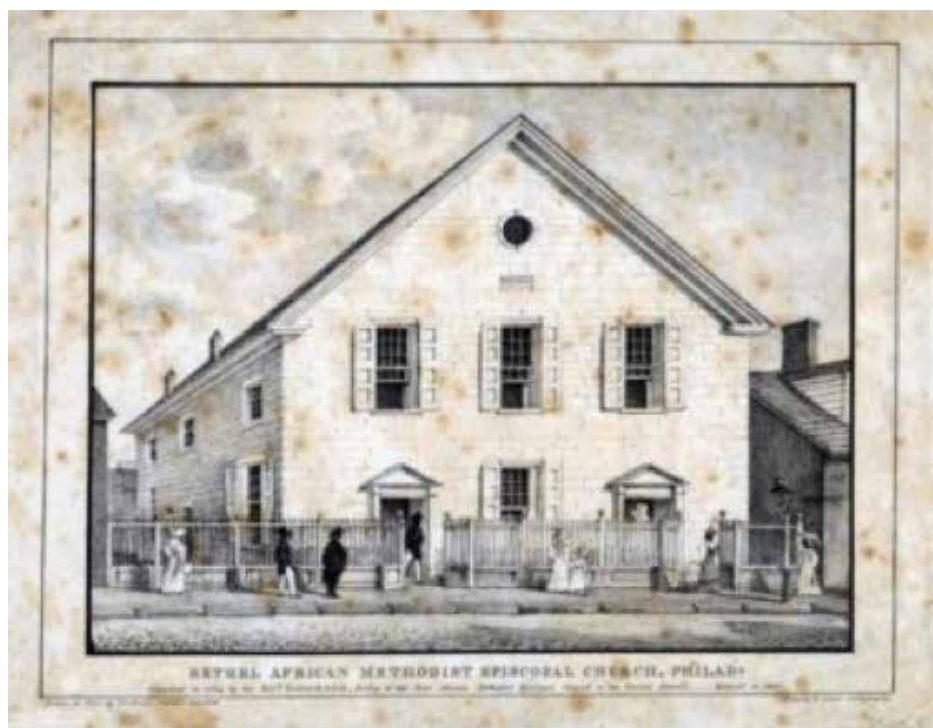
Mother Bethel A.M.E. Church in 1829

THE ROLE OF BLACK CHURCH IN THE US

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Church and State Separation

The foundation of the United States of America was the most progressive political movement in Western Civilization since the days of the Greek democracies over 2,000 years ago[1]. As such, it was the first to establish the free exercise of religion under the 1st Amendment to the US Constitution in 1791 [2]. But how did religion flourish without the protection and support of the state? Religious establishment was the norm from the early times of the American colonies, although their unusual religious diversity made tolerance a necessity.

This necessity became legal with the 1689 Toleration Act that allowed Protestants form the Church of England to exercise their faith in public. One hundred years later, almost all states had free exercise type provisions, which progressively led to the federal establishment of the 1st Amendment [3].

Social and Racial Segregation in the US

Today, religious belief among Americans is dynamic and widespread. Immigration continuously brings new and different religious traditions and practices in the states. Despite its decline, religion among Americans dominates culture, politics and public policy [3] with nearly 60% of Americans defining themselves as religious, compared to a 33% in Great Britain, 27% in Italy, 21% in Germany, 12% in Japan and 11% in France [4].

Currently, the predominant religion is Christianity with 51.3% of Americans been Protestants, 23.9% Roman Catholic, 3.3% Other Christian, 1.7% Jewish, 0.7% Buddhist, 0.6% Muslim, 0.4% Hindu, 1.2% other and 16.1% stating no religion at all [5]. This religious diversity is simply reflecting the racial and ethnical diversity of the population, with White Americans comprising of the racial majority (77%), followed by Hispanic and Latinos who are the largest minority (17.1%) and African Americans to be the largest racial minority (13.2%) [6]. Racial segregation, although forbidden nowadays, is still existent and mirrored in the American churches.

The expression most often refers to the enforced separation of African Americans from other races [7]. Even within the same religious belief, most of the time Christianity, segregated churches are the majority, with only 5% of them been

Mother Bethel A.M.E. Church [9]

racially integrated and all the rest following the all-black or all-white trend [8].
This situation dates back in the formation of the first black congregations and churches formed before 1800 by free blacks, like it happened in the case of the Mother Bethel A.M.E. Church in Philadelphia, Pennsylvania, one of the oldest churches continuously owned by African-Americans.
It was organized in 1794 by African-American members who walked out due to racial segregation in the worship services of another church [9].

The Black Church Institution
African-Americans are more religious than the US population in all of the religious activities involved, with 87% of African-Americans reporting to belong in one religious group. In their majority, they belong to the Protestant Church followed by the Catholic Church [10].
The African-American denominations had a significant role in the social and racial history of the US. Before the union of the Congregational-Christian and Evangelical and Reformed Churches in 1957, there were two major streams of denominations, which most of the times were formed in secret: the Congregational Church of New England and the Christian Church.
The Congregational Church of New England strongly opposed slavery and had a significant action in the Anti-Slavery Movement, pulling this way many African-American members. By the end of Civil War, it set up over 500 schools and academies for the "freedmen" who were liberated by slavery but uneducated due to racism in the country that made it a crime to teach an African how to read [11].
After the civil war, the black church progressively became no-secret center of the black community life and from a faith-based organized effort, it expanded to social, political, and economic institutions, including schools, insurance companies and social service organizations [12].
Church-based community development is quite spread today. It has become strongly associated with urban neighborhoods, while development is connected with economic and social service achievements [12].
Under the shield of common race and religious belief, the black church is not
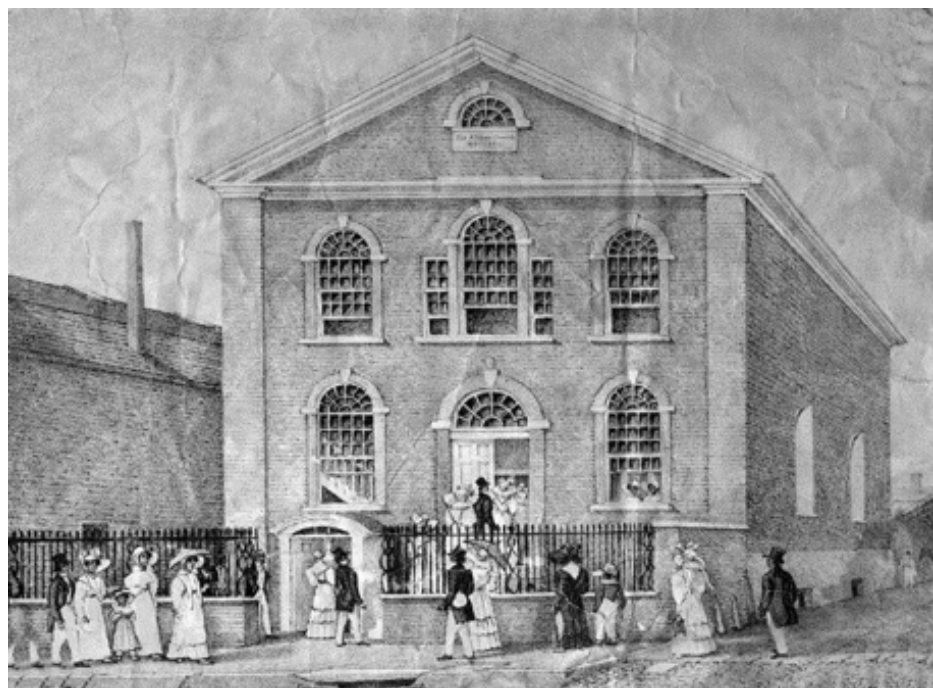
African Episcopal Church of St. Thomas Founded: 1792 - Since then it has changed 5 locations
(Source: http://en.wikipedia.org/wiki/African_Episcopal_Church_of_St._Thomas)

just a religious institution any more. The black church's tremendous role has become apparent in the economical, physical and social resurrection of associated neighborhoods, turning it to more of a non-profit corporation, with its sacred structures standing as institutions-symbols of the black movement.

Preservation Tensions in Philadelphia

Philadelphia was and still is very diverse in terms of race, with almost half of its population to be African Americans with a percentage of 44.3%, followed by a 36.6% of whites [13].

As such, it has a rich inventory of historic African-American congregations that in their majority are historically significant.

But without the federal shield, due to church and state separation, churches in general have to deal with much more issues when it comes to preservation. What's more, with social and racial segregation mirrored in the churches, preservation of sacred spaces may easily become subject to a biased perspective.

In total, there are at least 120 African-American congregations and properties built in Philadelphia before the 1950s. One of them, the Mother Bethel AME building is listed as National Historic Landmark, two properties - St. Paul Church and Wesley AME Zion Church- are listed in the National Register for Historic Places, six are located within a National Historic District, three are listed as contributing resources in National Historic Districts, fifteen are individually registered on the Philadelphia Register of Historic Places, thirty of them have entered the Pennsylvania Historical and Museum database and all of the rest have not yet been evaluated for their historical significance [14].

As presented above, not all African-American churches of Philadelphia had the chance to be preserved.

One exception was the case of Mother Bethel A.M.E. church located in the Society Hill neighborhood at 419 Richard Allen Ave. that was designated on May 30, 1974.

It was founded in 1794 by Richard Allen, an African American Methodist minister. Allen, who was born in the condition of slavery, experienced racial segregation when attending worship services in the St. George Methodist Episcopal

Church in Philadelphia. Along with Absalom Jones, they founded the Free African Society in 1787 and they envisioned an independent black church.

But this vision was seen with suspiciousness by the white church elders in the St. George's Methodist Episcopal Church, which in turn led to the exodus of a large group of blacks who begun to raise money for their own church.

In 1791, they selected a lot on the corner of 6th and Lombard Streets. Allen went to work on the construction of the new church and the new building was turned to the America's first Black Methodist Society [9].

The Mother Bethel A.M.E. Church is the oldest church property in the United States to be continuously owned by African Americans.

In 1816, Allen organized the new African Methodist Church denomination, where he was elected bishop.

The current church building was constructed in 1888-1890 and there is also a museum operating, dedicated to collecting, preserving and interpreting public documents from the time of the church's founding and the later development of the African Methodist Episcopal Denomination [9].

Following the racial patterns, the locations of African-American churches are within the African American communities in Philadelphia.

But many older historic church buildings have been lost as congregations have moved from them, especially in the area of the Old City, which saw the rise of the black church in the 18th and 19th centuries.

The Mother Bethel AMA congregation was an exception, since it remains in the same location that corresponds to the period of its founding. Additionally, African-American congregations are most of the times less wealthy than others, and thus, they purchase buildings constructed for other congregations for less money.

Even more, sometimes they purchase small buildings constructed for other purposes, and thus, it is difficult to document them as churches [14].

Philadelphia has seen the rise of flourishing independent African-American churches through the last two centuries.

These black churches not only serve the spiritual and physical needs of their members, but they also manage to serve as centers of community organization

and development that call for racial equality. With such a long old and new story to tell, those sacred buildings remain as vital places of social, political, and religious life, thus, leaving us with a significant legacy to preserve [15].

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THE INTERVENTION OF FRANCESCO VENEZIA IN THE CATHEDRAL OF CASERTA

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In the first two decades of the nineteenth century, in the area occupied by the sixteenth-century convent of the Carmine, it was decided to build the new cathedral of Caserta.

The events concerning the construction of the new church are rather complicated. At the beginning was commissioned Giovanni Patturelli by the Civic Administration to design the enlargement of the pre-existing church of the Carmine, in order to make it suitable to the new functions of the Episcopal Church. Later, it was identified an area near to the convent, where it was possible to locate a larger church, built from scratch, appropriate to the status of provincial administrative center assigned to the city of Caserta in 1818.

However, after a short time, it was taken into account the initial idea to expand the existing church of the Carmine because of economic problems. Patturelli, therefore, drew up the sketch of the new cathedral, which was substantially modified by the architect Pietro Bianchi and then by the architect Pietro Valente. Finally, in 1842 the new cathedral was inaugurated with a solemn ceremony in the presence of King Ferdinando II and his wife Maria Teresa d'Asburgo.

Then the building was completed with works of furniture and pictorial decoration, and with the completion of the façade.

In the seventies of the twentieth century, in conjunction with the restoration works of the Episcopal Seminary, it was erected the planking level of the presbytery, obtaining, thereby, a small crypt adjacent to a preexisting hypogeum, of which is unknown the dating. In 2010 the underground locations have been subjects of an intervention of architectural requalification designed by Francesco Valenza.

The famous architect divided the subterranean spaces in four interconnected settings, creating an hypogeum which houses a relic of Pope Giovanni Paolo II; a crypt of connection, which holds a bronze sculpture by Battista Marello; a second hypogeum aimed at the conservation of the tombs of the bishops of Caserta; an underground garden, illuminated and ventilated by a split in the court at the back of the apse.

The renovation works of the ecclesiastical room, carried out during the episcopacy of Monsignor Vito Roberti, were necessary to adapt the religious structure

LASTRE DI MARMO CALACATA 30mm

LAMINA 20mm IN FERRO DORATO

LAMINA 20mm IN FERRO DORATO
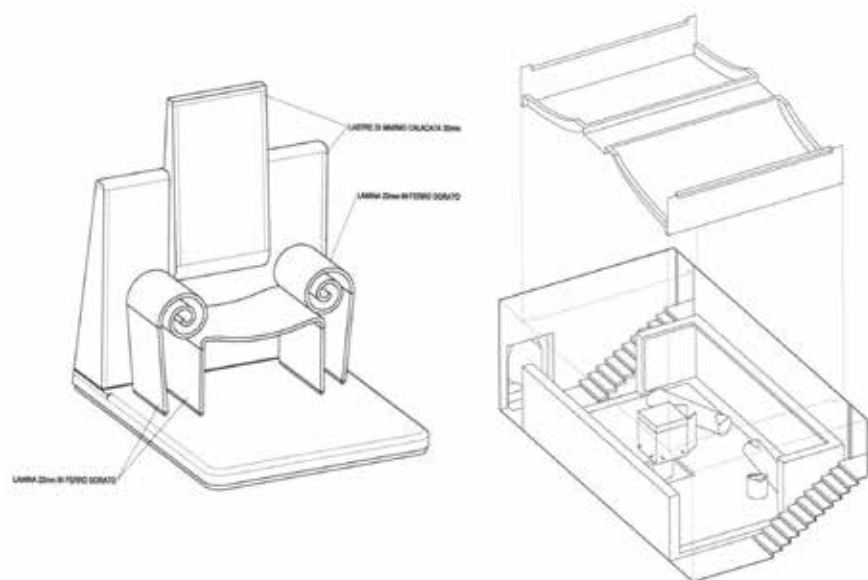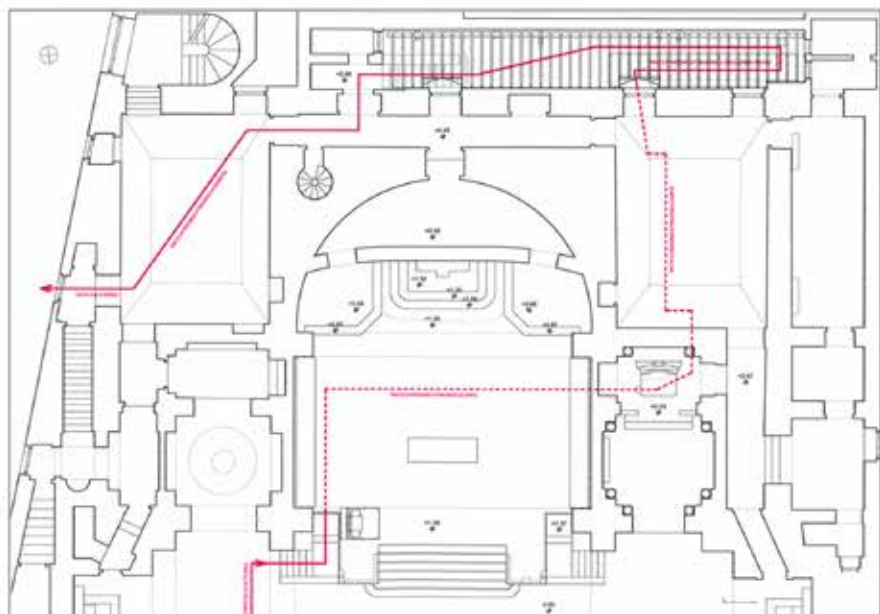
to new liturgical rules. In particular, a new crypt was built underneath the floor of the new presbytery and was enlarged the ceremonial space through the elimination of the table placed in front of the greater altar.

The connection, which should have been made during the works of the seventies, between the new hypogeum and the ancient Cripta dei Vescovi (Crypt of Bishops), which was accessible only from the outside of the church, was not completed because of the lack of economic resources.

The functional recovery of the connection area is the fulcrum of the entire improvement project of the Cathedral.

The architect indeed imagines an artistic itinerary that can relate the ancient elements found in the cathedral with new artistic objects, starting from the presbytery up to the archaeological garden.

The twentieth-century crypt, used as a storage place for the building material, is completely rethought through a reconfiguration of the location.

The designer, expert in the ancient cavities of the ancient city of Siracusa and Naples, takes the morphological characteristics of the Sicilian quarries and reproduces them through the use of false ceilings, decorative walls, platforms and plastic elements.

This is demonstrated by the particular roofing, which the architect designs inspired by the shapes of the Grotta dei Cordari (Cave of rope makers) in Siracusa, and the perimeter walls made of concrete left unfinished.

The floor instead, poured with a mixture of sand, colored cement and red marble, recalls the traditional Roman opus signinum. In the new space are placed fragments of ancient artifacts found in the Duomo: two half columns, placed on the floor, and the sepulchral marbled relief, placed on the south wall.

At the center of the room, in a square recess in the floor, Venezia sets the base of a metal case cube shaped, created to hold the relics of Pope Wojtyla.

The sacred work, from which derives the name Ipogeo della Reliquia (Hypogeum Relic) assigned to the crypt, was designed by Battista Marello in 1992.

The artist from Caserta, in fact, invited Pope Giovanni Paolo II, during his visit in the city of Caserta, to trace a cross on a tile of clay, which is called the Signum Crucis.

598

The crypt (-3.25 meters quotation) is served by two flights of stairs on the sides of the altar, instead the connecting hallway leads to the second hypogeum (-4.85 meters quotation).

The architect intervenes in the underground passage with a light restoration, deciding to preserve the trapezoidal section, which recalls the one of the Antro della Sibilla in Cuma.

The side walls were left in blocks of tuff in view, while on the inclined floor of the planking level some steps were obtained with a casting of earthenware. In a clearing in the middle of the itinerary it is placed a work of art by Battista Marello called Discesa agl'Inferi, which was already in situ. The majestic sculpture in marble and bronze, created by the priest in 1997, consists of a bronze statue of Christ rising from marble blocks.
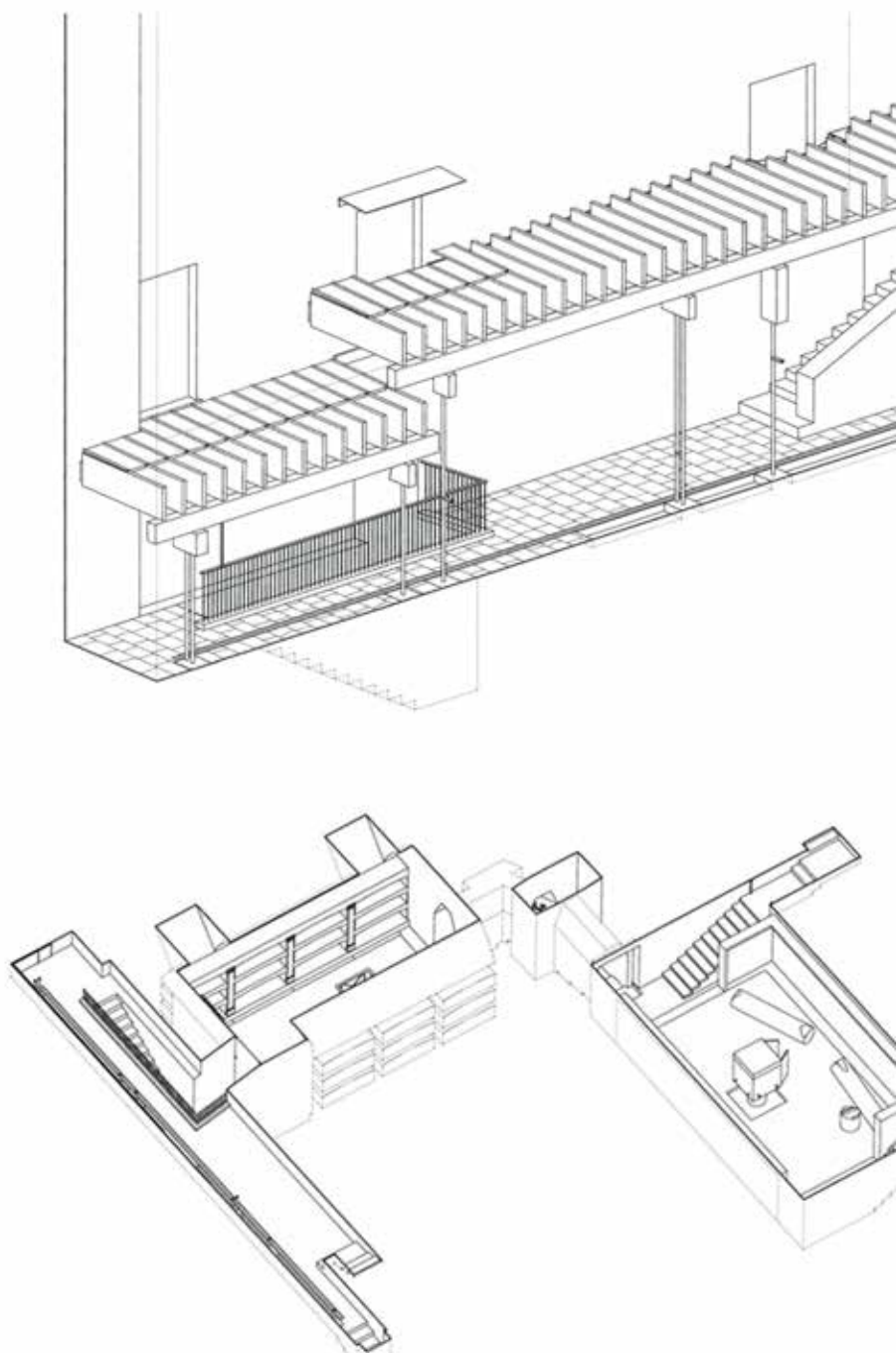
The meaning of the sculpture is completed through the dialogue with the environment in which it is contained, as the sculpture is illuminated by a lamp, located on the opposite wall, and it is visible through a hole in the floor from the upper chapel, in the right side of the Presbytery.

The lack of documents relating to the ancient crypt, both in the Archive of Caserta and in the one of the diocesan curia, does not allow to determine its exact date of construction, in any case the most plausible hypothesis is that it was made in the nineteenth century simultaneously to the construction of the Cathedral. However, it is possible that it was already existing, as the current building is the result of the enlargement of the eighteenth-century church of Carmine, which, in turn, was obtained by enlarging and turning the sixteenth-century church of Annunziata.

The graphic rendering of the planimetric diagram of the previous churches, drafted by Valdelli, schematically reconstructs the transformations.

Going deeper into the Ipogeo dei Vescovi (Hypogeum of Bishops) there was a small thermal room covered with a vaulted ceiling and bordered by longitudinal walls in which are arranged the burial niches disposed in three rows.

Unlike the other crypt, previously poorly defined, the space of the latter resulted proportionate by elegant decorative ionic pilasters and defined by a central square pit, which put in balance the planimetry of the room. Francesco Vene-

zia, therefore, decides not to revolutionize the order and composition of the elements, which are considered to be in harmony with the architecture of the church, and to intervene with a careful preservative restoration.

The actions include the consolidation, the restoration and the renewal of the finishes such as stucco of the vault and of the walls.

The project also includes the closure of niches with slabs of light Calacatta marble and brass handles, and the reopening of the air vents on the west wall. As in the other crypt, is preferred the "jet" paving laid with grit and shards of yellow Siena marble, confined by a band of white limestone at the base of the rows of niches.

To protect the open pit, the architect designs a balustrade made of iron, while to close the compartment leading to the garden, he chooses window frame, made of a sliding gate. For the realization of the staircase, which connects the Ipogeo dei Vescovi to the Giardino Archeologico (Archeological Garden) at a higher altitude, the architect uses some flagstones retrieved between building materials abandoned in the garden.

In this case the designer decides to intervene with a significant architectural and functional transformation.

The reduced area of the garden is covered with a wooden pergola, the border wall is enriched with large marble inserts, while at the bottom of the path there is a small vaulted space, which brings the viewer into the starting point inside the sacristy. The interior of the church is not subject to particular transformations.

It is simply extended the scale of the Presbytery of about 60 centimeters, to make it easier, and there is a new bishop's pulpit, designed by the same Venezia.

The purpose of the architect is to represent, through the itinerary, the course of life, that is the descent into hell and the subsequent resurrection of man, where each stage is marked with a different light intensity according to the subsoil profundity.

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FEDERICO II HOHENSTAUFEN AND THE MONOLITHIC STONE OF CASTEL DEL MONTE

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The intention of this analytic study of Castel del Monte is in the cultural heritage in terms of economic and tourist flow. January 28, 1240, Federico II of Svevia sent a letter to the Executioner of captains Riccardo of Montefuscolo.

These are the words of the text in question: "Federico II, Emperor of the Romans, King of Jerusalem and Sicily, Riccardo of Montefuscolo, executioner of captains [...] wishing you instantly make purchase for the material for the Castle that at Santa Maria del Monte want it to be built, although it does not belong to your jurisdiction, also rely on your faithfulness to do the job without delay purchase of lime, stones and all other things necessary, keeping us informed how do. Gubbio, January 28th 1240."

Castel del Monte dates back in 1240 and was built by Federico II of Svevia also called Stupor Mundi, crowned emperor in the Palace Chapel of Aachen. Located in Andria, near Bari, in a rather barren landscape, it dominated everything has around him. It is located on a hill in the western chain of the Murge, about five hundred and forty meters above sea level.

It has been listed as national monuments Italians in 1936 and in that of UNESCO World Heritage Sites in 1996. Castel del Monte is characterized by a substantial absence of literal references, this is the reason why the research focuses on this building.

What is most disconcerting is, as already been written by someone else, the absence of those typological than a castle, as such, presents: moat, drawbridge, loopholes for weapons with arrows and so on. T

he first thing that strikes us and attracts us is the predominant presence, as a monochrome monolith that stands out on the hill.

The building is octagonal and the outer side measuring 10.30 meters interval between the towers, with a courtyard in the center with a diameter of 17.86 meters, and eight corner towers 24 meters high, that are false octagons as missing two of their faces.

The main entrance, facing east, is a gothic portal flanked by two columns supporting a fluting pediment placed under a gothic two-partied windows. The entrance leads to the first of the eight majestic vaulted rooms, a trapezoidal shape, the ground floor.
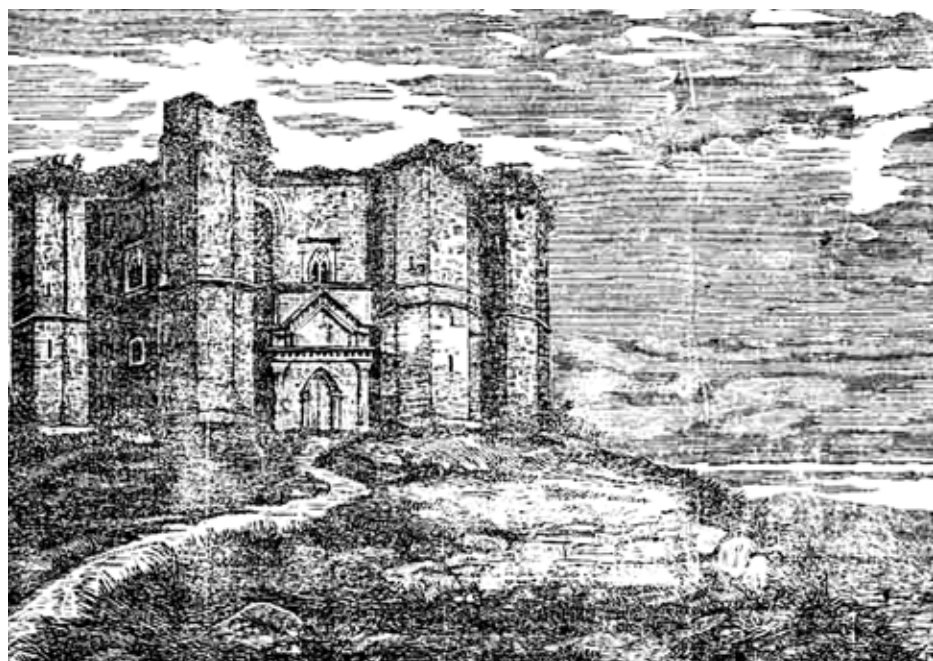
Before they were stripped, the large rooms of Castel del Monte must have been among the richest apartments secular era.

This second room door in the yard, an impressive space enriched by the frames of doors and windows, as well as from the upper blind.

The latter is accessed by stairs placed in three of the corner towers.

The design of the entrance and the use in some of the rooms on the upper floor of a technique similar to the roman opus sectile, with fragments of stone arranged in diagonal position, suggest that Federico II, fully aware of the ancient origin of their title and also interested in classical texts, must have wanted to create a monument in degrees stand comparison with those of ancient Rome.

The material used for its construction is of a different nature, in fact we move from local limestone, white or pink, which changes color depending on the weather phase, the marble and the coral rubble.

These materials have decorated, embellished and finished the various rooms, including the doors and interior windows. Other materials used for decorations are the glass paste and the glazed ceramic.

On the columns entrance there are two lions, one of them looks exactly in the direction where the sun rises at the winter solstice, the other, instead, look in the direction where the sun rises at the summer solstice.

The position of the castle is not accidental, in fact, only at this latitude and during the equinoxes, the sun travels quite a forty-five degree angle identical to a segment of octagon, it would be then the geometric shape repeated in each plan drawing of the castle same.

In the portal, the classic style blends with a Gothic imprinting, which manifests itself in all the frames, in shaping deep ornamentation, evidence of an explicit link architecture that tends to unite the best artistic events of the Romanesque to the skill of the builders Cistercian . It can be said without a doubt that, different constructions of factories by Federico II in the coastal areas, have meant that coexist harmoniously is the root Romanesque Gothic architecture undoubtedly classified as innovative. The courtyard, also octagonal, rests on the rock and an underground cistern occupies the central part.

Sources describe the center of the octagonal courtyard, a large bath, also oc-
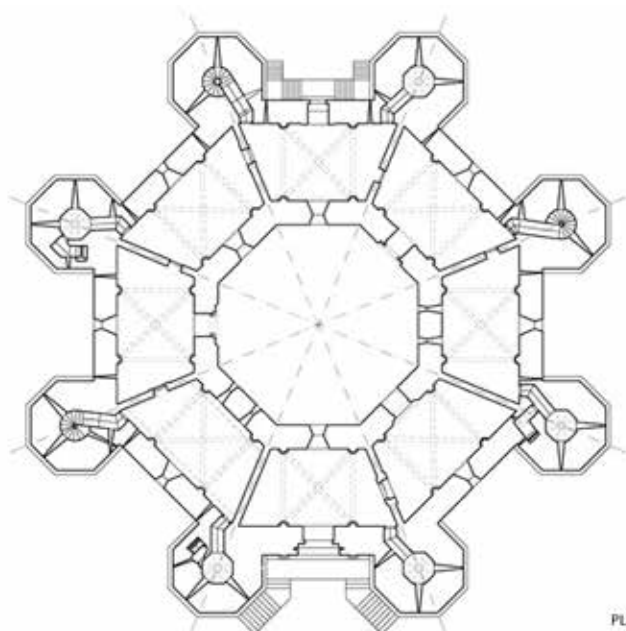
PLAN FIRST FLOOR

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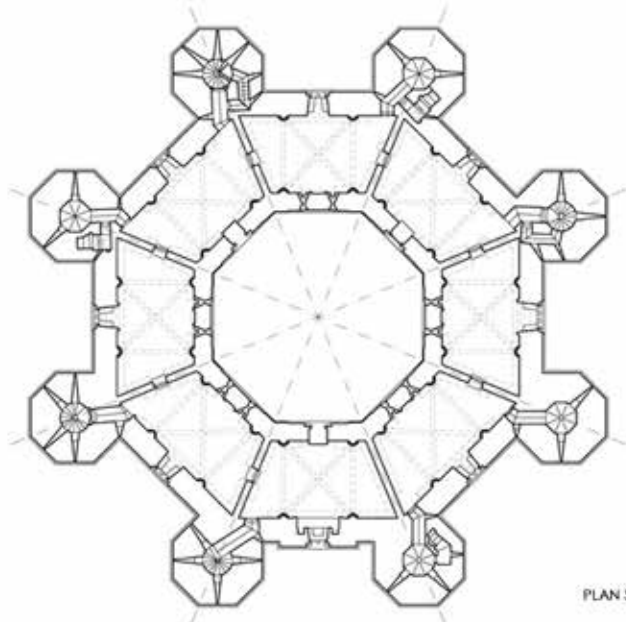
PLAN SECOND FLOOR

tagonal, where, in all likelihood, they celebrated the rite of baptism so dear to the cult of the divinity called Mitra, whose etymology in arabic, "bafè" which means "immersion" and "metis" which means "wisdom", hence literally "baptism of wisdom". The distribution of salt, always recalls the number eight in the geometric design of the base, eight trapezoidal rooms alike are on the ground floor and as many upstairs, where there is a greater refinement decorative with mullioned windows and a trefoil.

The borders, structured ribbed, aesthetically complement the vaults, flowing in a keystone always different from each other.

èèèDecorative flowers in number eight, adorn the various columns on the ground floor and the first floor, the keystones in the halls, on the portal.
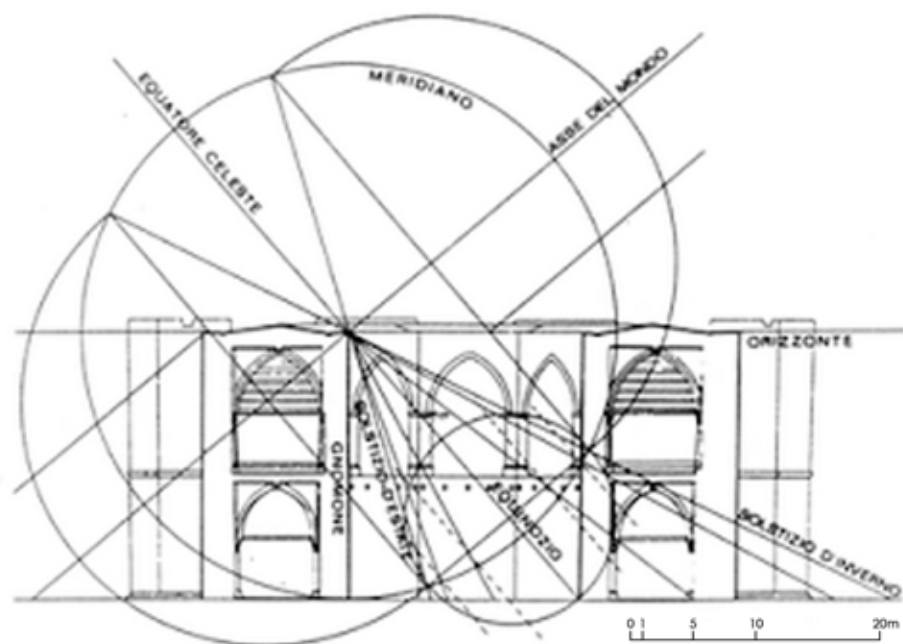
For each floor there are some rooms not in the mouth, service or hallway, with several independent paths. Decorative flowers in number eight, adorn the various columns on the ground floor and the first floor, the keystones in the halls, on the portal. For each floor there are some rooms not in the mouth, service or hallway, with several independent paths.

The ground floor rooms communicate with each other through ports located either on the left or on the right, except that of access to the second room with a central passageway; the next room, landlocked, enjoys exit to outside courtyard through a portal identical to that of a cistercian abbey.

On the ground floor, in the room or arab circles, with one of the five chimneys arranged on two floors, but without the hood, you can see a part of the original floor of the fortress, patterned in white marble and slate, depicting Solomon's seal with the six-pointed star.

The various octagonal towers also consist of toilets, ventilation systems, drains, basins and inlets for the lanterns, and to access it there are spiral staircases that turn to the left, unusual and not suited to the defense in a castle, inside.

Upstairs, in the area of outside, every room is lit by gothic windows, under which there can be seen with steps at the side of the seats in marble, marble that covered the walls completely in these environments, and in some of they are noticed chimneys conical hood.

In a room, on the keystone there is a representation of birds that follow but

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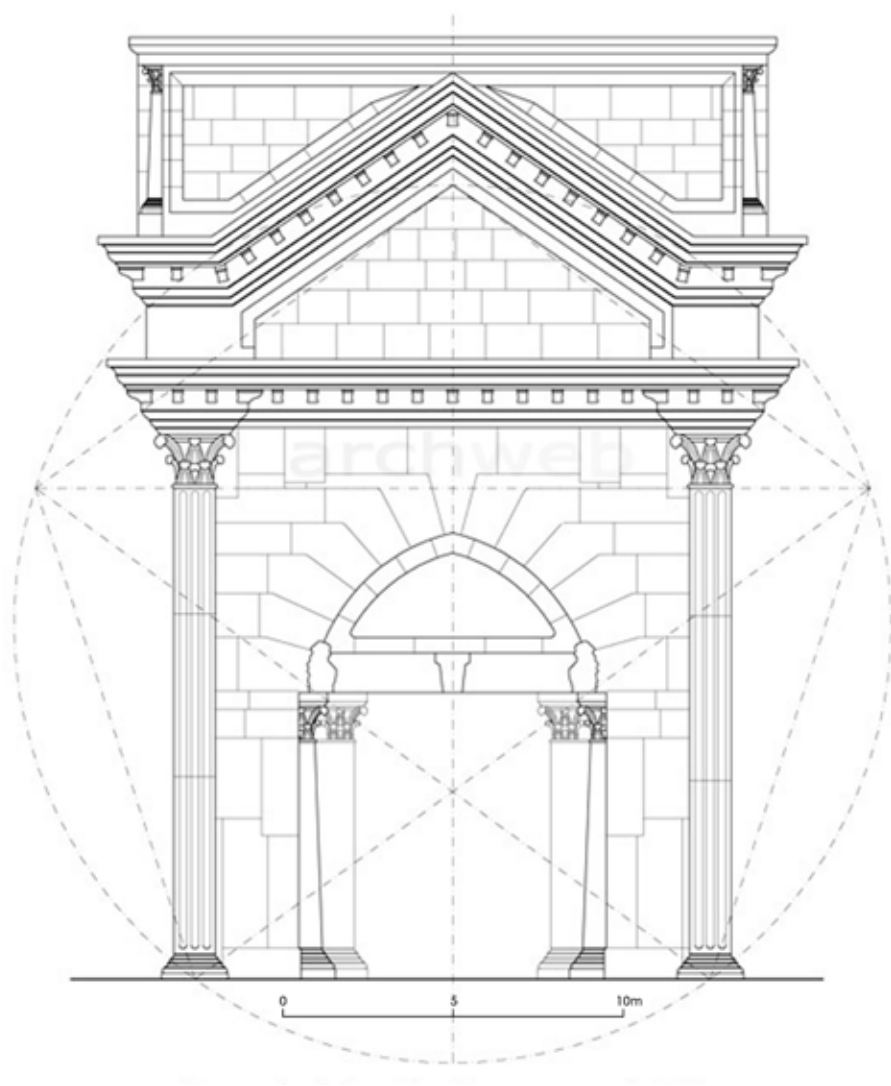
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of Federico II of Svevia, in conjunction with its many contacts, especially with the eastern world that both donated to the "stupor mundi" and that, consequently, so he has turned into architecture for this reason.

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Beacon Hill- photo credit metrorealtycorp.com

HISTORIC PRESERVATION AND HISTORY OF BOSTON, MASSACHUSETTS USA

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Boston, Massachusetts is a city full of colonial history. It is also called the birth place of the American Revolution because so many historic events took place there. Boston has a lot of "first's" and "oldest's" which is why historic preservation is very important to the city and its people.

Prior to European colonization, Boston was referred to as Shawmut by its earliest inhabitants, the Penacook and Wampanoag Native American tribes.

They had lived in the area alone since 2400 BC and it wasn't until 1614 when Captain John Smith visited the area, later detailing the location in a map and calling it New England, which brought attention to Shawmut.

The European traders that flocked to the area by 1618 brought with them yellow fever and small pox which wiped out approximately 2/3 of the native population, leaving only 25,000 people surviving their contact. European settlers followed the traders and attempted to settle a colony in nearby Weymouth, MA in 1621. The settlement failed and all but one colonist returned to England.

His name was Reverend William Blackstone and he relocated to Shawmut and became the first settler to live in what is now known as Boston, Massachusetts (The History of Boston).

In the 1500's in England, the Church of England broke from the Roman Catholic Church and a group of its members who called themselves Puritans, who wished to "purify it of all semblances of the Roman Catholic Church, in particular the liturgy, vestments, and Episcopal hierarchy" (The Puritans). Their sole aim was to restore it to its original purity.

In 1630, in fear of religious persecution, the Puritans fled England and sailed to New England where they established a religious community in Charlestown, across the river from Shawmut. They soon relocated to Shawmut due to the lack of fresh water and renamed the town Boston, after their hometown in England.

More Puritans soon followed, establishing a total of four colonies in Massachusetts: Massachusetts Bay, Plymouth, Connecticut, and New Haven. By 1650, the introduction of the European diseases wiped out about 90% of the Native American population and by 1675 the rest were decimated during the King Phillip's War.

Boston Back Bay brownstones- photo credit Wikipedia.com

Those that survived the war fled west or surrendered and were sold into slavery (The History of Boston).

In addition to the colonial history and the founding of the town, many historic events took place in Boston.

The Boston Massacre took place on March 5, 1770 was when a large presence of British soldiers were sent to the city to protect customs officials after the passage of the very unpopular Townshend Acts.

The mob of colonists threw snowballs and chunks of ice at the British soldiers resulting in the soldiers firing guns back at them, killing 5 colonists (Boston Massacre Historical Society).

Just a few years later, American colonists again protested over a tax placed on the colonists by the British. On December 16, 1773 in retaliation of the Tea Act that placed a tax on all tea sold in the colonies, colonists rowed into the harbor, climbed aboard the cargo ships containing the British tea, and dumped 90,000 pounds of tea (worth 1 million dollars) into the harbor.

The American colonists' continued resistance to the British government resulted in an increase of British troops to be sent to New England in April 1775.

Upon hearing word of their impending arrival, "Paul Revere was sent by Patriot leader Joseph Warren to ride from Boston to Concord to warn the colonists, as well as Samuel Adams and John Hancock who were hiding in Lexington, of the approaching British army" (The History of Boston).

The British army's arrival in April 1775 triggered several skirmishes with the colonists leading to the Revolutionary War (1775-1783) causing the colonists to declare their independence from the British government on July 4, 1776 (The History of Boston).

Boston, MA has a long history of "first's". It was the first state to abolish slavery in1783. It had the country's first free public lending library in 1849 (The History of Boston).

It had the first American public school called the Boston Latin School in 1635. In 1690, it published the first American newspaper titled "Publick Occurences: Both Foreign and Domestick" (The History of Boston).

It is also home to Boston Common, the oldest public park in the United States

dating back to 1634 (The Puritans).

The city of Boston takes its history very seriously. The Boston Landmarks Commission (BLC) is a municipal preservation agency for Boston's historic buildings, places and neighborhoods. It was created under the 1975 state legislation with a purpose to "identifying and preserving historic properties, reviewing development and demolition activities proposed in the City, providing public information and assistance on historic preservation practices, and providing staff support to the local Historic District Commissions" (City of Boston). The Boston Landmarks Commission, along with the local Historic District Commission, provides "information and assistance concerning the regulatory process, historic preservation planning and protection, archaeology, sources for historical information and technical assistance" (City of Boston). Boston has nine historic districts with more than 8,000 historic properties in them. The Historic District Commission's purpose is to help ensure that the unique historic and architectural character of the Boston neighborhoods is protected and preserved.

The City of Boston Archaeology Program was founded in 1983 to protect Boston's irreplaceable archaeological resources. Boston has been called the "City of Archaeology" due to its hundreds of known archaeological sites within its borders. Boston's historic districts are: Aberdeen Architectural Conservation District, Back Bay Architectural District, Bay State Road / Back Bay West Architectural Conservation District, Bay Village Historic District, Historic Beacon Hill District, Fort Point Channel Landmark District, Mission Hill Triangle Architectural Conservation District, South End Landmark District, and St. Botolph Architectural Conservation District. They are also comprised of several different types of architecture.

The earliest architecture is the Colonial architecture and is present in structures like the Old State House originally built in 1657, Paul Revere's House built in 1681 and purchased by Revere in 1770, and the King's Chapel originally built with wood in 1688 and replaced in 1723 when it became Boston's first granite structure. The end of the 18th century / early 19th century brought about new Federal architecture with the construction of the Massachusetts' State House in 1795, Fanueil Hall in 1742 and finally Quincy Market in 1824. Later 19th cen-

tury architecture is depicted in the Victorian architecture of the Trinity Church in 1872, the Boston Public Library in 1887, and Old Boston City Hall in 1865. Finally, New Boston City Hall built in 1961 and the John Hancock Tower built in 1972 are built with a Contemporary architecture (Boston's Basic Architectural Periods). All of these structures depict specific periods within the history of Boston, Massachusetts. In addition to the Boston Landmarks Commission, the Historic District Commission, and the City of Boston Archaeology Program, Boston has several non-profit organizations dedicated to the preservation of Boston.

Preservation Massachusetts was established in 1989 and is a statewide non-profit historic preservation organization dedicated to preserving the Commonwealth's historic and cultural heritage (News). Another non-profit organization is the Boston Preservation Alliance, which protects and improves the quality of Boston's distinct architectural heritage. "For more than three decades the Alliance has promoted the preservation and celebration of important buildings, open spaces and communities in Boston" (News). Boston, Massachusetts is a great example of American history and a place where the city has taken the necessary steps to preserve that history for generations to come. The Massachusetts Historical Commission believes the continuing presence of historic properties in Massachusetts enhances the quality of our lives; they help to establish our sense of place and to define the very character of our communities. There are cities like Boston spread all over the United States with rich history and architecture that needs to be preserved for future generations. Organizations like these help make that happen and are integral in maintaining our historical identity.

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San Francisco Bay, California, photo: Alessandro Ciambrone

The fourth edition of the six month series of seminars (January – June 2015) entitled Preservation and Development in Large Cities: An International Perspective was an extraordinary success, as the previous editions of 2012 (first), 2013 (second) and 2014 (third). It involved 70 participants including professors, researchers, post-doctorate fellows, graduate students and students of partner institutions, who have all received a joint participation certificate. The series was organized by the Centre of Competence of the Campania Region on Cultural Heritage, Ecology and Economics (BENECON, institutional partner of Forum UNESCO University and Heritage), the Department of Architecture and Industrial Design Luigi Vanvitelli of the Second University of Naples, and Edward J . Blustein School of Planning and Public Policy, the Center for Urban Policy Research at Rutgers, the State University of New Jersey. The professors and researchers from BENECON and the Department drew up several papers in relation to their specific subject areas, in a logic of integrating their skills and confronting "without limits" which characterizes the methodological approach of our scientific community, with Italian and American case studies on design, architecture and landscape.

Carmine Gambardella

Our fourth annual class bringing together Rutgers and our Italian colleagues at the Second University of Naples (SUN) has again been an inspiring collaboration. The class considers the subject of development and preservation from a cross-national perspective in Italy and the United States (U.S.). To foster cross-national dialogue and understanding, students in this class worked as joint teams (encompassing both SUN and Rutgers students) to study historic preservation topics of mutual interest. From the joint student work, we gleaned the following. There is much interest in historic preservation in both Italy and the U. S., with preservation more ingrained in the former country and preservation more of a recent value in the latter country. There is widespread application of adaptive reuse in both nations. Italy has been doing this for some time and adaptive reuse has become more popular in the U. S. The students considered adaptive reuse examples ranging from former palaces in Naples converted to performing arts centers and the adaptive reuse of once-grand historic properties in Detroit, Michigan.

David Listokin